

**Opportunities and Dilemmas: Labour and Regional Innovation**

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Presented By

Tod D. Rutherford  
Department of Geography,  
Syracuse University,  
Syracuse, New York,  
USA 13244-1020

FIRST DRAFT: NOT FOR QUOTATION

## *Introduction*

The last decade has witnessed the rapid development of knowledge and information as the new engine of innovation and the global economy (see for example, Lundvall and Johnson, 1994; Wolfe, 1999; Florida, 1995; European Commission, 1997; Keeble and Wilkinson, 1999). This development of a knowledge-intensive capitalism is based on a new synthesis of intellectual and physical labour and constitutes what Florida terms 'innovation-mediated production' (Florida, 1995, 528). However, a significant *lacuna* in the emerging learning and regional innovation systems remains the role of the labour and in particular, the role of unions as workforce representatives in regional innovation processes. While there is some recognition of the role of unions in empirical studies of such archetype regional clusters as the Emilia Romagna and Baden Wurttemberg (see Cooke and Morgan, 1998; DiGiovanna, 1996; Herrigel, 1996; Perulli, 1993; The European Commission, 1997; Belussi, 1999; Lorenz, 1999) thus far, there has been little systematic attempt to understand why unions play, or could play, a significant role in the development of regionally-based innovation.

Despite such a gap in the regional innovation literature, there exists a substantial body of research in industrial relations and sociology of work, which examines the role played by organized labour in work place innovation and training initiatives (see Eaton and Voos, 1992; Marshall, 1992; Streeck 1992; Freeman and Medoff, 1984). Moreover, this work is suggestive of the role unions can play at the regional scale. As Maskell and Malmberg, (2001) stress, innovative intensive clusters develop not so much on the basis

of cost, as the ability of firms in related industries to derive advantage from the generation of competing visions of development. Unions provide alternative visions of workplace change and this can provide a source of advantage for firms and their employees.

Despite the generally positive role ascribed to unions in workplace and regional innovation processes, participating in innovation presents both an opportunity and a dilemma for labour unions. Opportunities are presented by the fact that many new work systems are more knowledge intensive and depend on greater shop-floor input from workers and substantial evidence exists that new work systems delivery higher productivity and quality when workforces are represented collectively than in non-union workplaces (Eaton and Voos, 1992;Bluestone and Harrison, 2000). However, dilemmas for labour stem from three factors. The first is that many employers continue to compete on the basis of cost and deskilling and thus are likely to avoid regions which are highly unionized, much less enter into co-operative relationships with labour (see Hudson, 1999). Thus, in the absence of a significant degree of social capital development including supportive national and regional government legislative frameworks, more collaborative networks are unlikely to develop (Bradford, 1998). More significantly, the acceleration of innovation cycles is often combined with rising cost/price pressures. Thus greater commitments by firms to more formal consultative and participatory measures may slow innovation and raise costs to firms, which can outweigh the advantages of higher productivity and quality (see Mahnkopf, 1999). Finally, focusing solely on

innovation partnerships with employers poses a risk for unions, since not only does this not guarantee secure employment, but it can dilute the important role unions have played in raising general labour standards and conditions for workers in all workplaces regardless of their skill and level of innovation intensiveness.

In the following paper, I will explore the emerging literature on regional innovation and in particular research which focuses on the role of unions in promoting innovation and dynamic efficiencies in firm and regional performance. This latter literature provides a vital counterpoint to neo-classical perspectives, which commonly portray unions as inhibiting innovation and competitiveness. I then review the learning and regional innovation literature and develop a synthesis as to why unions can play an important role in these systems. I argue that an adversarial position by unions is not necessarily inconsistent with playing a functional role in the construction of consensus and social capital required for innovation. Indeed, it is precisely in articulating an alternative perspective on work organization, that labour can influence and develop the innovation process at the level of the firm and region. However, whether adversarialism is functional or dysfunctional, is dependent on the extent of trust, which because of conflicts of interest between labour and business is always tenuous. Furthermore, trust is not simply an outcome of appropriate social institutions, since as Lorenz (1999) argues, such institutions themselves, may not only be contingent on trust, but are spatially and socially specific, thus limiting their transferal between regions and nations.

