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CHANGES IN WORK FROM THE GLOBAL VALUE CHANGE PERSPECTIVE

THE CASE OF TRANSFORMATION ECONOMIES: BULGARIA AND HUNGARY

The core aim of this paper is to evaluate to what extent were companies able to join to the global value chains (GVCs) through some selected company case studies.^{1,2}

Keywords: global value chain (GVC), case studies, Bulgaria, Hungary

What is a value chain?³ The definition of the global value chain (GVC) indicates that the “value chain describes the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond. This includes activities such as exploiting raw materials, design, procurement, production, marketing, distribution and support to the final consumer.”⁴

Restructuring of global value chains: theoretical and methodological foundations.

Value chain concept development

The activities that comprise a value chain can be contained within a single firm or divided among different firms. Value chain activities can produce goods or services, and can be contained within a single geographical location or spread over wider areas.⁵

A number of concepts emerged in social sciences while attempting to analyse the linkages and the relations of (global) dependence and integration in the economy – value chains, value streams (Womack – Jones, 1996), value systems, filières (in French) and global commodity chains (GCC).

We will describe here shortly only the concept of GCC, introduced into the literature during the mid-1990s as being the most related to the concept of GVC. This concept was developed by Gary Gereffi and others within the framework of an analysis of the political economy of development and underdevelopment,

originally derived from world systems theory and dependency theory (Gereffi – Korzeniewicz, 1994).⁶ Gereffi refers to the following dimensions: (1) the input-output structure of the chain; (2) the territory it covers; (3) its governance structures which affect barriers to entry and coordination within the chain; (4) the local, national and international institutional framework which shape the conditions under which key agents incorporate subordinate agents through their control of market access and information (Gereffi, 1994).

GVC governance⁷

The theory of the governance of value chains (GVC) has recently gained importance. There is a growing shift in the global organisation of production towards external networks through outsourcing and externalisation. This change challenged the duality of the governance forms of value chains with the emergence of different networks. Gereffi, Humphrey and Sturgeon (2005) identify three variables playing a large role in determining how global value chains are governed and changed:

- (1) the complexity of transactions,
- (2) the ability to codify transactions,
- (3) the capabilities in the supply-base.

In this theoretical framework the authors distinguish five types of global value chain governance – market, modular, relational, captive and hierarchy – which range

from high to low levels of explicit coordination and power asymmetry (*see Figure 1*). This typology allows explaining why some value chain activities could be more easily relocated than others (Sturgeon, 2008).

According to this classification there are five ideal types in the scale from market to hierachal forms of governance:

- **simple market linkages**, governed by price – in this case the complexity of transactions is low, but the ability to codify transactions and the capabilities in the supply-base are high,
- **modular linkages**, where complex information regarding the transaction is codified and often digitised before being passed to highly competent suppliers,
- **relational linkages**, where tacit information is exchanged between buyers and highly competent suppliers,
- **captive linkages**, where less competent suppliers are provided with detailed instructions,
- **hierarchical linkages** within the same firm, governed by management hierarchy.

The Global Value Chains Framework

Key Variable	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Governance Type				
Market				
Modular				
Relational				
Captive				
Hierarchy				

Note: There are eight possible combinations of the three variables. Five of them generate global value chain types. The combination of low complexity of transactions and low ability to codify is unlikely to occur. This excludes two combinations. If the complexity of the transaction is low and the ability to codify is high, then low supplier capability would lead to exclusion from the value chain. While this is an important outcome, it does not generate a governance type *per se*.

Source: Gereffi, Humphrey, and Sturgeon, 2005; as adapted by Dicken, 2007, p. 158.

This framework allows some predictability in the analysis of the cross-border linkages that could be useful in the analysis of GVC restructuring. To all this we need to add the aspect of the modularity – as it could be shown by different examples, there are functions that can be performed in different locations. Something more, for

authors such as Lane and Probert (2006): “The manner of fragmenting the value chain and its distribution of functions across different locations depends not only on available competences and cost considerations, but also on the nature of the final product”.

