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SYSTEMIC COUNTRY DIFFERENCES IN THE EUROPEAN INNOVATION PERFORMANCE

– DOES INSTITUTIONAL CONTEXT MATTER?

The so-called “High Performance Working System” (HPWS) and the lean production are representing the theoretical and methodological foundations of this paper. In this relation it is worth making distinction between various theoretical streams of the HPWS. The first theoretical stream in the literature is focusing on the diffusion of the Japanese-style management and organizational practices both in the US and in the Europe. The second theoretical strand comprises the approach of sociology of work and dealing with the learning/innovation capabilities of the new forms of work organization. Finally, the third theoretical approach is addressing on the types of knowledge and learning process and their relations with the innovation capabilities of the firm. The authors’ analysis is based on the international comparison, both in regional and in cross country comparison. For regional comparison the share of ICT clusters in Europe, USA and the rest of the world was assessed. For the purpose of the cross-country comparison in the EU, the innovation performance measured by the index Innovation Union Scoreboard (IUS) was used in both the before and after the financial crisis.

Keywords: ageing society, high performance working system, ICT cluster, work organization, training

The 2008–2009 global financial crisis and economic downturn shed a new light on several major challenges in the European Union. Among them, it is worth mentioning the latest forecasts of the skills supply and demand and of the recent demographic trends (aging population and workforce) in the European Union.

In regard to the first challenge, despite the rather gloomy present labour market development (i.e. double digit unemployment in the majority of the EU-27), “...demand continues to grow for highly- and medium-qualified people even in lower-level occupations, while the demand for those with low (or no) formal qualifications continues to fall... As a result, demand for highly-qualified people is projected to rise by over 16 million (2020), while demand for low-skilled workers expected to decline by around 12 million” according to the European Centre for the Development of Vocational Training (Cedefop, 2011: p. 1–2.).

The other challenge is related to the demographic shift in the European workforce. According to the OECD report dealing with the issues of demographic changes and how to increase the labour market participation of the aging workforce in the labour market, the following assessment has the merit to mention: “The population and labour forces in the European Union are ageing. The proportion of the population in the EU-27 who are aged 55 and over rose from 25% in 1990 to 30% in 2010, and is estimated to reach 37% by 2030. Consequently, the workforce is also getting older – the proportion of the labour force between 55 and 69 years old increased 26.5% between 1987 and 2010” (Policy Brief on Senior Entrepreneurship, OECD, 2012: p. 4.).

It is rather difficult to know which countries or country groups within the European Union may develop an appropriate institutional and political environment able to cope with these challenges in order to improve both their competitiveness and employment

rate. This paper has an ambition to demonstrate the growing importance the technological and especially non-technological (e.g. workplace or more generally organizational) innovations which may improve both macro level (GDP) and company (micro) level performance in the national economies and at the same time generate higher participation (employment) rate in the labour market.

First section of the paper presents a brief literature review on the various theoretical strands related with the HPWS as an emblematic form of workplace innovation. Second section examines the innovation performance (ICT clusters) of the European economy in comparison to the USA. Third section focuses on the crucial roles of the “learning capability of work organisation” and “training” in the firm shaping the innovation performance of the countries within the EU-27. The last section, beside the brief conclusion intends to outline the future research orientation aimed to better understand the sources of the “innovation driven growth.”

High Performance Working System (HPWS): Brief Literature Review

The so-called “High Performance Working Systems” (HPWS) are representing the theoretical and methodological foundations of the paper. “The ‘high performance’ literature focuses on the diffusion of specific organisational practices and engagements that are seen as enhancing the company’s capacity for making incremental improvements ...these include practices designed to increase employee involvement in problem solving and operational decision making such as teams, problems-solving groups and employee responsibility for quality control” (Valeyre et al., 2009: p. 7–8.).

In this relation it is worth making distinction between three theoretical strands of the HPWS approaches from the recent decades. The first theoretical strand in the literature is focusing on the diffusion of the Japanese-style management and organizational practices both in the US and in the Europe (Aoki, 1990; Ramsay – Scholarios – Harley, 2000; Wood, 1999). The second theoretical strand comprises the approach of sociology of work and dealing with the learning/innovation capabilities opened by the new forms of work organization (Makó, 2005; Durand, 2004). Finally, the third theoretical approach is addressing on the relation between types of organizational structures and organisational learning (innovation capabilities) of the firm (Valeyre et al., 2009; Lam, 2005).

