

NON-TRADABLE GOODS IN CATCHING-UP EUROPEAN COUNTRIES – AN INSTITUTIONAL PUZZLE?¹

Stanislav Saroch

Vaclav Zd'arek

Škoda Auto University, Mladá Boleslav, Czech Republic

Abstract

This text aims to shed more light on the problem of delays and divergence tendencies in the process of real convergence compared to price level convergence in the case of publicly funded and governed goods and services (merit goods) in selected new EU member states. Since this topic is only briefly overviewed in Égert (2007), whose study focuses mainly on market goods and services, this text examines changes in real volumes and price levels for non-market goods and services. Given data limitation and regional heterogeneity, the focus is on the period between 1999 and 2012 and four selected CEE countries (the Visegrad group). Our preliminary results reveal that there were at least two (three) main tendencies similar across the group of countries during the aforementioned period: a rapid catching up process in the pre-EU period (both real and nominal convergence), some sort of an 'EU effect', followed by differentiation resulting from heterogeneous impacts of the on-going sovereign debt (financial) crisis on the chosen group of CEE countries.

Keywords: Economic convergence, price dispersion, regulation, public sector, CEE countries

Introduction

A group of Central and Eastern European countries (CEE) joined the European Union in 2004. Overall convergence processes (real and nominal) of these economies has been analysed and are well documented in the literature. On average, GDP of CEE countries has grown faster than EU average along with faster growth of comparative price levels (see for example ECFIN, 2012; Crespo-Cuaresma et al., 2012; WB, 2013). The

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relatively fast and smooth process of real convergence has enabled to accumulate enough funds to be utilised in expanding public (by public funds supported) production of goods and services (so-called merit goods or in our case non-tradable goods). As a result, visible changes had been seen but they had not followed 'a standard path' but had shown significant delays and even divergence tendencies even before the sovereign debt crisis started in 2008.

Effects of the on-going debt crisis have been visible in many aspects of everyday life and (economic) indicators. It has affected public finance across EU countries in a differentiated manner (for example as higher fiscal deficits and growing governmental debts) and that has already resulted in approving more or less draconian measures in order to deal with the recent economic slowdown. As an illustration, the most noticeable impact (in the short run) of the Great Recession on the process of real convergence has been a significant drop of GDP per capita growth rates and GDP levels or in the most benign scenario only a (significant) reduction in the speed of convergence. There are many reasons for the existence of many simultaneous influences that may work cumulatively, which further complicate any empirical analysis. Moreover, the 'real' long run impacts are yet to be seen as some authors argue that one of the effects of the financial crises will be on potential product (see e.g. Laibson and Mollerstrom, 2010; Chauvin et al. 2011), while other emphasise other factors that the crisis itself (e.g. for the US economy see Fernald, 2012). Nevertheless, there is still a large amount of uncertainty about the current financial crises, spillovers and methods of overcoming some of its consequences, etc. (see Classens and Kose, 2013 or Goldstein and Razin, 2013).

Since the effects of the crisis in many aspects resemble the beginning of transformation processes in the early 1990's, many CEE governments have been prone to use similar measures to deal with its consequences. That is, in an attempt not to change prices in state governed and state regulated sectors dramatically but to fulfil the need to stabilise public finances at the same time or at least to put a cap on the total expenditures to keep them within (for some CEE already strictly binding) budgetary limits. In addition, one has to also consider the fact that there has been a change in the conduct of fiscal policy and increased emphasis on the stabilisation function. However, such a change limits for a government available fiscal space, already reduced significantly in the wake of the crisis (mainly due to problems of financial institutions). Political settings may then impose a pressure to increase the quality of public services through institutional and other reforms (and hence increase CPL) which would not be possible without compromising governmentally funded volume (and hence increasing unemployment or public financial participation).

Most of the literature on merit goods has studied problems associated with the topics stemming from the public economics (such as their provision, external effects, funding, etc. see Musgrave, 2008). There have been a very limited number of studies primarily focused on the price/quality relationship for non-tradable goods in CEE countries but for Égert (2007) whose study presents some empirical evidence and discusses the problem in general terms. An early attempt to remedy this was done by Žďárek and Šindel (2007) who analyse patterns by sectors in CEE countries. However, mainly due to data availability, they analyse tradable and non-tradable goods in the EU-25 without further (detailed) decompositions. Moreover, their analysis could not fully capture effects of the 2004 enlargement of the European Union and prospects for new EU countries. This text is an attempt to show some more evidence and verify tentative hypotheses utilising longer and more detailed time series on selected non-tradable goods for a narrower and more coherent group of CEE countries, the Visegrad group (V-4) of countries.²

The remainder of the text is structured as follows: in the second section presents main theoretical concepts, briefly reviews literature and offers some explanations for observed differences. The third section is fully aimed at examining reasons for differences in non-tradable (merit) goods cases. The next section shows empirical evidence when searching for explanations, and the fifth section concludes and lists potential ways for future research.

Theoretical Foundation and Its Empirical Support

A brief review of literature and main theoretical concepts

The European Union enlargement took place in 2004, followed by two more waves in 2007 and 2013, and presents an important step towards more close Europe-wide integration. There have been effects on both convergence processes (real and nominal) of new economies already analysed and well documented in the literature. One of the most important points is, that on average GDP of CEE countries has grown faster than EU average along with faster growth of comparative price levels (CPLs), see for example ECFIN (2012); Crespo-Cuaresma et al. (2012); WB (2013). An illustration of both processes in V-4 and in Slovenia is in Figure 1.³

² Šaroch et al. (2010) examined changes in non-tradable goods in the light of public debts.

³ Similar tendencies are visible for individual components of GDP such as actual individual consumption (“household consumption”) or gross fixed capital formation. Since Figure 1 is a bird’s-eye view on both convergence processes, a more long-run view is in the Appendix (Figure 1A).

