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Abstract. This draft of article considers the problem why minimal and average earnings differ dramatically in rich and new EU countries, as well as in Ukraine. Such phenomenon is usually explained by the difference among levels of labour productivity but the modern globalization processes have been doing the technology of production in many emerging economies very similar, especially in cases of the transnational companies' influences. The practice of the Post-Socialist transitive countries also has been demonstrating such problem. While in the beginning of the reforms they were at more or less equal economic levels, very soon they were becoming a very differ by labour cost, and it led to significant differentiation of GDP per capita. For the short-term period it is difficult to explain this phenomenon by the cardinal changes in the physical labour productivity of existing productions, but it can be done taking into account the difference in the wages policy, and the innovation changing of technological structure of production. Mentioned problems have been analysed using the Phillips curve approach. The analysis shows the transitive countries which had undertaken considerable gradual increasing of labour cost and simultaneously stimulating of the innovation activities then later they have got a high dynamics of real GDP per capita.

Keywords: comparative economics, wages policy, Phillips curve, innovation development, Ukraine economy.

JEL Classification: E24; E64; J38; O47; P52

1. Introduction

From the mid-1970s, when the empiric analysis stopped proving the presence of the 'Phillips curve' in reference to the developed countries, the theoretic literature accepted the neoclassic perception of actual wages' characteristic as, on the one hand, a sole function from the dynamics of labour productivity, and on the other hand, as a steady-state value under the conditions of macroeconomic equilibrium and state of full employment. It is considered that under such conditions wage increase has to stipulate the rise of unemployment, but the self-regulating market mechanism stands against it. Traditionally, the manuals on Macroeconomics care more about the analysis of factual consistency of the wages level (and prices in general) in the context of rising unemployment. The situation when wages grow and unemployment declines is perceived in the neoclassic theories of the labour market as the result of disturbance of the macroeconomic equilibrium and subsequent inflation which has to redress the equilibrium and keep wages unchanged. So the increase in wages under conditions of full employment is considered as the synonym to inflation. The Phillips curve turned the researchers' attention towards the possibilities of atypical coexistence of levels of both wages and unemployment, but the theory of rational expectations and expansion of stagflation processes seemed to prove the permanent character of the neoclassical canon.

Nevertheless, nowadays we can observe a lot of economic phenomena which contradict this theoretic canon. For instance, there is no clean-cut explanation why minimal and average earnings of the employed staff in the richest and the poorest EU countries differ drastically. This phenomenon is usually explained by the difference between the levels of labour productivity but this latter evaluated in physical units as far as the similar industries are concerned does not show such a gap. This is especially strange under today's economic globalization conditions when the presence of the unified production plants of the transnational companies situated in many countries as well as high mobility of the international technology transfer influence directly the levelling of physical productivity of production factors in different countries. Also more scepticism towards the mentioned orthodox theory was expressed after the post-Socialist transitive countries switched to the market relations. While in the beginning of the reforms they were at more or less same economic level, very soon they started to differ drastically in terms of labour cost which stipulated huge difference of GDP per capita. In the short-term period it is difficult to explain this phenomenon by cardinal changes in the physical labour productivity, but it can be done while taking into account the difference in the wages policy. The countries which had showed considerable gradual growth of labour cost later were showing high dynamics of real GDP per capita. The countries where this process has never taken off the crisis developments were rather long-term and their results quite destructive. Unfortunately Ukraine belongs to such last countries.

In paper we want to give evidences that the restriction of wages in Ukraine during transition period is one of the main circumstances that determined current economic failure. It is wonder that this factor practically have not been considered among experts. Majority of them are sure that government doesn't must increase wages as incentive to future economic growth. But real practice of successful transition countries testified the contrary. Everything mentioned above determines the actuality of some new theoretical understanding of correlation between wages and unemployment which formed lately in the context of some special economic growth policy – by methods of establishing the advanced rising of wages, namely by means of setting the minimal wages, levels of social protection, as well as planned social life standards.

The following analysis will be presented only for the transition period before the crisis started of 2008 to eliminate specific crisis factors.

1. Dramatic differentiation of the wealth of transitive countries

Figure 1 shows the dynamics of a real gross domestic product during 1990-2007 in compare to the 1989 of the six transitive countries that represent certain types of economic development for the period of market transformation from command to market economy.

Samples of the first type of this are Poland and Hungary, who represent the success countries of post-socialist economic development.