Japanese management systems and philosophies still represent a significant knowledge source on both organizational learning and innovation in the business

and academic communities. In this relation we have to mention Aoki (1990), who examines the micro-structure (company practice) of the Japanese economy and indicates the fundamental differences between the Japanese form (J-Form) of organizational structure versus the Western approach. In describing the J-Form structure of firms he uses the following “dualities”:

1. He pointed out that Japanese firms tended to be less hierarchical in the workplace co-ordination, but the pay and incentive ranking was extremely hierarchical and generally based upon individual performance, but within a range for the specific position and responsibility. Aoki mentions that the western system tends to be hierarchical in both incentive and co-ordination modes.
2. The J-form structure tends to have a weak decision-making structure and incentive structure. Aoki notes that the Japanese firms tend to be free of external financial control as long as a reasonable profit is being realized.
3. The third duality is that executive management’s decisions are not based upon the ownership’s concerns alone, the employee’s interests also influence the decision-making process, and not only the stock-value maximizing decisions.

Aoki’s work elucidates the management structure where managers are generally promoted through the corporate ranks and carry the influence of making decisions for the collective stakeholders and not just profit-driven decisions.

Ramsay, Scholarios, and Harley (2000) investigated whether High Performance Work Systems (HPWS) positively affected the firm performance and how the differing approaches to human resource management affected the welfare and working conditions of the labour force. The study found that the positive performance outcomes for employers were not strongly correlated to positive outcomes for employees. However, HPWS practices were positively correlated with performance measures. The over-arching finding was that commonly accepted management views that enlightened work practices directly benefit workers was not proven, and in fact worker’s conditions were degraded. One of the other main findings of this critical approach was that HPWS approaches may benefit everyone, but the efficacy of the implementation may be lacking, leading to sub-optimal results.

The second stream of research examines the learning and innovation capabilities of new working practices. Mako (2005) examined how semi-autonomous work groups in the state-socialist firms (VGMK’s) affected

– as a kind of structural and cognitive past dependency
 – the workplace innovation in the post-socialist economy in Hungary. In his work he intended to understand changes in both the organizational and technological paradigms that took place in the labour process during the transformation in the 1980's and 1990's. Employee involvement and input have resulted in the integration of tasks such as quality control (QC) being part of blue collar worker's standard duties. Whereas in the state-socialist past QC tasks were separated from production site, the workers are now responsible for the quality of their outputs. However, these visible changes in the labour process in Hungary rarely did represent radical shift from the mass-production into the more autonomous learning organisation in the working practice. Instead a neo-Fordist or democratic taylorism emerged developing co-operative labour relations with flexibility and high-quality production to react to competitive pressures from the global marketplace.

The third stream of research intends to test empirically the diffusion of models of the innovative work organisation in the European economy using large scale organisational surveys. In this relation it is worth mentioning the different waves of the Working Conditions Survey coordinated by the Eurofound (Valeyre et al., 2009). Analysing the results of the survey, the authors found significant country differences within the European Union. The Northern European, Continental and Anglo-Saxon countries have higher share of discretionary learning (or innovative) forms of work organization whereas great majority of the Southern European and Central and Eastern European countries have a more traditional and Taylorist version of work organization in their economies. Notwithstanding the cross country inequalities, visible differences were identified by sectors of the national economies. For example, discretionary learning forms tend to be found in the professional service sectors and manufacturing sector tends to have dominated by the lean production and Taylorist form of work organisation. While traditional and simple forms are found more often in sales and services. Enlightened human resources management practices such as training, incentive pay, employment contracts, work-related consultation, and discussion, are prevalent in lean production and discretionary learning forms of work organization. The authors posit that such approaches are thought by the firms to act as an investment in the employee's commitment to the company's goals. The study also found that the discretionary learning forms also have the highest employee satisfaction whereas the Taylorist organizations have the lowest levels of satisfaction. In her work on organizational innovation