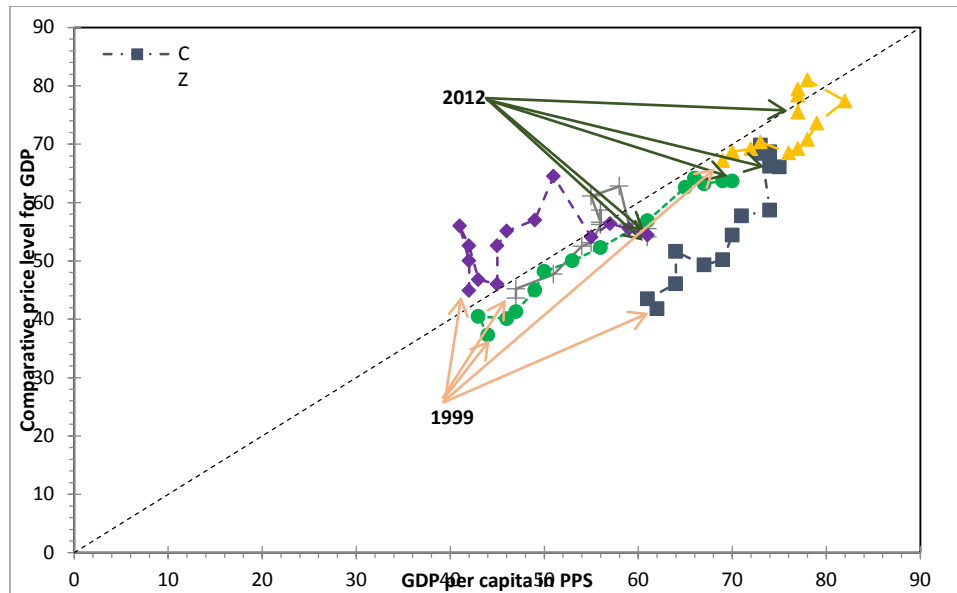


Fig. 1. Real and nominal convergence in the V-4 countries and Slovenia, 1999–2012, EU-15 = 100 (Source: authors' calculation based on Eurostat (2014).)

Both anecdotal and rigorous empirical evidence shows that there is a relatively stable linkage between GDP per capita and a measure of the aggregate price level for GDP (comparative price level) across countries of almost all levels of economic development. Narrative economists explain this phenomenon of economic convergence through the Harrod-Ballassa-Samuelson (HBS) effect (the so-called supply-side effect, see Balassa, 1964 or Samuelson, 1964 or Lein-Rupprecht et al., 2007). More recent approach has been proposed by Rogoff (1996), who illustrates the dynamic nature of purchasing power parity (PPP) theory while utilising indices such as the Big Mac Index or the dynamic Penn effect outlined in Ravallion (2010); for an application in the CEE region see Staehr (2011).

Over last decades, macroeconomists have substantiated and empirically documented the B-S effect, closely following and empirically investigating individual phases of the European monetary union project. In the beginning of the 1990s, there were a large number of questions as to how price levels in the Single Market and/or coupled with a single currency would interact with each other under the assumption that a common currency was implemented.⁴ Another reason for trying to shed more light on the phenomenon was the on-going convergence of both newly accessed and EU

⁴ That seems to be a reason for a large numbers of research projects and for regular price assessments that have been carried out by the EC since the early 2000s (e.g. personal cars). An updated version of such an assessment is EC (2006) that lists a number of problems and shows room for price convergence.

candidate countries. The on-going process of integration leads to relatively fast convergence of tradable goods, largely caused by arbitrary forces (for some early evidence for EU countries see Faber and Stockman, 2007 or Dreger et al., 2007, an example of counterevidence for an example of tradable goods – cars – can be found in Lutz, 2004).⁵ However, the convergence process of non-tradable goods⁶ could exhibit several forms, which cannot be easily explained by the HBS (supply-side) effect.⁷

On the contrary to the views of Balassa and Samuelson from the mid-1960s (when nominal exchange rates were almost exclusively fixed as a part of the Bretton-Wood system), the situation of last more than two decades has been different and more complex (see Šároch, 2003; Égert, 2007; Komárek et al., 2010). The convergence of comparative price level can be achieved not only through selective inflation differentials in non-tradable sectors, but also through the so-called exchange rate channel. The pursuit of either channel or their combination can have troublesome consequences if macroeconomic policies are not very well aligned. Komárek et al. (2010) points out that CPL convergence realised/channelled/through the inflation channel could only lead to low interest rates and hence in the built-up of internal and external imbalances, rendering the economy particularly vulnerable to turbulent times or at the time of a crisis (op. cit., p. 88). On the other hand, Šároch (2003) argues that a mismatch between short-term and midterm productivity growth rates in the tradable goods sector and nominal exchange rate fluctuations may emerge. Competitiveness of various industries is based on (changing) market structures. Therefore,

⁵ On the other side, an alternative hypothesis has been put forward that the increased intra-EU trade will mitigate or even reverse price convergence (due to the effect of specialization and/or polarization), and therefore it will lead to more diverse national price levels, for details see Baldwin (2006). In addition, one should not forget the influence of factors such as these linked to the Great Recession (and/or specifically to the EU sovereign debt crisis).

⁶ This term is used in a broad sense, that is all the non-tradable goods and services are included.

Goods known or labelled as non-tradable goods are those, whose price levels are mainly determined by domestic determinants such as taxation (mainly VAT, excise duties), wages, regulation and trade barriers. Empirical evidence in this case has been rather scarce and ambiguous.

However, there is no exact definition of tradable and non-tradable goods that may thus offer a potential explanation for those results. A definition of “non-tradable” is for example given by the World Bank that uses the label non-tradable for goods and services including energy, housing, public utilities, services and transport (see WB, 1991). These are viewed as a result of natural characteristics, trade restrictions and/or trade costs.

⁷ Latest research however reveals that the law of one price does hold in currency unions (a variety of differentiated goods at least for large (international) companies). Its violation can be attributed to the very existence of various currencies, not only to the existence of exchange rate volatility, for details see Cavallo et al. (2014).

competitiveness of these industries may differ substantially for the economy as a whole. Additionally, it depends on the type of competition (price or quality) within the tradable goods industry (Šároch, 2003). Égert (2007) lists potential factors affecting price levels⁸ and argues that convergence of comparative price level based solely on a nominal trend appreciation could result in “a bumpy road” (ibid., p. 35).

