

Discussion Forum

## **Diversified Quality Production 2.0: on Arndt Sorge and Wolfgang Streeck, 'Diversified quality production re-visited: Its contribution to German socioeconomic performance over time'**

**Lucio Baccaro, Virginia Doellgast, Tony Edwards and  
Josh Whitford**

### **Abstract**

The preceding article by Arndt Sorge and Wolfgang Streeck entitled 'Diversified quality production re-visited: Its contribution to German socioeconomic performance over time' examines the historical dynamics of diversified quality production (DQP). *Socio-Economic Review* invited a group of leading scholars from different subfields to discuss the paper. Lucio Baccaro opens with a comprehensive reconstruction of the DQP concept within the field of comparative political economy and the history of the German model of capitalism. The next contribution by Virginia Doellgast investigates on how and why Sorge and Streeck's arguments have been influential in employment relations research. Tony Edwards focusses on internationalization, particularly the way in which German multinationals have expanded into other countries and what this means for the viability and prevalence of DQP, both in Germany and elsewhere. Finally, Josh Whitford explores the attempts to export of the concept of DQP to Milwaukee, Wisconsin, USA, about 25 years ago.

**Key words:** firm strategy, Germany, industrial relations, institutional change, institutional structure, internationalization

**JEL classification:** D21 firm behavior: theory, F55 international institutional arrangements, P51 comparative analysis of economic systems

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### **Article by an MPIfG researcher**

Lucio Baccaro, Virginia Doellgast, Tony Edwards, Josh Whitford: Diversified Quality Production 2.0: On Arndt Sorge and Wolfgang Streeck, "Diversified Quality Production Re-Visited: Its Contribution to German Socioeconomic Performance over Time".

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# What happened to diversified quality production?

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The concept of Diversified Quality Production (DQP), introduced by Sorge and Streeck in their 1987 article and further developed by Streeck in 1991, has played a very important role in the field of comparative political economy (CPE). It did not just provide a convincing explanation for the unexpected ability of the (West-)German manufacturing industry to remain successful in the post-Bretton Woods period, but it also shifted the research agenda of CPE in important ways. Before DQP, most research had examined the conditions in which price stability could be made compatible with the governments' use of Keynesian policies of demand management. After DQP, the focus moved to analyzing the institutional bases of supply-side competitiveness, while the level and composition of aggregate demand, which had been an important topic for the previous literature, receded into the background.

Inspired by Sorge and Streeck's contribution to this issue, this essay starts by situating the DQP concept within the CPE field. It continues with a brief reconstruction of the trajectory of the German model, which is central for the analysis of DQP. It concludes with a plea to shift back the pendulum of analysis from the supply to the demand side of the economy, while retaining and broadening the notion of 'beneficial constraint' at the core of DQP's original formulation.

## 1. A new political economy of the supply-side

Until the mid-1980s, research on neo-corporatist institutions and policy-making dominated the political economy field. The pressing policy problem of the time was finding ways to reconcile the governments' commitment to full employment, which required the adoption of Keynesian policies of demand stabilization, with price stability or at least low levels of inflation. The consensus reached by the vast literature on neo-corporatism was that particular institutional capacities were required. Trade unions would have to spontaneously moderate nominal wage demand, and this was unlikely to happen unless wage bargaining was centralized or coordinated, and interest associations encompassing and internally hierarchical. These institutional capacities were asymmetrically distributed across countries, and this explained why some countries had a more favorable trade-off between inflation and unemployment (see, in a vast literature, Flanagan *et al.*, 1983; Goldthorpe, 1984; Tarantelli, 1986).

Even at the time, a portion of the literature was getting weary of seemingly endless variations on the same themes, and was ready to go off in a new direction. The new mood was clearly expressed by Streeck in an article of 1991, 'On the Institutional Conditions of Diversified Quality Production', which appeared in an edited book tellingly entitled: *Beyond*

*Keynesianism* (Matzner and Streeck, 1991). The argument of the article was that after the stagflation of the 1970s, the Keynesian battle for aggregate demand could be considered for all purposes lost. There was a need to move to a different terrain. Keynesianism, while forcefully asserting the need for government stimulus to compensate for the tendency of markets to generate involuntary unemployment, had left the supply-side to the neoclassicals, i.e. had unjustifiably accepted the view that institutional minimalism, competitive markets, the protection of property rights and the enforcement of contracts were all that was needed for supply-side efficiency. The (new) job of the political economist was replacing the neoclassical economist's naïve theory of the supply-side with a richer institutional theory, which would show that economies that 'rely solely on markets and hierarchies for the governance of economic activities *do not necessarily perform better* than societies where economic behavior is more socially regulated' (Streeck, 1991, p. 24, emphasis in original).

The analysis of the German case provided the inspiration for the new theory. The German manufacturing industry had been able to withstand more stringent international competition after the collapse of the Bretton Woods system of fixed exchange rates and the entrance of new low-cost producers, and to maintain, if not increase, its international competitiveness. These remarkable outcomes had been achieved despite comparatively high labor and social costs and severe limitations to the firms' discretion in hiring and firing. Key to the German success was, Sorge and Streeck argued (1987), the shift to DQP. DQP had allowed firms to achieve economies of scale while simultaneously reaping the benefits of diversification. This had been made possible by the modularization of production and the flexible combination of standardized subcomponents into complex products meeting the differentiated tastes of international consumers.

Crucially, Sorge and Streeck (1987) did not think of DQP as a production strategy that companies adopted by heeding the signals of the price system. DQP was instead the largely unintended consequence of social and institutional constraints on employer choice. For example, one of the key ingredients of DPQ was the presence of an ample supply of skilled workers. Yet the decision to train was not the result of a maximizing calculus by firms, but of the political constraints of the German vocational training system. Workers with excess skills, in turn, turned out to be easily adaptable to new forms of work organization based on flexible task assignment and the blurring of conception and execution. By the same logic, strong unions and rigid industry-level collective bargaining, combined with high levels of employment protection, prevented companies from competing on cost minimization and numerical flexibility, while spurring reorganization and creating incentives for shifting the product mix upscale, toward markets where premium prices could be obtained. All these elements were not chosen, but *imposed* on reluctant employers by labor power and institutional rigidities.