(2005), which is mostly based on Mintzberg's (1979) five arch-types, Lam examined how organizational learning occurs in each structure and their relative strengths and weaknesses for organizational learning or innovation. J-Form or lean structures tend to allow for continuous learning throughout the organization and tend to be much more successful with incremental innovation and less responsive to rapidly evolving technological changes. Adhocracies, as Lam states, can quickly adapt to rapid technological innovations, but organizational learning is somewhat limited as the practitioners involved tend to have both baseline formal knowledge and extensive tacit knowledge that generally is not transferable within the firm's structure. The structures of the firms also dictate whether a continuous improvement can be achieved, or if "punctuated equilibrium" or sudden changes and then adaptation periods are the norm. Lam also notes that the spectrum of organizational innovation is broad and no one theory has adequately captured a seminal framework for how organizations learn or innovate.¹

Finally, it is necessary to mention the recent phenomena of growing interest of the new generation of the Hungarian management scientists to understand the complex and dynamic interactions between the HPWS and human resource management in the firm (Losonci, 2014).

Innovation Performance in the European Union: Lagging behind the US and significant country differences in the EU-27

In parallel with the worldwide diffusion of leading management practices, a new techno-economic paradigm associated with the Information and Communication Technologies (ICT) revolution have also been emerged and have been gradually replacing also the practice of mass production. Due to this paradigmatic shift in creating both products and services, Perez (2012: p. 7.) rightly stressed, "...possibilities for innovation and entrepreneurship are now open for individuals and small companies wherever they may be located." Intensity of absorption and diffusion of the new techno-economic paradigm based on the generic use of ICT may improve the innovation capability of the European economy as a source of the sustainable competitiveness in the global economy. Increased competitiveness and labour productivity growth driven by the innovation may also speed up the post-2008 financial crisis recovery in the EU. This requires new or renewed institutional and political environment (e.g. favourable legal framework, less bureaucracy, developing entrepreneurial culture, creating less fragmented intellectual property rights, etc.) which speed up the innovation process in the European econo-

my. To cope successfully with these complex challenges it is necessary to briefly overview the innovation performance of the European economy and then to identify the major driving factors. In relation to this issue, we intend to raise the following questions:

1. What is the position of the European economy in adopting ICT as a driver of the new techno-economic paradigm and a facilitator of the post-crisis recovery? Without underestimating the decisive importance of ICT in replacing the mass production trajectory of economic development, it is necessary to utilize more complex indicators measuring innovation activity, ability and outcomes of the firm. By relying on such kind of complex indicator – for example the Innovation Union Scoreboard (IUS) – we can achieve a deeper knowledge of the factors responsible for the variations in innovation performance within the EU-27 countries?
2. Is it possible to identify various country groups characterised by systematic institutional and political environments that facilitate or inhibit the innovation performance of the national economies in the European Union?

In identifying the innovation position of the European Union, the development of the ICT sector looks to be an appropriate proxy-indicator to compare the innovation performance of EU with both the USA and the rest of the world. *Table 1* presents the share of the ICT clusters, young innovators, and the Research and Development Intensity (RDI) in the following regions: the World, the European Union, and the United States.

Table 1 shows the leading position of the USA in comparison to the European Union in all three indices, that is in the number of leading innovators, in the share of young innovators, and in the Research and Development Intensity (RDI).

The half (52%) of the world's leading innovators in the ICT sector are American and less than one fifth (17%) come from the EU. The United States has a visibly higher share of the globally leading “young” ICT innovators (71%) compared with the EU (52%). In addition, the RDI in the USA (8.7%) is higher than the global average (6.1%) or in the EU (5.3%).

In addition to the global comparison of the ICT cluster, it is necessary to assess the innovation performance of the EU-27 countries based on a more complex measurement tool such as the Innovation Union Scoreboard (IUS). This index comprises the following three main factors: enablers, firm activities, and outputs. The index includes eight innovation dimensions which comprise 25 different indicators (Cedefop, 2012: p. 41).

To evaluate in a longer-term perspective the innovation performance of the EU-27 countries we intend to compare the situation before and after the 2008 financial crisis and economic downturn.