Both real and nominal convergence are affected by a wide range of factors that are associated with domestic (country-specific) environment including Among others, macroeconomic policies, the phase of a business cycle (see Čihák and Holub, 2001, 2003, 2005; Égert, 2007), changes in the external environment such as preparations for an EU accession or the Single Market Programme), in particular, the effects of the on-going economic globalization such as outsourcing, reallocation of production (changes in production chains) within and outside the EU, see Alho et al. (2008). In addition, Čhák and Holub (2005) also argue that real convergence is the outcome of endogenous corporate investment in production quality that affects the ratio of capital allocated in tradable and non-tradable sectors, as well as the size and the ratio of productivity in tradable and non-tradable industries. Convergence in non-tradable sectors is believed to be much faster after the higher level of real convergence is achieved.

What causes the difference in Price Levels and Internal Structure of Relative Prices?

In spite of the quite good level of current understanding of the underlying mechanisms of relative price adjustments (convergence), the process of removal of existing price gaps is almost never exhaustive. There are several factors which could explain why goods baskets in similar economies show even significant differences in CPL as well as in relative prices for long periods of time. The effects associated with industry or market composition (more specifically buying and purchasing power of companies and the nature of competition, see Brinkman, 1999) were already mentioned. There are other related to different consumer preferences and taste that are behind diverse price and income elasticity; similarly, the different size of local markets, the existence of economies of scale and scope, varying taxation,

Almost all these factors affect the so-called transaction costs and consequently the theoretical scope for arbitrage processes. Formally, drawing upon Égert (2007), the final price of a good or service i (P_i) is given:

$$P_i = [\theta P_i^T + (1 - \theta)P_i^{NT} + f(C(.))](1 + \varphi), (1)$$

⁸ For a modification reflecting other possible factors due to the Great Recession and/or the on-going process of globalization of economic activities, see Žďárek (2013).

where P_i^T is the θ share of the price of utilised tradable goods for i , P_i^{NT} is the $(1 - \theta)$ share of the price of utilised non-tradable goods for i , $f(C(.))$ is the function of other costs explained in the main text and $(1 + \varphi)$ is the effect of taxation. Assuming that prices of tradable goods do not show a clear trend, almost the entire price change is given by non-tradable goods (i.e. wages rises as their main determinant) and other costs that can be also mitigated by productivity increases and improvements, leaving aside the hard-to-predict changes in taxation.

While the former can be at least partially remedied by some sort of anti-monopoly policy (regulations trying to restore free markets for as many goods and services as possible),⁹ the latter (preferences, 'searching & matching costs', cost of transport, packaging, the size of a market, etc.) are mostly pre-determined (consumers' taste, the prevalence of home bias in consumption, levels of utilised technology, etc.). In addition, a very specific subset of non-tradable industries operates in sectors with prices regulated by governments or state-provided services.

Before embarking on a further analysis, it is advisable to briefly define the term regulated prices (of goods and services) mentioned throughout the text. Égert (2007, 2010) offers examples of some definitions. Firstly, ECB (2003) works with a narrow definition reflecting the consumer price basket (HICP). It consists of health services (three items), services of waste industry (two items), personal transport (trains), postal services, education and social protection (for details see op. cit.).¹⁰ Lünnehan and Mathä (2005) proposed adding cultural services and another form of personal transport (bus) to the aforementioned list.¹¹ Due to particular characteristics of housing markets in the CEE region, rents should be part of the group. The broadest definition (the widest according to Égert, 2007) should be completed with market services such as broadly defined energy prices mostly for households (heat, gas, oil, etc.).

However, literature has focused on the so-called market services, that is, services where market forces (of demand and supply) lead to creation of market prices. Conversely, there has been hardly any study examining the particulars of markets of regulated (administrative, administered) goods apart from selected utilities (energy, etc.) and/or goods.

⁹ The question is how efficient these interventions are and whether their effects are Pareto improving as some schools of economic thought argue.

¹⁰ Eurostat (2014) classifies 10.7% of the Czech HICP basket prices as administered prices, compared to 8.2% of the Slovenian and 23.9% of the Slovakian basket (min - max) for the group of CEE countries. Their share in the Czech CPI stands currently at 18.7%.

¹¹ One could also think of another type of personal transport (boat) that is supported but it is not so prevalent across CEE or EU countries.

Price Development in State Governed Sectors

Price increases of government-provided services can be motivated by the efforts to align prices with real cost (Mandel and Tomšík, 2008, pp. 7). However, the actual stimuli may be driven by current fiscal policies and existing budgetary constraints. On the other hand, lower prices for government-provided services (also called 'merit goods', for details see Musgrave, 2008) such as education and healthcare could be also driven by the effort to maintain governmental expenditures low, as any form of public financial participation is politically unpopular.¹² Despite the fact that maintaining unreasonably low prices could then lead to reduction in quality or availability of those services. Consequently, the increasing availability of them while maintaining (more realistically trying to maintain) the scope and scale of government-provided services unchanged would result in immanent quality decrease. In fact, early evidence shown in Égert (2007) confirms that inflation for state-regulated prices in the CEE region was higher than for other items. However, this pattern seems to have ceased to exist due to a large number of external shocks affecting agricultural and energy prices since 2005.

While in market sectors with regulated prices such as utilities, telecommunications or energy the scope of services is primarily not regulated and the industries are rather capital intensive, for state-provided services the government introduces regulatory frame for both prices, and scale and scope and in addition, these sectors are generally labour intensive. Other problems and/or consequences are these:

- a) substantial irregularity of price changes (adjustments) resulting in large swings of prices from year to year (and thus inflation rate with consequences for the conduct of monetary policy);¹³
- b) existence of noneconomic influences and cycles (adjustments taking place after an election are more likely than before, adjustments happening at the beginning of a year, irreversibility of some measures);
- c) persistence of main patterns (any policy cannot be changed/modified easily and/or a change of ownership does not result in restoring market competition in the previously regulated market);

¹² The key characteristic of merit goods is that their production (consumption) leads to external effects (positive/negative) that are not captured by per se economic subject causing them (do not enter their budget constraints, utility functions) but are spread over the society as a whole.