I then consider these broader points by examining an important innovation, the Auto Parts Sectoral Training Council (APSTC), a joint labour management sectoral training initiative undertaken by the Canadian Auto Workers (CAW) in the province of Ontario, Canada. This program developed under the aegis of a social democratic New Democratic Party (NDP) government, during the period between 1990 and 1995 which sought to develop stakeholder based sectoral strategies which were based on emulating some features of German and Scandinavian institutional forms of economic consensus. While the CAW negotiates from an adversarial position with firms, it also advocates a strong working relationship in areas of mutual interest of employers and employees. Building from this philosophy, the CAW was able to achieve some success in workplace training initiatives, which developed not only technical skills, but also trust and social capital between firms and employees in Southern Ontario. However, attempts to develop the APSTC were stifled by a number of factors, the most important being increased government and business hostility towards stakeholder based governance, after the defeat of the NDP and the election of a strongly neo-liberal, Progressive Conservative party in 1995. I then conclude by considering the implications of this experience for unions and regional innovation.

### ***Unions and Innovation***

The period since the mid-1980s has witnessed the development of alternative perspectives to the neo-classical economic paradigm, which stress the positive relationship between unions, labour standards, innovation and economic development (see Freeman and Medoff, 1984; Freeman and Kleiner, 1999; Eaton and Voos, 1992;

Wilkinson, 1994; Segenberger, 1994; Menezes-Filho et al, 1998; Kitson et al 2000; Stiglitz, 2000). The conclusions of these developing perspective are in direct contrast to the neo-classical paradigm which views unionization and legislated labour standards as rigidities raising overall labour costs and reducing flexibility and innovation. As Wilkinson (1994) and Stiglitz (2000) stress, in neo-classical perspectives, unions and interventions into the market, such as minimum wages are viewed as introducing an element of monopoly into labour market operations or disturbing wages from equilibrium. The likely outcome would be higher than normal (ie at equilibrium) unemployment with wages for unionized workers above their marginal productivity. Moreover, the adversarial nature of unions is seen as likely to slow innovation in two ways: (1) by reducing flows of information and (2) by forcing firms to pay higher than average wages leading to a reduction in firm R+D expenditures and investment (Menezes-Filho et al, 1998).

However, alternative perspectives argue that the overall impact of unions and higher labour standards is positive. In contrast to neo-classical economics focus on static price efficiencies and perfect information, these perspectives, whether they are based on evolutionary understandings of firms or new growth theory, emphasize economic growth through dynamic efficiencies and continual technological innovation in which information acquisition and learning is key (see European Commission, 1997; Cooke and Morgan, 1998; Bluestone and Harrison, 2000). Labour market researchers critical of the neo-classical perspective have linked these insights to a revised view of trade union impact on innovation. The first is that given the relative power of capital over labour,

free market operations are likely to lead to labour being systematically undervalued (Wilkinson, 1994). Moreover, such an undervaluation of labour is not necessarily in the interests of firms; since it is likely to result in lower than average productivity in the economy as low wages allow inefficient managerial practices and technologies to persist longer than they would if labour was properly valued. Thus unions and broader labour standard interventions such minimum wages (which are positively associated with unionization), act as an inducement for firms to modernize and innovate, by both increasing firm incentives to adopt new technology and by contributing to greater equality in incomes which in turn, spur the diffusion of new product innovations (Marshall, 1992; Wilkinson, 1994).

Furthermore, within the work place, Freeman and Medoff's (1984) important work on the role of unions in giving an active voice for workers (as opposed to exit), in negotiating workplace change indicated the possibility of superior workplace outcomes with unions. Indeed, more recent research on the adoption of new 'high performance' work practices, utilizing enhanced employee involvement has been shown to be more likely to result in higher productivity and quality in unionized workplaces than in non-unionized ones (Eaton and Voos, 1992; Bluestone and Harrison, 2000, 222). Thus, as will be developed further, unionization may actually increase the flow of information and knowledge between workers and managers (see Stiglitz, 2000).

These arguments not only apply to within the workplace. As Cooke and Morgan (1998) argue, there is a strong connection between the firm's successful engagement in

inter-firm network relations, based on trust between transacting partners, and the firm's success in transforming workplace relations and organization. Thus, Just in Time (JIT) production requires the negotiation of new sets of relationships with workforces that may enhance the bargaining power of unions and the need for more cooperative industrial relations (Stiglitz, 2000, 13). Finally, while the above research focuses primarily on the influence of unions on process innovation, there is also evidence of a positive relationship between unionization and product innovation. While as noted above, this is partly due to unionization being associated with a greater equality of incomes, a recent British research has also found that unionization can be associated with higher firm R+D expenditures (Menezes-Filho et al, 1998), while other studies (see especially Berggren, 1992; Streeck, 1996) have found that co-determination systems in such nations as Sweden and Germany create conditions at sectoral and national scales in which workers can actively shape product and process innovation in the workplace and the firm.