In the cross-country comparison, we grouped the European countries according to their distinctive institutional settings (e.g. social-welfare models). Sapir (2005: p. 9.) made a distinction – using such dimensions as equity (risks of the poverty) and labour market efficiency (rate of employment) – between the following four social-welfare models of the EU-15 countries (2):

- VI. Continental countries: Austria, Belgium, Germany, France and Luxemburg,
- III. Nordic countries: Denmark, Finland, Sweden and the Netherlands²,
- III. Anglo – Saxon countries: Ireland and the United Kingdom,
- IV. Mediterranean countries: Greece, Spain, Italy, Malta and Portugal.

We may add to this four country cluster the group of the post-socialist countries (Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia and Slovakia). Similarly to the EU-15, these countries do not represent a homogeneous social-welfare model either, however, until now we have very few theoretical and methodological attempts with the ambition of empirical testing to identify and

Table 1

**World Leading Innovators by regions,
total ICT Cluster (Veugelers, 2012: p. 5.)**

Regions	Indicators	ICT total
World	No. of leading innovators	344
	% of young	62%
	RDI	6.1%
EU	Share of leading innovators	17%
	% of young	54%
	RDI	5.3%
USA	Share of leading innovators	52%
	% of young	71%
	RDI	8.7%

Source: On the basis of the IPTS (Institute for Prospective Technological Studies) scoreboard. (European Commission, 2008) *Note:* Leading innovators are firms present in the IPTS scoreboard, i.e. among the 1000 biggest R & D spenders in Europe or the 1000 biggest spenders outside Europe. RDI (R&D intensity) is calculated as R& D expenditure as a percentage of net sales of leading innovators. “Young” means created after 1975. (http://iri.jrc.ec.europa.eu/research/scoreboard_2008.htm)

describe the variety of institutional settings emerging in the more than a quarter of century in the Central and Eastern European Countries (Csizmadia – Illéssy, 2014; Farkas – Makó – Illéssy – Csizmadia, 2012; Martin, 2008).

Comparing the innovation performance of the five country group (in *Table 2*) the following patterns were identified. The “Continental”, “Nordic” and “Anglo-Saxon” country groups – representing one third of the EU-27 – are performing better than the EU-27 average, they have a “leading edge” position in the European innovation landscape. However, the great majority (two thirds) of the EU-27 countries (i.e. the “Mediterranean” and “Post-socialist” country groups) have a lower than average innovation performance and have a “trailing edge” position.

Looking at these visible country group differences of innovation performance within the EU-27 countries it is worthy to raise the following question: which factors are playing key roles in the innovation performance of the countries surveyed? Before answering to this question it is worth quoting the following general assessment on the underperforming European Union:

“The bottleneck in improving innovation capabilities of European firms might not lie in the low levels of R&D expenditure, which are strongly determined by industry structures and therefore difficult to change, but the widespread existence of working environments that unable to provide fertile environment for innovation” (Arundel et al., 2006, cited by Alasoini, 2011b: p. 13.).

than the EU-27 average in the countries where the innovation rate registered was higher than the EU-27 average too.

The next section of the paper focuses on the factors shaping the innovation performance of countries surveyed.

Sources of the Innovative (Dynamic) Capability of the Firms: Work Organization and Learning. A Cross-country Comparison (EU-27 + Norway)

The innovation capability of the firm fostering both technological (product and process) and non-technological (marketing, business practice, organizational renewal) innovations is closely related to the firm’s learning practices and also to the learning capability of the organization. Defining the innovative capability of the organization, we use the Nielsen (2012: p. 9.) definition, according to which:

“The capability to innovate is thus an expression of learning process and knowledge production taking place within the firm, in the interplay between different functional groups and various decision levels.”

In identifying the factors shaping the innovation capability of the firms, the following variables (dimensions) of the innovation capability (Cedefop, 2012: p. 44.) were empirically tested in the EU-27 and Norway:

1. the “learning capability” of the work organization,
2. the “other forms of learning in enterprises” index, and
3. the “innovation index” (Innovation Union Scoreboard, IUS).