¹³ Recent events in the Czech Republic seem to be an interesting example.

- d) existence of buffers (the roots for this pattern can be traced back to the beginning of CEE transformation processes – in the early 1990s – when regulated prices assisted in keeping down higher inflationary pressures. As a result of price controls the gap between regulated and market-driven prices has widened);
- e) political process (a lack of clearly set rules increases uncertainty and limits the scope for medium and long-run calculations and business plans and thus hinders necessary investments);
- f) cost pressures (price stability in state-provided and regulated services curbed inflation in early phases of transformation processes; however, providers were forced to prefer current expenditures over medium and long-run capital investments resulting in inevitable capital obsolescence. Subsequent relatively rapid rise of state-provided and regulated prices reported by Égert (2007) could be viewed as the consequence of earlier underinvestment);¹⁴
- g) measurement issues (since an overwhelming majority is in the form of services, questions such as output and its measurement, efficiency and quality improvements arise as inputs are mostly based on competitive prices but outputs are not);
- h) external effects (one of the main characteristics of merit goods is the existence of spillovers).

Hypotheses to be tested

There are many potentially testable hypotheses in the first round when trying to familiarise ourselves with main observed tendencies and trends:

- a) The pressure to cap governmental expenditures and increase availability of state-governed services led to relatively low wages and service quality in education and healthcare sectors.
- b) Price and institutional convergence in education and healthcare sectors will be possible only if the scale and scope of services will be reduced or individual participation will increase.

In order to test these hypotheses, data from Eurostat will be utilised (per capita expenditures and comparative price levels for health and education sectors). There are additional datasets available such as the number of practicing physicians or student-teacher ratio, expenditures in both sectors, etc. Due to space dimensions, the main focus will be on

¹⁴ Naturally, investments need to be different across industries (leaving aside market sectors, ranging from very low for some cultural services to possibly prohibitively large in case of healthcare).

presenting main trends and rather brief comments on trends in the underlying data.

What the data seem to be telling us?

Stylized facts seem to be of rather simple nature. In accordance with the conventional theory-based assumptions (HBS), lower CPLs are typical for less integrated and less developed countries due to lower prices of services.¹⁵ Conversely, prices of raw materials and (some industrial) goods are comparable and almost follow the relative version of purchasing power parity theory. Since prices of tradable goods in more developed EU countries have been almost aligned and hence not growing, exchange rate appreciation in less developed countries may result even in absolute reduction of prices within those economies (deflation pressures).

Convergence in Tradable Sector

The sole central bank in CEE countries, which focused closely on pricing in tradable and non-tradable sector and published their time series, was the Czech National Bank (until 2006, when the bank stopped focusing on distinctions between tradable and non-tradable prices, or until 2010, when it stopped publishing the underlying time series as a part of the Inflation Report). Since a consensus regarding the definition of tradable prices has not been reached in the literature yet and due to data limitations for underlying time series, as a proxy for tradable goods, some (main) price indices (HICP based) are utilised. (Due to space limitations selected time series are shown only for the Czech economy (Figure 2 below).)

It can be seen that prices of tradable goods approximated by the price index of industrial goods have been relatively stable, most of the time below the overall inflation after 2000. Conversely, other components of tradable goods such as food and energy prices showed large swings with several peaks since the beginning of 2000. While food prices were on a rise due to the structural factors throughout the EU in the period, energy prices showed significant volatility with several large swings (mainly after 2005) even surpassing growth rates of administered prices.¹⁶ Conversely, prices of other tradable components (non-food items such as non-energetic industrial goods) were decreasing during some periods and their spikes were modest

¹⁵ See some early evidence in Balassa (1964) or Samuelson (1964); for EU countries see CES VŠEM (2011).

¹⁶ This is a time series captures changes both in fully or mainly administered prices. A disaggregated view to see the effects of irregular price changes, together with time series for all services and communications are shown in the Appendix (Figure 2A).

throughout the period due to the international price arbitration.¹⁷ Until recently a continuing trend (nominal) appreciation of the Czech currency and the overall tendency of prices of tradable goods to decline in other European markets were the key causes of price arbitration.

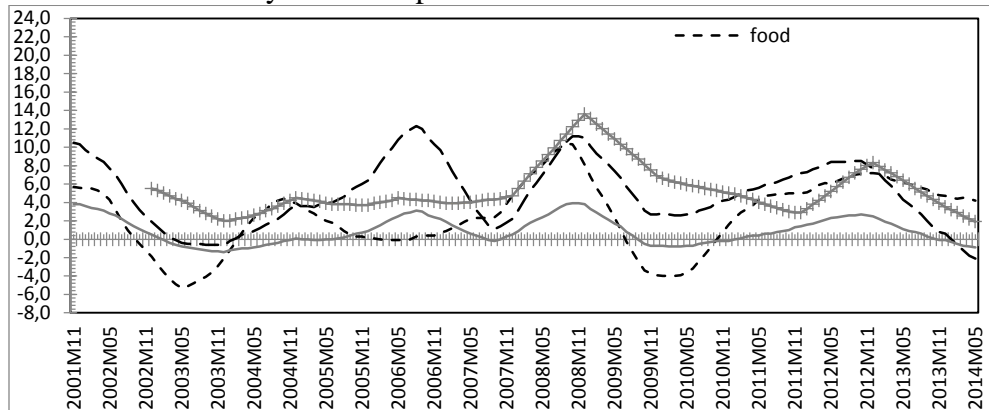


Fig. 2. HICP indices of tradable goods and administered prices in the Czech Republic (12M av. rate of change), 2001:11–2014:5 (Source: Eurostat (2014a), own adaptation.)