There have been attempts to overcome the dichotomy of producer-driven and buyer-driven chains governance. One of them is made by Lane and Probert (2006) – they try to connect the institutional influences of the country of origin to the governance of the global production networks (GPN). Analysing sourcing strategies of German and UK clothing companies they found that “However, although institutional influences of country of origin remain pronounced even in the construction and governance of networks, GPNs also enable firms to “shake off” some of their constraints and, in a few cases, to develop strategies in a more voluntaristic manner”. This means that the co-ordinating firms (as Lane and Probert call the lead firms) are embedded in the national institutional environment which has an impact on the value chain governance.

Figure 1
Studying value chains in Central and Eastern European (CEE) countries

The approach of the value chain analysis is still not well-known and present within the academic debate in Central and Eastern Europe.⁸ It seems really important to attract attention to the value chain analysis and to the value chain restructuring processes that could explain not only a number of events such as for example the massive move of Greek textile to Bulgaria during mid-1990s or the opening of development centre in Asia by a Bulgarian software company two years ago, but also the impacts of these events on the organisation and work.

One of the underlying assumptions of the study in the framework of the WORKS project is that the reorganisation of work can only be understood fully in the context of a global restructuring of value

chains, entailing a simultaneous decomposition and recomposition of sectors, organisations, labour processes and skills.⁹ From that perspective there was an attempt to point out a number of considerations while discussing global value chain analysis applied to organisational realities in the transformation economies.¹⁰

The first one is the need of a ***multidisciplinary approach***. Understanding the concept of value chains requires the participation of various disciplines (political economy, management, sociology, cultural anthropology, network analysis, etc.). For that purpose the value chain structure and the recent processes of restructuring could mean the examination of multidisciplinary sources. In the case of CEE regions we insist on the fact that this multidisciplinarity should take into account the “transitology” (*post-socialist transformation studies*) or to say it in other words, the specificity of the post-socialist transformation. In these countries markets and enterprises became autonomous and entered the global economy since the beginning of the 1990s. Numerous studies highlighted the presence of heritages in the post socialist companies, both privatised and newly established. The GVC approach could be useful one in explaining the concrete mechanisms that played in this transformation.

The second consideration concerns the way of investigating the value chain power distribution. One of the most relevant questions while analysing organisational change is related to the decision-taking process in the chain. In other words who is deciding and where along the value chain. The question of the power in the value chains is extremely important in order to understand why some decisions leading to their recomposition have been taken.

The other important aspect of the value chain analysis is the value chain upgrading or the problem of dynamics in these complex networks. Global value chains are not static and the position of a given unit could be “upgraded” or “down-graded” within the chain. There are multiple examples of the upgrading of companies, regions, countries. This is a process of the absorption of high-value added function from other links of the chain or outsourcing of low value added activities. This logic is very important to be understood in CEE. The understanding of the specific value chains upgrading processes will contribute to our current knowledge on restructuring and its impact to quality of work and competitiveness.

Company case studies selected in Bulgaria and Hungary for GVC analysis

The first and second Bulgarian cases¹¹ are about the production and the logistics business functions of BEER AD, a beer producing company which was acquired by a Multinational Enterprise (MNE) in the 1990s and experienced a number of restructuring since then. The acquisition of old industrial enterprises through the privatisation was the most important process of

property change during the 1990s in CEECs. In this case we have an example of a *lengthening of a value chain* through acquisitions in a new market. The restructuring process after the acquisition had multiple dimensions in the production and in the logistics business functions of the company. The first aspect of the restructuring of the value chain to be noted is the radical change in the legal and ownership structure: the former state-owned enterprises became private companies that merged in one legal unit. The second important aspect of the restructuring of the value chain was the optimisation of the production capacity – part of the production units have been closed in order to concentrate resources in the still existing production units. This spatial consolidation in the production was accompanied by a serious reorganisation and centralisation of the logistics function. From the perspective of the GVC we could observe a centralisation of power resources at the level of the headquarters and at the level of the geographical region. The centre of the value chain stimulated policy of standardisation of working processes.

In the Hungarian cases of production and logistics business functions of clothing (or apparel) industry there is a company based in Hungary, Copy Fashion, which participates in the global value chain principally via its German mother firm. It can be considered as a “turnkey supplier” (Sturgeon, 2001) since the German mother company, its main customer, prescribes which products to produce, while it doesn’t interfere with how and by which processes Copy Fashion should produce them, except for quality aspects. The former state-owned company was established in 1953 in order to become partners of the German company in 1986 and part of this company in 1987. The outsourcing of the production from Germany to Hungary has been followed by the outsourcing of other functions – such as development and know-how centres – because in “Western countries now there are no tailors ...”. In fact, as it is pointed out in Huws *et al.* (2009: p. 59.), the value chains in the clothing industry are highly dynamic as companies constantly try to improve their competitive position by outsourcing or insourcing, by forward integration (“verticalisation”) or disintegration. The Hungarian case is interesting also because it allows to analyse the upgrade in the GVC, done by the CEE unit.

