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Opportunity structures for co-determination in innovations: The case of the Stuttgart area

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Introduction

When we talk about innovations and creativity it is seldom in the context of unions and work councils. And in everyday life it is also rather the case that these economic actors are associated with alternative business methods and resistance to change. Divergent interests and views can however favour the emergence of new forms of organisation and working methods (Stark, 2009). From this perspective, creativity and innovation are seen as growing at points where there is overlap or friction between differing interests and associations of meaning. For a problem to actually be solved by an innovation requires not only that the problem be solvable and that there are active actors. Long term structures and one-off coincidences and situations also foster an environment in firms and territories that stimulates innovation. This territorial nexus of innovation increases the number of possible influences on operational innovation. Among territorial innovation models (TIMs) (Moulaert and Sekia, 2003), the interaction-based approach to innovation systems enjoys great

popularity (Cooke, 2004). Here industrial relations, components of which are work councils and unions, are regarded as an element of regional innovation systems. The industrial relations engender specific framework conditions that can encourage innovations in the workplace.

It is not in all countries that employees and their representative bodies can co-determine firm-operational processes of change to the extent that is possible in Germany with its corporatist model of industrial relations (van Gyes, 2003).

National differences in “varieties of capitalism” (Hall and Soskice, 2001; Bathelt and Gertler, 2005) are revealed, for instance, in structural preconditions for the participation of various groups of actors in processes of innovation. However, the relationship of national and sub-national institutions to one another and to firm specific and product specific properties also represents such an interaction context (Rafiqui, 2010). A multi-scalar perspective of intertwining rules, constellations of actors, forms of coordination and situative factors can create concrete results at a concrete time in a concrete place.

In Germany the shift in collective bargaining from an areal approach to one based increasingly in the individual firms is understood as power shifting to benefit corporate actors in terms of regulatory competences. In practice, this does not mean that these regulatory competences are practised without support or incentives from the territorial environment. The increasing involvement of

work councils in firm-operational innovation – a task that does not directly fall under the remit of interest representation – extends the search for appropriate solutions for emerging problems to the territorial environment.

The concrete framework conditions for co-determination are understood here as opportunity structures for the participation of employees and their representative bodies in processes of innovation. A basic assumption of the argument is that the structural preconditions for the German co-determination model provide opportunity structures for innovation-related interactions between employers, employees and their representative bodies. First, it is asked whether a focus on regional characteristics and particularities is sufficient to explain firm-operational innovation processes, or whether it is not rather the case that national or even wider reaching influences can be identified. Innovations are considered that were initiated with the active participation of work councils, particularly organisational innovations. The second question focuses on structural preconditions that make possible and support work council participation or that hinder and limit participation. The search for these opportunity structures is undertaken from a multi-scalar perspective in both the firms and also in their territorial environment. Both questions are explored using five case studies from the Stuttgart region (the city of Stuttgart and the districts Boeblingen, Goepingen, Esslingen, Ludwigsburg and Rems-Murr). The paper aims to

uncover those opportunity structures that promote innovation-related interaction between actors internal and external to the firms. Criticism of the use of a regional frame of reference to explain the emergence of innovation (Freeman, 2002; Bathelt and Depner, 2003; Rutherford, 2004; Heeg, 2008a) is put to the test. The level of the individual and the single firm is used as a starting point, so that in the firms and their territorial environment empirically tangible categories that favour innovation processes in the context of heterogenic actors are identified. This then provides a basis from which a policy relevant perspective of the spatial dimension of operational innovation processes is derived. This is carried out using the example of the participation of employees and employee representatives in the context of the German co-determination model.

Nonetheless, categories of analysis can be derived that can be generally applied to explain change and stability in organisations. For instance, in the German co-determination model there are interactions between firm-based and regional actors, both within the firm and the region. An analytical division between firm, region and further territorial frames of reference allows the categorising of real actors, institutions and processes. Employers, employees and work councils are to be found in firms, unions are organised into regional administrations with spatial spheres of responsibility, and institutions – in the form of legislation – also have a territorial validity.