Convergence in State Regulated and State Governed Sectors

Comparable data from international organisations and statistical offices such as Eurostat, OECD, UNCTAD, and the World Bank offer a colourful picture of real expenditures per capita and comparative price levels for ‘production’ in non-tradable sectors. Since the focus is ‘production’ that can be simultaneously labelled as merit goods, the choice was given for healthcare and education. The underlying theory (HBS) says that if real and nominal changes were aligned, a country would show a path along a 45 degree line that represents no-difference situation, that is, the diagonal line is where partial CPL and volumes meet. The trajectory of a typical sector convergence moves the economy along the diagonal. The space below the diagonal means that the sector volume is larger than it would correspond to its price level (higher productivity) and vice versa. However, the available data correspond to a large extent to our description presented above.

Volumes of healthcare services provided across most of the CEE countries have been rising since 1993 (1996).¹⁸ In the Czech Republic the volume of services per real expenditure was declining between 1999 and 2006 and since then it has not shown a clear tendency (oscillating around the

¹⁷ Similar behaviour was observed in other CEE countries, for example in Hungary or Poland. Due to space limitations we do not show these figures in this text.

¹⁸ Values of real expenditures and CPL for the group of CEE countries for 1990, 1993 and 1996 are not fully comparable with values after 1999 (due to various methodological issues) but they are shown in the Appendix. In some cases are not available and therefore, therefore our focus is on changes after 1999 when Eurostat started publishing comparable time series.

value of 80 for EU-15 = 100), see Figure 3. Even the period of the sovereign debt crisis did not change much on that. Conversely, CPLs were rising until 2008 when the still on-going period of stagnation has started (around 50). Since input costs, including labour costs increased significantly over the period, convergence seems to have been delayed (i.e. healthcare remained below the 45 degree line, the shown as a dashed line in Figure 3).¹⁹ Hand in hand with increasing quality and wages in health care, the volume of provided services has been decreasing since the end of 1990s.²⁰ However, individual adjustment paths have been very diverse. It has been observed that in services (Égert, 2007) the convergence trajectory is approaching the 45° line from below. Therefore, the convergence trajectory both for healthcare and for education sector resembles the (inverted) capital letter L.

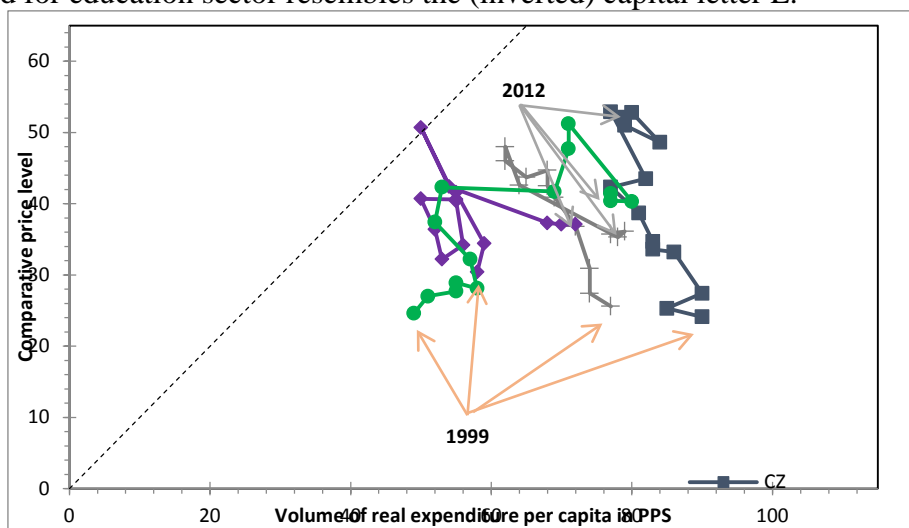


Fig. 3. Real expenditure per capita and CPL in the health sector, 1999–2012, EU-15 = 100 (Source: Eurostat (2014).)

¹⁹ To illustrate the evolution of costs, Eurostat data show that some CEE countries, for example the Czech Republic, Hungary, and Poland have had more physicians per 100.000 inhabitants than Austria. The number is comparable to that of Germany, which is the European leader in relative headcount of physicians. In the future, the V-4 may face a decline in the number of practicing physicians as the pressure for quality may outweigh the political importance of volume or prices will have risen significantly so that it will not pay off to realise health-check travels to these countries increasingly popular in past years. A similar situation has been for dental services in the Czech Republic – the number of dentists may be too high for the purchasing power if dental care follows the anticipated path of price level convergence. The other two countries have showed lower numbers of dentists compared to Austria: Poland (around three fifth) and Hungary (almost equal). Interestingly, Slovakia matched the Czech path almost perfectly until 2006/2007 and since then it has been “diverging”.

²⁰ The Czech path was somewhat specific compared to some CEE countries, for example Poland and Slovakia (both showed increases in prices and volumes). The data indicate a similar development for Slovenia (not shown) and partially for Hungary.

A similar pattern can be identified in the data for V-4 countries, where the convergence process of CPL in healthcare reduces the volume of services, but in education price increases do not reduce the amount of service. Convergence in CPL in education has been lagging behind significantly more than that in healthcare (see Figure 4 below).

As already mentioned, the latest available data for education show some differences compared to those for healthcare. Firstly, they do not show the same (diverse) pattern as the data for healthcare – at first a decrease and then an increase followed by another decrease after 2004, an almost identical pattern across all CEE countries.²¹ Secondly, the comparable price levels remain traditionally lower (less inflated) in education than in healthcare. Thirdly, education can be considered even less internationally tradable (domestically biased). Its local qualitative standards can be linked to international benchmarks to a lesser degree creating a barrier to spillovers of “new technologies” and quality standards compared to healthcare despite recent trends such as the OECD triennial assessment (PISA), see OECD (2014). Finally, the impact of education is assumed to be visible in the long run and therefore, it can be rather difficult to assess its immediate effects.