The logic of the DQP production regime was that of a model of nonliberal capitalism. Not surprisingly, DQP was later incorporated in the Varieties of Capitalism's framework and became a signature feature of a coordinated market economy (CME) (Hall and Soskice, 2001). There was, however, an important difference between the original formulation of the concept and Hall and Soskice's re-elaboration of it. As originally conceived, DQP was a *political* equilibrium, which crucially depended on the ability of institutions to restrict employer discretion, while DQP as the prevalent production regime of a CME was seen as an *economic* equilibrium in which export-oriented manufacturing firms deliberately signed

onto the rigidities on which their comparative advantage was based (Soskice, 1999). Hence, DQP was always more contingent and unstable than the corresponding CME equilibrium.

## 2. The trajectory of the German model from DQP1 to DQP2

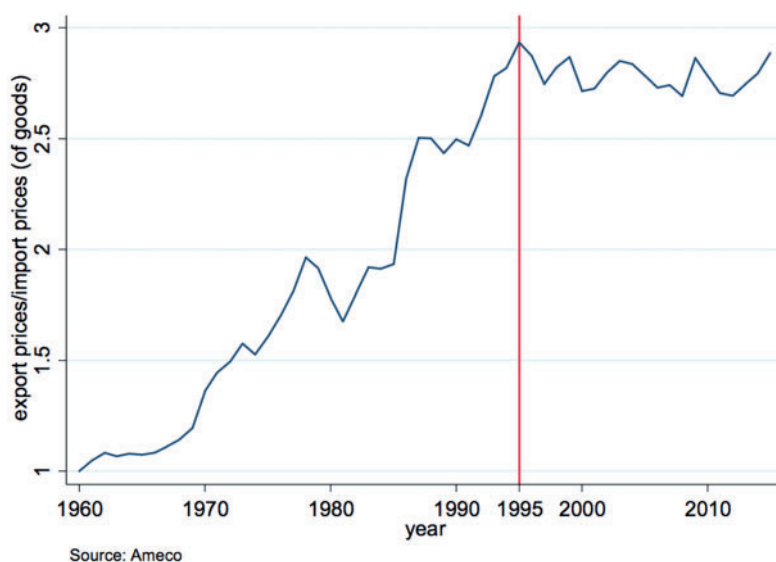
The DQP model was carefully hedged. Its survival would depend, it was argued, on firms being trapped in a nationally regulated economy, which severely restricted their ability to pursue an alternative strategy of cost reduction. Another precondition was that the markets in which DQP firms operated be shielded from price competition to a certain extent, and non-price determinants such as quality, dependability and customer service, be more important competitive factors.

The enabling features of DQP, limited employer discretion and (relatively) price-inelastic demand, progressively fell apart from the 1990s on, if not before. In what follows, I rely on joint work with Chiara Benassi to briefly illustrate the changes, but similar arguments have been made by others as well (Baccaro and Benassi, 2014, 2017; Baccaro and Howell, 2017).

After reunification, the German manufacturing industry discovered that it had a cost problem, which reduced its ability to compete internationally. Export markets, especially in the machinery and transportation equipment sector, Germany's largest export sector, appeared to have become more price-sensitive than they once had been. Competitors were able to produce with similar levels of quality, but at slightly more convenient prices. In addition, the need to finance the costs of unification had increased social security contributions, leading to higher labor costs overall. The response to the cost problem was an employer offensive, which ended up undermining many of the DQP's beneficial constraints.

In the 1990s, manufacturing firms (primarily but not exclusively those based in the new *Laender*) began leaving the employer association to avoid being bound by the rigid industry-level contract and associated wage provisions. In response, employer association introduced ÖTV membership, i.e. the option of membership without having to abide by the terms of the industry contract. This move stemmed the hemorrhage, but reduced the employers' capacity for coordination. Additional cost reductions were obtained by outsourcing nonessential services (e.g. janitorial and food services) to firms in which less expensive contracts were applied than the manufacturing contract. In addition, large firms used their market power to squeeze the profit margins of domestic suppliers, creating further incentives for these firms to seek respite outside the scope of industry bargaining.

Furthermore, large firms restructured and internationalized their supply chains, offshoring the more labor-intensive phases to former communist countries, especially the Czech Republic, Poland and Hungary. It should be emphasized that it is not necessary for offshoring to be actually carried out for it to cause a reduction of costs and a deterioration of working conditions: the sheer threat of offshoring, if perceived as credible, would lead workers to be willing to derogate from the provisions of the industry contracts in order to preserve their jobs. Consistent with these premises, offshoring did not concern all German manufacturing companies, but only 40% of them (Kinkel and Lay, 2003). Nonetheless, its effects were arguably broader. In the 1990s and afterward, there was a wave of concessionary bargaining at the workplace level, exchanging 'opening clauses' for the promise of job security. The willingness to derogate became greater after the Hartz reform, which lowered the reservation wage of workers by increasing the costs of becoming unemployed. As a result of these trends, the coverage of industry-level bargaining in manufacturing declined from 80% in



**Figure 1** Ratio of exports to import prices for German goods.

1995 to 50% in 2013 (based on IAB data). More worryingly, by 2013, two manufacturing establishments out of three were not covered by any collective bargaining contract at all.

As costs were reduced, the pressure to upgrade, which had been at the core of the DQP model, abated. [Figure 1](#) plots the ratio of export prices to import prices in Germany between 1960 and 2015. The ratio increased continuously until 1995, a clear sign of upgrading, but then stagnated. The year 1995 is the year in which wage moderation vis-à-vis trade partners began. Additional evidence presented in [Baccaro and Benassi \(2017\)](#) suggests that exports in the crucial transportation and machinery sector may have become more price-sensitive over time.

These trends support Sorge and Streeck's argument in this issue about an exhaustion of DQP. There was a transition, they argue, from what they refer to as DQP1 to DQP2. Differently from the earlier incarnation, DQP2 was a particular corporate strategy, deliberately embraced by firms, of cultivating a tradition of superior quality to defeat competition. The obligatory character of the previous regime was gone.

### 3. What is left and what is alive within DQP?

DQP has turned out to be a historically specific configuration, whose conditions of existence were probably strictly dependent on the limited price-sensitivity of the markets in which German exporting firms operated. It did not survive the wave of liberalization and cost cutting.

