



UvA-DARE (Digital Academic Repository)

Introduction: Supply chain governance and regional development in the global economy

Zeitlin, J.

Published in:
Industry and Innovation

DOI:
[10.1080/1366271042000200420](https://doi.org/10.1080/1366271042000200420)

[Link to publication](#)

Citation for published version (APA):

Zeitlin, J. (2004). Introduction: Supply chain governance and regional development in the global economy. *Industry and Innovation*, 11(1/2), 5-9. <https://doi.org/10.1080/1366271042000200420>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

This article was downloaded by: [UVA Universiteitsbibliotheek SZ]

On: 17 June 2012, At: 11:26

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Industry and Innovation

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/ciai20>

Introduction: Supply Chain Governance and Regional Development in the Global Economy

Jonathan Zeitlin^a

^a University of Wisconsin-Madison, 3460 Social Science Building 1180 Observatory Drive, Madison, WI, 53706, USA

Available online: 14 Jul 2010

To cite this article: Jonathan Zeitlin (2004): Introduction: Supply Chain Governance and Regional Development in the Global Economy, *Industry and Innovation*, 11:1-2, 5-9

To link to this article: <http://dx.doi.org/10.1080/1366271042000200420>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

INTRODUCTION: SUPPLY CHAIN GOVERNANCE AND REGIONAL DEVELOPMENT IN THE GLOBAL ECONOMY

JONATHAN ZEITLIN

There is wide agreement that the dynamics of manufacturing supply chains have become increasingly critical to the fate not only of low-wage regions in developing economies, but also of long-established high-wage regions in North America and Europe, such as the US Midwest, Piedmont (Italy), and Baden-Württemberg (Germany). More controversially, many scholars and practitioners have argued that current trends towards vertical disintegration of production, coupled with rising demands for continuous improvement in quality, flexibility, cost, and design, create new opportunities for the emergence of mutually beneficial collaborative relationships between large original equipment manufacturers (OEMs) and smaller component suppliers that are potentially capable of sustaining industrial employment in high-wage regions. But many participants in these discussions also recognize that how far such mutually beneficial possibilities may be realized in any specific case is not determined simply by the evolution of transactional relationships between individual firms (large and small) in the marketplace. It depends crucially as well on the governance arrangements available for resolving common problems across firms and supplying the collective goods needed to sustain a decentralized production system—including but by no means limited to supplier training and development. Hence throughout the industrial world, across developed and developing economies alike, local and regional authorities, OEMs, component manufacturers, and other interested stakeholders such as labor unions and trade associations have been experimenting with new institutional arrangements for supply chain governance—sometimes public, sometimes private, and often mixed.

This special issue of *Industry and Innovation* originated in an international conference convened to take stock of these developments at the University of Wisconsin–Madison in September 2002 by the Advanced Manufacturing Project (AMP), an inter-university research consortium funded by the Alfred P. Sloan Foundation.¹ Participants in this conference, who included academics, business people, and

¹ Principal investigators in the AMP consortium are Susan Helper (Case Western Reserve University), Gary Herrigel (University of Chicago), Daniel Luria (Michigan Manufacturing Technology Center), Joel Rogers and Jonathan Zeitlin (Center on Wisconsin Strategy, University of Wisconsin–Madison). AMP research in Wisconsin has also been supported by the Wisconsin Manufacturing Extension Partnership (WMEP). The September 2002 Madison conference was co-sponsored by the university's Center on Wisconsin Strategy (COWS) and Center for World Affairs and the Global Economy (WAGE). Papers, presentations, and background materials are available at <http://www.cows.org/supplychain/>. The papers by Whitford and Zeitlin, Herrigel, Sabel, and Negrelli were also presented to a follow-up conference at the University of Turin on 28 February–1 March 2003.

public officials from the USA, Mexico, and Europe came together to address three inter-related themes:

1. The general shift in the character of outsourcing by large OEMs in sectors such as autos, construction and farm equipment, industrial machinery, and electrical and electronic equipment, characterized broadly as a move from capacity subcontracting (where external sourcing supplements OEMs' own in-house production capabilities) to specialized subcontracting (where customers rely on component suppliers for inputs they do not themselves command, often including technological and design expertise). How far and in what ways is this shift occurring across different sectors and regions?
2. Problems of cooperation between large OEMs and suppliers in areas such as product development, logistics, and cost reduction. How do customers and suppliers in different sectors and regions negotiate power imbalances in their relationship and overcome internal organizational barriers to effective collaboration?
3. Efforts on the part of OEMs, trade associations, labor unions, and public agencies to help supplier firms successfully make the transition to the new form of subcontracting. What are the strengths and weaknesses of different organizational models of supplier development, training, and restructuring currently being pursued across US states and European regions, from large firm and government-led approaches to consortial and associational initiatives? And how can policy makers and other concerned actors best ensure that the effects of supply chain restructuring prove beneficial for regional economic development, manufacturing employment, and workforce outcomes?