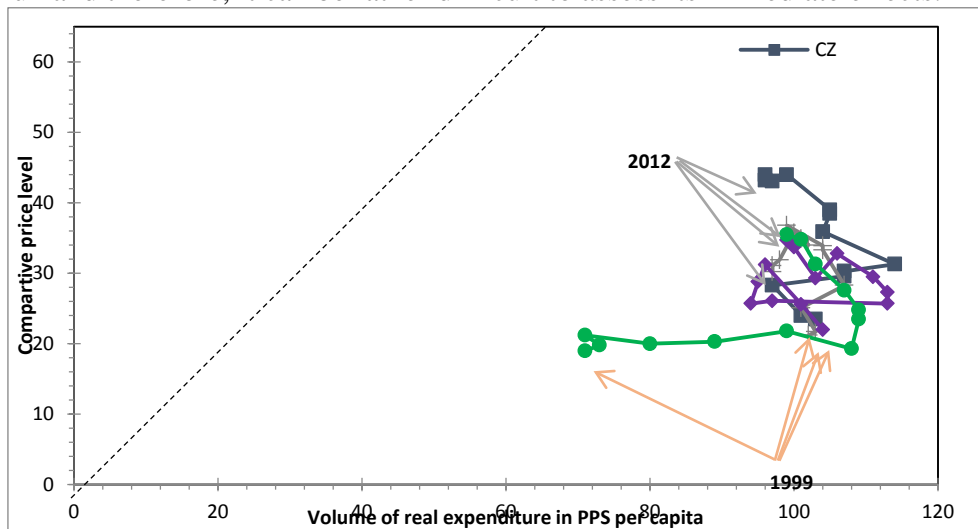


Fig. 4. Real expenditure per capita and CPL in the education sector, 1999–2012, EU-15 = 100 (Source: Eurostat (2014).)

Some signs of the decreasing quality of education may be documented for example in a reduction of the intensiveness of educational process. Teachers need to be in the classroom and care for their pupils and

²¹ There seems to have been a sort of EU entry effect that has triggered a different dynamic after 2004. A tentative explanation we put forward rests upon the existence of effects of deeper integration and further removal of barriers in the enlarged EU.

This empirically observed pattern leads us one of the hypotheses formulated in the project.

students. Student to teacher ratio (i.e. the availability of a teacher for students of all levels) grew across V-4 (CEE) countries and hence the intensiveness of education decreased (probably the most rapidly for tertiary education due to a large gap compared to old EU members in the 1990s) even though recent statistics have shown some improvements at least for some V-4 (CEE) countries, for details see OECD (2013).

Apart from the statistics related to the physical number of workers in both sectors, one can also use data on expenditures of the general government by sectors (COFOG).²² These data are presented in Table 1 together with the EU-15 average. In the case of education one sees relatively stable expenditure ratios with an increase around the year of EU enlargement (however, see also the relative levels in last columns of the table), followed by oscillations (decreases) since then. While expenditures in Hungary and Poland were above the EU-15 level for most of the time, the Czech and Slovak expenditures were below. Conversely, in the case of health expenditures, the Czech ones were above the EU-15 level for almost the whole period, the Slovak shares started increasing around 2004 with a peak in 2009 with a significant drop afterwards. Expenditure shares in Hungary and Poland were relatively stable but well below the EU-15 level.²³ The spillover effects of the on-going sovereign debt crisis in CEE countries have been reflected in expenditures in both sectors since 2008 in a differentiated manne

Table 1. Total general government expenditure (% of GDP)

education														Average	EU-15 = 100			
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	(1999–2012)	1999	2004	2012
EU-15	5.0	4.9	5.0	5.2	5.3	5.2	5.2	5.1	5.1	5.2	5.6	5.5	5.3	5.3	5.2	100	100	100
CZ	4.2	4.3	4.3	5.1	5.0	4.6	4.6	4.7	4.5	4.5	4.8	4.8	4.9	4.8	4.6	084	088	091
HU	5.2	5.2	5.3	5.7	6.2	5.8	5.8	5.8	5.5	5.2	5.3	5.7	5.2	4.8	5.4	104	112	091
PL	..	..	..	6.1	6.1	5.7	6.1	6.0	5.7	5.7	5.6	5.6	5.5	5.5	5.8	..	110	104
SK	3.3	3.6	3.2	3.6	4.3	3.9	4.0	3.7	3.9	3.5	4.3	4.5	4.1	3.8	3.8	066	075	072
health																		
EU-15	6.0	6.2	6.3	6.5	6.6	6.7	6.8	6.9	6.8	7.1	7.7	7.6	7.5	7.5	6.7	100	100	100
CZ	7.0	6.7	7.0	7.2	7.4	7.0	6.9	6.9	6.9	6.9	7.7	7.8	7.8	7.8	7.1	117	104	104
HU	5.1	5.0	4.9	5.5	5.7	5.5	5.6	5.6	5.0	4.9	5.1	5.1	5.2	5.3	5.3	085	082	071
PL	..	..	..	4.4	4.3	4.2	4.4	4.6	4.5	5.0	5.1	5.0	4.7	4.6	4.6	0..	063	091
SK	5.4	5.2	4.9	5.0	6.5	4.7	4.8	5.8	6.4	7.0	7.8	6.4	6.0	6.2	5.8	090	070	083

Source: Eurostat (2014b), own calculations.

²² This national account category (the institutional sector government, S.13) includes both expenditures of central and state governments, and local governments and social security institutions (health insurance companies).

²³ Some of the observed changes stem from changes in financing schemes and thus classification of expenditures as COFOG in the national accounts. It is interesting from this point of view that Czech reform of the health system did not lead to in significant changes, while the Slovak reform did.

Conclusion and further research

The text presented some evidence on real and nominal convergence in the V-4 countries, adding to a long list of contributions on this topic. Nevertheless, a special attention was paid to the long-term real convergence of goods that are still in a significant way state-governed, regulated and/or guaranteed creating limits for market (competition) forces. The analysed services are also labelled merit goods (such as education and healthcare). Since being classical examples of non-tradable goods, they are often excluded from empirical exercises (one exception being Égert, 2007). The data reveal that these goods showed different adjustments paths compared to tradable goods exposed to an increased competition pressures after the EU enlargement in 2004. Since both service sectors are deemed non-tradable, it is expected that the process of real convergence is delayed. Such a delay can be theoretically attributed to the Harrod-Balassa-Samuelson effect.