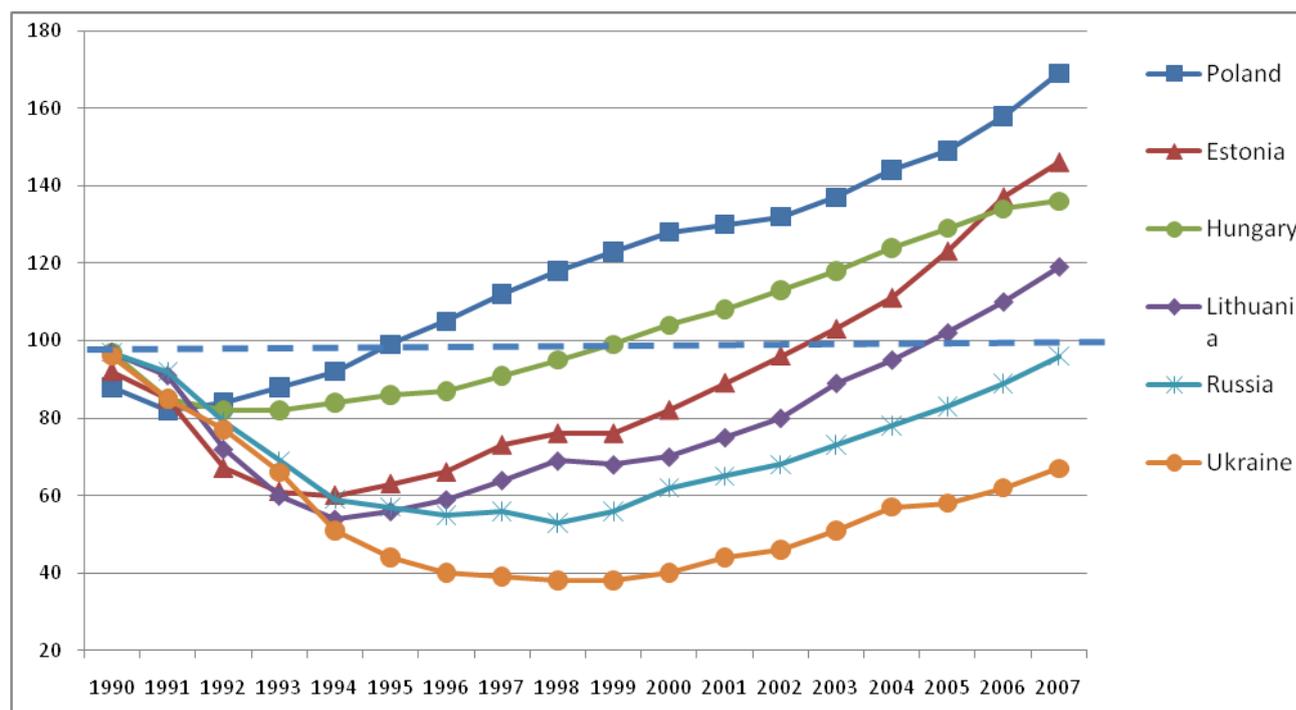
The second type is the Baltic countries which have achieved the best results among the former USSR republics which had in comparison to Ukraine approximately the same level of welfare.

The third group includes Russia and Ukraine which were recognized by many experts as the future leaders among economies in transition due to their powerful economic potential at the beginning of market transformations

The Figure 1 shows clearly that the countries in the first group started economic growth in 1993, the second group of countries had begun this since 1995, and Russia and Ukraine - since 1999, and 2000 respectively. The overcoming of crisis processes from “shock therapy” and reversion to initial state with real GDP (1989) Estonia reached in 2003, Russia only in 2008, and Ukraine still remains far behind.

The peculiarity of starting conditions of these countries at the beginning of market transformation was relatively small differentiation of their GDP per capita, and Poland even had less the Ukraine. In 2007, all represented countries had the GDP per capita levels exceed the Ukrainian of more than twice and Estonia had almost three times bigger.

Figure 1. Dynamics of real GDP the selected transitive countries in 1990-2007,% (1989 = 100%)



Source: Database Central Europe. - <http://www.databacece.com>

2. Labour cost and economic growth

In order to undertake our announced analysis, firstly, we have to compare above picture on Figure 1 (profiles of economic growth) with indicators of the Phillips curve conception: characteristics of unemployment and real wages.