Within CPE, the emphasis on DQP and associated production regime has had the unintended consequence of distancing scholars from the demand-side of the economy and to concentrate analytic efforts almost exclusively on exploring the supply-side conditions of competitiveness. In retrospect, it was a mistake to conclude that the Keynesian battle about the importance of effective demand had been for all purposes lost, and to leave the fight against monetarists and new classical macroeconomists (as well as new Keynesians) to the

heterodox economists. This involved concurring that the economy is pinned down on the supply-side by a non-accelerating inflation rate of unemployment (NAIRU), that the long-term growth potential of the economy depends on demographics, capital accumulation or investment in R&D and human capital, and that politics has a limited impact on economic phenomena.

Political economy needs to put again the level and composition of aggregate demand at the center of analysis and acknowledge that distribution matters for aggregate demand (Baccaro and Pontusson, 2016). At the same time, it also needs to continue Sorge and Streeck's effort to develop an institutional theory of the supply-side. The notion of 'beneficial constraint' is likely to remain key for such a theory (Streeck, 1997), as it underscores the dynamically beneficial effects, in certain conditions, of society placing limits on firm discretion. DQP is one such mechanism, but most likely not the only one.

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# How and why did DQP influence employment relations research?

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Sorge and Streeck's concept of Diversified Quality Production (DQP) has influenced several decades of comparative employment relations theory and research. In 'Diversified quality production re-visited', they engage primarily with comparative political economy (CPE) scholars, who, as they point out, have largely disregarded developments in work organization and human resources that were a central concern of their original framework. In this comment, I will reflect first on how and why Sorge and Streeck's arguments have been influential in employment relations research. I then engage with their updated discussion of the DQP framework, discussing questions their revised analysis raises. I conclude with a call for more engagement between employment relations and CPE scholars, given our preoccupation with many of the same research questions.

## 1. Influence of DQP on employment relations research

Sorge and Streeck's (1988) work on DQP made two major contributions in the employment relations field. First, it was influential in debates on the convergence or divergence in alternative production models, and particularly the 'employment systems' associated with those models, following the economic shocks of the 1970s. A central concern of both researchers and practitioners in the 1980s and early 1990s was with the global diffusion of Japanese lean production, and the possibility for alternative 'post-Fordist' models in different institutional settings. Sorge and Streeck described a distinctive production model in Germany that was rooted in a very different set of social and political institutions from those in Japan. Important here was the insight that flexible production methods and employment practices encouraging some degree of 'flexible specialization' (Piore and Sabel, 1984) would take a distinctive form where workers enjoyed countervailing power based in strong and encompassing collective bargaining and legislated employment protections. Their outline of the characteristics of a particularly German employment system (and its embeddedness in the socioeconomic features or institutions of Germany) has had lasting impact on how comparative researchers describe the traditional 'German Model' of employment relations—as well as how other national models in Europe are described and analyzed.

A second contribution of Sorge and Streeck's work on DQP was to theorize the mechanisms through which German institutions and the production model associated with them could lead

to high—or even superior—organizational performance. These institutions looked particularly rigid when measured against the ideal free markets promoted in neoclassical economics: strong employment protections, centralized wage determination, legislation binding employers to negotiate on the details of work organization with their workforce and strong negotiated rules concerning investment in skills and hiring of apprentices. Sorge and Streeck argued that these could promote more efficient and productive organizational practice because they not only encouraged ‘redundant capacities’ in the form of high and broad worker skills but also social peace and decentralized decision-making. Unlike in the Varieties of Capitalism formulation, employers did not primarily view these institutions as resources to support their competitive advantage in world markets; but still they gained that advantage partially against their will, as it were, via ‘beneficial constraints’ or ‘productive constraints’ that were established and sustained in large part by strong and independent labor unions (Streeck, 1992, 1997).

Sorge and Streeck’s arguments in this area resonated with an assumption that is core to employment relations scholarship: that conflict is at the heart of the employment relationship and containing or subverting that conflict is a central concern of management. Germany’s institutions supported organizational performance in large part because they productively channeled social conflict within a regime of ‘Konfliktpartnerschaft’ to joint problem-solving and mutual gains bargaining with a broadly skilled workforce. The combination of centralized bargaining on distributive topics like wages (channeling conflict away from the shop floor) and strong participation rights on potentially integrative topics like work organization and investments in skills (binding employers to negotiate these with their workforce in a meaningful way) were particularly important during a period when firms were adjusting to rapidly changing markets, technology and production processes. The German DQP model appealed particularly to the more optimistic of employment relations scholars, and to generations of their students, because it seemed most neatly to resolve the theorized tension between equity and efficiency. High productivity and economic competitiveness could be secured through an institutionalized system of ‘industrial democracy’ that gave workers strong voice in management decisions as well as industrial and labor market policy.

Sorge and Streeck’s theorization of these mechanisms was quite influential in how comparative employment relations scholars described the competitive advantages of German-style industrial relations (e.g. Katz and Sabel, 1985; Turner, 1993). It also helped to explain the comparatively poor performance of manufacturing in the more market-based liberal, Anglo-American model during times of crisis or significant technological change. This included most vividly the strikes of the 1970s in the UK and union resistance to changing work practices in the US auto industry in the 1980s, which were viewed as obstacles to technological upgrading and the adoption of flexible, quality-focused production thought to be important for innovation or responding to increasingly differentiated markets.

## 2. Questions raised by Sorge and Streeck’s revised analysis

In their article in this issue, Sorge and Streeck (2018) reflect on their original framework. They argue, first, that there has been a decoupling of the institutions they viewed as complementary to DQP practices, but that, second, background institutions (or an ‘institutional bedrock’) have persisted—and are the basis for the renovation of DQP.

It is interesting that in their revised analysis, Sorge and Streeck focus much less than in their earlier work on describing the ways in which institutions shape human resource practices and



work organization and the mechanisms connecting the employment system to performance. They instead concentrate on German firms' continued strong performance in quality-focused export markets—and rely on case studies to argue that this rests on some degree of continuity in institutional support for quality and 'ambidexterity' in shifting between divergent policies (this issue); as well as these institutions' role in promoting cooperation with 'compliant' unions after the 1990s in re-designing 'value creation systems' to become more competitive (this issue). Notably, where labor relations institutions continue to produce value, this is primarily through encouraging cooperation on wage restraint and concessions based on cutting labor costs (in the context of a stable or depreciating common European currency). In their analysis, DQP has thus shifted to a model that still encourages quality and labor cooperation, but based on partnership without conflict. Or to put it more bluntly, as they do in their conclusion: this issue: 'DQP may remain in place but become interdependent with stagnating wages and stability of the currency, whereas it was previously interdependent with rising wages and appreciating currency values.'

