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Regional and sectoral varieties of capitalism

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Exceptional local economies that thrive despite not following the main lines of a national form of capitalism might be possible for any combination of three reasons. There may be characteristics of local institutions and infrastructure that differ from and may even 'defy' the overall national architecture; there may actually be creative incoherences at work, rather than confusion and handicap, in the difference between national and local, whereby local institutional entrepreneurs are able to produce innovative outcomes; firms may at times be less bounded by national institutions than theory about the national base of types of capitalism assumes. This study, which reports the main findings of a wider research project, finds evidence of all three. The research compared local economies in Germany with comparators in other countries in four different kinds of production: the furniture industry (a craft sector) in Nordrhein-Westfalen and southern Sweden; the motor industry (mass production) in Saxony (in Eastern Germany) and in North-western Hungary; biopharmaceuticals around Munich and Cambridge (UK); and new television and film-making in Cologne and London.

Introduction

Even when national economies are strongly characterised by relative success in certain kinds of economic activity rather than others, there will usually be exceptions: firms, or districts, or whole sectors that thrive in a way that seems incongruous from the perspective of the overall pattern. These exceptions should not be treated as anomalies, or as irritating unexplained residuals that analysts hurry past, with eyes averted and fixed on the big picture of the major features of an economy that are consistent with their theories. Exceptions and minority features are as much a part of reality as predominant characteristics, and worthy of study as telling us something about the full complexity of how economic institutions operate.

There are several possible reasons, all consistent with accounts that identify overall national patterns:

1. There may be characteristics of a local institutions and infrastructure that support forms of economic organisation that differ from and may even 'defy' the overall national architecture.

~~1.~~2. In a stronger version of 1, there may actually be creative incoherences at work, rather than confusion and handicap, in the difference between national and local, whereby local institutional entrepreneurs are able to produce innovative outcomes, working between the contradictory incentives of national and local institutions.

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~~1.~~3. Firms may at times be less bounded by national institutions than theory about the national base of types of capitalism usually assumes.

In a recent comparative research project (Voelzkow et al 2004; Crouch and Voelzkow 2008) we studied four different localized sectoral economies that in varying ones differed from the predominant characteristics of some of the national economies in which they are found. While examples and case studies do not enable us to prove anything, they do enable us to explore how some of these reasons for exceptions work out in practice.

The central focus of the research was Germany, a country often depicted as particularly lacking in institutional diversity.[1] The sectors were chosen to represent highly diverse forms of production: furniture (an instance of modernised craft production); motor vehicles (classic mass production); biopharmaceuticals (a leading high-tech sector); and advanced services (television film-making). From the perspective of recent research on varieties of capitalism theory (Hall and Soskice 2001b) the first two would be seen as mature sectors characterised by incremental innovation and therefore likely to succeed in Germany; the latter two would be seen as sectors of radical innovation, for which Germany is considered poorly equipped. Cases in the first two should therefore show the German model operating in its classic way; those in latter two should demonstrate one or more of the above forms of support for diversity if their ability to survive and thrive is to be explained.

In each case, we compared the German localities with those in other European countries specialising in the same sector, but where a different overall national logic should be expected. For furniture we compared some districts in Sweden: furniture is typically a sector for small to medium-sized firms, while Sweden is regarded as providing an environment favourable only to large corporations. Special factors should therefore be needed to explain successful survival there. For motor vehicles we took the opportunity to carry out a different kind of test: of the transferability of West German institutions to the German *neue Länder* – therefore a plant in Eastern Germany - and compared what we found there with another central European location, outside the frame of German institutions. We therefore compared plants of the Volkswagen/Audi

[1] The project, *Local Production Systems in Europe*, was funded by the Volkswagen Stiftung and supervised by Helmut Voelzkow with the assistance of Colin Crouch and Theo Leuenberger. Reference will be made at relevant points in this article to the work carried out by various members of the research team, who carried out extensive on-site research for the respective case studies. Their reports and some contextual chapters were collated in the report, *Local Production Systems in Europe*, presented to the Stiftung in 2006, and published as Voelzkow 2007. A reduced version of the research report is published as *Innovation in Local Economies: Germany in Comparative Context* (Crouch and Voelzkow 2008).

group in East Germany and Hungary. In both the high-tech and advanced services cases we compared west German localities with those in the UK, regarded by Hall and Soskice (ibid) as a country where such sectors, considered to be characterised by radical innovation, are likely to thrive better than in Germany. In these two studies it is German success that requires special explanation, British success being taken for granted by the varieties of capitalism model.

A common starting point for studies of this kind has been the analysis of institutions seen as important in determining different types of economic performance, mainly:

- systems of corporate financing and corporate governance, sometimes patterns of inter-firms co-operation;
- industrial relations and vocational training;
- research and development (R&D).

It is assumed that firms behave according to the rules provided for them by the specific institutional arrangements, which thus co-ordinate and 'govern' them.

There is a tendency in studies that are concerned with the varieties of capitalism to reduce - more or less drastically - the empirical variety of institutional arrangements in different institutional sectors. The variety of institutional configurations that produce innovation and apply it to industrial production is again reduced to a number of 'models' or 'country families' (Rhodes and van Apeldoorn 1997; V. Schmidt 2002). In order to achieve this, the single results of the research undertaken are put together into a holistic image, which gives the impression of extreme coherence. The basic element that allows fusing the individual results of national particularities into a small number of models lies in the concept of a complementary order. Theoretically speaking, the variety of combined institutional particularities of sectors - this follows from the complementary order assumption - must be very limited, because institutional particularities mutually have to fit together. Certain combinations reinforce each other; others exclude each other due to their mutual disfunctionality.