Table 2

**Innovation Performance (IUS) in Europe: before and after the financial crisis:
A Cross-Country Comparison**

Country group	2006	2007	2008	2009	2010
EU-27	0.505	0.518	0.5170	0.515	0.516
Above EU-27 average	Continental (minus France) Nordic Anglo-Saxon	Continental (minus France) Nordic Anglo-Saxon	Continental (minus France) Nordic Anglo-Saxon	Continental Nordic Anglo-Saxon	Continental Nordic Anglo-Saxon
Below EU-27 average	Mediterranean Post-socialist	Mediterranean Post-socialist	Mediterranean Post-socialist	Mediterranean Post-socialist	Mediterranean Post-socialist

The innovation performance landscape presented in *Table 2* indicates visible inequalities between the EU-27 countries as well. In this respect, we have to stress again the weak innovation performance of the Mediterranean and the Post-Socialist countries in comparison to the rest of the EU. In addition, it is interesting enough that the employment rate is higher

Using the typology of the work organisation mapped in the European Union (i.e. discretionary learning organisation, lean organisation, taylorist organisation and traditional organisation), organisations having the highest learning potential are labelled as “discretionary learning organisation” and has the following features (Valeyre et al., 2009: p. 12.): It “...is characterised by

the overrepresentation of the variables measuring autonomy in work, learning and problem solving, task complexity, self-assessment of quality of work and, to a lesser extent, autonomous teamwork. Conversely, the variables reflecting monotony, repetitiveness and work-pace constraints are underrepresented. This class, which is referred to as discretionary learning form of work organisation, appears to correspond to the learning organization ... It shares many of the features of the Scandinavian socio-technical model.”

The “other form of learning” index is based upon the employees’ participation rate in “any other form of training” covering: “...on-the-job-training, planned learning through job rotation, exchanges, secondments or study visits, attendance at learning/quality circles, self-directed learning, attendance at conferences, workshops, trade fairs and lectures” (Cedefop, 2012: p. 41.).³

of learning” (situated learning) practice, and high “innovation performance”.

2. The so-called “*Solid*” country cluster is characterised by a “high” presence of “learning intensive” or “discretionary learning organization”, moderate values for “other forms of learning”, and moderate to high scores for “innovation performance.”
3. The intermediate country grouping is divided into “*Moderate 1*” and “*Moderate 2*”. As far as the first group is concerned, the “*Moderate 1*” cluster exhibits a high share of “learning intensive” work organization combined with “medium value” for “other form of learning” and “moderate” innovation index results.
4. In the case of the “*Moderate 2*” country grouping, the “moderate innovation” index combines with a weak or lower presence of both “discretionary

Table 3

Cluster groupings for Cross-Country Comparison with the respective variables in brackets (EU-27 + Norway)

High	Solid	Moderate 1: high learning, moderate innovation	Moderate 2: low learning, moderate innovation	Low
Organizational learning capability high (0.680)	Organizational learning capability high (0.659)	Organizational learning capability high (0.700)	Organizational learning capability low (0.585)	Organizational learning capability (0.580)
Other forms of learning high (0.132)	Other forms of learning moderate (0.072)	Other forms of learning moderate (0.074)	Other forms of learning low (0.042)	Other forms of learning low (0.048)
Innovation high (0.729)	Innovation moderate to high (0.591)	Innovation moderate (0.413)	Innovation moderate (0.461)	Innovation low (0.187)
Denmark	Belgium	<i>Estonia</i>	<i>Czech Republic</i>	<i>Bulgaria</i>
Germany	Luxemburg	Malta	Ireland	<i>Latvia</i>
Sweden	Netherlands	Norway	Greece	<i>Lithuania</i>
	Austria		Spain	<i>Hungary</i>
	Finland		France	<i>Poland</i>
Note: The post-Socialist states are shown in <i>italics</i> . Source: Cedefop, 2012: 45			Italy	<i>Romania</i>
			Cyprus	<i>Slovakia</i>
			<i>Slovenia</i>	
			United Kingdom	

Using data on work organization, learning and innovation, the Cedefop (2012: p. 44.) report identified the following five country clusters:

1. The country group designated as “*High*” registered the highest scores in all three dimensions measured: high share of “discretionary learning organization” combined with the strong presence of “other forms

learning organization” and “other forms of learning” than in the case of the “*Moderate 1*” cluster.