The cases of the “new industries” are both from the software development sector. The third Bulgarian case study is about a Bulgarian software producer (*SoftServ*) established in mid 1990s that started a process of internationalisation. If at the beginning of its activity *SoftServ* was dealing with the original business of providing outsourced software development

gradually it started itself to outsource. In this case we could observe an “upgrade” within the value chain of software production where before the CEE companies used to be as the last level subcontractors. Upgrading consisted of vertical move and divide of the work between offices in Bulgaria and in South-Eastern Asia. While before the restructuring the company had limited space for manoeuvre in terms of flexibility, with the opening of new units in the country or in Asia it increased its power to negotiate new contracts. It should be added that in the case of the *SoftServ* there are long term relationships with the majority of the contractors that allowed the shift of some responsibilities from the customers to the supplier. The characteristics of the transactions suggest that this is a case of relational value chain governance.

DomainSoft Hungary was established in 1991 by a large Austrian company which is one of the most important European software development multinational companies. The parent company “*DomainSoft Austria*” was founded more than forty years ago, and currently is present in seven European countries. The number of engineers in Hungary has grown up to 700 in the last decade. Currently, *DomainSoft* Hungary is operating with two locations: one in Budapest and another in Szeged.

The examination of the value chains studied suggests that they illustrate a variety of possible cases that could describe the restructuring in CEE countries. Something more, speaking about the restructuring of the GVC however we should raise a series of questions:

- What types of learning processes characterise the firms having various positions in the GVC?
- What is their relation between the formal training and skill development and the job-related (situated) learning?
- How we can distinguish the internal and the external factors of the restructuring in the post socialist economies? To what extent GVC impacts changes in the skill equilibrium?

Learning in Organizations and the Location in the GVC

In this section, we will take a closer look on the case studies carried out in the two post-socialist countries and will try to identify the most important patterns in work organisation changes. We will analyse our qualitative material (i.e. six case studies) according to three following main dimensions: *individual and collective learning processes related to organisational change; shifting within the GVC*. In our view one of

the most important impacts FDI and the subsequent emergence of global value chains might have in the post-socialist countries is the dissemination of leading edge managerial practices and organisational innovations. These innovations represent that “soft technology” plays an invaluable role in modernising these economies and especially in increasing their competitiveness.

Individual and collective learning process related to the organisational changes

In case of the *clothing industry*, the *Copy Fashion* represents the lean production form of work organisation using various tools of functional flexibility. For example, the use of “qualification matrix” was introduced that contains the name of the employee, the numbers of operations (s)he can perform and his/her performance percentage by operation. Qualification matrix helps resolve occasional substitution and manpower shortage problems not only at the individual employee-level but also at the assembly line level, too. Seasonal fluctuation of market demands typical in the fashion driven industry require flexibility and support not only individual but assembly line level too. Another aspect of collective learning processes is the growing importance of the direct contacts with the customers which is resulted in the radically increased quality requirements. The quality control staff has to be skilled employees. Usually they are selected from amongst the best-skilled workers (i.e. internal hiring is dominant because they not only have to supervise the quality but help colleagues if necessary (this represents a kind of “learning by interacting”).

BEER AD, which is operating in the *food industry*, serves also as an emblematic case for a Taylorist work organisation. As a result of the restructuring of value chain, driven by the motive of the cost efficiency, the work intensification increased radically, especially through the implementation of job enlargement. For example, prior to the privatisation an operator from the distillation was responsible only for setting on the brewage machines, now he is responsible for maintenance and to look for the safety/hygiene at the workplace, etc. The content of various jobs at the shop floor level changed but this did not lead to changes in skill requirements. This represents the phenomenon that is described as multitasking without multiskilling (Valeyre et al., 2009).

The cases carried out in the Hungarian and Bulgarian *IT industry* call attention to the growing importance of the *project-based work organisation* and the increasing role of the *customer* in collective learning processes.