### ***Firm Learning, Regional Innovation and Labour***

The insights of this alternative perspective on the role of unions are highly relevant to the learning and regional innovation literature. While knowledge has always been a source of competitive advantage for capitalist enterprises, it was primarily developed and kept within the confines of firms (Hudson, 1999, 63). However, the growing complexity and cost of the innovation process and production has contributed to a much more detailed social division of labour (see Sayer and Walker, 1992). As such, strategies of outsourcing, alliances and networks lead to the increasing prevalence of what Lundvall and Johnson (1994) term 'learning by interacting'.



A key insight of the learning region school is that as codified knowledge becomes more global and easily imitated, tacit knowledge which is often highly place specific and network dependent, becomes the key for ensuring firm and regional competitive success (Cooke and Morgan, 1998; Keeble and Wilkinson, 1999; Amin, 1999). As tacit knowledge becomes a more critical source of competitive advantage so does the region, since it is at this scale that the necessary networks of institutions and firms are the densest and the transactional advantages of proximity and trust are maximized (Wolfe, 1999; Florida, 1995). Innovation systems are increasingly sectoral rather than national, therefore raising the profile of place-specific, localized knowledge and corporate learning (Hudson, 1999, 61). Thus, the key for regional advantage lies in its 'learning to learn' (Amin, 1999). Regions can sustain competitive advantage through institutional reflexivity in which the continual transfer of knowledge between firms, institutions and governments allows an ability to innovate, anticipate and adapt to change (Storper, 1997, 31). Moreover, formal and informal learning based innovation has also allowed high wage nations such as Germany, Sweden and Denmark to remain competitive in medium to low technologies and products (Soskice, 1997; Maskell, 1999).

A key factor identified in the European learning region literature which links learning, innovation and competitive success is social capital (see Morgan, 1997; Amin, 1999; Maskell and Malmberg 1999; Wolfe, 2000) which Maskell (1999) defines as “The values and beliefs that citizens share in their everyday dealings and which give meaning and provide design for all sorts of rules.... [and] ... is accumulated within the community

through processes of interaction and learning” (Maskell, 1999). Social capital is vital since not only does it act to embed market interactions by increasing the flow of non-price information and trust, while reducing transaction costs and rogue behaviour, but through social inclusion and consensus, social capital acts to develop understanding across classes and enables regions to have the capacity to react to global shocks (Bradford, 2000, 4). As Maskell argues:

Their [Scandinavian consensus-making] merit lies in the way whereby the process of reaching an agreement or decision simultaneously increases the insight in - and the understanding of - the other participants' positions, interests and visions. Negotiation does in this sense imply learning, which makes the next round of negotiation slightly easier and which enables not just elites but sometimes even the society at large to reach a common perception of present and future challenges (Maskell, 1999).

The learning region offers important insights into how knowledge and learning based innovation is often highly embedded and place-specific. However, this literature can be both normative and prescriptive and overstate the novelty of knowledge-based innovation for capitalist firms (Hudson, 1999). Moreover, learning in and of itself, may not promote actions consistent with competitive advantage (see Glasmieir et al, 1998; Keeble and Wilkinson, 1999). However, I would argue that an equally significant gap in the learning and regional innovation literature is how the relationship between labour

management relations and innovation is conceptualized. For example a strongly implied assumption is that consensus is both a means and an end in the construction of skill and training (see Hudson, 1999, 66-67). In other words, skill development and the matching of labour supply and demand itself, are viewed as primarily technical issues which can be resolved by the proper policy mix (see Lovering, 1999, 388). This technical view of labour market governance is underlined by the learning region's privileging of elite, highly skilled labour and firm-defined knowledge networks (Lorenzen, 1999; Hudson, 1999; Tooke, 2000).

However, the insights of the emerging perspectives on unions and labour-management relations suggest an alternative view on how innovation and learning occurs not only within the firm, but also between firms at regional and other scales. The crux of this emerging argument turns on the relationship between how consensus and learning networks are constructed within and between firms. For example, Maskell and Malmberg (2001) have argued that the advantage for firms in clusters stems not from minimizing the costs of interaction, but derive from the dynamic effects of local competition between firms in similar industries due to variations in the parallel performance of similar tasks. This process develops alternative views of production between firms and is thus highly likely to promote innovation. However, citing Loasby (2000), they argue while competing visions of production *between* firms are critical to the development of an evolutionary economy; this is less likely, unless carefully managed, for competing visions *within* the firm.