Conceptual framework

Constellations of actors in the German model of industrial relations

Industrial relations are a significant element of the corporatism of the coordinated market economy that represents the German model of the “varieties of capitalism” (Hall and Soskice, 2001). The central actors at the micro-scale are the work council and the employer. The sectoral and inter-firm meso-scale includes negotiations between unions and employers’ associations. The macro-scale encompasses the entire economy and the state and refers to tripartite state regulation negotiated between unions, employers’ associations and government representatives. The negotiations between the actors of these “arenas” can be “integrative (e.g. cooperation between work councils and employers when introducing a technological innovation to the production process) or dissociative (e.g. strikes and lock-outs)” (translated from Armingeon, 1995: 15).

In the course of increasing global competition the German model of industrial relations has since the 1980s undergone drastic changes. For instance, in recent years a tendency for collective bargaining to be increasingly based within the individual firms can be recognised. This involves a comparative decline in territorial regulatory competences to the benefit of negotiations in individual

firms between work councils and management (Bispinck and Schulten, 1999; Berndt, 2000; Trinczek, 2006) or between management and alternative representational bodies (Artus et al., 2006; Hauser-Dietz et al., 2008). More recently, work councils have been increasingly involved in decision-making that goes beyond the legal regulations of the Works Constitution Act (Minssen, 1999; Minssen and Riese, 2007). Müller-Jentsch (2007: 99) summarises these changes under the headings of objectification, rationality and professionalisation. Through increasing involvement in decision-making (including unpopular decisions), work councils are becoming co-managers. This brings with it dangers of extortion and overload that can cause the work council to lack legitimacy in its task of employee representation (Rehder, 2006). For the German model French (2001) has drawn up a matrix of relationships between employees, management and unions, demonstrating that the effects of collective negotiations between unions and management or employers' associations, and also the initial economic situation of the firm may from the point of view of the work council be considered as external factors. Employees have a direct influence through the election of work councils, elections that are nationally regulated by the Works Constitution Act. Fürstenberg (1964) points out that the work council "at the point of intersection between three groups of stakeholders: the workforce, the management and the union, (...) [occupies] a

clear borderline position” (Fürstenberg, 1964: 156, quoted in Müller-Jentsch, 2009: 168).

Innovations and innovation systems

In concepts relating to innovation systems, innovations are not only viewed as technological research processes, but are seen in the social and dynamic context of interaction between various actors. They may aim to improve working conditions (Bienaymé, 1986; Moolaert and Nussbaumer, 2005) and may include the introduction of new products and services, processes and forms of organisation on at least the level of the firm (Kirner et al., 2010). In the context of work councils in the German system of industrial relations and innovations it is argued that active work councils build up a reputation (Dilger et al., 1999: 10), channel information between employees and employers (Jirjahn, 1998), and can prevent post hoc resistance to the introduction of innovations (Allen and Funk, 2008). Current research on the involvement of work councils in innovation processes takes little account of the territorial context of innovation (Stracke, 2006; Blume and Gerstlberger, 2007; Stracke and Nerdinger, 2010; WSI-Mitteilungen, 2010).

The literature distinguishes between *sectoral* (Malerba, 2005) and *localised* (Lundvall, 1992; Braczyk et al., 1998) innovation systems. The sectoral

approach to innovation systems takes sector-specific patterns of innovation as the starting point of investigations. Localised systems of innovation demonstrate a greater territorial relationship either to the national or the regional scale. In the case of national systems of innovation the emphasis is on the national framework conditions of innovation promotion in the form of institutions, actors and their patterns of interaction, including training systems, technology promotion and also industrial relations.