As it is typical in the IT sector, software development work at *DomainSoft* is organised in projects and teams (Flecker *et al.*, 2008). The work organisation at the company follows the logic of a matrix organisation. That means that one structuring dimension of the matrix is the project-based work organisation which is combined with the line organisations on two to three projects at the same time.

The combination of the different logics of project-based work and line organisation often leads to internal conflicts within the company because the interest of the project management and the line management are rather different. The line management supervises the professional work of the employees while the project management is responsible for keeping the deadlines and for organising knowledge flow. There is often rivalry between the various local subsidiaries of the company in applying for projects. The question is, however, how to motivate the various project members in order to share the knowledge acquired through participation in different project activities

In case of the Bulgarian *SoftServ* parallel to the changes in business activities radical restructuring of the work organisation was introduced. The management structure of the company has been changed and *customer-oriented project teams* were established. The introduction of flat management aimed to increase the problem solving capacity of the organisation at the lowest possible management/organisational level. This led to increasing autonomy but also complicated the forms of managerial supervision.

Moving and “freezing” within global value chain: facilitators and inhibitors

The Hungarian *Copy Fashion* represents a classical case where production activity was outsourced into a low-wage country. The most important factor behind stabilising the company’s position within the GVC is its capability to produce high quality products at low cost. It requires to keep the wage-level low and to permanently invest in training (i.e. on-the-job training) of the skilled and semi-skilled workers. Maintaining high quality standards and at the same time being flexible are of crucial importance and the collective learning capacities of the organisation are fundamental in this respect. These are well-known features of the “lean-work organisation.”

Both the Bulgarian and Hungarian *IT* case studies illustrate the growing importance of the project-based work and the client’s role in the restructuring of value chains. *DomainSoft* represents a case where a subsidiary company holding a peripheral position

within the international division of labour could move up within the GVC getting more valuable tasks (e.g. architectural planning). The case studies demonstrate well that cost saving through low wages is not the only motive of outsourcing, but quality, knowledge, flexibility and even geographical proximity matter. Another often neglected dimension of the GVC is the changing nature of power relations, as a result of its internal dynamism. As *DomainSoft* Hungary is gaining more and more responsibility, its position along the GVC is also getting better. Increasing participation in the project-based work organisation is playing key role in strengthening the position of the Hungarian *DomainSoft*. The experiences learned during the project-based work enriched not only the professional but managerial skills of the Hungarian managers and employees. An “unintended result” of the common work was the emerging “trust relations” which facilitate the even the sharing of tacit knowledge among the project team-members.

Some ten years ago, when I started to work at this company we met the Austrian management twice a year. They came here to Hungary and we made some presentation to them. All this was totally formal. Nowadays, I attend all CEO meetings in Vienna. Things have been evolving gradually. First, we met more often, let’s say, four times a year only with people from the region and we discussed on rather neutral topics. Later on we attend every second CEO meeting and there was no hot or confidential topic, we got access to such decision supporting tools through which we may have insights into their results, volume of sales, etc. (head of department, cited in Makó – Illéssy – Csizmadia, 2007a: p. 16).

The *BEER AD* represents another strategy in delocalisation. The key motives behind the offshoring were cost saving and increasing market share that was a typical strategy that characterised the foreign direct investors in CEE in the first half of the 1990s. After a brief overview of the cases investigated, we will analyse the relations between work organisation models and training policy of firms.

Work organisation models and training policy of the firms

During the analysis of the case studies we tried to identify them according to the typology of work organisation. By doing so, we applied the typology of Valeyre *et al.*, (2009). The authors distinguished four types of work organisations on the basis of the secondary

analysis of the fourth wave of European Working Conditions Survey (2005): discretionary learning organisations, lean organisations, Taylorist organisations and simple or traditional organisations. One can find a detailed description of the content of the different models in the book cited above, we will only briefly summarise their main characteristics in Table 1 here.

They distinguished three types of training: training paid for by the employer (including both external and on-site courses provided outside of working hours), on-the-job trainings and training paid for by the employee. The authors considered that training paid by the employer is aimed at “develop more general and transferable skills” while on-the-job trainings are designed to develop task-

Table 1

Characteristics of the different work organisation models

Learning organisations	Lean organisations	Taylorist organisations	Traditional organisations
high level of autonomy	teamwork	limited autonomy	work is typically informal
learning and problem-solving abilities	learning and problem-solving abilities	minimal learning ability	non-coded work organisation structure
complex tasks	job rotation	repetitive and monotonous tasks	traditional working patterns ¹²

Source: Valeyre et al., 2009.