This revised analysis of the features and dynamics of DQP raises two questions: first, what is left of the original DQP model in Germany (and where can it be found)? And, second, to what extent do the mechanisms that Sorge and Streeck originally theorized to link DQP to performance still operate?

Employment relations research from the early 2000s showed manufacturing firms already moving away from the DQP model; but argued there was some degree of hybridization, as acknowledged by Sorge and Streeck in this issue. Jürgens (2003, p. 221), for example, argued that German firms' concentration on DQP at the end of the 1980s 'gave rise to a trend toward excessively complicated, overengineered products;' and showed (along with others) that manufacturing and auto firms moved toward broad adoption of lean production from the mid-1990s—though adapted through collective bargaining to protect worker discretion and control over skills (Jürgens, 2004). More recent research by Benassi (2016) shows that German manufacturing firms have moved further away from this model over the past decade through reducing investment in 'polyvalent' or redundant skills, undermining job stability for even more highly skilled workers—trends that she attributes to the erosion of unions' collective bargaining strength and a shift toward more routinized, standardized production technologies and practices.

Another vein of comparative research has sought to specify where exactly in the German economy you can still find some remnants of DQP—as there is growing internal diversity in both institutional coverage and employment systems linked to those institutions (e.g. Katz and Darbishire, 2000; Bamber *et al.*, 2009; Haipeter *et al.*, 2012). Findings from international comparisons of matched occupations and workplaces show that German firms do often rely on broader worker skills, more flexible working time practices and stronger job security for their core workforce than similar firms in other countries—particularly compared to liberal countries like the USA and UK. However, this is uneven, with a particularly large gap between pay and conditions in core jobs and more peripheral jobs held by temporary, outsourced and posted workers (e.g. Bosch and Weinkopf, 2008; Batt *et al.*, 2009; Wagner and Lillie, 2014; Wagner and Refslund, 2016; Pulignano *et al.*, 2016).

There is not space here to review the findings of this large body of research. However, a broad conclusion that can be drawn is that those German firms that do continue to invest in a DQP-style employment system typically have strong and independent works councils backed by collective agreements with unions. For example, I found that in large, older telecommunications firms like Deutsche Telekom, call center workers, used their co-determination rights to

negotiate strong limits on monitoring and discipline, and to give workers control over their working time. This limited the options available to managers; and so encouraged them to adopt an alternative employment system that improved efficiency and sales based on broad skills and professional discretion rather than through the ‘discipline and punish’ model more typical of call centers (Doellgast, 2012). This did look a lot like DQP. However, this employment system and the collective agreements that underpinned it were constantly under pressure as managers sought to cut costs and intensify monitoring. Indeed, Deutsche Telekom’s union and works councils were forced to negotiate significant concessions to avoid or reverse outsourcing to German subcontractors with lower pay and a more narrow division of labor; and had to use their co-determination rights in creative ways to re-establish some local control in areas like working time flexibility (Doellgast and Berg, 2018).

These findings suggest that a critical dynamic shaping employment systems in Germany today is not partnership without conflict; but rather unions’ struggles to sustain worker voice and some balance of interests in the employment relationship in the face of a significant shift in power toward employers. This shift is due to the erosion of encompassing institutions and employers’ increased ability to threaten ‘exit’ through relocation or externalization of jobs (Greer and Doellgast, 2017). Unions have adopted some successful strategies to re-regulate; for example through the IG Metal campaign against agency work (Benassi and Dorigatti, 2015). However, the dynamics of these campaigns show that German workers do rely heavily on conflict-based strategies to sustain or extend past gains—particularly across the production networks of large firms.

This brings me back to the question of what is left of the original DQP production model. I would argue that the most durable insights from Sorge and Streeck’s earlier work are that strong, encompassing institutions once embedded a range of practices based on redundant skills, worker involvement in decision-making and industrial peace based on a close equivalence of power in the employment relationship more uniformly across the German economy. Where these institutions have been successfully defended by unions at firm and workplace level, they support many of the same flexible models of work organization Sorge and Streeck described in their body of work on Germany. To secure labor cooperation in these settings, employers are bound by collective agreements to respect worker discretion and invest in skills, with work organization based on flexible deployment of those skills. Employers may also continue to use these practices or adopt this model where workers individually have strong countervailing power due to having high or scarce skills; or in firms and industries relying on rapid innovation and what Sorge and Streeck call ‘ambidexterity’.

At the same time, this exists alongside this a different model (often within the same firms or across their production networks) that secures labor cooperation in a way that is meaningfully different from the original DQP model. This alternative model is based on top-down discipline and control, via exploiting expanding exit options and divisions in the workforce through outsourcing to more precarious groups of workers (Doellgast *et al.*, 2018). Employers in more liberal, market-based economies have long had access to both modes of securing labor cooperation, and exploited them via dual labor markets and outsourcing. Comparative research bears out that German firms probably still are more likely to incorporate elements of the original DQP model in their employment systems—due to a combination of some degree of stability in co-determination institutions and the continued quality focus of firms. However, they can use (and increasingly are using) fear of job loss and divisions within the workforce to undermine worker power and adopt flexibility on their own terms rather than through

negotiated forms of flexibility that rest on compromise. In this sense, the insight that has often been drawn or inferred from the earlier work of Sorge and Streeck—that the beneficial constraints were primarily constraints secured by a strong labor movement—has been borne out by recent developments. This is less evident in their revised analysis here, which argues that the renovation of DQP in Germany is based more on residual labor cooperation than residual labor power and conflict-based strategies to sustain that power.

My second question follows from the first: if we can accept that there is something left of DQP in Germany (although increasingly confined to particular firms and workplaces) to what extent do the mechanisms Sorge and Streeck originally theorized to link DQP to performance still operate? The original DQP model relied on complementarities or ‘elective affinities’ across institutions, practices and outcomes. It was thus possible to emphasize mutual reinforcement and causation—and explain the economic advantages of DQP as tightly linked to the factors that supported a particular set of institutions and practices at the level of the organization embedded in society. However, as these practices become less tightly coupled, or as changes occur in one or more of the links in a ‘virtuous circle’, it is more challenging to tell a straightforward story about what role any remnants of DQP play in shaping performance.