This view though, may not capture changes in the ways in which knowledge development *within* firms is changing and in fact, may be increasingly based on competing visions of production. McAdam and McCreedy (2000) in a recent examination of knowledge management, contrast two approaches to its development by firms. The first is an empirical-analytic one, which is characterized by a narrow focus on improving efficiency by technology mastering the behaviour of humans. The other is based on recognition that knowledge is not simply a thing, but is socially constructed. That is, knowledge generation is critically reflective, in which underlying assumptions are questioned, as is the relationship between power and the representation of reality. The latter approach leads to knowledge workers who proactively use knowledge management (KM) to bring about innovation and transformation (McAdam and McCreedy, 2000, 164). Thus:

Knowledge is becoming more decentralized ... no longer can it be neatly imprisoned within carefully constructed central power sources. The wider view of knowledge, which includes the idea of it being socially constructed, ... gives rise to the possibility that disparate groups throughout the organization may be both sources of knowledge and major influencers and power sources in regard to its embodiment and dissemination within the organization (McAdam and McCreedy, 2000, 164).

While McAdam and McCreedy do not explicitly examine unions, their arguments can be used to explore their role in new forms of knowledge management. There is

considerable evidence that unions have long provided a source of alternative socially constructed knowledge both within firms concerning production organization, but also over firm product and competitive strategy (see for example Forrant, 2000). Indeed, because power within the firm may not be as decentralized as knowledge, unions can use their legal status and independent power, to promote alternative production strategies more than non-unionised workers, who may be vulnerable if alternative perspectives are not endorsed (see Marshall, 1992, 76 on high performance workplaces). Exploring the relationship between knowledge development and labour representation, Stiglitz (2000) has argued that since market operations are impaired by a lack of knowledge and information, increased sharing of information with labour as a stakeholder may lead to less conflict and enhance consensus. However, as he further stresses, while consensus may be a goal of this process, it may challenge managerial prerogatives and stimulate resistance:

Workers are often in a better position to monitor the firm than are creditors, since they are continuously on the spot. They can verify – or challenge – management claims about what is happening within the firm. It is for this reason that management may resist having worker participation. It may limit the power that management exerts (and its rents) by reducing the asymmetries in information (Stiglitz, 2000, 9).

Indeed, it can argued that for labour, adversarialism is not really a ‘choice’, but a recognition of the fact of unequal power between workers and managers and the fact that their interests are not always convergent (Marshall, 1992; Wilkinson, 1994). However, an

adversarial stance is not necessarily an impediment to innovation and indeed, may promote alternative perspectives and innovation. As Marshall (1992) argues;

The relationship between workers and managers is inherently adversarial as well as cooperative. Indeed, adversarial relations are functional in that they provide orderly mechanisms to resolve differences. The challenge is to maximize common interests and prevent conflicts from becoming 'functionless' by making all parties worse off (Marshall, 1992, 85).

In principle then, a transition to a more knowledge intensive, innovation-led economy is not incompatible with the adoption of 'high road' industrial relations strategies, which are consistent with an enhanced role for unions (see Marshall, 1992; Bluestone and Harrison, 2000; Stiglitz, 2000). Thus, high road strategies envision and promote a commitment to, a virtuous circle between longer-term relations and limitations on opportunistic behaviour, not only between labour and management but also in the capital market and between firms. However, the actual realization of such a high road strategy is contingent on a number of factors, in particular, the ability of unions to re-scale and adjust representation strategies.

In the case of industrial relations, during the post-war period especially in Western Europe, institutions for the governance of labour-management relations were developed at a national or industry wide scale (Perulli, 1993). Thus the regional scale was comparatively under-developed. Since the early 1980s though, the national or industry orientation of industrial relations institutions and with it, union influence, has been

severely undermined by a combination of increased outsourcing and the individualizing of employment relations (Kern and Sabel, 1991; Sydow, 1993; Crouch, 2000; Waddington, 2000). As significantly, when outsourcing has been associated with the delegation of production to small and medium sized enterprises (SMEs) in regional networks, this is at a scale where industrial relations regulation and unions have been the weakest. For example as Sydow (1993) makes clear, in Germany existing co-determination legislation leaves most SME's largely uncovered and only under certain circumstances does wider industrial relations legislation cover the emerging networks of outsourcing from large firms to SME's (Sydow, 1993, 57). Moreover, it has been widely assumed that the development of an information/knowledge economy, with its breakdown of traditional work-community solidarities and increased individualism, is incompatible with the collective identities on which unions have relied upon for support (see Hyman, 1999; Waddington, 2000).