Two different perspectives for examining the context of sub-national innovation have developed. Regional innovation systems (RIS), understood as sub-national units or as “regional contexts of national innovation systems” (translated from Bathelt and Depner, 2003), are viewed in direct relation to the level of the nation state and the institutions present at that level, but are also seen in terms of their changes and consequent implications for the regions. Thus Freeman (2002) argues that the emergence of a RIS is first made possible by existing regulation in the national framework.

An alternative way of reading RIS involves divorcing the regional level from the influence of the nation state to a greater extent, particularly in terms of governance structures and production patterns (Cooke, 2004). Here the conceptual characteristics of national systems of innovation are transferred to a regional innovation context. This involves assuming that innovation processes

at the sub-national level are systemic in nature. Criticism of approaches that use the regional frame of reference for explaining innovation processes concentrates on the theoretical and conceptual shortcomings of viewing sub-national spatial units as systems (Bathelt and Depner, 2003) and the increasing influence of globalisation on processes of disembedding (Rutherford, 2004; Heeg, 2008a).

Institutions and opportunity structures

Opportunity structures are more or less stable institutions and networks that from a spatial perspective can (but do not necessarily) benefit purposeful interaction in firms, and indeed in organisations generally. People can thus use these opportunity structures, but they can also avoid them.

The system of institutions negotiated in the past by political and business actors within the corporatist framework provides opportunity structures for the participation of employees in firm-based processes of change. Institutional approaches emphasise that interaction between actors can be regulated by institutions and that these institutions can in turn be created by interactions (Gertler, 2010). Institutions are “(...) programmes of action that are characterised by a certain stability and durability, that are robust enough to render actions by one group possible to anticipate by another. (...) Actors

experience them during their social interactions as restrictions and opportunities (...) Institutions do not fix actions rigidly, but set a corridor of action through which goals and strategies as well as the defined interests of actors and the power relations between them are determined" (translated from Müller-Jentsch, 2009: 254). In systems of innovation institutions provide the rules of the game for the actors and increase the reliability of expectations concerning interaction partners (Edquist, 2005: 188). The risky and unpredictable course of resource-intensive innovation processes is guided into a regulated corridor of action by institutions in the form of patent regulations, trust and also norms of behaviour. Networks represent further opportunity structures that can align the match between firm-based (work council competences and rights) and territorial (collective agreements and corresponding union agendas) conditions. This presupposes that the available networks and the resources available within them are used. Within firms it is possible to demonstrate the existence of different groups of interests on either side of the labour law related divide of the Works Constitution Act, between employees and employers. A coherent picture of the conditions under which innovations evolve can only emerge by focusing on the employers, actors involved in employee participation, and also the networks of both (Ettlinger, 2003; Grabher and Ibert, 2006; Glückler, 2007). To explain changes in the workplace (Ettlinger, 2003), a balance between

cooperation and competition (Chetty and Agndal, 2008), or tensions between personal interests and company interests (Grabher and Ibert, 2006) *interpersonal networks* can be used. Ettliger (2003) has shown how interpersonal networks can span different spheres of life, e.g. through the influence of private contacts on business issues, to cause processes of change in the workplace. Different rationalities of social, political, economic or cultural nature form the basis of people's actions and can become drivers for change (Ettliger, 2007: 15). A basic assumption is that people "behave and make decisions in one context (e.g. the workplace) that cannot be readily explained in terms of workplace routines or objectives" (Ettliger, 2003: 152). Imperatives that diverge from one another, fed by the various social networks and identities of an individual (Grabher and Ibert, 2006), have effects on concrete situations that cannot be clearly seen to be connected to social relations.

The actors in the Stuttgart region

Pending upheavals in the automotive cluster of the Stuttgart region (Caspar et al., 2005; Dispan et al., 2009, 2010) will challenge employee representation, which has a strong presence here, to contribute to the future viability of individual firms and the region with innovative concepts. The industry structure of the region is dominated by automotive manufacturers and their suppliers,

presenting regional economic and political actors with great challenges, for instance in terms of the introduction of new drive technologies, organisational concepts and business fields (Scheytt, 2010).