Sorge and Streeck argue here that German institutions continue to support quality, but more unevenly to support nonroutineness—primarily based on the ability to shift between large batch production and customization. Nonroutineness was a particularly important feature of ‘flexible specialization’ in Germany because it was seen as benefitting from decentralization of decision-making to the local level. However, it is much less important within an adapted ‘lean production’ model that can produce customized products and services on the basis of standardized production methods and technology. This suggests that the kind of deep democracy at work that German institutions supported may no longer create as significant (economic) value relative to the centralized decision-making structures that are increasingly common within large German firms. Sorge and Streeck discuss this tension; however, I think they have underestimated the conflict that it is creating within organizations that still have strong works councils fighting to preserve local co-determination rights and structures. Rothstein (2017), for example, shows that MNCs in Germany increasingly fight for greater centralization of decision-making often via taking on works councils in the courts—undermining long traditions of cooperation at local and company levels.

It is an open question whether German firms will suffer unanticipated costs of the shift from cooperative decision-making relying on employee involvement to top-down, management-led decision-making and more conflictual labor relations. Certainly it is an important dynamic that undermines the central mechanisms that Sorge and Streeck theorized to be distinctive in linking DQP to performance. German firms’ ability to continue to compete on the basis of quality perhaps can be explained in part by the combination of more continuity in traditions of skill investment and strong occupational identity in certain labor market segments; as well as increased insecurity and union decline across the economy. The kind of labor cooperation that was a pre-requisite for productive industrial upgrading (and the basis for competitive advantage) can be secured in a range of ways today—and perhaps is no longer tightly linked to the DQP-style mechanisms. It also may be connected with the dynamics of diffusion of standardized technology and best practice that are discussed in more detail by Sorge and Streeck in this issue: polyvalent skills become less important supports for flexible production (e.g. Benassi, 2016); and redundant employee involvement is less important for perfecting already highly efficient production methods.

### 3. Conclusions

Sorge and Streeck's updated discussion of DQP covers much more ground than I am able to do justice to in a short comment; I rely on the expertise of other colleagues contributing comments to address the broader issues they raise. I have tried to bring out some of the ways in which Sorge and Streeck's earlier work and this revised discussion speak to ongoing debates in employment relations. Comparative employment relations research arguably has been more influenced by their original DQP framework than has the recent comparative political economy literature on varieties of capitalism or (more recently) labor market dualization and liberalization in coordinated countries. Perhaps this is because we moved earlier away from the notion of encompassing national models; and have a long tradition of producing more differentiated analyses at industry and local, company levels concerning the micro-politics of collective bargaining that are re-shaping production models. This focus found more natural affinity with the dynamic, politically grounded explanations for the relationships between institutions and organizational practice developed by Sorge and Streeck. For this reason, it is troubling that there has been so little direct and engaged recent dialogue between comparative employment relations and comparative political economy scholars. There is a lot of scope for productive exchange between our fields to answer the questions posed so thoughtfully in Sorge and Streeck's article—particularly regarding the prospects for a model of organizing production that creates value in a way that is more broadly shared across the workforce.

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## Internationalizing diversified quality production?

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### 1. Introduction

Around three decades ago Arndt Sorge and Wolfgang Streeck (Sorge and Streeck, 1988; Streeck, 1991) identified the concept of ‘diversified quality production’ (DQP) as a distinct

form of work organization. Developed primarily in Germany, it stood in contrast to ‘mass’ or ‘lean’ production associated with the USA and Japan, respectively. The authors used the term ‘diversification’ to refer to ‘nonroutineness’ in that products were not standardized or homogenized, while ‘quality’ referred to ‘the use-value rooted in durability and reliability, on their contribution to capital productivity on the part of the buyer and user, or any other intrinsic value of the product down to the symbolic and status-enhancing value of a brand’ (2017, p. 2). The combination of this emphasis on diversification and quality was the development of a unique ‘system of value creation’ which rested on institutional supports. As they put it in their recent return to this issue:

a DQP strategy was not only dependent on the volition of individual enterprises but rooted in an array of institutions in a society. Such an array of institutions enabled and instigated actors to pursue the strategy, so that it became both more feasible at the level of an enterprise and more prevalent in a socioeconomy (Sorge and Streeck, 2017, p. 2).

Indeed, all production or value creation systems rest on institutional supports to some degree. Mass production requires a market of scale and a pool of semi- or unskilled workers who were relatively cheap and controllable. Lean production requires close collaboration between firms in a supply chain. The conditions required to support DQP were, as Sorge and Streeck put it, focussed on the generation and provision of ‘redundant capacities’:

diversification and customization of products and services for market segments attentive to quality and customization, notably in more changeable task environments, needed a surplus of competencies because the uncertainty of existing and evolving demand made a precise prediction of competencies needed impossible (2017, p. 4)

In the German case, these supportive institutions included: vocational training that produced a broad base of skills, even among operators who might be classed as unskilled in other countries; organizational structures that promoted overlapping job roles and functions as opposed to narrowly segmented roles; the decentralization of authority for decision-making and support for compromises between management and workers that led to ‘social peace’.

These conditions were largely fulfilled by the German institutional environment until the end of the 1980s, though the changes since—arising from reunification, the process of monetary union and increasing foreign investment amongst others—demand a re-evaluation. Sorge and Streeck (2017) themselves argue that the institutions in Germany have become rather ‘uncoupled’ from each other, partly as a result of internationalization. In this contribution, I pick up this issue of internationalization, particularly the way in which German multinationals have expanded into other countries and what this means for the viability and prevalence of DQP, both in Germany and elsewhere.

## 2. Germany and internationalization

For three decades or so from the 1950s, the success of the German economy was partly attributed to ‘export-led growth’ (Jackson and Sorge, 2012) involving production of high-quality products being concentrated in Germany and exported to serve niches within markets in other countries, a strategy that meshed perfectly with what Sorge and Streeck came to characterize as DQP. While Germany remains a net exporter, a clear trend has been

toward more foreign direct investment (FDI) from Germany from the 1990s onward, particularly the acquisition of firms in other countries. The UN's World Investment Report (2016) demonstrates that while the stock of total FDI from developed economies increased slightly less than three-fold between 2000 and 2015, in Germany it increased nearly four-fold, overtaking the UK in the process to become the second largest source of outward FDI behind the USA. This expansion has been associated with a 'produce where you sell' strategy (Herrigel, 2015), representing an erosion of export-led growth.