Table 2

Type of further training, by work organisation class (per cent)

Type of learning	Work organisation classes				
	Discretionary learning	Lean production	Taylorist	Traditional or simple	Average
Training paid for by the employer	37.1	35.7	16.6	15.7	29.2
On-the-job training	35.0	38.7	24.2	17.3	30.9
Training paid for by oneself	4.2	4.4	2.7	2.6	3.7

Source: Valeyre et al., 2009: p. 28. The calculation is based upon the secondary analysis of the 4th European Working Conditions Survey carried out in 27 European countries, among more than 29,000 employees, in 2005

It is obvious that different work organisation models require different types of knowledge and different ways of knowledge producing and sharing within the members of the organisations. This dimension of knowledge use is not only reflected in such variables as training policy, extent of internal or external training but also embedded in the labour process and everyday practice of work organisation (*e.g.* problem-solving methods, teamwork, job rotation, monotony of tasks, opportunity to learn new things, *etc.*). As Valeyre et al., (2009) puts it:

“Since learning and problem-solving capabilities are central to both of these (*learning and lean organisations*) models, it can be expected that firms adopting them will invest more in the training of their employees than those using more traditional Taylorist methods, characterised by low task complexity and high repetition”.

The interrelationship between work organisation and firms’ knowledge use is supported by the earlier mentioned research results of Valeyre et al. (see Table 2).

related and organisation-specific (hardly transferable) knowledge. The results confirm the presumption that discretionary learning and lean production forms of work organisations are more likely associated with training regardless of its kind.

Another characteristic of the relation between specific work organisation and corresponding training forms is that employees working in enterprises of discretionary learning forms have received more training paid for by the employer. At the same time, on-the-job training is more common in firms belonging into the category of lean production work organisation form. Taylorist type work organisation also correlates with on-the-job training but to a much lower extent. The authors explain this correlation by arguing that different types of work organisations are relying on different knowledge types: “As Lam (2006) observed, the lean production or Japanese model of production relies on knowledge which is firm-specific and collectively embedded within team structures. On-the-

job training is an integral mechanism for imparting this type of knowledge to employees. The discretionary learning forms of work organisation (...) tend to rely on individually embodied knowledge which combines formal elements with elements based on a rich experience of practical problem-solving (...) external and internal courses paid for by the employer are important mechanisms for renewing and up-grading the formal elements of this individual knowledge.” (Valeyre, 2009: p. 28).

After a brief overview of the relations between work organisation models and training policy of firms in Europe, we will shortly present the case study experiences according to the following dimensions: formal education based skill formation and use, growing importance of situated knowledge and the position of firms in the GVC and their low or high-skill equilibrium.

Formal education based skill formation and job-related skill

In the *clothing industry* the Hungarian *Copy Fashion* represents the “lean production model” which is characterised by strict production norms, controlled autonomy of employees and increased learning and problem solving capacity. At *Copy Fashion* the majority of the employees have no formal qualification related to the clothing industry. The recruitment of employees is based on skills and not on formal qualifications. The company employs eight trainers who are responsible for providing the necessary basic knowledge to the new employees in the form of the “on-the-job training”. Based on a test sewing the trainers try to find the operations that best suit to the new employees’ skills and capabilities. The company formerly maintained a good relation with a local vocational training school, but this relationship has weakened in the last few years. In relation to the vocational training the shortage of skilled labour is a general problem for the whole Hungarian clothing industry.¹³ There are some special units at the company where formal qualification is needed, e.g. laboratory, design and quality control.