The model of Baden-Württemberg with the core region of Stuttgart is seen in the literature as a prototype of an interactive and network-based RIS (Cooke, 2004) – the actors involved in industrial relations, their interactions and networks have, however, received little attention. In the context of the RIS of Baden-Württemberg, industrial relations – along with R&D activities and the education and training system – are named as being an important constituent of the institutional regulatory structures of the region (Krauss, 2009). Through the prevention of wage reduction strategies local firms are compelled to continual innovation by the unions.

Since the dramatic economic cuts of the 1990s and the associated job losses in the key regional sectors of electrical engineering, mechanical engineering and automotive there have been changes in work organisation in the region with new actors entering the arena (Iwer and Grammel, 1998; Iwer et al., 2002). In addition to the foundation of the Regional Assembly and the Stuttgart Region Economic Development Corporation, the metal workers union IG Metall and the IMU Institute Stuttgart (IMU) found new positions among the range of regional actors (Iwer et al., 2002). In 1995 the six IG Metall administrative offices in

greater Stuttgart area joined together, initially on an informal basis, to create an active working body. The aim was to strengthen the effectiveness of the IG Metall, particularly in terms of tasks related to regional and structural policy, and to be able to act in the interests of its members at the political level of the Regional Assembly. Joint sessions of the local administrative bodies became more common, allowing the most important actors from the IG Metall to cross the boundaries of their jurisdictions and to get to know one another (Iwer et al., 2002: 88f). In the middle of 2000 the IG Metall then established a regional office for the Stuttgart region with responsibility for the actual design of work-oriented structural policy. The tasks of the IG Metall Region Stuttgart today include sectoral work, structural policy, publications, training and qualifications for work councils, the organisation of events, and stakeholder activities in business promotion in the Stuttgart region. The IMU is an independent work-oriented research and services organisation that, in terms of the RIS approach, can be located among business-oriented service providers. The tasks of the IMU are research and consulting, with a focus on employees, particularly on extending their spheres of action and competences (IMU, 2003: 1), as well the planning, organisation and running of training seminars and workshops catering for members of work councils and staff committees. An important area of work for the IMU is work council consulting. Most recently, a focus on “work-oriented

innovation projects” has developed, the aim of which is to create employee-friendly innovation processes by using the experience of the workforce to enhance the innovative potential of organisations (Schwarz-Kocher et al., 2009; Schwarz-Kocher et al, 2011). Furthermore, the IMU and the IG Metall Region Stuttgart cooperate in the planning, organisation and running of networks of work councils (IMU, 1998; Salm, 2005).

Possibilities and limits of opportunity structures¹

Within industrial relations corridors of action are opened up in which work councils as a “countervailing power” (Kotthoff, 1994) in organisations can curb managerial reactions to the imperatives of turbulent markets and can find possibilities for shaping processes of operational change. In the observations (i) the initial economic situation, (ii) the Works Constitution Act, (iii) collective agreements, and (iv) hierarchies and networks were presented as opportunity structures through which work councils can influence innovation processes.

The initial economic situation

¹The data was gathered in one- to two-hour narrative interviews with work councils and employers (separately from one another) and through structured observation of IG Metall and IMU events. Organisations were chosen that, with active work council involvement, had been able to more or less successfully overcome a crisis situation before 2007. The five case study firms belong to the automotive supplier and mechanical engineering sectors, have at least 600 employees on site, and together employ just over 7000 people.