There is some evidence that German MNCs manage their international operations in a way that is different from those of other nationalities, particularly those of US origin. US firms internationalized in such a way that exploited the range of professionalized and generalizable management competencies that resided in well-resourced corporate headquarters, managing their international operations as extensions of those in the country of origin and exerting a high degree of centralized control over such issues as work organization, skill development and employee involvement (Ferner *et al.*, 2004, 2013). In contrast, the expertise and competencies residing in the headquarters of German MNCs were nationally specific, particularly in the human resources (HR) function where those pursuing a career in this area often possessed knowledge of legal or institutional matters that had little applicability outside Germany (Ferner and Varul, 2000a). These factors have led German MNCs to adopt a more decentralized approach than their US counterparts (Ferner *et al.*, 2013).

Accordingly, the evidence concerning the extent to which forms of work organization and skill development are 'exported' by German MNCs indicates that there has not been the equivalent of the concerted and systematic attempt to transfer US-style practices to the foreign operations of US MNCs. However, there is considerable variation in the extent to which German-style practices are deployed in the foreign operations of German MNCs.

One line of argument is that they have actively embraced more liberalized institutions, absorbing the practices that are characteristic of such environments and spreading them across their operations, including back into Germany. One aspect of this has been that they have encouraged actors in their British and American operations to lead on the development of new international policies, with these taking the form of such issues as the devolved profit centers with responsibility for bottom line results, and in the HR field, such issues as performance-related pay. For some, this has taken the form of 'Anglo-Saxonization' (Ferner and Varul, 2000b). While these developments did constitute departures from the German model, it was not clear that German firms engaged in such processes were doing away with DQP in particular, and even less clear that new forms of 'production system' or 'value creation system' were replacing it.

A different body of evidence suggests that some German MNCs have tried to recreate German practices despite the differences in the institutional context. For instance, there is evidence that the acquisitions of UK firms by German MNCs were followed by an increase in resources to, and an increased focus on, training. This suggests that a 'culture of training' and skill development was prioritized by this group of firms even where the institutional context was markedly different from that in the home country (Faulkner *et al.*, 2002; see also Edwards *et al.*, 2007). Some German MNCs have gone even further and sought to recreate the apprenticeship system in their US operations (Fortwengel and Jackson, 2016). Fortwengel and Jackson argue that a form of 'networked institutional entrepreneurship' was used to overcome the 'institutional distance' between the two countries, in which a

particular form of training leading to apprenticeships was coordinated across firms within a locality, being led by the German multinational.

These sources point in different directions, though they are not mutually exclusive or incompatible. There may of course be different things happening in different companies. For example, some German multinationals might be ‘reverse diffusing’ particular management structures and forms of management remuneration, while others will be ‘forward diffusing’ ways of developing skills in their workforce. One element of the variation between firms concerns on which norms and practices a multinational looks to base its international approach, while another concerns the extent to which there is a standard international model of production. The upshot is multiple sources of variation in German MNCs that cannot be understood only in terms of institutional constraints; rather, understanding this variation requires us also to analyze the different strategic approaches that MNCs can take.

### 3. Strategies in German MNCs

The variation that firms exhibit in terms of whether they have a standard model of production and work organization should be seen in the context of the variation in the extent and nature of the ways in which MNCs build linkages among their international operations (Edwards *et al.*, 2013; Dicken, 2015). Drawing on Edwards *et al.* (2013), we see integration as occurring at different levels within the multinational firm. ‘Upstream’ issues concern the strategy of the firm and how it is configured, including the extent to which the operations across borders are similar or different and the ways in which business activities are inter-linked across countries; ‘downstream’ issues concern the extent of a transnational dimension to employment practice and work organization in MNCs. These levels at which integration can occur are nested within one another, albeit partially.

Concerning upstream issues, MNCs may choose not to derive synergies in production across their operations internationally but instead seek to realize financial economies from the operation of an internal capital market. Where this is the case at the ‘upstream’ level of core strategy, the implications are that there will be little in the way of a transnational dimension to employment and work organization. While such an approach used to be fairly common within the diversified conglomerate structures of many British MNCs, for instance, there appear to be relatively few MNCs that pursue such an approach nowadays (Edwards *et al.*, 2007). Instead, the vast majority of MNCs appear to derive synergies from integrating their operations internationally, which they can do in two main ways (Edwards *et al.*, 2013).

Among MNCs that seek to integrate at the upstream level, some do so through ‘segmentation’, with local operations having distinct roles, reflecting the advantages of the host country, such as low-cost labor, or the availability of specialist skills. National operations supply others, are supplied by others, or both, resulting in the MNC being linked through webs of interdependent units, creating synergies from vertical integration. Each national subsidiary is a distinct segment of an integrated production process. Such international integration operates not only in many parts of manufacturing nowadays but also increasingly in services, for example, call centers, medical transcription and typesetting in publishing. In some ways, ‘segmentation’ limits the attractiveness of internationally standardized policies given that the technologies deployed and the occupational profile of each site differed markedly. Such MNCs may use international management networking to promote the smooth



exchange of components and knowledge across countries, but they are unlikely to transfer forms of work organization in order to arrive at a globally unified model. *Sorge and Streeck (2017)* draw on *Herrigel's (2015)* analysis of German MNCs to argue that they are increasingly segmenting their operations across borders, which they describe as an 'upgrading of competence in the German sites within an increasingly complex distribution of functions in the value chain over sites and countries' (2017, p. 16). This is an important point since it implies that where strategies of internationalization are based on attempts to segment their operations across borders then a unified model of DQP is unlikely to be deployed across sites. This is not to say that DQP will be eroded entirely since it may be present in some sites, but it does suggest that it will not be a universal element of the way German MNCs operate.

Other MNCs achieve a degree of integration through 'replication' whereby local operations perform similar functions as each other, have comparable technologies and occupational profiles, serve a local market, thereby creating synergies from horizontal integration. In this scenario, the roles of national operations are similar to each other and the multinational expands by replicating what it does in other countries. In some sectors there remain significant pressures for a local operation to serve a local market, such as the perishable nature of some food products and the immediacy of the relationship between firm and consumer in sectors such as hospitality. Indeed, it is these pressures that are partly behind the 'produce where you sell' strategy noted by *Herrigel (2015)*. Where MNCs adopt a highly replicated form of integration at the upstream level, the incentives for managers to develop a transnational dimension at the downstream level are significant. Since production routines are very similar across countries, managers can more readily compare processes and outcomes cross-nationally, while the scope for standardizing the nature of work organization is significant. In this scenario, the conditions for German MNCs to develop a standard international model of DQP is significant.