A system of corporate finance that rests on incremental innovation of existing and successful products, thus oriented towards long term projects, 'fits' into a system of vocational and further training, which invests with large efforts into the qualification of employees. *Vice versa*, a system of corporate financing that is oriented towards the maximising of short-term profits, 'fits' better into a system of vocational and further training that directs investments into the qualification of employees accordingly. However, if these employees have only been poorly trained by the firm, due to the low investments which are generally activated for human resources, then it does not make any sense to keep these each and every time exchangeable employees in the firm when crisis is ahead. 'Hire and fire politics' on the level of the firm 'fit' a system of short-term entrepreneurial strategies as much as the relatively high stability of employment 'fits' production systems with long term orientations.

According to this thesis, the 'German Model' does not only result from a number of characterising institutional particularities, but it also seems to constitute its general structure through the complementary order of these particularities, which 'fit together' in their functional logic and, because of this, mutually reinforce each other, guaranteeing a comparative advantage in ‘diversified quality production' (DQP) (Streeck 1992), but suffering from weaknesses in the branches of the 'new economy'.

Some recent research critical of this approach have shown that institutional arrangements may be more loosely coupled within a national innovation and production system, allowing not only for (perhaps temporarily) incoherences at the national level (for instance between corporate financing and labour participation rights), but also for the creation of autonomous subsystems on the sectoral or local level. (In fact attention had been drawn to sector-specific governance in the early 1990s, before the main surge of interest in national models itself (Hollingsworth, Schmitter, and Streeck 1994a).) These sub-systems may establish their own governance structures, diverging from the national model. As Trigilia (2004) asks: if the national level is the main determinant of economic diversity, why are not the industries seen as nationally 'typical' distributed evenly across the national territory? In other words, why do clusters exist? That they do exist, and that they cannot all be explained in terms of physical geography, is well established; and not only for traditional sectors (Crouch et al 2001) but also in the so-called high-tech ones (Crouch et al 2004: Part III; Kenney 2000; Saxenian 1999; Swann, Prevezer, and Stout 1998).

This diversity does not necessarily contradict theories of the variety of capitalism, or of national innovation systems (Lundvall 1992, Nelson and Winter 1982, Nelson 1993), or of national competitive advantage (Porter 1990), which ought all to be able to accommodate the idea of further sub-national concentrations of governance, provided adequate special factors can be identified. They are merely more interested in delineating the dominant model, while we are interested in understanding the factors that support some deviations from it. The difference between our work and that of these others schools is simply that of focus. Therefore, for example, neither these theories nor that of the varieties of capitalism should have any difficulty with the fact that some areas of Germany specialise in high-quality motor vehicles, others in machine tools, and others again in chemicals. [2]

[2] In fact, regional innovation theory and Porter’s theory would have no difficulty explaining how Swedish institutions can support advanced biotechnology and telecommunications as part of its dominant national model; it is only Varieties of Capitalism that sees primarily only two forms of

Local specialisms that depart from the logic of a national system in this way suggest that the nation state is not necessarily always the most important level for determining the institutional environment of business. It is important that research pay attention to these instances. The fashion for dealing only in 'stylised facts' - encouraged by many economists in the name of 'parsimony and elegance' - can easily become an invitation to deal in stereotypes and over-generalisations.

On closer inspection, therefore, the idea of a national system starts to seem less solid. It can be at least variegated and at most directly challenged by local institutions; and it may be in competition with both supranational regulatory regimes and internationally available institutions, services, and persons (Brose and Voelzkow 1999; Deeg and Jackson 2007). These questions become even more acute when we consider parts of the world where national systems are weak. This is for example the case with the countries of Central and Eastern Europe. Most of the institutions of the state socialist period seem to have been swept away very rapidly during the early 1990s; that regime had in its time swept away most pre-existing institutions; and even before that, in much of central Europe the 'national' level had in any case had a short-lived period following centuries of foreign domination. Further, during 15 or so years of post-communist reconstruction, governments and other institutional actors in this part of the world have been presented with various powerful exogenous models; the idea of national systems remains elusive. For those countries that have entered or who are working towards entering the EU, there is the *acquis communautaire*; for all there is the World Bank, the International Monetary Fund and the OECD, and individual multi-national firms considering major investments in production. These exogenous forces do not simply offer ideas for consideration; they offer important inducements for compliance. How then are these national systems to be described?

Various contributors to the neo-institutionalist tradition have shown how it is possible to cope with diversity while retaining the concept of institutional constraint (Crouch 2005; Crouch and Farrell 2004; Schmidt 2002; Streeck and Thelen 2005; Thelen 2004). There is no claim to predict the kinds of innovation that will be undertaken: this literature is an actor-centred institutionalism (Scharpf 1997) that provides scope for agents. But they are not completely free agents, their range of initiative being bounded somehow by their institutional starting point, as in a random walk.

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economy, liberal market ones and co-ordinated market ones, Sweden always being ranked alongside Germany in the latter category. These other theories would have to recognise as exceptional the small firms and consumer orientation of the southern Swedish furniture industry (Kjær 1996). Indeed, the fact that this sector is partly characterised by small and medium-sized enterprises (SMEs) provides problems for nearly all accounts of the Swedish economy, which stress its domination by large enterprises (cf. Pontusson 1997).

By looking at specific local cases, we are here better able to explore the potentiality for variation around a strong institutional core that lies in the hands of key actors than is the case with the national accounts that dominate the literature (for other local and sectoral approaches see Crouch et al 2001, 2004; Hollingsworth, Schmitter and Streeck 1994; Swann, Prevezer, and Stout 1998). We can then examine to what extent that localised sector corresponds to the account usually given in the literature of the national institutional structure.

Four paired case studies

Our research was conducted through interviews with firms and other institutions involved in the sectors concerned, together with analysis of relevant documents. Our teams, which were in most cases locally based, also worked closely with experts in the localities concerned. In an article of this length we can clearly not give full accounts of the cases, but can only draw out the lessons that they convey for our general task of exploring how exceptional industries survive within national systems that should not be expected to support them. For more detailed accounts we refer readers to Voelzkow 2007 and Crouch and Voelzkow 2008.