The papers in this special issue build on the conference discussions and tackle these issues from varied and overlapping theoretical perspectives and geographical standpoints. The opening papers by Josh Whitford and Jonathan Zeitlin, and by Gary Herrigel, all members of the AMP consortium, provide an overview of current trends in supply chain restructuring, examining the interactions between the changing strategies of OEMs and suppliers, the implications for inter-firm collaboration, and the institutional arrangements for the governance of decentralized production emerging in different regions. Taking off from field research in the US upper Midwest, Whitford and Zeitlin observe that many large OEMs are actively seeking to improve collaboration with suppliers by sharing strategic information, engaging in joint design, and assisting with the reorganization of the latter's operations. Many small and medium-sized suppliers are likewise developing new positive adjustment strategies in response to OEMs' demands for enhanced responsibilities and services based on various combinations of specialization and diversification. But contrary to optimistic scenarios of a "self-actualizing" transition to a "new production paradigm", Whitford and Zeitlin also find that pervasive organizational conflicts and dysfunctions within OEMs, combined with longstanding weaknesses in the capabilities of the supplier base, create systemic barriers to the fuller development of cooperative relations between them, which cannot easily be overcome without assistance from external actors and institutions. The authors then focus on one such policy experiment in which they have been directly involved, the Wisconsin Manufacturers' Development Consortium, to illustrate the viability of institutional solutions that can help resolve inter- and intra-

organizational blockages, while encouraging firms (both large and small) to follow through on the collaborative supply chain strategies they ostensibly espouse.

Herrigel's paper broadens the canvas by considering a wider range of geographical regions, firm strategies, and governance mechanisms. Drawing on interviews with OEMs, suppliers, unions, trade associations, and public officials in Europe and the USA, as well as on presentations by practitioners to the September 2002 AMP conference, Herrigel emphasizes the diversity of firm strategies and institutional arrangements for supply chain governance currently being pursued in high-wage manufacturing regions. Relative to the preceding paper by Whitford and Zeitlin, Herrigel places greater weight on the multiplicity of strategies currently being pursued within both OEMs and suppliers—which often combine elements of collaborative and arm's length relations—and the systematic reproduction of such heterogeneity through reciprocal interactions between firms operating in volatile and uncertain markets. Herrigel also identifies a series of critical governance problems associated with the vertical disintegration of production from OEMs to suppliers, notably access to development capacity and benchmarking services, as well as diffusing the ability to combine quality improvement, cost reduction, and the provision of new customer services. These problems, he shows, are being addressed in different regions through a wide variety of institutional forms, both public and private, involving corporate, associational, consortial, and market-based mechanisms. Herrigel suggests that some of these governance arrangements, like supplier training consortia and intra-corporate technology and consulting services, are more effective than others in promoting communication and learning through monitoring, though so far only among a relatively limited circle of participants. But none of these institutional forms, Herrigel contends, so far appears to offer much leverage on what he considers the most severe problem confronting component manufacturers in high-wage regions today: the relentless price squeeze imposed by OEMs on their suppliers in the context of weak demand and global overcapacity, which threatens to destroy the diffused capabilities and know-how required for sustaining a decentralized production system.

Both the Herrigel and the Whitford and Zeitlin papers develop their arguments through a critical dialogue with the “pragmatic collaborations” (PC)/“learning-by-monitoring” (LBM) approach to customer-supplier relations developed by Charles Sabel and elaborated in a joint article with Susan Helper and John Paul MacDuffie (Helper *et al.* 2000). Sabel responds to this discussion among friends (who have published together in the past and continue to work together closely) by reinterpreting the findings of the preceding papers from a LBM perspective, while at the same time clarifying his own position and highlighting open issues for further investigation. Thus Sabel accepts Herrigel's claim that customer-supplier relations in manufacturing are not tending to converge on a single stable equilibrium model. But he attributes the observed diversity of OEM and supplier strategies primarily to the uncertainties created by iterated co-design or provisional parsing of complex products into revisable “chunks” of parts (misleadingly termed “modules” in Helper *et al.* 2000), rather than to hedging across portfolios of projects in different stages of development or power imbalances between the transacting parties (which Sabel sees as a secondary complicating factor even in the collective action problem of overcapacity and price squeezing currently afflicting large sections of component manufacturing). Sabel

likewise accepts Whitford and Zeitlin's contention that coordination problems may block a transition to LBM collaboration unless moderated by supra-firm governance mechanisms that reduce the chances of mutual misunderstanding and intentional abuse by one or both of the participants. But Sabel also argues (as Whitford and Zeitlin would agree) that the design and provision of such supra-firm coordination mechanisms requires a second-order application of LBM principles, whereby the actors have to learn jointly how to co-design the governance institutions necessary for stabilizing their first-order collaboration through the processual provision of new types of public goods whose precise characteristics—like those of the co-designed products themselves—cannot be precisely specified in advance.