#### 4. Summary and Prospects

*Sorge and Streeck's (2017)* own re-evaluation of DQP stresses the ways in which it has become 'decoupled' from the institutional context in the last two and a half decades or so. This assessment could be tested further in a range of ways, including through a major program of comparative research, for it to become firmly established. If it is the case that there has been a process of 'decoupling' from a distinct institutional context then it would appear that there is more scope for firms seeking to implement DQP in other countries to do so. On this basis, the nature of the internationalization strategies of firms is crucial in understanding the extent to which DQP is likely to spread or shrink in its prevalence.

It is clear that German MNCs, like all MNCs in fact, differ from one another in crucial ways. The conditions in which they are most likely to develop an international model of production based on the export of home country practices appear to be that they both perceive German practices to be superior to those of other countries and that they achieve international integration through 'replicating' their operations. Even here, a truly standard model of DQP would face challenges arising from institutional variation across countries, notwithstanding *Sorge and Streeck's* point concerning the 'decoupling' of DQP from the institutional context. Given this, it is unlikely that many German MNCs will engage in a wholesale export of DQP.

Rather, the most likely picture is one of considerable complexity. Some German MNCs appear to have become strongly influenced by norms and practices developed outside of the

home country, particularly the USA; others see the German economy as continuing to provide important resources that they use in their international operations. Moreover, their strategies in relation to integration differ, and this creates varying consequences for such 'downstream' issues as the transnational dimension to employment practice and work organization. Viewed in this way, there is likely to be considerable variation in the extent to which DQP is a viable part of the international production models of German MNCs. In this respect, as perhaps in many others concerning contemporary Germany, the trend seems to be toward greater heterogeneity.

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# Exporting Germans, then and now

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‘If only it weren’t for the people, the goddamned people,’ said Finnerty, ‘always getting tangled up in the machinery. If it weren’t for them, earth would be an engineer’s paradise.’

—Kurt Vonnegut, *Player Piano* (1952, p. 332)

## 1. Exporting Germans, then

My role here is to comment on the lessons we can learn from Wolfgang Streeck and Arndt Sorge’s thinking on the concept of Diversified Quality Production for political economies that are *not* Germany. I should add that I have some autobiographical expertise on the subject because it was the export of that concept—and, for a period, of Streeck himself as well—to the USA that first enticed me to study of socioeconomics a quarter century ago. I was at the time—this was 1991—an undergraduate at the University of Wisconsin-Madison. I had learned of a part-time administrative position that had just opened up in a research center that had been founded the year before by two sociology professors named Joel Rogers and Wolfgang Streeck. I applied, got the job, worked in an administrative role until I got my bachelor’s degree in math, and, some years later when I returned to University of Wisconsin-Madison to get a PhD in sociology in 1995 (just after Streeck had returned to Germany), worked there again as a researcher on a variety of projects.

The research center was described cheekily but accurately by its founders as a ‘think-do’ tank, and was called the Center on Wisconsin Strategy (COWS) because—as Rogers told me—you want an acronym people can say and remember (and who in Wisconsin cannot say and remember ‘COWS’). The founding faculty had assembled a team, which consisted in analyzing the state of skills and training in Wisconsin’s manufacturing sector, writing reports and such. The doing spun, then, from the thinking and consisted in efforts to organize state lawmakers, unions and employers as they sought translate lessons gleaned from studying Germany into institutional change in a metalworking industry in and around Milwaukee rife with firms struggling to adjust to what Piore and Sabel had dubbed the ‘Second Industrial Divide’.

COWS various studies argued that Wisconsin’s metalworking industry was unlikely to find or generate the skills to harness many of the quality and productivity improvements made possible by the spread of CNC (computer-numerically-controlled) machining *unless* a quorum of firms could be induced to engage in a different sort of ‘capitalist collective action’ than was typical of American capitalism (then or now). This was not, to be sure, a new *kind* of problem. Even before we all learned that the USA was the archetype of a particular variety of capitalism, it was common knowledge among interested observers that the American worker-training regime had not always served American manufacturing industries well.

Workers were rationally worried about investing in higher-level skills when things were changing rapidly both because they doubted their ability to predict what will get them a better job and because they worried about their ability to convince employers that they are in fact proficient when there is not clear credentialing of skill standards. Nor was it a mystery that American employers, though they had the best information about what skills they are likely to need, often refused to pay for less firm-specific training when they worried that anyone they trained would end up the street at a competitor with a raise.

The COWS brain trust believed, however, that the moment was right to set Milwaukee's metal manufacturing industries on a different course for reasons that Streeck had extracted from his analyses of the German model of diversified quality production. The core of that logic—as is clear in the article I am commenting here—had emerged piecemeal across a decade or so. They have summarized it again above, of course, but to my thinking it is worth reminding also of a prior summary, in a 2004 conversation in the pages of this journal. Streeck, in that summary, explained to Erik Olin Wright, and Euclid Tsakalotos that he had across years of writing been trying to exploit the ‘theoretically under-exploited empirical observation . . . that institutions, policies, traditions etc. that were clearly not created for economic reasons and with economic efficiency in mind, may turn out to be sources of superior economic performance and competitiveness’ (Streeck, 2004, p. 426). The implications he had drawn, at least at the time, were: first that ‘if and in what way a socio-economic task environment is potentially profitable for firms operating under specific constraints is at least as much a matter of practical discovery, and even “construction”’; and second, that the kind of ‘long-term upgrading of the economic and organizational capabilities of firms that is caused by competitive product markets’ can also be caused, ‘and in basically the same way’, by a sort of ‘social and political regulation’ he referred to as ‘beneficial constraints’ (Streeck, 2004, p. 429).

A belief in the possibility of such discovery, of such constraints, had led Streeck, Rogers and the allies they had assembled in state government and the unions to focus their attentions toward a core group of well-resourced and unionized firms for two main reasons. They knew that though large organizations do not change quickly or easily their size also offered the chance of critical mass, of a large enough base of employers to institutionalize a training regime and skills standards. They also saw a lever that ran across those firms: the unions in Milwaukee metalworking firms had over the years mostly won strong seniority bumping rights that—the thinking out of COWS went—could plausibly be turned from a barrier to upgrading and the embrace of diversified quality production in Milwaukee into, instead, the right kind of social and political constraint.