As well as the firm-based actors work councils, employees and employer, the Stuttgart region has with the IG Metall and the IMU regional actors that can support the work council in employee representation. *“[W]hen it was about this make-versus-buy project, the IG Metall was very constructive there (...) not so much as the source of innovation but rather as the one who in the implementation phase in the negotiation phase came in and said, we’re backing this, and that’s how it also was again with the district management, there where you [IMU consultant] were also sometimes there”* [WC1]. To overcome a negative initial economic situation in a firm the work council can bring in specialist support in the form of external consultants with a great deal of experience gathered in many of the region’s firms. In the context of negotiations with the employer, firstly, work-oriented interests can be introduced to the measures used to cope with the crisis. Secondly, the work council can use its intermediary position in the firm to legitimate to employees unpopular processes of change that, for instance, affect working hours. Being too ready to compromise causes the work council to be criticised by employees. At times where the economic situation tends to be calmer however, a retreat into a role of classical interests representation is seen, which sets time limits to the role of the work council and tends to give it a project character. *“[T]he classical class struggle [was] suspended here and management and work council ran a co-*

management (...): let's really work on this thing, grapple, and not somehow get caught up in political games" (...). Nonetheless there were also indications that *"when the urgency is no longer so great, and suddenly everyday conflicts overlay such a topic again, then it will be difficult" [E5_new].* The negative initial economic situation can in some cases be traced back to causes related to the individual firm. However as the 2008 crisis showed, events outside the national frame of reference and outside the sector in question can have negative effects. In the context of alternative concepts to the turnaround plans of the employer, with the help of external consultants work councils can steer innovations in a work-oriented direction and through integrating the employees' ideas can prevent job retrenchment or help make it socially responsible. If collective agreements are affected by the processes of change, then a political secretary from the IG Metall is involved in the negotiations. Limits may be set to alternative concepts on the one hand by a deficit of legitimation vis-à-vis the employees, and on the other hand by follow-up costs the extent of which is difficult to calculate. The follow-up costs are related to an investment decision that at the time of negotiation is justified. When there were concrete problems with executing or enforcing parts of the innovation process, then the work council could access local help. It was not only the union or consultant that

could be used for the interchange, but also communication with other work council representatives at conferences and network meetings in the region.

The Works Constitution Act

The Works Constitution Act forms the countrywide legal basis of work council activities. It formally records the rights and obligations of the work council. It enables the work council to bring in external consultants in support. This is, however, linked to the enforcement capacity of the work council, not only in terms of its powers of persuasion but also in terms of the attitude of the employer to the work council. In particular the active participation of employee representatives in innovation processes is an unusual situation. It is not formalised in the Works Constitution Act and it can be contrary to classical interest representation, causing a conflict of interests for the work council, "(...) *because then naturally topics also come up again that are in some cases contrary to a classic interests work council. Where they just have to make decisions, they have to also demonstrate the consequences, where they then maybe have problems really selling that (...)* There the work council is assigned a designing role that though lies more in its, let's say authorised power, but doesn't lie in the implementation. Because I think that then you're not doing yourself any favours with that" [E5]. The Works Constitution Act states that the

work council has the obligation to work for the good of the employees and also the firm – a structural obligation that cannot always be mastered without conflict. It is useful for the work council to take up a clear position; this is connected to a “*constructive spirit of contradiction*” [WC2], also in relation to processes of innovation – an important precondition for the implementation of employee-friendly and employment-oriented strategies, the guidelines for which are set by union members in the firm and at IG Metall events. In this way the Works Constitution Act, which has validity throughout the country, receives a local interpretation for individual firms. Actual execution cannot however be causally traced to the individual paragraphs. It is far more the case that the enforcement capacity and acceptability of the work council, its specialist competence and the relationship between organisational imperatives and collectively agreed standards play a further role in innovation processes and the activation of other firm-external opportunity structures.