In 1958 a famous article by A.W.Phillips was published (Phillips, 1958) where by means of empiric data was show the inverse relation between the level of money wages and rate of unemployment. According to the neoclassical views the wages increase under the conditions of macroeconomic equilibrium should increase unemployment and, thus, slow down economic growth. Despite the fact that numerous empiric studies conducted till the mid-1970s proved the presence of the Phillips curve (Lipcey, 1960; Gordon, 1972), leading theoreticians almost unanimously decided that the facts observed in this aspect relate to temporary fluctuations from the equilibrium value, and are by no means a foundation for any new theoretic generalization (Akerlof and other, 1996). Samuelson and Solow in their well-known article (1960) proposed to evaluate the Phillips curve phenomenon through changing the parameter of wages to the inflation index and, thus, renewed the neoclassical views on the invariability of actual wages under the conditions of long-term macroeconomic equilibrium: employment excess going over the natural level, according to these views, leads to the inflation of demand. It seemed that the winning stroke to finish off the

classic Phillips curve was produced by the rational expectations theory of E.S.Phelps (1967; Lucas and Sargent, 1978).

The goal of our paper is not means to come into this historic discussion. But we would like to turn some attention to the new facts concerning the problem mentioned above, which were occurred lately by the transitive countries experiencing the processes of market mechanisms deployment. In these countries we can recognise a new feature of Phillips curve.

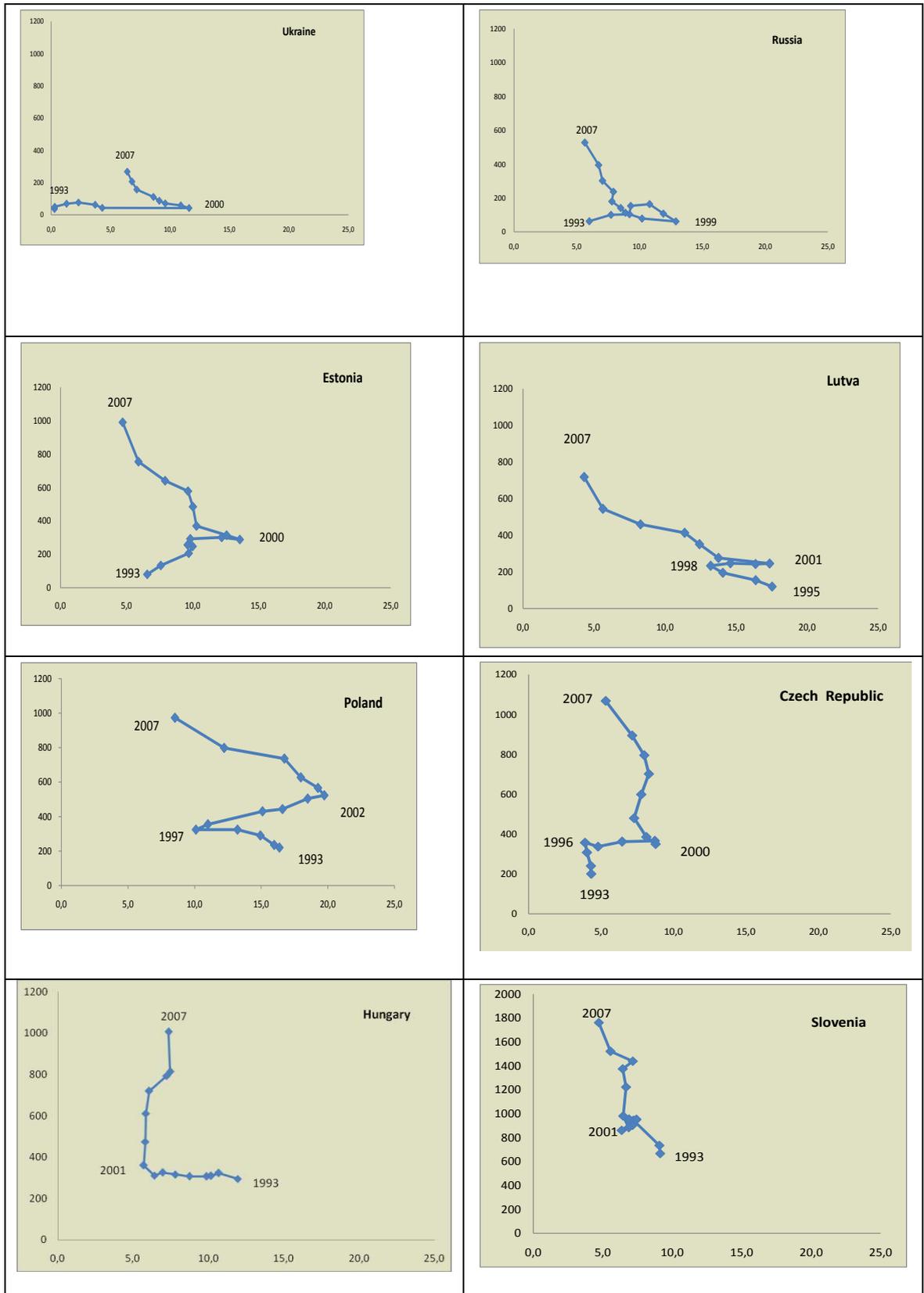
Figure 2 represents the charts for eight transitive countries: Ukraine, Russia, Estonia, Lithuania, Poland, Czechia, Hungary and Slovenia. All charts except for one for Slovenia are drawn to be compared in the same coordinate scale where the horizontal scale shows the unemployment norms (in per cent), and the vertical one shows average monthly gross earnings in national economy in US\$ at current exchange rates.