Despite such adverse trends there is evidence, especially from Western Europe, that unions can for example, adjust to increased outsourcing and the development of regional networks. Thus Locke (1990), in a case study of Italian unions in the Beilise textile district in Piedmont, stresses the pro-active capacity of the unions in this region in developing co-operative and collective innovation strategies in an industry under-going significant restructuring. Unions were able to negotiate employment changes and technological change, which enhanced R+D and technical training, and developed a territorial collective agreement to prevent the whipsawing of workers between firms both large and small (Locke, 1990, 362-363). Thus, by taking wages out of competition at the

regional scale unions can promote firms to develop innovation-oriented strategies (see Gertler and Rutherford, 1995).

Regionally based union organizations, have also developed in the more centralized industrial relations system in Germany. For example, Kern and Sabel (1991) and Hyman (1999) document IG Metall's development of social unionism by building activity "around the localities where members (and potential members) live rather than where they work" (Hyman, 1999, 10). This involves the union being engaged in training and life-long skill development both within and outside of paid employment especially at the regional labour market scale, by developing horizontal networking, not only with unions in other local firms, but with municipal and regional authorities, and local grass-root organizations.

Certainly, one the greatest potentials for the enhancement of unions at the regional scale is around skill development. Given the considerable evidence that employer-led training is likely to lead to an under-investment in skill development and especially its transferability between workplaces (see Ontario Premier's Council, 1990; Carlinho, 1995; European Commission, 1997), unions are highly relevant in the emerging learning economy since they play a significant role in training and skill formation (see Streeck, 1992). Indeed, despite the attention being paid to the development of the learning economy, it is estimated that in Denmark for example, only between 8 and 15



per cent of surveyed firms can be characterized as learning organizations <sup>1</sup>(Lundvall, 2001, 25). Equally problematic, Lundvall argues that these findings indicate that:

While a large number of firms have implemented organizational changes, these changes, may conceal an internal polarization in firms rather than indicating a development toward an inclusive strategy for increasing the qualifications of the majority of the workers – that is, a personnel strategy in which all or the majority of the members of the work force develop their qualifications (Lundvall, 2001, 26).

This trend towards skill polarization within firms can at least be partially offset by the pro-active stance by unions, especially because they usually represent shop floor employees who are amongst the least likely to receive formal training. Indeed, in many British and North American workplaces it is only the presence of unions that ensure formal training of the workforce (see Green et al 1999; Meltz and Verma, 1995) and unions play a key role in skill development in Germany, Italy and Scandinavia (Streeck, 1992; Locke, 1990; Belussi, 1999). Thus, unions can develop transferable skills especially within local/regional labour markets and must be seen as a key element in the diffusion/adoption of knowledge between firms. While such a role tends favour the formation of formal or codified knowledge, unions also play a role in tacit knowledge development within the workplace and at the regional scale. Thus Perulli (1993) cites

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<sup>1</sup> The criteria for assessing learning status of the surveyed organizations was whether the firm had answered affirmative to all of the following four questions: the firm had implemented organizational changes and technological change; had delegated increased responsibility to employees; had more than 50 per cent of employees participating in internal or external continuing education; and finally whether the surveyed firm reported that long term educational planning has great or some importance in ensuring that employees have the desired qualifications.

evidence from Baden-Wurttemberg that ‘soft factors’ in labour relations such as personal networks, fringe benefits and trust relations are highly developed amongst firms in this region.

The key role of unions in skill formation is part of an emerging strategy of developing ‘flexicurity’ for workers (Hyman, 1999). While employers have largely monopolized flexibility against unions, labour organizations have been increasingly involved in negotiating flexi-time agreements and organizing temporary workers. Furthermore, unions can use their position to move current supply-side government policies that often simply individualize problems of ‘employability’ (and can produce mismatches between skilled workers and unskilled employment), by ensuring more effective training and demand side policies to encourage appropriately skilled employment (Hyman, 1999, 6). ‘Flexicurity’ strategies can also be utilized at the regional scale. Even in Silicon Valley, a region not noted for unionization, unions are gaining a foothold among technicians and software testers and programmers by effectively returning union structures to its guildhall roots (Greenhouse, 1999). The emerging strategy is to provide high tech workers who often hold up to 10 jobs over a career, with training and portable job skills and pensions. New unions such as WashTec and the Communications Workers of America have begun also to organize high tech employees in cell phone communications and temp workers at Microsoft (see Evans, 2001).