Furniture-making in north-west Germany and southern Sweden

The production processes around furniture making were transformed by mechanisation, but many of its products do not depend on mechanisation for either their design or existence. It has historically been a craft industry, dependent on high levels of manual skill and small firms, and this usually remains the case at the expensive and high added-value end of the range. But fully mechanised production on Fordist principles in large corporations has also developed strongly in the sector. Given that this is a light industry, with portable products, with pre-industrial roots but easily subject to mass production, it is easily susceptible to globalisation for low-priced mass-market products. But some production continues in industrialised countries. This gives rise to obvious questions: under what circumstances is this survival possible? In what parts of the market are furniture firms in rich countries operating? Are they thriving? And, most important, what institutional arrangements are associated with their success and in which locations is it possible to find these arrangements?

We compared the traditional district Ostwestfalen-Lippe in north-eastern Nordrhein-Westfalen that has about 20,000 people working in furniture production with a similar traditional case in Småland and Västergötland in southern Sweden, where we studied three contrasting clusters. These were: Tibro, a town with about 9,000 inhabitants, which has about 80 furniture companies with 1,500 employees; Virserum with only 2,000 inhabitants, whose furniture industry has disappeared in the last 50 years; and Älmhult, where the success story of Ikea began. The last is a case apart, as Ikea is a single large firm, not an SME cluster. There is some difference between the national situation, as firms in Ostwestfalen-Lippe specialise in the production of kitchen furniture, while the Swedish data are based on furniture except kitchen fixings (but including kitchen tables and chairs for example).

Germany is known as a country in which smaller (mainly medium-sized) enterprises can thrive; they are well organised, and law and fiscal regime are favourable to them and to family-based business in general. A structure of associations allows for coordination between smaller companies, which is often a functional equivalent to vertical integration. Sweden, in contrast, is an economy of large firms consolidated around an even smaller group of holding companies. The economy has therefore been historically concentrated in mass-production sectors dominated by large corporations: mining, motor vehicles, traditional pharmaceuticals, and telecommunications. On the basis of national system analysis, we should predict a very poor outlook for an SME-based furniture industry in Sweden, certainly much poorer than in Germany (though varieties of capitalism theory as such would be unable to distinguish between the two countries, as both are 'co-ordinated' economies).

After some considerable reduction in its size and in particular its labour force, the Ostwestfalen-Lippe cluster is finding continuing success at the very top end of the market. The three southern Swedish clusters have gone in different directions. That in Tibro is flourishing, that in Virserum has more or less collapsed; Ikea enjoys considerable success, even though most of the firm's products are made elsewhere in the world.

Our research therefore found a complex pattern of evidence (Sjöberg and Rafiqui 2006; Voelzkow and Schröder 2006). To some extent the difference in level of aggregation between the two studies added to the complexity of outcomes. The Swedish study looks at three local clusters, while the German one looks at the regional level. Also, the Swedish researchers deliberately picked three clusters with different characteristics, so the Swedish case adds complexity by its very design.

There are important bank-based modes of *corporate finance* in the German furniture cluster, but stock markets are increasingly becoming an alternative; two of the biggest companies in the cluster attempted to change into stock companies (ibid). In addition, restrictive credit-issuing criteria, imposed on German *Hausbanken* by the international regulation of Basel II (the agreement reached within the Basel Committee on Banking Supervision, the self-regulating institution of the international banking sector), have changed the traditionally close relationship between companies and banks in the German cluster. Many of the companies now have to disclose information that the (family) owners consider 'private'. In the three Swedish clusters, corporate finance was more nuanced (Sjöberg and Rafiqui 2006). Whereas the clusters of Tibro and Virserum have largely used the Swedish model of debt-based and thus bank-centred financing, as well as customer credit (a rather forgotten but often important mode of financing) the case of Ikea merits further attention. Part of Ikea's success seems to stem from the fact that it tried to support its expansion with its own resources, relying on neither bank-based nor stock-based financing modes, and thereby achieving greater freedom from external agencies.

The typical German *Mittelstand* model of *corporate governance* can be found in the furniture industry of Ostwestfalen-Lippe (Voelzkow and Schröder 2006). Of all companies in the cluster, 70% are family-owned and 85% employ less than 200 employees. However, family-ownership is increasingly combined with a professional management team and some companies have been taken over by foreign competitors, which now expect to see high yields from their new objects of investment. At the same time, corporate takeovers have a tendency to replace traditional company networks. Even though bank-based corporate financing is still prevalent and thus ensures the stakeholder model to a large degree, this hints of a stronger accentuation of 'shareholder-value' in the companies, which undermines stakeholder-based governance. Again, the cluster is conforming to a national model, but that model is itself undergoing change. Although SMEs are not well supported by the Swedish system of economic governance, the Tibro firms had developed institutions more similar to those found in Denmark or central Italy, companies sharing production sites that no single company could afford to acquire itself (Sjöberg and Rafiqui 2006). Also, the local government supported the sector through place marketing and the provision of infrastructural institutions. The capacity of SMEs to act collectively was thus a functional equivalent to the hierarchical structure of a vertically and horizontally integrated company. Companies in Virserum in contrast did not find ways of co-operating, and one after the other went bankrupt. Ikea, being a big integrated company itself, was – in this respect alone - more typical of the pattern to be expected in the Swedish model.

As we should expect for the German cluster, collective pay agreements (*Flächentarifverträge*) provide the basis for the remuneration of workers and for other *industrial relations* issues (Voelzkow and Schröder 2006). But once again, general changes entering the German model can be seen within the cluster: an increasing degree of flexibility is integrated into the agreements, turning them into framework agreements (*Manteltarifverträge*) within which further negotiation can be conducted at company level. Also, increasing price pressure leads supplier companies to outsource production to sub-companies that have not joined the collective pay agreements. A relatively cooperative approach towards industrial relations was cited as one factor of success of the Tibro cluster over that of Virserum (Sjöberg and Rafiqui 2006), here conforming to the familiar Swedish model. In Ikea there is a different, internal company effort to create a team spirit, encouraging employees to identify with the company and facilitating management-employee interaction.