Collective Agreements

Collective agreements with a territorial ambit set the framework conditions for the form of work council activities. If in the context of innovation processes it appears necessary to deviate from collective agreements, then an IG Metall representative is brought into the negotiations. “*And the IG Metall was always*

at the table with us as the bargaining partner. That is really terribly important, what many don't do is, that they only get the IG Metall involved when things aren't going any further. But for us it was important, that we involve the IG Metall at the beginning in the process of emergence of negotiations. We simply no longer declared ourselves responsible (...). Working hours are part of collective agreements (...). And in fact there it is just also important, that the right partner from the IG Metall is present. Also he then takes over responsibility and not someone or other, a volunteer, that gets pushed aside. Rather that there is one of the political secretaries there. One of the authorised representatives or political secretaries that also supervises the firm. That is also a really important topic. That the one there, the one from the IG Metall that is there, that he also has insider knowledge of the firm" [WC5]. Departures from collective agreements can take place as an exchange deal linked to concessions on the part of the employer. The work council receives on the one hand external support, on the other hand a need for negotiation arises due to the tension between preserving collective agreements and acute organisational need.

Hierarchies and Networks

The circumvention of hierarchies and the use of networks enable quick communication between employees, employer and work council on the one hand, and between work council and the IG Metall and IMU on the other hand. The strategic filling of work council seats with people of differing specialist backgrounds opens up paths of communication within firms and contributes towards technically sound argumentation in negotiation. *“[O]ne great advantage is that we have a relatively healthy mix in the work council. (...) So I then have these links, these interfaces, these points of contact to construction just the same as to all the planning departments”* [WC1]. Deficits of specialist knowledge in economic and legal matters are compensated for by the inputs of work-oriented consultants from the region. This involves ensuring finance for the consultant, which the employer must cover. Within the firm work council representatives can circumvent hierarchies when communicating with the employer and can make their viewpoints about certain issues known in informal conversations. Or areas of difficulty that have been discovered through talks with individual employees can without circumvention be directly communicated to the employer, in some cases after editing: *“there are some things that bypass the hierarchy, that maybe are just passed on all over the place. And a manager should always be attentive to signals and not only hear what she wants to. But again to do that you also have to be willing to listen. The work*

council representative can do that because of his function, first because he hears a lot, because he's also at the basis due to daily visits and also can then formulate some things, also knows some connections, he can do a good job there" [E5_old].

The relationship of the work council to the IG Metall is influenced by trust in the specialist competences of the IG Metall representative. When deviations from collective agreements threaten, the work council develops a relationship of authority based on specialist knowledge with both the IG Metall representative and the unionised employees. The work council's networks within the firm and the region are activated according to need and provide personal and cognitive resources for the execution of innovation projects.

Discussion

Change the perspective!

Building on the research questions initially formulated and the theoretical-conceptual assumptions, it has been necessary to make two changes to the perspective taken on innovation systems. *Firstly*, the German model of industrial relations offers possibilities to influence operational innovation processes – an aspect so far neglected in most work on innovations and organizational change. Work council co-determination in innovation processes was not originally

envisaged in the Works Constitution Act. However, rights and obligations pertaining to the work council provide an opportunity for the influencing of innovations. With support from external consultants and the union, innovation processes can thus be expedited and steered in an employee-friendly direction.

Secondly, due to their embeddedness in social structures work councils are subject to multiple rationalities. This can bring with it a conflict of roles caused by serving “the well-being of the employee and the firm” (Works Constitution Act §2 Para. 1). The work council not only has relationships within the firm, but also relationships to the union and the IMU which can potentially influence its employee representation activities. Experiences made in one context do not necessarily correspond to the often one-dimensional goals of another context (Ettliger, 2007: 14). Should the work council need information for operational requirements and to overcome this conflict of roles, then this information can be gathered through networks, some of which extend beyond the context of the firm. Due to its intermediate position between employees, employers and union, the work council finds itself in a field of tension between different rationalities. Decisions that are made in the workplace “derive from a kaleidoscope of thoughts and emotions that emanate from different places associated with different spheres of life and different social networks” (Ettliger, 2003: 152). Accordingly, policy guidelines are formulated by the IG Metall that can be made

material subject to the enforcement capacity of the work council and the degree of organisation in firm-based policy disputes. These guidelines are part of the opportunity structure that allows the work council to influence innovation processes.