Such initiatives usually meet significant employer resistance, but given the under-investment by firms in skill development and evidence that contingent work arrangements are likely to reduce worker commitment to workplace innovation, an assertive, if not adversarial, position by unions may in fact be in the longer-term interests of firms. As we have seen in the work of Maskell, the construction of national and regional scale social capital does not necessarily mean that different social actors abandon differences, but rather that such differences are channeled and greater trust promoted, in part, by the presence of institutions which allow the constructive incorporation of different perspectives. Indeed, as a number of researchers have noted (see for example, Cooke and Morgan, 1998) industrial regions can be prone to ‘lock in’ which in part is a function of a too highly developed consensus amongst key actors and stakeholders such as entrepreneurs, regional officials and trade unions (Cooke and Morgan, 1998, 75). Here, there is a potentially constructive role for an adversarial position by unions, especially if they have developed strategic intelligence capacities, not only over workplace issues but also in participating in alternative development strategies that may also promote greater diversification in the regional economy (see Kern and Sabel, 1991). Indeed, Cooke and Morgan note the positive role played by unions in reacting to the crisis of the coal and steel oriented Ruhr region in developing environmental technology industries.

While a regional focus for unions would appear to offer potential gains by both participating in regional innovation networks and increasing overall membership, it needs to occur in conjunction with strategies at other scales. Firstly, while national industrial

relations systems may be less determining of workplace outcomes than in the past, they nonetheless still play an important role in shaping union strategies and can provide important resources to workplace and regional strategies (Kern and Sabel, 1991; Crouch, 2000). Thus, centralized bargaining still plays an important role in more decentralized systems such as Italy (Baccaro, 2000). Moreover, in Western Europe at least, unions are still needed in 'social pacts' linking of macro-economic policy to the firm/enterprise scale (Waddington, 2000; Crouch, 2000). Furthermore, the fact that many of the firms in which unions are represented are trans-nationals, means that at the very least, unions develop international representation and bargaining structures and within the EU, opportunities for this have occurred through (although are certainly not limited to), European Works Councils (EWC) (Waddington, 2000, 327).

Another challenge to unions in playing a key role in innovation networks is in the workplace. While as noted above, union representation is positively related to innovation and productivity, employers have increasingly attempted to by pass formal union representation such as shop stewards or works councils, by directing communications towards work teams and other managerial determined employee representatives (Kochan et al, 1997; Hyman, 1999; Crouch, 2000). To some degree, this reflects that increasing innovation cycles require the quick formation and re-formation of teams on a project basis (see Christopherson, 1998). Thus formal union structures are perceived as either inappropriate to innovation projects which may cut across bargaining units, or the requirement of consultation with workforce representatives simply makes innovation 'too slow' (see Mahnkopf, 1999). However, as a 1997 European Commission

report on learning and innovation argues, existing union structures are not necessarily an impediment to innovation systems:

It is ... difficult to implement organizational change without a minimum of support from employees. There are thus inherent forces promoting at least informal participation. This does not imply that the traditional forms of formal representation – trade unions and shop stewards – will necessarily gain or lose in terms of power. But it indicates that changes will take place and that these institutions need to adapt themselves to the new context. In a Danish survey, managers in a majority of firms pointed to formal co-operation with trade unions as a positive factor rather than as a barrier to organizational change (European Commission, 1997, 97).

Lundvall (2001) further develops these findings in his study of learning and firm performance in Denmark. Employee representatives are increasingly functioning in a middle management role when organizational change occurs. Thus, there are possibilities that if such participation increases and this is positively associated with better working conditions and more stable employment, this may reduce conflicts of interest between labour and firms (Lundvall, 2001, 24).

Such findings showing that unions are able to adapt to the new circumstances of production innovation are valuable, but they must be placed in context. The emphasis in much of the continental European literature on social capital and the role played by institutions supportive of consensus building between labour and firms raise the question