In *vocational training* the German cluster yet again showed arrangements characteristic of the German model as a whole, but in terms of that model as it is changing. The bulk of education is done by the 'dual system' of vocational training, combining on-the-job training and studies in professional schools (*Berufsschulen*) (Voelzkow and Schröder 2006). However, the overall German trend towards an upgrading of qualifications can also be found in the cluster and is illustrated by the increasing importance of *Berufsakademien* that are trying to combine a system which is close to that of a university for applied sciences (*Fachhochschule*) with that of the traditional system for vocational training. Also typical of the traditional German model is the fact that the vocational training system is managed by the social partners. For the Swedish cases, the now familiar view again holds true. Whereas Virserum engaged in no more than the absolute minimum training, which was delivered 'in house' and 'on the job', firms in Tibro offered inter-firm collaboration (Sjöberg and Rafiqui 2006). In so doing, the cluster was able to attract employees from all over Sweden by its well-designed training schemes. In Ikea, as in many large Swedish firms, vocational training is largely internalised within the company, which maintains its own vocational schools. It thus tries somewhat to insulate itself from the Swedish system, where initial vocational education is normally provided within normal schools, not as part of an apprenticeship model.

Conclusions. SMEs can survive in furniture production only if they are backed up by collective competition goods, i.e. an infrastructure that increases their competitiveness and gives them access to possibilities that would usually be barred due to limited resources of individual companies (Crouch et al 2001). For the cluster in Ostwestfalen-Lippe, the typical German model of diversified quality production continues to provide this kind of environment. However, it is essential to note that general institutional changes taking place in the country are also facilitating flexibility in this sector: evidence both that change has been necessary for the model, and that it is being achieved. (For an account of the German national system as one in a state of considerable change rather than as in equilibrium, see Glassmann 2006a.) This demonstration of the capacity of the German model to change would refute any versions of capitalist diversity theory that take a strong stand on the inevitability of path dependence – a characteristic that is not endemic to such theories, but which is occasionally found. In Sweden, the important local variations are highly instructive. Ikea in some respects demonstrates the Swedish system of favouring large corporations (which is very different from the German one) at work, though in practice Ikea deviates from most typical Swedish institutions and constitutes a case in itself. It is a case of exception type 1 (a local – in this case corporate – context deviant from and even defiant of the national model. To some extent it is also a case of 2, creative incoherence, in that the firm built its distinctive style through a mixture of strongly Swedish characteristics and some that are quite outside the national frame. It is also a case of 3, the lack of reach of a national model. While maintaining important links with Sweden, Ikea today has its headquarters in the Netherlands and has production plants in many countries throughout the world. The crisis of the sector in Virserum also demonstrates what we would expect to be the case for a sector based on SMEs. Tibro, however, demonstrates the capacity of local institutions to develop their own internal coherence, standing out against the prevailing national model. It is then a case of 1, the comparison with Virserum demonstrating the extent to which the firms and local authorities in Tibro had to forge some distinctive institutions to support their industry.

Motor vehicle manufacture in eastern Germany and western Hungary

Motor-vehicle manufacture was the classic industry of the mass-production age, and a major contributor to manufacturing output in many industrial countries in the second half of the 20th century. Although famously subjected to Taylorist techniques during the early 20th century which enabled it to employ low-skilled labour, motor manufacturing was transformed in the last third of that century to become far more demanding on its labour force, suppliers, and institutional infrastructure (Womack, Jones and Roos 1991). In Germany and Japan in particular there were major developments in both advanced machinery and in labour skill that made possible more efficient production and greater sophistication as well as variety of products. These combined with developments originating in Japan, which improved the efficiency and quality of relations between the core manufacturing firms and their suppliers that depended on both high skills and high levels of organisation. It also became an industry in which constant improvements in design and product performance and variety became major instruments of competition. Therefore the automobile industry is seen as one of the core sectors for incremental innovation. A key question arises concerning the institutional requirements of the shift in production away from the core countries. But what does a new production area require if it is to compete at these sophisticated levels of production?

The accidents of history here make possible an exceptional experiment (Keune and Tóth 2006; Piotti 2006). One among the countries of Central Europe, the German Democratic Republic, was given the occasion to unite itself to the western Federal Republic of Germany almost directly after the fall of communism, and in theory immediately inherited all West German institutions, an entire *acquis nationale*. The other developing economies, including Hungary, had both the obligation and the opportunity to construct, or to import, new institutional structures, possibly in continuity with some survivals from the past. We here therefore compare the plant established by the Volkswagen-Audi group in Zwickau, Saxony, in Eastern Germany, with that in Győr in North-western Hungary.

Varieties of capitalism theory would predict that, provided the West German institutions had been appropriately transferred, an East German region would soon start to operate as part of a co-ordinated economy, and would therefore succeed at the motor industry. It is not clear that the theory has anything to say about Hungary, as its protagonists have not yet classified the former communist countries according to their typology. However, it might be expected to conclude that, given that post-Communist Hungary has not had time to establish deeply embedded institutions of the kind required for a co-ordinated market economy, this industry should not thrive there. It would be reasonable for varieties of capitalism theory also to conclude that Hungary has probably not had time to develop the preconditions for a sophisticated liberal market economy either. It might therefore predict that neither up-market DQP nor radical innovation would be likely to take hold there, or in the rest of central and eastern Europe, expecting instead low quality mass production. In general, that is the case with these economies. National innovation systems theory would similarly see eastern Germany now following the general (western) German path, and would have to remain silent about Hungary until it had analysed its institutions. From our perspective an important issue is whether eastern German *Länder* simply inherited West German institutions, or whether deviations in the transfer have imported certain novelties. Hungary we see as a meeting point of many institutional fragments: some national historical residues; some path-independent new approaches; some regional specificities; institutional borrowings; and not least the organisational preferences of VW-Audi itself - which may or may not be simple transfers of their practices in Germany and other Western European economies.