5. The last country group or cluster is characterised by “*Low*” scores on all three dimensions or variables

Table 3 summarizes the results of the cluster analysis (data base for the cluster analysis available in Ce-

defop, 2012: p. 131–133.) and lists the levels of each variable considered, and then the countries that are included within the class. The data from the *Table 3* indicates a much more nuanced picture than the previous *Table 2* does ordering country groups only by their innovation index result above versus below the EU-27 average. For example, the Post-socialist countries and “Mediterranean” countries, together, were shown to be comparatively underperforming within the EU-27 when utilizing only the Innovation Union Scoreboard (IUS). However, the combined comparison of the three variables (i.e. “learning orientation of organization”, “any other form of learning” and the “innovation index”) pinpoints visible variation in these countries. Some “Mediterranean” countries are found in the Moderate-2 cluster together some Continental countries. The post-socialist countries – in spite of their common institutional heritage of the state-socialist economy – form neither a homogeneous group with results spread over three of the five classes defined in the comparison. It is true that the great majority of them belong into the “low performing” cluster (seven of the ten countries). However Estonia, the Czech Republic, and Slovenia have relatively better innovation performance results and are located in the Moderate 1 and 2 clusters. Ireland, Greece, Spain, France, Italy, Cyprus and Great Britain, Malta, and Norway all are in these groups too.

The recent initiative of European social scientists to increase the collective sensibility of the European policymakers to the crucial role of workplace innovation, call attention to the existing gap in policy orientation and investment European community: “The lack of investment into Workplace Innovation leads to lost opportunities and less than required knowledge development.” Workplace Innovation should be stimulated beside the Northern European countries: “...the greatest lack of investment in Workplace Innovation is in South and Eastern Europe” (Dortmund/Brussels Position Paper, 2012: p. 1.).

Growing interest in measuring and ranking countries’ workplace innovation performance is not reflecting only the theoretical and methodological interest of the academic community. Intensified attention of business community – at least in the most developed economies – in boosting innovation should be attributed to the positive economic and social impacts of workplace innovation both at national and company (firm) level. For example, in relation with the company level impacts, the American experiences “...show that the magnitude of the effects on efficiency outcomes is substantial, with performance premium ranging be-

tween 15 percent and 30 per cent for those investing in Workplace Innovation” (Appelbaum et al., 2011 in: Dortmund/Brussels Position Paper, 2012: p. 9.).

In addition to the growing employer’s interest to invest in the workplace innovation in the most developed economies, we may observe an – although slow – shift in this direction in the European Union. For example, the *Europe 2020* and *Horizon 2020* both stress the growing importance of interaction between innovation, job quality and employment generation for Europe’s economic recovery and development. However, in these documents the special role of workplace innovation is not yet articulated. As Lundvall (2014: p. 2.) rightly noticed, the strategic goal “...is formulated in vague terms as ‘more jobs and better lives’”. For the great majority of the policy makers in the field of employment in the context of the high European unemployment (especially young unemployment) rate, this dilemma looks more than evident. However, in spite this growing intellectual interest there is no substantive research aimed to systematically analyse and understand the interaction and dynamics between innovation, job quality and employment. At this moment, without systemic empirical evidences it is impossible to answer on the following and very much debated question: Is there a trade-off between more or better jobs?

Conclusion and future challenges

There is an emerging consensus within the community of researchers and policy makers on the key role of “innovation driven growth” in coping with the double impacts of ageing European workforce burden on the social welfare system and to satisfy the demand of the fast growing knowledge intensive jobs despite the recession following the global financial crisis (2008).

Workplace innovation may create attractive working conditions for the ageing workforce to extend their careers beyond current retirement age, and at the same time increase operational efficiency for the firms they work for. The Finnish workplace development programs indicate “...simultaneous improvements in operational performance and Quality of Working Life at work organization level...” The main conditioning factors for projects that had made simultaneous progress in performance and „QWL were employees’ participation in the planning and implementation of the projects, close cooperation between management and personnel during implementation phase...” (Alasoini, 2011: p. 18.).

Comparing both technological and non-technological innovation performance of the European economy

with its global competitors, we have to say that the USA is the global leader. For example, the regional comparison of ICT clusters and the share of young innovators, the USA is clearly ahead of Europe.