of whether such institutions themselves promote trust or are simply beneficiaries of longer term trust development. As Lorenz (1999) argues, in orthodox economic theory, trust is not a relevant category to the negotiation of contracts since the assumption of perfect rationality allows all agents to costlessly anticipate and negotiate future contingencies. However, long-term contracts are only a framework that depends on continuous negotiation. Trust is critical since it represents a judgement individuals and groups make on the basis of past experience with other, but it is tentative and cannot assume that individuals will share the degree of trust necessary for co-operation. Thus, industrial relations procedures for example, can provide favourable settings for trust building, but cannot guarantee it (Lorenz, 1999, 310). Examining the case of the German industrial relations system, he points out that it was as much a product of a lengthy period of learning and trust building (within, it must be added, a highly favourable macro-economic context of growth), as it reflects an appropriate institutional framework. Indeed, it took a long time before the 1952 Works Constitution overcame a legacy of conflict extending back to Weimar period. In contrast, a French attempt to emulate German style employee participation in the 1982 Auroux Laws, was not nearly as successful since mistrust was deeply embedded. As he concludes, "Legislation provided a procedural framework within which the actors could interact and learn about the likely behaviour of their partners when confronted with various contingencies [but]... The success of labour-management co-operation in Germany was far from inevitable" (Lorenz, 1999, 311).

These points are developed further by Bradford (1998). Even if skill and innovation outcomes are superior, it is often business rather than labour's participation in wider associational networks which can be problematic. Thus, whether business is willing to participate in workplace, regional and national innovation networks, depends on the effective economy-wide organization of business interests, a political culture of social partnership rooted in workplace co-operation and a meaningful political pressure from social democratic partners limiting the power of business and giving labour an effective voice (Bradford, 1998, 542). In contrast to Scandinavia, in the United States, Canada and the UK, such pre-conditions are largely unmet. As he argues, "in liberal polities . . . prospects for robust associative innovation depend on incentives for business to cooperate or at least not exercise its option to exit partnership" (Bradford, 1998, 541). Thus, unless these incentives (financial or otherwise) are sufficiently strong to overcome businesses' capacity to resist partnership offers from state managers, such attempts to develop more generalized innovation networks based on labour-business networks are unlikely to succeed.

This broader point of the relationship between trust, institutions of worker representation and their transferability is also taken up by Addison et al (2000). In a comparison of the relationship between workplace representation and productivity in UK and German workplaces, they found that the form and scale of representation to be a key variable in determining outcomes. Thus employee participation in workplace involvement and innovation networks was more effective in Germany because distributional (ie wage bargaining) was more likely to be centralized than in the UK

where such bargaining was likely to at the enterprise scale. Furthermore, in Germany, formal co-determination structures were more effective at larger enterprises (+100 employees) than at smaller ones. Thus, the trend towards greater firm/enterprise level bargaining and smaller worksites in Germany and elsewhere (see Streeck, 1998) may undermine existing institutional frameworks for participation and potential gains in innovation. Furthermore, as both Addison et al. stress, even where unions are associated with greater *productivity/innovation* this does not necessarily lead to greater firm profitability (see also Marshall, 1992). Knowledge sharing, therefore, is not necessarily a 'win/win' scenario, especially where it is associated with enterprise-level wage bargaining. Thus, while involvement:

improves productive efficiency; on the other, it potentially facilitates rent seeking by workers. Workers will divulge their private information to management only if they have some say in how that information will be used. For greater employee involvement to be effective, enhanced worker power is implied. Intuitively, 'knowledge is power'. Accordingly, the worker share in the surplus is assumed to rise with increased involvement (Addison et al, 2000, 10).

An even more significant problem confronting unions, though, is that many firms have conflicting strategies towards their workforces. On the one hand, there is greater recognition of labour's constructive role in knowledge creation and the need to engage its creative capacity within and between workplaces. On the other, in many cases workers represent a cost to be minimized by employers,



undermining the very conditions (employment stability, good wages and working conditions), which can stimulate knowledge creation. This dilemma for labour is summed up by Farrant (2000):

Global market pressures and short product life cycles have forced corporate officers to consider worker intellect as an asset not a liability. But, ... in the drive to maximize production and increase shareholder value, empowerment and team building still play second fiddle to the first chair occupied by output demand and 'line speed-up'. The delicate underpinnings of plant-level trust are menaced by the wherewithal of owners to shift production arbitrarily to gain even the slightest competitive advantage. Workers and their unions are thus squeezed between a rock and a hard place. They are damned as backward thinkers should they refuse to consider management-proposed work changes that might give their plant a chance to prosper, yet they are equally damned when they accede, only to have managers 'pick their brains' and transfer the work to plants in less expensive parts of the world (Farrant, 2000, 752).