As we are dealing with a German multi-national group, corporate finance and governance are matters for corporate headquarters and do not enter as variables into the comparison between the East German and Hungarian plants. Instead, we focus on relations between VW and Audi on the one hand and their local suppliers on the other, in addition to the other variables. At Zwickau these relations follow a dual pattern (Piotti 2004-05). VW has very stable relationships with those suppliers that the company brought with it from Western Germany, though some local suppliers are slowly joining the circle. Inter-company relations tend to be cooperative and supported by the German model of public and semi-public research institutions with which companies collectively cooperate, and which has been imported alongside unification. Even though Audi is delegating more and more production and some research to Győr, the local content of production remains low (Keune, Kiss and Tóth 2004; Keune and Tóth 2006). Rather, as production in Győr increases, more and more companies from the West follow Audi and increase their capacities there. Whereas relations between Audi and its established supplier companies are cooperative, relations to local companies are less intense and less stable. The underlying structure of formerly West German institutions is not transferred to local Hungarian firms, though it is possible that examples will spread to the region from the suppliers who arrived from West Germany with Audi.

In Zwickau, the dual system of *vocational training* works rather well, even though there are no strong associations to support it (Piotti 2004-05). The basic system that existed in the former East Germany was very similar to that in the West. In addition, VW and some other companies seem to be investing in training efforts to ensure a supply of adequately qualified employees, and possibly even to help the region. In reviving the system that existed in Hungary before the end of the communist era, Audi favoured a system that was not very far from the German one, introducing vocational training schools with much the same content as in Germany (Keune and Tóth 2006). However, the involvement of the social partners in the setting up of training schemes was rejected in favour of direct control of the training schemes through Audi.

VW was eager to apply West German collective pay agreements in Eastern Germany (Piotti 2004-05; 2006). However, local suppliers strongly refused to adhere to these. VW and the first- and second-tier suppliers who followed it from West Germany also brought with them the second pillar of the German *industrial relations* system, works councils, as an automatic part of the package of institutions now being extended to the neue Länder. Local East German supplier companies have been again however more reluctant to do this. They did not consider that works council served their interests; it is also important to note than in their case VW applied no normative or other pressures to persuade them to accept these western institutions. In these local firms, works councils tend to be accepted only insofar as they do not oppose management decisions and refrain from representing workers interests against the management. However, it should be noted that this change in the role of the works councils is also taking place in the German model as a whole. Audi encourages cooperative industrial relations in Győr (Keune, Kiss and Tóth 2004; Keune and Tóth 2006). However, the firm’s reluctance to accept strong and unified trade unions indicates that it is a rather limited version of coordinated industrial relations that Audi is trying to establish. Trade unions and works councils are viewed favourably if they facilitate coordination between management and labour, but not if they seek to become powerful stakeholders.

Conclusions. VW and Audi have brought their own institutional model along with their production sites to Zwickau and Győr respectively. However, this does not mean that they impose the typical West German model of inter-company relations, industrial relations, and vocational training on local suppliers. Even though they partially export aspects of the German model to the degree that they deem them supportive to the management's aims, the companies also try to maintain control of the institutions they use. This means especially that they are not willing to accept a strong role of the social partners or of the workforce to the detriment of management power.

In our two clusters, VW and Audi are acting as institutional entrepreneurs, supplying collective competition goods for 'their' local economy by actually building up a distinctive institutional structure. In doing so, particular elements of the German model are *selectively* exported, and there is - as one would expect - a further difference between the East German and Hungarian contexts, with considerably more transfer in the former case. This selectivity enables us to challenge institutional theories that insist on the integrity and necessity of a particular institutional *Gestalt.*

The Zwickau case largely confirms what we should expect from most theories of capitalist diversity: transfer of the German model, but in weakened form – though we should recall from our discussion of the furniture case that the German model is itself changing in similar directions in former West Germany. The Győr case – and to some extent the Zwickau one – demonstrates an exception of type 3: national models are not necessarily determinant. In this case, it is the internal managerial decision-making of a powerful corporation that is able to shape institutions of production.

Biopharmaceuticals around Munich and Cambridge

Biotechnology is becoming as emblematic of the early 21st century as motor vehicles were of the late 20th. The sector applies very advanced science and strong links between universities and the rest of the public research base on the one hand, with flexible and sophisticated firms on the other. It has distinctive and high requirements for skills, financial arrangements, corporate governance, and legislative framework. Since it is concerned with human health, it is subjected to intensive regulation, and although science is moving rapidly, it can often take several years from a scientific discovery to the development of a truly new product and its arrival in the market. The question that arises is: given the precision of these requirements, is this sector one that can thrive only in certain institutional contexts? For varieties of capitalism theory the biochemicals sector is as paradigmatic to the liberal market form of capitalism as the motor industry is to the co-ordinated market form (Hall and Soskice 2001a), as the liberal market is considered to favour high risk entrepreneurial activities in new sectors.

The main biotechnology district in Germany is that around Munich, the capital of Bavaria. If the sector has strengths, they need to be explained by one or more of our four sources of exception. Within Europe the UK is usually seen as the closest to a liberal market economy and the first successful biotechnology and high-tech region is usually considered to be that around the city of Cambridge (Casper and Kettler 2001). We therefore compare Munich with this district, and also examine the relationship of the Cambridge area to the national British institutional structure.

Companies in the two clusters are roughly comparable in size, turnover, and markets. The Munich cluster is linked to the University of Munich as well as to a Max Planck Institute, whereas the Cambridge cluster has established links to its university. (The following account of both cases depends heavily on Jong 2006.) Due to sectoral specificities, both clusters are highly concentrated, linked to international networks, and compete on the same international markets. Both need access to research institutes, venture capital, and a management that is capable of linking research to market use of the products.