Both *IT* cases represent the “learning organisation model” that is based on intensive knowledge utilisation, autonomy and complex problem solving. The majority of employees are IT engineers or hold a relevant degree (physicist, mathematician, etc.). At *DomainSoft Hungary* the formal skill structure is adopted from the parent company. A job classification has been introduced that consists of seventeen basic competences that are organised in five clusters. For each job it is defined in advance what

type of competences it requires. In parallel to this, training opportunities that belong to the different job clusters are defined in advance as well. This training system design ensures stability and visibility for employers in the trajectories of knowledge acquisition. As part of the training policy at *DomainSoft* new entrants participate in an “orientation programme” where organisational procedures, basic administrative requirements, software development methodologies and safety regulations are introduced to them. The new employees receive a professional on-the-job training from the representatives of the different fields and some extra education from project leaders if it is necessary. Since there is a permanent need at the company for skilled software developers, *DomainSoft* maintains intensive contacts and co-operation with Hungarian universities. The company organises “learning teams” at the universities which are provided with special knowledge by *DomainSoft*, but also serve as selecting and screening tool to find and select the potential new colleagues.

Szeged University produces now quite large numbers of graduates but they must be checked carefully since the quality level dropped quite substantially. Five-six years ago there were 15-20 graduates per year in the programmer or economic programmer programs. Today 100 to 120 graduate, but the number of potential entrants is the same 15-20 people. I mean, that quantity increased but the quality could not be maintained. (...) Students have no experience at all. They are not expected to have it either. (...) they graduate without having the faintest idea what this profession is all about. This is somehow bad for them too, because they have no imagination about work and then they drop in such an environment like ours and are flooded by tasks all of a sudden. (Specialised area-leader, Innovative Business Systems, Szeged, cited in Makó et al., 2007a: p. 14.)

In the Bulgarian case most of the employees hold a university degree mainly in the field of IT. At the same time, the management of the *SoftServ* is not satisfied with the knowledge provided by Bulgarian universities and therefore the company trains its employees in order to meet the global requirements.

The main flow of personnel, exchanged between companies, consists of specialists that already have worked for a long time somewhere ... in another company. Of course, the company recruits also people who have recently graduated

and do not have any experience but they started on lowest positions, usually with the goal to be trained and only after that they are able to become part of the team. [...] Especially for lower position the main thing that I have looked at, is for a person to be smart. Our training program is very good and we can teach him only in a few months – even from the beginning. But he must be able to think, because very often the tasks are not standard... (interview with project manager, 30, male, cited in Galev, 2007: p. 25.)

The Bulgarian BEER AD active in the food industry represents the Taylorist work organisation form with repetitive and monotonous work tasks, with low autonomy and learning dynamics at work. The employees at a shop floor level possess vocational or primary education and few of them are with higher education. The management is planning to restructure the production and therefore the improvement of the technological and technical skills of the staff is planned. In the training process a special focus is put on the improvement of software and English skills. There has been a multitasking tendency in the labour process and parallel to this the management aims to extend the employees' competences over the whole process of production.

Growing importance of the practice-related – or situational – knowledge

In the case of clothing industry due to the lack of formal training opportunities on-the-job training or "learning by doing" and "learning by practicing" are the main sources of knowledge development. For an employee to be able to carry out three to four operations, several years of experience is needed. The growing time and quality pressures, the variety of products and the differences between women's and men's products make it difficult to learn the necessary knowledge. The presence of clients' technicians provides a special learning opportunity through promoting quality performance.

I'm pleased to work together with them because they are not infected by professional shortsightedness. We also try to make scales fall from our eyes, but they call our attention to many things. First of all to quality matters, secondly to organisational questions, and finally to production preparation points. So we can learn a lot from them. (Technical director, cited in Makó, Illéssy, Csizmadia – Bácsi, 2007b: p. 23.)

At the *DomainSoft* there are three basic types knowledge necessary to execute work tasks:

- *professional* knowledge (e.g. various programming languages and methods),
- "domain" knowledge which is related to the specific areas of software development (e.g. local government systems),
- *management* skills.

The knowledge pool of a software developer or a project leader is a combination of these kinds of knowledge that are partly formal qualification- and partly competence-based one. The most problematic areas of knowledge acquisition at *DomainSoft* are the competence-based knowledge components that are mainly related to domain-specific skills and such soft skills like project management or customer orientation. These skills (competences) can only be acquired via informal learning, especially through experiences collected in the labour process ("learning by doing" or "learning by interacting"). The *DomainSoft* pays particular attention to the improvement of employees' knowledge pool. A special toolkit was developed for this purpose which is called Techno Web. It is an intranet-based application with the aim to integrate the *DomainSoft*'s developer community. If an employee faces a professional problem in his or her work he or she has just to post a question on this interface and the response usually arrives in a few minutes. Employees' activity in this virtual collective knowledge base is regularly measured and positively influences their career opportunities. This form of knowledge management is an attempt to implement the developers' virtual "communities of practice". Same intranet-based knowledge management tool works in SoftServ too. It consists not only of questions/answers and specific problem-oriented discussions but also of all technical articles and documents about products and technologies in use, that are connected to the work of the company since many years. All entries are classified according topics and problems.