Representation of average monthly gross earnings in \$US at current exchange rates allows viewing this characteristic as manifestation of actual wages which is done, in fact, when the levels of wages are compared internationally. The indices used are taken from the same source – two influential international data bases – EBRD (levels of unemployment) and DATABASECE (levels of wages) which unify national data for international comparison.

The charts clearly show two periods of transitive processes in these countries: before 2000 and after. Slovenia is the exclusion as this country showed the best results in growing its GDP per capita with a considerable gap, and already in 1993 its average monthly gross earnings grew from 2 to 20-fold over other countries represented (\$US 667, compared to Hungary's 295, Poland's 220, Czechia's 200, Estonia's 81, Russia's 63 and Ukraine's 36).

In fact, after 2000 when all these countries' economic growth showed rather fast pace, the inverse dependence between the indices to be compared can be observed; moreover it happens in the area of unemployment norms which exceed the natural level (6%) excluding Slovenia and Hungary where the wages were increasing while the level of unemployment stayed natural. Thus, the overcoming of the cyclical unemployment occurred at the expense of considerable increase in the average actual wages, unlike decrease envisaged by the neoclassical paradigm. It comes under notice that the pace of this increase in the average actual wages was a lot faster than the pace of GDP's actual economic growth. Thus, during the period of 2000-2007 in Slovenia its actual GDP grew 1,4-fold while the average actual wages grew 2,0-fold, and in other countries this correlation was: in Estonia – 1,9/3,4; in Hungary – 1,4/3,2; in Czech R. – 1,4/3,1; in Lithuania – 1,8/3,0; in Poland – 1,4/2,2; in Russia – 1,7/6,7; in Ukraine – 1,8/6,4 [Databasece].

Figure 2. Interrelations between unemployment rate (horizontal axis -%) and wages level (vertical axis - \$) in selected transitive countries for period 1993-2007.



Origins: <http://www.databasece.com/en/average-gross-earnings-usd>;
<http://www.ebrd.com/country/sector/econo/stats/index.htm>

Theoretical justification of the irregular dynamics of the wages levels in the transitive economies was analyzed more than once in the scientific literature. We may note a number of studies sponsored by the World Bank where the problem of value of work was viewed in the context of more general topics (Ukraine..., 2004, Perudgini and other, 2008, Radosevyc, 2006), as well as special works dedicated to the labor market (Enhancing Job..., 2005). Detailed analysis of this situation in Ukraine can be seen in the publications of the monitoring group under the direction of Hartmuth Limann (*Konings* and other, 2003). The connection between the labor mobility and production dynamics is analyzed in work (Brown, 2004), influence of the institutional factor on the relocation of human resources in the transitive economies is studied in (Tito, 2002). Forming of prosperity level in the post-Socialist countries of Europe was the topic of article (Economic growth, 2010). Influence of privatization on the parameters of the labor market of some transitive countries was studied in the paper of the Center of Economic Reforms and Transformations of the Herriot Watt University (Brown, 2008).