Since governments tend to pursue rather contradictory goals such as increases in scale, scope, and/or quality of those services while keeping governmental expenditures as low as possible, there exists an obvious trade-off. The data reveal that until end of the 1990s, for all the V-4 countries – the Czech Republic, Slovakia, Poland, and Hungary – price levels had been relatively low or even divergent while volume indicators had grown substantially, faster than in EU-15 countries. In the first decade of the 21st century, the trend was either halted or reversed, particularly in the aftermath of the sovereign debt crisis. Alignment of CPLs by sectors went along with volume decrease (healthcare) or volume stagnation (education). This trajectory may be described through the Harrod-Balassa-Samuelson methodological approach as a reverse L-shape.

When searching for explanations for the past behaviour, apart from financial crisis links, another set of effects seems to be associated with the on-going process of (economic) integration in the EU and/or the process of globalization. Both processes have resulted in a more transparent (competitive) environment that puts additional limits on the supply of non-tradable goods and at the same time, it generates a structurally different demand for goods. Public sector (guided by ruling political parties) has to respond to both tendencies accordingly; otherwise a new election is expected to bring about a “political change”. A further incentive to change a government’s policy is linked to empirical studies showing negative effects of large governments in general but do find positive effects of public spending on education. Thanks to a lower quality and lower efficiency of CEE governments compared to EU-15 (see WB, 2011); there is a large room for improvements that will necessarily require ‘adjustments’ in policies. These changes should be based on solid ground, that is, the need for good understanding of policy effects and their implications is more than desirable.

As it was mentioned several times throughout the text, there have been a very limited number of studies focused on the price/quality relationship for non-tradable goods in transition countries. Most of the literature on merit goods has studied problems associated with the topics stemming from the public economics (such as their provision, external effects, funding, etc. see Musgrave, 2008). One of the very few exceptions is Égert (2007) who shows some empirical evidence and discuss the problem in general. Another early attempt to analyse patterns by sectors in CEE countries was Žďárek and Šindel (2007). However, mainly due to data availability, they analysed tradable and non-tradable goods in the EU-25 without further decompositions when examining effects of the 2004 enlargement of the European Union and prospects for new EU countries.

In the future, we want to expand on the work of Égert (2007) providing both an extension of his theoretical and empirical work to a broad range of non-market services because of many theoretical questions to be answered that include the thorough investigation of principles behind empirically observed slowdowns and/or divergent trajectories in the case of public goods and services in transition countries (both underlying mechanisms and repercussions). In addition, one may think of effects related to the strong need to consolidate public finance across EU countries (to bring them on a sustainable path) nowadays and price convergence in public sectors may be both interconnected and may pose a serious challenge for a further (deeper) integration process of new EU members into the common economic environment in the globalized world. However, such extensions will not straightforward due to problems both with theoretical definitions of key variables and with data for an empirical investigation such as suitable measures of government quality that would capture the essence of underlying changes in governmental policies and therefore their effects on economic outcomes.

Appendix

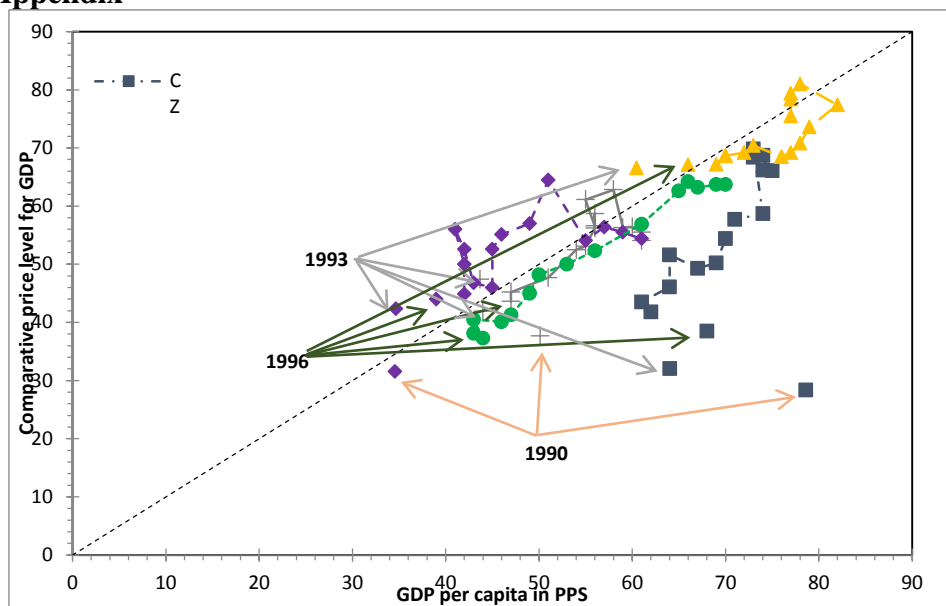


Fig. 1A. Real expenditure per capita and CPL in the health sector, 1990–2012, EU-15 = 100 (Source: own calculations based on data from UNECE (1994, 1997), OECD (1996, 1999), Eurostat (2014). Note: data for Slovenia since 1991.)