A number of imperatives can be expressed within the innovation role of the work council. These may relate to the concrete *innovation process* (you must influence the innovation to make it as employee-friendly as possible!), to the *organisation* (you must promote innovations because they are important for the competitiveness of our firm!) and to *personal interests* (you must promote the innovation so that it is employee-friendly, so that the well-being of the firm is served and so that you will be re-elected at the next election of the work council!). If the work council representative is at the same time a union member, then “a single action can be moved in many different games at once” (Grabher and Ibert, 2006: 266): in the firm and also in the union or the work-oriented consultancy. Thus IMU consultancy experiences can lead to the development of new consultancy concepts or research projects. And union agendas also have their origins in the operational problems of firms (Meyer and Fuchs, 2008). This change of perspective not only has consequences for the German model of co-determination, however. The results suggest that in general taking a differentiated view on organisational phenomena brings added-value for the

spatial perspective. If the object of investigation, in our case the opportunity structure, is reconstructed using the actors in the firm as a starting point, then this leads to the exposure of those categories that were really significant in actual interactions. The spatial frame of reference is not stipulated in advance, but rather reveals itself in the course of the individual narratives of the case studies.

Only through the change of perspective could the intertwining of a number of opportunity structures of different scales be discerned. For instance, the rationalities underlying the work council's actions shifted the focus to other opportunity structures than would have been the case with an employer. Thus the countrywide valid Works Constitution Act summoned up network relations within the firm and to the union and consultants from the region.

Focus on interactions!

It has been possible to illustrate that the object of investigation – the opportunity structures – indicates whether the focus must be directed towards to a firm-based, regional or national innovation context. However, it is the sampling units – the interaction partners – that stipulate which opportunity structures are at all relevant for them. The question of the spatial frame of reference is not to be answered in theoretical conceptual terms but empirically (see Bathelt and

Depner, 2003). The opportunity structures for work councils cannot be localised on any one single analytical level. The chances and limits of the influence that work councils can bring to bear on innovation processes can be explained by the firm-based intertwining of opportunity structures of differing spatial scales of reference. The agenda setting of the union occurs in a reciprocal relationship between the local, the regional and the national levels (Meyer and Fuchs, 2008). The starting point for union measures is experience gathered by the union while supervising operations in firms in the region. Here not only the local and regional contexts play an important role, but also the individuals who can relate the operational problems to regional, national and global developments and who have the specialist and legal competences and capacities to initiate appropriate steps towards dealing with the problems. The focus is not on the firm, but rather on the work council. The opportunity structures used by the work council in relation to innovations are not only located in the firm. They rather represent a multiscalar and interdependent intertwining of institutions and networks.

The Works Constitution Act has countrywide validity, but it is executed in the firm. The causes for a poor initial economic situation can be traced back to mistakes made by the management or to market conditions that are difficult to control. Collective agreements have a spatial ambit, but they can be adapted to

firm requirements. For tackling problems within innovation processes the work council can use social relations both internal and external to the firm in question.

The search for *one* territorial frame of reference for processes of change in firms, or organisations in general, seems to be a Sisyphean task. A first step can, however, be to direct the search towards individuals as the starting points for opportunity structures that enable purposeful interaction between those individuals. Only in a second step can the frame of reference be named and often, but not always, territorially fixed. The validity of a single frame of reference proved to be insufficient. When, however, a network partner or an institution was uncovered, then further opportunity structures emerged that could then be allocated to other territorial frames of reference. Thus if a concrete problem is to be investigated in organisations, then the spatial perspective has to be set according to the interactions related to the problem-solving and not the other way round.

Case studies and their theoretical implications

This paper has traced influences on innovation processes that are both external and internal to firms. Precisely a perspective of this sort does not imply neglect

of the institutional environment, which “*certain individuals* can dip into with relative ease” (Amin and Thrift, 1994: 15; authors’ emphasis).