Those rights gave workers with longer tenure the ability to claim positions on the factory floor so long as they could perform the task to some minimum (and bargained) standard. They offered employment protection of a sort for the workforce that, not coincidentally, elects union leadership as opposed to those who might potentially be hired. They could be functional for firm productivity insofar as they gave an incentive to workers to acquire firm-specific skills, but they also made more radical changes to productive organization complicated for managers and workers alike. Management also knew there were many in the incumbent workforce who possessed a breadth of skill that was essential to their ability to compete, so just closing and moving elsewhere was not feasible. Still, they had trouble recruiting workers that had acquired skills with the new technologies because, as new hires, they could not be assured quick promotion. Their incumbent workforces and their unions were not, meanwhile, averse to retraining since they realized they all lost their jobs if their

firms went under. But they had not forgotten that productivity gains in American manufacturing had translated in the recent past into layoffs in labor markets where, because skills tended to the firm-specific, the next job would pay less than the last one.

The negotiations that ensued were protracted, often tense, and to discuss them would run far beyond my scope here. The relevant theoretical upshot, though, is an organization called the Wisconsin Regional Training Partnership (WRTP) that was not quite what anyone had envisioned at the outset was born.<sup>1</sup> The WRTP did not exactly bring about the German model in Wisconsin, but it did grow from a dozen large union shops covering 10 000 or so workers in 1992 to 125 employers covering about a third of Milwaukee's industrial workforce in the space of a decade. It has in fact served as a beneficial constraint, with [Bernhardt et al. \(2004\)](#) reporting that member firms saw rising productivity and wage growth in part because they were induced to increase their direct training costs to 'some \$20 million annually—an increase of almost that magnitude from prior levels'. And while it has in the years since evolved, and serves different functions, it persists and matters in Milwaukee's labor market to this day.

## 2. Exporting Germans, now

Sorge and Streeck are revisiting their past thinking and, so far, so have I. I have tried to highlight the *agentic* implications of the identification in the 1990s by Sorge, Streeck and fellow travelers of the link between institutions and production systems that gave us the concept of diversified quality production. I have done so by highlighting an element of that thinking—its implications for those searching for 'wiggling space' for entrepreneurial opportunism' to exploit 'social and political regulation' to drive the 'long-term upgrading of the economic and organizational capabilities of firms' ([Streeck, 2004](#), pp. 429, 432)—that is to my read underplayed in what they have written in this issue. So, in this second section, I want to try extracting some agentic implications from their revisit. Or, put differently, I want to ask whether the adjustments they make in light of two decades of events give contemporary searchers for wiggling space new or different guidance. The answer, I think, is that it does. But I offer that judgment only with a caveat: I worry that Sorge and Streeck are sometimes guilty in this revisit of a bit of conceptual slippage that, though correctable, must be borne in mind.

They write in this issue of *Socio-Economic Review* that their initial formulation was limited by a near exclusive focus on 'the non-routine elements of DQP' which led them, in turn, to miss 'how central [the] interaction [of the non-routine] with equally present and important routine production capabilities was to the concept'. They pardon themselves, reasonably, since they could not in the absence of time travel see empirical variation in the German model that, though yet to occur, they now think quite important. They observe in particular that the export prowess of German firms has relied for many years on their demonstrated ability to 'move from routine to non-routine production and combine both.' And they root that ability in what they describe as perhaps the 'most striking continuity with the past' they have observed, which is that those firms 'seem [consistently] to have given more attention to the redesign of operations systems than firms in other countries, with the aim of maintaining industrial production in the country of origin' ([Sorge and Streeck, 2018](#)).

1 My direct supervisor when I was an undergraduate at COWS was the late Eric Parker, who was then a PhD student and who went on to direct the WRTP (described below). Eric passed away, too young, in 2007 but left a legacy in the WRTP and the many lives he touched.

They are rightly impressed by that continuity across so much change in the institutions that shape the strategy of manufacturing firms in Germany—ranging from unification, a more pronounced dualism, the possibility of semi-internal relocation and so on—and learn from it, among other things, ‘that [institutional] complementarities should be reconsidered as a conceptual tool in political economy and socioeconomics.’ They conclude, in my view soundly, that we can know as a result that complementarities are ‘truly ‘historical individuals’ that may at some moment be very real and consequential, but that also ‘have their time and are inevitably replaced by new, other individuals, whatever continuity may exist’ (Sorge and Streeck, 2018; this issue). So, when they see that German businesses today draw on a historical heritage and use it as a resource out of which to develop new responses to changed circumstances’ they infer that ‘DQP Mark II’ reflects ‘changed but similar policies of diversification and quality, promoted more by self-interested enterprises rather than by institutionalized beneficial constraints’ (Sorge and Streeck, 2018, this issue).

To here, I am on board. My worry, though, is that in the pages that precede this comment, Sorge and Streeck do not just allow in their theory a looser coupling between institutional configurations and the propensity to move between and recombine routine and nonroutine production than they had in their previous writing. They also infer ‘Institutions still matter under DQP Mark II, *but as enabling resources rather than constraining strictures.*’ (emphasis added). And this, I fear, is too suggestive of what the pragmatist in me recoils at, which is a conceptual dualism, of a distinction that is less ‘instrumental and practical’ than indicative of a ‘radical existential cleavage in the nature of things’ (Dewey, 1905, p. 326). But, in fact, the question of whether the institutions in question enable or constrain is by definition a matter of perspective. Sorge and Streeck are, for instance, well aware that the ‘constraining strictures’ of the past of the past were enabling resources for German unions while today those enabling resources for German firms rely on institutions (like the European Union) that allow for wage restraint.

This implicit dualism does not perhaps matter much in the context that Sorge and Streeck have set for themselves. They are arguing that German firms have in effect learned that investing in the redesign of their operations systems and no longer needed to be constrained to do so while reminding that those firms rely nonetheless on other German institutions that constrain others to compete. It does, however, need to be set aside if we want to export the model—or, really, its lessons—once again by remembering that theory typically ‘tends to be more conservative than practice, often declaring a priori impossible what it later has to come to terms with as empirical fact’ (Streeck, 2004, p. 429). Those of us who are looking at other places can and should still be looking for the institutional resources that enable some agents to constrain others. And, if we do, we can learn from reflections like this one that the continued redesign of production system—if it can be somehow encouraged—might offer a path to sustained industry even for places that do not look much like Germany but which might still want to import an idea or two.

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