The UK venture capital industry seems to cater well to the *corporate finance* needs of the biotech cluster in Cambridge, as would be predicted by most theories. However, it is the cluster in Germany that shows some interesting results. As one might suppose, bank-based modes of financing were not adapted to the needs of Munich-based biotech firms. These shortcomings were however compensated by two functionally equivalent institutions. Firms relied on public funding and used foreign venture capital markets, thereby circumventing rigidities of the German corporate financing model and its underdeveloped market for venture capital. This raises an important point about the idea of national institutional systems in a global economy with liberalised capital movements: firms can ‘escape’ certain elements of their national systems. Similarly, Munich firms avoid any difficulties in recruiting top managers that might be created by the primarily internally oriented German labour market by relying on international labour markets; half the firms in Munich had acquired their CEO from a foreign company, whereas this was only the case for one of 19 biotech firms in Cambridge.

In neither country did national institutions of *industrial relations* play a part. As largely SMEs employing mainly highly skilled labour, firms in this sector are rarely unionised; their staffs’ salaries are not collectively bargained; and in the German cases very few firms have works councils. Neither are national *vocational training* institutions significant in either case, as the core staff are educated to higher levels than normally associated with this form of training, while national first-level university education systems are also not important, as these firms recruit globally. More relevant are differences at the level of doctoral training, where neither Germany nor the UK has yet rivalled the great US universities in establishing highly innovative graduate schools linked to high-tech firm start-ups (Jong 2007).

This last point leads to consideration of research and development. The varieties of capitalism approach would expect a high degree of cooperation with public research infrastructure for the German cluster (Hall and Soskice 2001a: 26). This was indeed the case, as the share of scientific publications produced in collaboration with public research institutes was twice as high in Munich as in Cambridge. However, the outcome of this was rather surprising: The stronger academic embeddedness of the Munich cluster seems to have been leading to better performance in developing radically innovative products than in Cambridge.

Conclusions. The example of Munich-Martinsried illustrates how a science-based cluster can bypass the rigidities of the German political economy by docking on to international structures. Apart from the close link to the German innovation system (in the form of contacts to universities and research-institutes), biotechnology in Munich constitutes something of a 'liberal island', which confirms some of the prior studies on biotechnology in Germany (cf. Casper 2002). It is therefore a case of exception 3 – the limitations of national structures. Whereas in the motor industry case these structures could become partly subordinate to the managerial strategy of a large firm, here it is more a case of the Europeanisation and globalisation of economic governance, and a demonstration of how national regimes are today not the same kind of iron cage for entrepreneurs as they possibly were in an earlier period.

Governance of the biotechnology cluster in Cambridge however, largely corresponds to the national stereotype of the liberal market economy of the UK, but with the paradoxical result that incremental innovations are more prevalent in the British cluster. This confirms earlier findings suggesting that the German biotechnology industry is not being outperformed by the British one (Lange 2005; 2006). As should not surprise us, having an appropriate context does not guarantee success.

Television film-making in Cologne and London

Television film-making has been transformed in recent years by both technological and organisational changes. First, developments in camera and lighting technology have transformed the skills needed by camera teams and reduced the numbers of personnel needed in a team. Second, the break-up of public monopoly television programme providers produced a major growth of very small enterprises. The question arises whether one can identify different ways in which actors in different institutional contexts responded (Elbing 2006; Elbing and Voelzkow 2006a,b, Glassmann 2006 and forthcoming).

We here again use a comparison between Germany and the UK. In both countries national broadcasting monopolies were required during the 1980s to down-size their in-house production activities and purchase programmes from independent producers. In both cases a large number of very small, project-based firms developed, and in both, anxieties were expressed that some important collective goods provided for the sector by the public producer - in particular workforce training - would be at risk. The British industry is focussed on the national capital, London, though in reality it is concentrated on a very small part of that city, the area known as Soho that has long been a centre for the film and entertainment industry. About 70% of all UK TV and film production companies are situated here. In Germany it is concentrated on Cologne in Nordrhein-Westfalen, close to the previous capital of the Western Republic, Bonn. Almost a third of outsourced German TV production is concentrated in Cologne and the immediately adjacent areas. Differences are to be found in the ways pressure was produced: In the British case, regulations created forced outsourcing, beginning with the launch of Channel 4 as channel that would commission programmes, primarily from SMEs, rather than make them itself followed by the implementation of the 'independent production quota', a statutory quota requiring 25% of terrestrial broadcasters' production content to be produced by independent companies. In the German case *Standortpolitik* was the driving force in pressing broadcasters, namely the WDR and the newly established RTL, to outsource and, in particular in the case of RTL, to buy more content produced by companies located in Cologne and the surrounding area instead of from abroad. Both varieties of capitalism and neo-classical theory would expect the British liberal-market economy to be better able to respond to the changes, because of its flexibility.

Today both clusters consist of large firms networked to a vast and changing number of smaller companies. Freelancers have an important role in both, and parts of the industry, like film production, rely on freelance work. Thus, 'project ecologies' (Grabher 2002) have been created based on shorter project-based working periods and prolonged personal contacts. Companies cooperate in networks, which evolve around these projects and are supported by a cultural milieu, the 'evening economy', consisting of a lively bar scene, numerous restaurants, cafés etc. that are in geographic proximity.

Due to the rapid establishment and dissolving of companies based on projects, neither long-term oriented credit-financing by banks nor venture capital financing satisfy *corporate finance* needs. In film production, state-subsidies and tax schemes, like sale and leaseback in Great Britain, have become important ways of financing. Contrary to expectations, local saving banks play an important role in the German cluster by providing short-term capital of the kind normally associated with venture capital (Glassmann 2006 and forthcoming). Banks were able to take up risky projects because they target their investment objects by building up intensive links to companies. With this expert knowledge, banks also assume a role close to that of a development agency, linking successful firms and thus providing services for the cluster as a whole; they hereby provide a collective competition good. On one hand, bank financing and the linking of companies are seen as typical for the German model of corporate financing. On the other, by providing a sort of venture capital, banks serve ends that are contrary to their supposed capacities in stereotypes of the German model.