In these works the problem of considerable differentiation of labor cost in the transitive European countries is considered only from the neoclassic positions and is related to the level of labour productivity. Theoretic assumptions on this question were generalized in work (Raiser, 2007) where a canonical conclusion is drawn that further increase of wages with the labour productivity growth rates exceeding the norm could exert negative influence on the competitiveness and slow down the labour demand. But at the same time nobody raises a question of a possible inverse influence of labour cost on price indices of labour productivity by means of increasing the respective national product output. The researchers left untouched the facts shown above – of the abrupt increase of relative levels of wages in the European transitive countries, especially in the most successful ones, with the simultaneous not less dynamic increase of GDP per capita and employment.

3. Inverse influence of labour cost on labour productivity

Looking at Figures 1 and 2, whether we can conclude that the economies of countries-analogues for Ukraine reached the overall physical productivity in more than twice comparison with Ukraine? The detailed analysis and subjective observation do not give to us the convincing confirmation of this. But if we look at the changes of macroeconomic outputs in the value indicators, such invisible differences appear as fact. The illustrations of this are presented in Table 1, where we can see that administrative short-run gradual changes of the wages stipulate the further dynamics of the basic cost parameters of these countries.

Table 1. Dynamics of real GDP, GDP per capita, and average wages in the years of market transformation in selected countries (in times).

	Real GDP 2007/1989	GDP per capita, in PPP \$, 2007/1991	Average monthly wages, in \$, 2007/1993	The coefficients of an advancing wages to GDP (4:2)	The coefficients of an advancing wages to GDP per capita (4:3)
1	2	3	4	5	6
Poland	1,69	8,71	4,42	2,6	0,5
Hungary	1,36	6,41	3,41	2,5	0,5
Estonia	1,46	5,14	5,00	3,4	1,0
Russia	0,96	4,47	8,38	8,7	1,9
Ukraine	0,67	2,91	7,44	11,1	2,6

Sources: World Development Report; Database Central Europe. - <http://www.databasece.com>

So, if we compare the dynamics of real GDP and average wages, the tempo of the wages changing is much more than the rate of real GDP dynamics in all these countries. Could we give explanation of this wages excess by the economic theory mainstream? No, because according to this theory such situation must causes huge inflation, unemployment, and recession. As we can see in Table 1, such assumption have not confirmed by practice. Moreover, we can see the paradoxical situation. If we compare the dynamics of wages and GDP per capita, measured by purchasing power parity methodology in US dollars, we find a radically different picture. The most successful countries (Poland, Hungary, Estonia) in this case have got the "correct" proportion between tempos of wages and GDP, but in Russia and Ukraine the "incorrect" such interrelations have remained.

The question arises: "How can it be?" A more detailed analysis shows that the positive trends were due to the administrative (exogenous) establishment of a higher level of minimum wages, and correspondingly it has influenced the average wages, at the early stage of the economic recovery. At the beginning of reforms in mentioned countries these bigger rates of wages were as policy tools, not as a result of previous growth. For example, in the 1993 the average wages were in Poland - \$ 220, and in Hungary - \$ 295. For comparison - in Ukraine this level was \$ 36, in Russia - \$ 63, and in Estonia - \$ 83. Recall just two years before that (in 1991) Ukraine was ahead of Poland in terms of GDP per capita.

We can also draw attention to the fact that the recovering dynamic growth in Poland and Hungary (see. Figure 1) began precisely from mentioned levels of wages in 1993. Estonia and Lithuania had reached the same level of wages over three years by increasing wages in 3 times (!). Note, that positive trend of their economies also started after that. It is obvious that economy cannot get an increasing of the physical productivity of production factors in three times during three years. Ukraine started the positive growing with wages of \$ 43 (1999), Russia started rise from \$ 62 (1999). In 2000-2007 the rates of economic growth of the last two countries were about the same with other countries-analogues, even higher than theirs, but unjustified lower levels of labor costs before that period and after have reproduced the growing gap in GDP per capita.

The accession to the European Union of Poland, Hungary, and Estonia did not stop the exogenous advancing growth of wages in these countries. Annual growth indexes of real wages typically have been exceeding of 10%, often reaching a rate of 30%. Physically the factor of productivity has been lagging behind, but the GDP per capita that is measured in a value dimension increased with greater pace. The Table 2 shows the absolute levels of annual real wages growth in selected countries. There we can see also figures of wages after 2004 – the year when Poland, Hungary and Estonia had joined to EU.

Table 2. Annual increasing (delta) of the average monthly wages in selected countries, US dollars.