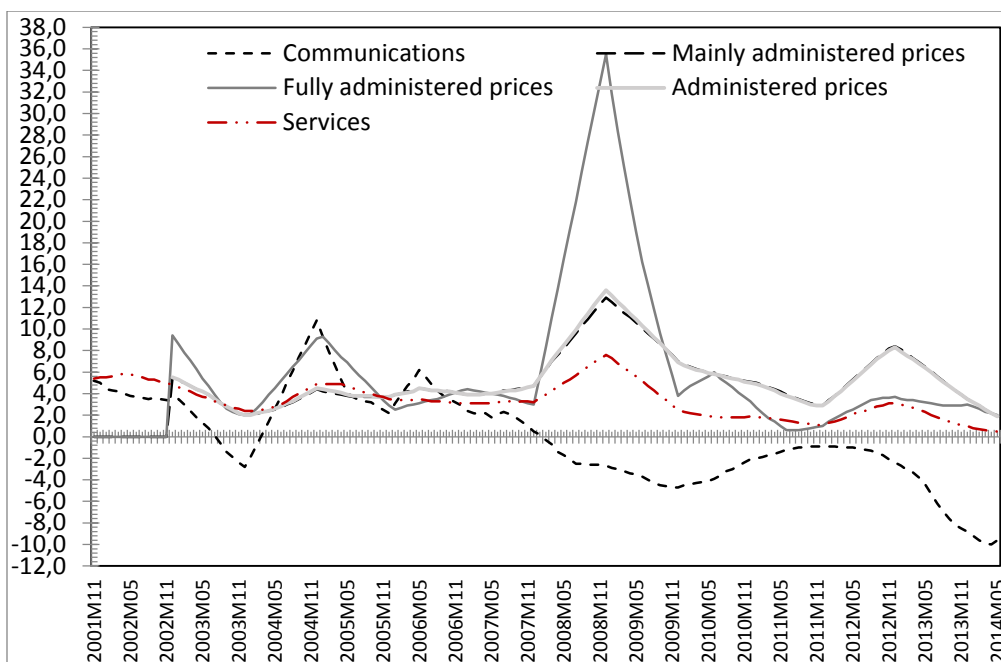


Fig. 2A. HICP indices of services (excluding goods), administered prices (fully and mainly) in the Czech Republic (12M av. rate of change), 2001:11–2014:5 (Source: Eurostat (2014a), own adaptation.)

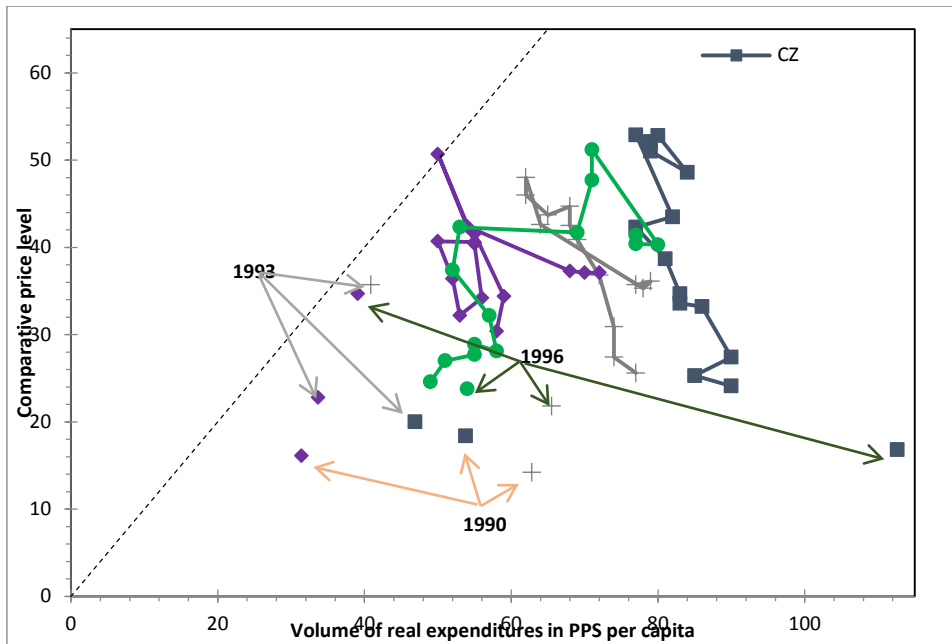


Fig. 3A. Real expenditure per capita and CPL in the health sector, 1990–2012, EU-15 = 100 (Source: own calculations based on data from UNECE (1994, 1997), OECD (1996, 1999), Eurostat (2014). Note: data for Slovakia since 1996.)

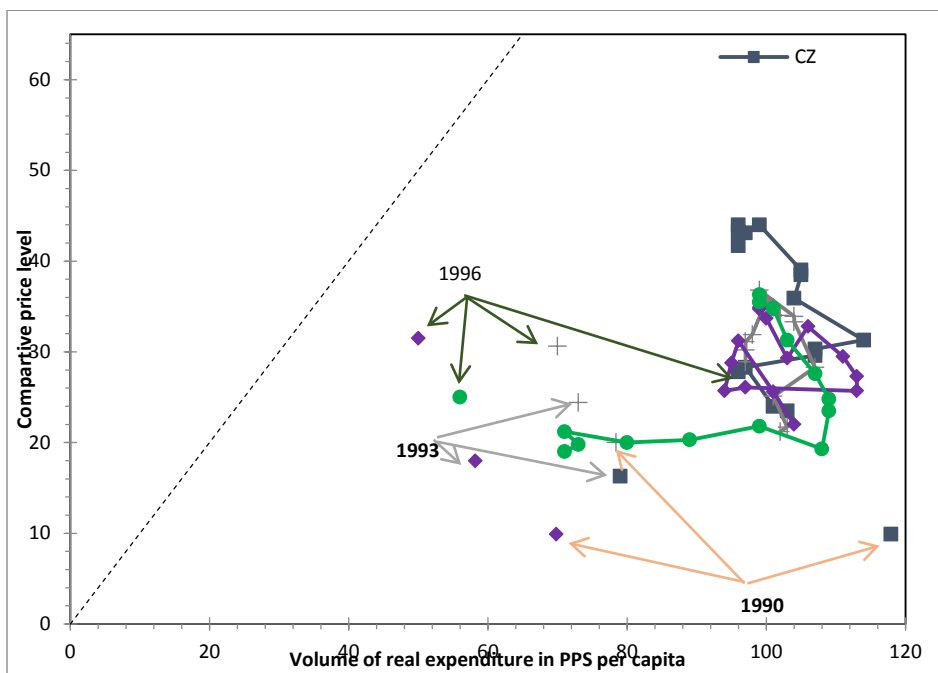


Fig. 4A. Real expenditure per capita and CPL in the education sector, 1990–2012, EU-15 = 100 (Source: own calculations based on data from UNECE (1994, 1997), OECD (1996, 1999), Eurostat (2014). Note: data for Slovakia since 1996.)

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