In spite the generally gloomy innovation picture of the EU-27 countries, we have to call attention to the great variety of the member countries' innovation performance within the EU. For example, some European countries (e.g. Denmark, Sweden) are shown to be outperforming even the USA – in periods both before and after the 2008 global financial crisis. In terms of country clusters identified, we may say that the Nordic, Continental, and Anglo-Saxon countries are performing above the EU-27 average for innovation performance, while the Mediterranean and Post-Socialist countries are performing below the EU-27 average. Combining the assessment of innovation performance with the roles of the learning capability of work organization and situated learning, five country clusters were identified and differences were found in the above mentioned country groups. For example, within the post-socialist country group, a majority of the countries (seven of the ten) were in the cluster characterised by low values on all three scores (i.e. learning capability of work organization, other forms of learning and innovation). However, Estonia, the Czech Republic, and Slovenia placed in the better performing clusters (i.e. Moderate 1 and 2).

Finally, it is worth mentioning some challenges for researchers and policy makers for the near future. We have relatively abundant and good quality knowledge sources at European level on firms' innovation and training activities based on the various waves of the international surveys organised and supervised by Eurofound, Eurostat, Cedefop etc. These surveys indicate that the workplace innovations (e.g. learning oriented work organization in comparison to the Taylorist/Fordist form of work organizations) result "...better working conditions in the sense of lower intensity of work, less exposure to physical risks, fewer non-standard working hours, a better work-life balance and lower work-related health problems" (Valeyre et al., 2009: p. 49.).

Similar conclusion was drawn from the recent analysis of the European Working Conditions Survey (2000) covering only EU-15 countries (Eurofound – Dublin) according to which the data "...do not indicate any trade-off between quality and volume of employment – rather they indicate the opposite: that high quality jobs go hand in hand with high employment rates. Among the EU-15 only the Netherlands, Denmark, Sweden, Austria and Germany have reached the

target rate of employment (70%) and these are also the economies where the share of jobs offering workers discretionary learning is the highest" (Lundvall, 2014: p. 2.).

Unfortunately, until now we lack a map of the workplace innovations by regions, occupations, size of firms within the individual countries (e.g. in Hungary or in other European countries). The shortage of this kind of systemic research is especially acute in the majority of the Post-socialist and Mediterranean countries. It is not by chance that these county groups are paying higher social-political costs in confronting the impacts of the 2008 financial crisis (the great majority of these countries have two digit general unemployment and astonishingly high level of young unemployment, e.g. in Italy, Greece and Spain 40 to 58.6 percent of them are out of work.)

The social and economic actors, having responsibilities to sustain both competitiveness of their national economy and social welfare system, have to seize the opportunities to invest in the workplace development programs similarly to the practice of Nordic and some Continental countries to place innovation at the forefront of their economic development and employment policies.

Endnotes

¹ Contrary to the mainstream country classification, Sapir ranked the Netherlands in to the Nordic country cluster.

² "In the general sense, the term "organizational innovation" refers to the creation or adoption idea or behaviour new to the organization. The existing literature on organization innovation is indeed very diverse and not well integrated into a coherent theoretical framework" (Lam, 2005: p. 115.).

³ The latest Continuous Vocational Training Survey (CVTS-3), beside of the "any other forms of learning" collected information on employees' participation rate in the "internal" continuous vocational course (CVT) which are planned and organised by the firm and on "external" CVT courses generally designed by a third-party partners (e.g. training firms, educational institutions etc.). However "...the reason why "any other forms of training" correlates most strongly with the innovation index might be explained by the fact that it includes, to a large extent, learning at the workplace and is, therefore more firm-specific. Accordingly, it may have a stronger influence on innovation" (Cedefop, 2012: p. 42.). These findings are supported by the results of the recent Danish MEADOW-Plus survey data: "The formalized side of competence development does not lose its importance in dynamic environments focusing on innovation performance. However, if competence developments in the firm are to contribute to the development of dynamic capabilities, it must be tied to the daily routines and, not least, to challenging these routines... competence development has to be embedded in the work relations, including the relations with various professions and functions in the firm" (Nielsen, 2012: p. 12.).

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