Also contrary to expectations, banks in Soho have built up an expert position in the cluster, specialising in knowledge about its needs, providing capital to companies and linking their financing needs to services offered (Elbing 2006). This contrasts with the expectations of theories of liberal capitalism, in which we are led to expect financing directly via financial markets, not using the interlocutor of a bank, which has long-term relationships to companies and regards itself as a part of the cluster or even as a corporate finance house.

Vocational training schemes are available in both clusters. However, institutional arrangements again defy the framework that is set out by the varieties of capitalism approach. The formal German 'dual system' is considered inadequate for the qualification needs of the Cologne media industry, which seeks not formal knowledge but flexibility and creativity - intangible qualifications (Glassmann 2006 and forthcoming). Although the state is trying to establish qualification structures and schemes, the system of vocational qualification in Cologne is not mediated by associations, as would be the case for the 'normal' functioning within the German model. The German corporatism is absent. Instead, we find a market for a large number of public or private organisations offering vocational training or further training.

In London, the situation is somewhat inverted (Elbing 2006). Although 'on-the-job training' is common in the industry, state-initiated projects as well as the social partners have played important roles in the establishment of qualification schemes. The Producers Alliance for Cinema and Television (PACT, representing employers) and the Broadcasting, Entertainment, Cinematograph & Theatre Union (BECTU, a trade union), have cooperated with the Sector Skills Council for the Audio Visual Industries (Skillset, a public body) to produce skill modules. PACT and Skillset have even set up funds to which production companies and broadcasters are supposed to contribute in order to pay for vocational- and freelance training. Associations thus take up an important role.

Not being able to rely on a formally trained workforce, in both cities companies and projects rely on freelancers who are hired on a project base and whose skills and qualifications are ensured via inter-personal networks where reputation is more important than certified knowledge (Elbing 2006; Glassmann 2006 and forthcoming). Wages and working conditions are predominantly negotiated on an individual basis. This, not surprisingly, is framed by weak formal *industrial relations*, with a low union density, particularly in the German case, where ver.di has a density of less than 10%. Following the imperatives of flexibility, the Cologne media cluster thus has a labour market that much resembles that of a liberal market economy. In London, the above-mentioned associations are developing a framework of social regulations in which questions of intellectual property rights, the employment status of freelancers and social security schemes are regulated by social partners.

Conclusions. Both these cases demonstrate exception 1 – deviation from national model expectations in very strongly networked local contexts – though neither really constitutes ‘defiance’, as they have found support from national institutions (the broadcasting corporations, banks, training organisations, trade unions). They are both cases of 2, in that both create a new and apparently vibrant organisational form by making some surprising new combinations of expected national and unexpected local institutions. The governance of the successful TV and film production sector in London’s Soho area, with its considerable informality and flexibility is consistent with much of the expectations of the British model. On the other hand, its regulations and institutional solutions in the areas of corporate financing, vocational training and industrial relations, conform more to those of a coordinated model. Interestingly, it is not so much despite as because of its extreme fragmentation that this cluster needed to generate a degree coordination if it was to thrive: its firm-level organisation structures were too fragile to thrive without external institutional support. This holds true at least from the perspective of SMEs, which profit from these ‘alternative’ forms of organisation, using them to the detriment of institutional alternatives, such as vertical integration of broadcasters and larger production companies. Film and TV production in Cologne, with its equally creative solutions in the areas of corporate financing, vocational training and industrial relations similarly fails to conform to the stereotype of the embedding German model. Instead, this cluster shows many traits of a liberal market economy, though in the background familiar German institutions are providing the support role that the British case shows that such firms need.

Conclusions

The main results from our research are summarised in Table 1. Our main interest is concentrated on the expected exceptions, the cases expected to conform to national models being to a large extent a control group. However, there are findings of interest within these control cases. First, in both instances where German firms were expected to do well (furniture and motor vehicles) we had to come to terms with the fact that the German national model itself is not static. Second, being in a liberal market economy has not been enough to guarantee very strong success in British biopharmaceuticals. Third, a remarkable hybrid model has been developing in the British new TV industry, indicating both the relative institutional autonomy of strongly networked local economies, and the weaknesses of a ‘liberal’ environment for an exceptionally flexible industry.

TABLE 1 ABOUT HERE

Among the expected exceptions, we find some examples of all the anticipated sources of variation. Local environments can provide institutional support for sectors that have requirements not normally associated with national models: this is the case of furniture in Tibro and new TV programme-making in Cologne (and of course London). However, it is only in Tibro that we can really talk of ‘defiance’ of national institutions. Ikea deviates in all respects. It has a distinctive environment within Sweden, which although locally rooted is really a corporate rather than a geographical environment, and in several respects ‘defies’ Swedish national institutions. It does this in a way that creates a highly distinctive corporation, and is hence a creative incoherence. And it is a global firm, using characteristics and resources from across the world.

Table 1: Summary of findings

Cases	*Conforming to expected national model*	*Conforming to alternative models*
Furniture	*Germany, Ostwestfalen-Lippe*: but conforms to a changing German model.	*Sweden, Tibro*: divergent, even ‘defiant’ local context (exception 1) *Sweden, Ikea*: divergent, even defiant corporate context; creative incoherence; capacity to reach outside national context (exceptions 1, 2, 3)
Motor vehicles	*Germany, Zwickau*: but conforms to a changing German model.	*Hungary, Győr*: capacity of large firm to reach outside a weak national context (exception 3).
Biopharmaceuticals	*UK, Cambridge*: but some weaknesses.	*Germany, Munich*: capacity of firms to access non-national resources through market.
TV programme-making	*UK, Soho (London)*: but also uses distinctive local context to gain creative incoherence (elements of	*Germany, Cologne*: distinctive local context facilitates creative incoherence (exceptions 1, 2).

	exceptions 1, 2).	

VW-Audi in Hungary provides a further example of how a major corporation can create its own institutions – admittedly here in a country that has not yet acquired a distinctive form of national capitalism. The inability of national institutions to form a ‘prison’ for firms (assuming that they should want to do so in the first place) is also important in explaining the success of the Munich biopharmaceuticals sector. Here the resources of the locality help firms to network and learn how to access resources elsewhere in Europe and the world that are not provided on the German national scene.