The opportunity structures and the categories of analysis identified through them both in and from the Stuttgart region represent but a part of the work council’s corridor of action for operational innovation processes. The (i) initial economic situation, (ii) the Works Constitution Act, (iii) collective agreements and (iv) networks and hierarchies do not delineate only a regional innovation environment in the form of institutions and networks. It is much more the case that particularities of organisational culture (e.g. the enforcement capacity and acceptability of the work council), supportive organisations from the region (e.g. the IMU Institute Stuttgart and the administrative offices of the IG Metall), national legislation (e.g. the Works Constitution Act and the right to collective bargaining) and international competition (e.g. the worldwide competitive situation for organisations) represent opportunity structures on different scales. They are interdependent. If a corridor of action is embarked upon, then side paths open up. If these side paths are ventured upon, then they demonstrate their own limits and chances for the active role of the work council in innovation processes.

What does this then mean for the issue of structural preconditions in the Stuttgart region and, concomitant to this, for the positioning of the discussed

actors, institutions and networks in an innovation system? Against the background of the increasing internalisation in firms of regulation competences connected to industrial relations and the future challenges that the Stuttgart region has yet to face, available potential should in future be used through targeted measures by regional actors. However, as both a warning and an encouragement, the results of this investigation indicate at the same time that there is a need to emphasise that the regional innovation systems approach can indeed be helpful as an instrument of analysis and as an aid in the formulation of strategies for the compilation of structural preconditions of sub-national innovation activities. However, the coordination of action on this level alone cannot be expected, it rather requires appropriate national and international framework conditions. It should also not be forgotten that the events described could have occurred in much the same way in other regions. Of decisive importance is though, that multi-scalar influences cumulate in the workplace and can bring forth changes. In any case, it can be seen that with the actors IG Metall and the IMU Institute Stuttgart the Stuttgart region houses support for work councils in the form of important actors for enforcing employee interests, also in the context of innovation processes. An important challenge in the future will be to create opportunity structures that can stabilise the active role of work councils in innovation processes. The present project nature of their

involvement could thus become an organisational routine. At the same time sight should not be lost of employee representation, the attempt could rather be made to anchor in the routine patterns of interaction that create “win-win innovations” (Schwarz-Kocher et al., 2010) for the employer and employee.

The spatial frame of reference for operational innovations has not been categorically fixed. A search for influences on the co-determination of innovations both internal and external to the firm was made. This assumes that firm-operational structures and processes are principally open to territorial influences. Correspondingly, the search must thus be for links between a concrete problem in the firm and the matching answer from the territorial environment. Conclusions about the relevance of the region, national regulation or the markets can only be drawn when the starting point is an actual problem that in an actual place (here: the firm) leads to interaction between heterogeneous actors. Otherwise the danger is that important factors will be overlooked and unimportant factors over-emphasised.

The interaction between work council, employer and regional actors was the starting point of the investigation. The actors demonstrated which ontological categories (market, networks, hierarchies, legislation) are relevant for their actions. For them it is irrelevant whether scientists allocate these categories to a national or regional innovation system. The scientists can, however, make use

of the opportunity and assign the individual categories to their frames of reference, which may also be spatial/territorial. This has policy implications, because concrete actors are attributed with positive or negative characteristics in relation to operational innovations and organisational change. It can also be deduced from this that actors from politics and business can, even when acting purposively, stumble across side paths and trapdoors that rob them of their direct influence. The enforcement of changes related to the individual firm or sector is only possible in certain conditions. These conditions are found here as opportunity structures in the analytical categories of (i) initial economic situation (ii) the Works Constitution Act, (iii) collective agreements and (iv) networks – the list is undoubtedly not exhaustive. As networks and institutions these opportunity structures are not determining. They can be used for problem-solving but their use is not mandatory. Their presence in an organisation or a territorial frame of reference alone is no guarantee for their general validity and unlimited effectiveness or for their use by people. Opportunity structures thus imply conscious action by people and are therefore changeable institutions or networks. In this way the arguments presented here also reveal a spatial perspective on institutions and networks as opportunities for purposeful action.

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