The other papers in this special issue explore the evolution of OEM-supplier relations and governance arrangements in specific regional contexts. Susan Helper and Janet Kiehl, also members of the AMP consortium, analyze component manufacturers' responses to rising performance demands from their customers in the "brownfield" industrial region of northeast Ohio. In this area, unlike other parts of the US Midwest (including much of Wisconsin, Michigan, and Illinois), the supply chain is not geographically concentrated, and there has been little direct customer involvement in supplier development. Hence the upgrading of supplier capabilities has been more dependent on "market-based" mechanisms (like the purchase of consulting services and hiring of experienced employees from other firms) for the diffusion of Japanese-inspired "lean" manufacturing practices such as just-in-time logistics and total quality management. Compared with other regional models of supplier development in which OEMs and/or public authorities play a larger part, Helper and Kiehl argue that reliance on such market-based diffusion mechanisms has resulted in slower, more uneven, and more narrowly focused, but also less customer-specific patterns of capability improvement among component manufacturers in northeast Ohio. They conclude by calling for the development of new state and associational initiatives adapted to the specific industrial structure of the region to overcome the limitations of market-based diffusion mechanisms and promote broader supplier upgrading.

Serafino Negrelli's paper on supply chain governance in Italian automotive districts focuses particularly on the social regulation of employment relations under conditions of outsourcing. In sharp contrast to the US pattern of wide differentials in pay and benefits between unionized OEMs and non-union component suppliers, Negrelli shows that both in the "greenfield" southern region of Basilicata and in the "brownfield" northern region of Piedmont, wages and employment conditions in large automotive assembly plants and their smaller local suppliers have been harmonized by collective agreements between employers and unions. Yet he also finds subtle but significant differences in forms of productive innovation, human resource management, and employee participation between the two districts, depending on which actor plays the dominant or "princely" role in territorial governance of the outsourcing process. Thus in Basilicata, where the initiative for harmonization of employment relations came from Fiat management, anxious to ensure the stability of just-in-time components supply to its new Melfi plant, employee participation is predominately individual and organizational innovations such as teamworking and performance evaluation are more widely diffused. In Piedmont, where the impetus for harmonization of employment relations came instead from the union's efforts to obtain equal

protection for workers across the supply chain, employee participation is predominately collective and there has been greater technological innovation in the production process.

The final paper by Jorge Carrillo examines the impact of OEMs' transnational sourcing strategies on supplier capabilities and regional growth in a low-wage developing country setting. Over the past two decades, GM and its former components division Delphi have reoriented their Mexican operations from domestic to regional and global markets in the context of the North American Free Trade Agreement (NAFTA). The result, Carrillo shows, has been a profound upgrading of employee skills and technological learning in these firms' Mexican affiliates, together with the emergence of specialized regional clusters of advanced maquiladoras or foreign-owned plants manufacturing automotive and electronics components in northern border cities like Ciudad Juarez. Despite this remarkable upgrading within the domestic operations of transnational corporations, however, there has been surprisingly little participation in this process by independent local suppliers and efforts by Mexican public authorities to stimulate endogenous regional development have proved largely ineffective. Hence Mexico remains dangerously dependent on the sourcing strategies and investment decisions of transnational corporations like GM and Delphi, which have already begun to shift some of their operations to lower-wage emerging economies such as China and India. Here, just as in the case of high-wage developed countries, the consequences of participation in global supply chains for regional development will depend in no small part on the evolution of local institutional arrangements for governing decentralized production.

Taken together, the papers in this special issue of *Industry and Innovation* represent a state-of-the-art survey of current trends in supply chain restructuring and governance in high-wage manufacturing regions. The questions they raise about the relationship between supply chain governance, inter-firm collaboration, and regional development constitute a pressing agenda not only for researchers but also for practitioners and policy makers across the global economy.

REFERENCE

- Helper, S., MacDuffie, J.P. and Sabel, C. 2000: Pragmatic collaborations: advancing knowledge while controlling opportunism, *Industrial and Corporate Change*, 9(3): 443-483.