In the case of Bulgarian SoftServ two basic problems occurred during the restructuring process. One is the company's permanent effort to standardise and formalise knowledge and the other one is the shortage of soft skills (like project management, cooperation skills and customer-oriented behaviour) among software developers. The first problem is expected to be solved through the implementation of the company-level quality management system that contains protocols and manuals concerning the various modules of the software development. In order to overcome the

second problem (shortage of soft skills), the company buys trainings from the market and implements client-oriented project teams aimed to strengthen the informal learning activities.

Relations between location in the GVC and the location in the scale of the “low” and “high-skill” equilibrium

The case of *Copy Fashion* in the clothing industry illustrates a rather paradox situation. In this case the core question is how to produce and maintain high quality standards with relatively low skilled and low paid labour force in order to keep the positions in the GVC or even move upward. Due to the shortage of qualified workers and the intensive competitive pressure the company is forced to train the employees in-house. The relatively low skill equilibrium is based on a combination of individual and collective learning process. In the latter one the intensive presence of clients’ quality controllers plays a critical role through transferring not just precise quality standards but also technical and organisational skills.

Both *IT* cases represent a “high skill” strategy in skill acquisition which is based on intensive knowledge development and utilisation. Both the Hungarian *DomainSoft* and the Bulgarian *SoftServ* invest in the formal and informal training of their employees. The knowledge of IT workers is a combination of technical-professional and competence-based managerial skills that can be acquired mainly through practical experiences collected in various working situations. These soft or social skills that are related to the successful project participation/management and customer orientation are the key components in moving up in GVC. The case of *DomainSoft*, however, reflects the difficulties that are concerned to the knowledge acquisition within the organisation and the importance of the interaction between the patterns of knowledge utilisation and the work organisation models. Learning in project-

based work is of crucial importance in knowledge development in both of the *IT* cases but it does not function *automatically*. The core question is how to motivate employees to share their tacit knowledge even in situations when they are not interested in it at all. For example in such cases where they are competing with each other in winning and running successfully projects. This problem calls attention to the importance of trust-based social relations within the projects and teams.

The case of *BEER AD* serves as an example for Taylorist work organisation that represents a “low skill equilibrium”. As a result of the restructuring of production process and work organisation at the shop floor level a quantitative enlargement of the working tasks were taken place which can be described as multitasking. The enlarged tasks structure however does not require any noticeable investments in employee training or any other forms of knowledge development. The training activities provided by the company are targeted to improve the basic technical and technological skills of employees, especially those that are related to the ICT use. Other trainings are dedicated to develop the English knowledge within the company. It calls attention to the importance of foreign language skills in the GVC. In the case of *BEER AD* the lack of English knowledge at the level of middle management is a barrier in transferring best practices or other professional knowledge coming from the mother company and to move up in the VC.

We briefly summarised the main characteristics in the following table. It is worth noting that this table reflects the status of the different cases as they were shown during fieldwork. However, all these characteristics (e.g. position in the GVC, skill requirements, etc.) change dynamically, especially in time of the global economic crisis. It is also a further research challenge to investigate whether to what extent these characteristics can be generalized to a whole industrial sector or they remain valid only for these individual cases (*Table 3*).

Summary of the cases

Table 3

Cases	Governance Type	Movement in GVC	Work organisation form	Learning dynamics / skill requirements
Beer AD	Market	Freezing	Taylorist	Multitasking without multiskilling
Copy Fashion	Modular	Freezing	Lean production	Increased learning and problem solving capacity
SoftServ	Relational	Upward shift	Learning organisation	Mixture of professional – managerial skills
DomainSoft	Relational	Upward shift	Learning organisation	Mixture of professional – managerial skills

Conclusion

An important outcome of the foreign direct investments in the post-socialist economies is the technological and institutional transfer. This is true not only for the use of the newest machines and equipments, but for the so-called leading edge organisational technologies (i.e. organisational and managerial innovations, diffusion of learning organizations etc.) as well. One form of this organisational technology transfer is certainly the emergence of the learning organisation. A vital question of the transformation process in the CEE region is to what extent can the newest forms of organisations spread in these countries and how can they adjust the traditional forms of work organisations to the changing social and economic environment, for example by making the Taylorist work organisation more flexible.