Finally, the Cologne new TV industry, like that in London, makes use of dense local networks to produce a creative incoherence.

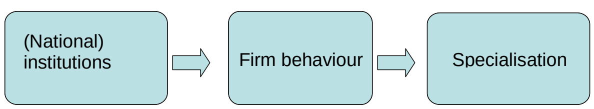
In our analysis, companies act rationally in response to sector-specific challenges, being partly bound by the existing institutional framework that they encounter, but partly acting to alter it. Two cases can be distinguished. In the first (structurally conservative) case, arrangements of governance in the national innovation and production system prove to be beneficial for the companies and their aim to stand up to international competition. Insofar as national institutions help companies to deal with competition on their markets, they will probably try to preserve these arrangements. The key example here is the furniture industry in Ostwestfalen-Lippe and German ‘diversified quality production’ – albeit in a *nationally* changing form. This is so far in conformity with established wisdom:” If firms decide to support the regulatory regimes that sustain the comparative institutional advantages of the nation, it is because they also underpin the competitive advantages of the firm” (Streeck and Thelen 2005: 25).

In the second (innovative) case, companies turn away from the national context and develop their own local governance structure. If the national institutional structure is seen as non-adequate or ‘non-fitting’ to deal with sectorally specific terms of competition, then the internal and external coordination of companies – in reaction to challenges posed by the market – is likely to deviate from the national structure. This is where the potential of local innovation and production systems can be found. The decoupling from the national production system takes place by a differentiation of the local (or corporate) level, which is thereby developing its own governance mode, or by reaching beyond the national context to access resources in the global system, either through individual corporate power (Ikea, Audi-VW) or through local networking (Munich).

One aim of this paper was to identify ‘productive incoherencies’ in the governance of local economic clusters. Competition can also be the driving force here: it dawns on companies that competing enterprises within the cluster are having greater success on markets using different institutional arrangements, which then entails imitation of their arrangements. Another possibility is the setting-up of collective action capacities in the local innovation and production systems: rearranging governance becomes a cooperation project. In both cases, companies are not only rule-takers of the national institutions, but also rule-makers of the local system. Since governance of the local economy decouples itself from national institutions and develops its own institutional dynamics, local innovation and production regimes are likely to be the 'entry gates' for institutional change.

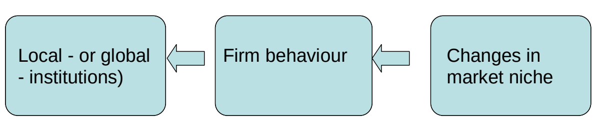
In the light of these conclusions, we propose a 'counter stream model' to discussion of production and innovation regimes. The starting point (first stage) is represented by the analysis of Hall and Soskice (2001a): national institutions are the independent variable, steering the actions of companies towards the path prescribed by the encompassing national mode of capitalism (liberal or coordinated). This generates specific strengths (competitive advantages) and weaknesses and predicts a sectoral specialisation of entire national economies.

Figure 1: First Stage - Varieties of capitalism: National institutions determine national performance



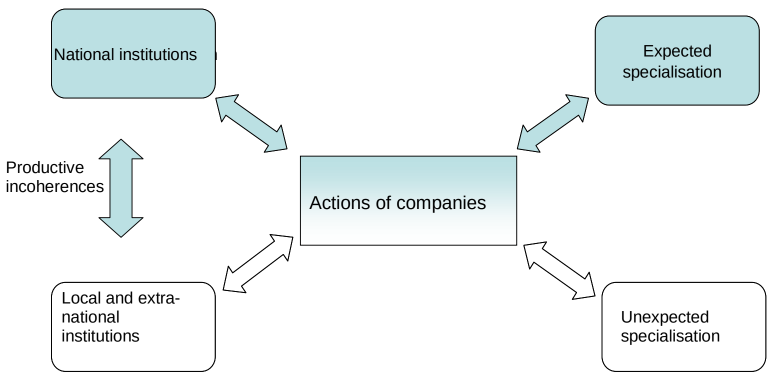
An initial counter-stream model or second stage is documented by some of our case studies: sectoral challenges are perceived as representing the independent variables, which have an influence on economic action in local clusters. Sectoral peculiarities (the terms of competition) provoke a certain strategy of companies. Exigencies of the markets lead to local institution building – or, in a very different move, outreach to resources beyond the national setting. If cultivated, the ensuing governance mode becomes a local arrangement, which provides for companies a viable alternative to the national 'corset'.

Figure 2: Second Stage - Varieties of capitalism under international pressure



If these two chains of cause and effect are put together, it becomes evident that companies act in two different environments: On the one hand, the institutional context has an impact on their actions. On the other hand, competition in their sector is continuously questioning the usefulness of this institutional context, opening up a search for alternatives. The institutional context itself thereby becomes a matter of entrepreneurial action (‘institutional entrepreneurship’). This gives rise to a third model, in which national institutions, local institution building and extra-national outreach are all seen to have an effect on company-behaviour.

Figure 3: Third stage: The interplay of national, local and extra-national institutions and actions of companies



The continuity of institutional arrangements is thus determined by economic interests that react on specific terms of competition, which vary according to sectors: “…the durability of an institution can rest substantially, if rarely wholly, on how well it serves the interests of the relevant actors. Where an institution fails to serve those interests, it becomes more fragile and susceptible to defection.” (Hall and Thelen 2005: 7). If the national institutional context is seen as non-fitting because it ceases to grant a competitive advantage, the affected companies can make use of local or even global institutional arrangements that open up the possibility to escape the constraints of the national context. By introducing the concept of ‘productive incoherences’ to grasp the internal divergence in national varieties of capitalism, we argue that it is not only by conforming to national institutions that companies can prosper, but sometimes by diverging from them that companies, localities and even whole sectors may gain competitive advantage by establishing an institution-system that is better suited to company needs.

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