	2002	2003	2004	2005	2006	2007	The absolute increasing during period 2002-2007
Poland	19	43	61	109	62	175	469
Hungary	114	136	108	74	20	193	645
Estonia	55	115	94	62	114	236	676
Russia	28	39	57	65	93	133	415
Ukraine	13	16	24	46	49	62	210

Sources: Database Central Europe. - <http://www.databacece.com>

As a result, these countries maintained high growth a value parameters of human capital, which allowed Poland, Hungary and Estonia quickly approach the level of Portugal - the poorest countries of "old" Europe (EU-15). Poland during the years of market transformation has doubled its GDP per worker (in the purchasing power parity method, thousand US dollars): 1990 - 18.0; 2007 - 36.9; Portugal in 2007 - 41.0. Ukraine during this period was not moving: 1990 - 15.5; 2007 - 14.8.

It is difficult to consider the available indicators and proportion of Ukraine's economic development as the mirror of natural existence. In fact, there is every reason to believe that it is just because the Ukrainian economic policy was holding back a growth of minimum wages that conditioned the low levels of the value productivity and GDP per capita as well as a violation of the cost proportions of reproduction economy. This condition today continues to generate growing backlog of prosperity in Ukraine against EU counterparts

However, we must clearly realize that if policy could has been done as the simple administrative increasing of wages, then this way could be very simple and successfully used by all countries. The problem is more complex. In order to implement the policy of increasing the value of human capital the government must ensure high competitiveness of the national economy and efficiency of market institutions. This approach cannot be implemented without deep structural changes in the economy. But the facts show that the structural changes demand the economic incentives. The exogenous increasing of minimum wages would be an effective policy tool of this.

4. Policy implications

For Ukraine the mentioned supposed contradiction between the wages and competitiveness has a special meaning as this country is now far behind its Western neighbors in all respects, namely economic development, human capital cost and competitiveness. We have not found any clean-cut explanations in the literature to the fundamental reasons why such gap happened, but it is quite understandable that the ongoing policy of artificial support of competitive preferences at the expense of low wages slows down the growth of GDP per capita and undermines the economic growth potential by many aspects. That is why the neoclassic suggestions of the majority of the experts concerning viability of holding the income level of Ukrainians (Policy Recommendations..., 2009) will lead only to deepening of the prosperity gap with the neighboring countries which in the due time artificially revaluated the basic value parameters of their respective economies, first of all by means of increasing wages. In all transitive countries mentioned we had a situation (especially after 2000 – it had already become a common practice), when the setting up of a certain level of wages happened quite independently and in the ‘ex-ante’ mode towards the future (expected) level of labour productivity increase.

It is to be noted that in our case the situation should be viewed in broader manner than when compared with the labour productivity only. The last parameter is not the only one taken into account when the level of wages is defined. For example the social security of a worker in the future is taken into account; all mid-term and long-term labour contracts could be viewed as the early (exogenous) setting up of the wages level. That is why practically in such cases first the administrative setup of the wages level is done, then the analysts evaluate whether it was feasible from the point of view of the canonical proportion for which the examples shown have the features of exogenous factor's influence. Variables of such type do not specify a one-valued dependency, so to define the character of their influence on the main function special research should be done.

In more general theoretic plan it has to be noted that for other countries as well the statistical investigations done showed the existence of the inverse dependence between the levels of unemployment and wages. With that, the character of such dependence does not differ drastically for the countries with different levels of economic development, for which, in this sense, we could wait for a complex influence of the specifics of labour market organization (including presence or absence of different forms of imperfect competition in this segment).

The type of dependence between the levels of unemployment and wages is able to change as a result of fluctuation of the market environment. The fluctuations around the equilibrium wage and unemployment correspond to the inverse dependence mostly. It is to be noted that nowadays most

of the labour markets feature exactly the inverse dependence between wages and unemployment. It is quite understandable that the policy of exogenous increase of minimal wages and other efforts directed towards increasing the human capital value, will be action tools of the policy under simultaneously developing strong innovation policy.

Rising of minimal wage is one of the most effective methods of administrative influence on the labour market situation. Possibility of escalation of unemployment rate which could result from such approach is one of the most important contradictions of the neoclassic theory aimed at limiting any application of this method. However the analysis done in this paper proves that the inverse dependence between unemployment and wage does exist. According to the results received, the minimal wage rise could be used as an effective method of exogenous influence on the labour cost in Ukraine. With this it is desirable that this method were used under the conditions of the preliminary equilibrium on the labour market, while the rise itself has gradual character, were step-by-step method with set terms.

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