The case studies call the attention to the fact that the newest models of work organisation has appeared in the region not only in the most knowledge intensive sectors like the IT but – for a lesser extent – in such kind of traditional sectors as for example the clothing industry. This industry has almost completely disappeared from the Western European economic landscape, however, in certain market niches they begun to flourish in the CEE region. Of course, the post-socialist countries can not compete with the South-East Asian economies in prices and cost reduction, but they have visible competitive advantage as concerning quality, delivery deadlines and customer orientation. In order to take this opportunity, these companies have to be flexible and to continuously develop their knowledge pool and consequently, they are forced to renew their work organisation, too. In other cases, typically if the company is active only in the domestic market, companies may use an “upgraded version” of the old work organisation models. This is best documented in the case of *BEER AD* operating in the Bulgarian food industry, where a more flexible version of Taylorist work organisation was found.

The skill development is a strategic field in all companies investigated. It is worth stressing that the knowledge development and use is part of the firms’ competitive advantage not only in such knowledge intensive sectors as IT but in the more traditional clothing industry also. The case study experiences confirms the original hypothesis that learning organisations are more apt to offer internal and external trainings, while in the case of learn organisations, informal and internal trainings prevail. At Copy Fashion the majority of the employees have no formal qualification related to the clothing industry. The recruitment of employees is based on skills and not on formal qualifications. The

company employs eight trainers who are responsible for providing the necessary basic knowledge to the new employees in the form of the “on-the-job training”. In relation to the vocational training the shortage of skilled labour is a general problem for the whole Hungarian clothing industry. Both IT cases represent the “learning organisation model” that is based on intensive knowledge utilisation, autonomy and complex problem solving. At *DomainSoft Hungary* there is a knowledge planning system based on a job classification that consists seventeen basic competences that are further organised in competence clusters. Both the Hungarian and the Bulgarian IT firms maintain good relationship with local universities in order to ensure highly skilled new labour force. At the Bulgarian *BEER AD* the technological development results in a demand for skill improvement of the employees. What is common in all cases investigated is the growing importance of on-the-job training and that of the so-called soft skills like teamwork organisation, project development and management, client service and English knowledge. The case studies also raise the question of the adequacy of the national training systems to the needs of the companies entering in GVC and experiencing organisational changes.

Footnotes

¹ The case studies were carried within the “Work Organization and Restructuring in the Knowledge Society” (WORKS) project which was supported by the European Commission between 2005–2008 under its 6th Framework Programme to investigate the re-organization of work in the context of global restructuring of value chains, entailing a simultaneous decomposition and recomposition of sectors, organizations, labour process and skills. Research consortium composed by partners from seventeen different institutions in fourteen EU Member States. (WORKS Project – CIT-CT-2005-006193) (<http://www.worksproject.be>)

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³ The value chain concept is analysed in details in Huws et al. (2009).

⁴ <http://www.globalvaluechains.org/concepts.html> (accesses 8th of January 2008).

⁵ The original discussion of dependency theory from which this originated can be found in Wallerstein, 1974 and Hopkins and Wallerstein, 1994.

⁶ The GVC governance is also analysed in Huws et al. (2009).

⁷ See a detailed bibliography prepared by the Global Value Chain Initiative – http://www.globalvaluechains.org/form_search_publications.php?sort=Date-like=-exact-.

- ⁸ WORKS, see <http://www.worksproject.be>.
- ⁹ These considerations, among others, are developed in the paper of Kirov and Jeleva (2006), Value chains as a methodological challenge: some considerations for the qualitative research.
- ¹⁰ The case studies have been carried out following a methodology and guidelines developed in the framework of the international project WORKS. For each case study about 10-12 interviews have been envisaged as well as analysis of secondary information. See more about the methodology at <http://www.worksproject.be>.
- ¹¹ See in more details in Mintzberg's type of "simple organisational structures" (Mintzberg, 1979).
- ¹² This is a result of the decreasing number of apprentices in vocational training schools because of the declining popularity of this sector in the labour market.

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