***Learning Around the Differences?: The CAW and Training Initiatives in Southern Ontario***

Many of the examples examined in the above sections, are from Western and in particular, Northern Europe, where social capital and labour-management consensus has been long established. However, in North America and in particular, Canada such assumptions of labour-management consensus and even inter-firm co-operation, are very

problematic. In Ontario, industrial relations are governed by a legal framework based on the US Wagner Act that presumes “that management’s rights are unfettered unless there are contractual provisions to the contrary... [and are associated with] litigiousness... job control unionism... the association of union representation structures with Taylorist forms of work organization [and] a high degree of decentralization” (O’Grady, 1994, 261-2). Furthermore, Southern Ontario, long the economic heartland of Canada, has lacked a strong system of regional innovation, in part because high levels of foreign and largely US ownership, led to low levels of research and development (see Britton, 1998) and the lack of strong institutions for regionally based learning and reflexivity (Gertler, 1995; Bradford, 1998; Wolfe, 2002). Traditional buyer-supplier relations have not provided a fruitful context for collaborative networks since they largely priced based and adversarial (see Rutherford, 2000). Finally, when increased collaboration has occurred between firms, this has been mostly at the pre and postproduction phase and thus has not been as conducive to a positive role for labour, as the more production centred collaboration that exists between firms in Western Europe (Gertler and Rutherford, 1995).

Despite this unfavourable context, in the early 1990s significant policy initiatives to promote a more regionally based innovation system that involved labour were taken in Ontario. The impetus to these changes was the severe restructuring of the Ontario economy in the post-1985 period in the wake of the signing of the Free Trade Agreement and the formation of NAFTA. In the 1985-1995 period the election of the Liberals and in 1990, the social democratic NDP signaled a shift towards greater associationalist type initiatives consistent with the promotion of stakeholderism and a regional innovation

system. The NDP vision of the Ontario economy was expressed in *People and Skills in the New Global Economy* (1990). The goal of the NDP was to achieve a high value added export led economy that would combine both increased innovation with social equity. A central role in creating innovation was played by sectoral initiatives (see Bradford, 1998; Wolfe, 2002), which were to develop synergies and reduce the adversarial firm culture in Ontario, by promoting inter-firm collaboration in developing joint strategies for the industry. Sectors were defined as a “group of Ontario-based firms that produce similar goods and services, that identified themselves as a sector, had a recognized association or forum for resolving sector-specific issues, had identified a range of sectoral issues of concern ... and had a multipartite representation, including business, labour and other relevant stakeholders in the sector” (Wolfe, 2002,8). Thus because such sectoral initiatives involved joint labour-management bodies, for the first time in Ontario history, labour had a presence in both government and sectoral strategic policy making.

One of most important unions in Canada and especially Southern Ontario is the Canadian Auto Workers (CAW). The largest private sector union in Canada, the CAW represents over 250,000 workers mostly in the automotive and automotive components industry, which is primarily located in Southern Ontario. The CAW has long taken an adversarial stance in its negotiation with management. Unlike the UAW in the US from which it broke away in 1985, the CAW has consistently rejected partnership with management, but it has developed a constructive ‘working relationship’ on many issues with the firms with which it bargains. For example, on work re-organization issues it has consistently rejected teamwork, but has made concessions on workplace flexibility where

it feels these also advance worker interests (Kumar, 1995; Kumar and Holmes, 1997). The CAW also effectively controls work-place training in major assemblers in Southern Ontario, delivering it in consultation with management. Indeed, the CAW has an explicitly political conception of training, arguing that training should not only be co-determined and delivered according to the principles of adult education, but that training time should be both guaranteed (with a minimum of 40 hours per year) and available to everyone regardless of production pressures. The differences between the CAW's perspective on training and those of business were articulated by one organizer:

There are two basic models for training: one is training for competitiveness, which is the model that the government and that the companies bring to the table. Then there is the other model that is training for developmental purposes ...more of a labour-based approach. The difference is between training as a new arena to argue for universal entitlements – versus training that is subordinate to any firm specific campaign to achieve global status (CAW representative, 5 July 1995).

The CAW also derives advantages from the fact that it has long supported a well-developed research capacity on the both the auto industry and the firms with which it bargains (see Kumar, 1995). Thus while the CAW is not an impediment to change, it insists on negotiated change in which worker interests are central. That such an adversarial stance is not inconsistent with productive efficiency is highlighted by the fact that Canadian plants represented by the CAW are ranked amongst the top in North America in productivity and quality (see Holmes, 1996).

As part of the NDP sectoral initiatives, the Auto Parts Sectoral Training Council (APSTC) was formed in late 1991. The APSTC was jointly administered by the Automotive Parts Manufacturers Association (APMA) and the CAW, with substantial funds from the federal and Ontario provincial governments. In total, these two levels of government provided over \$C 4.4 million, while the industry itself provided less than \$C 700,000. The goal of this three-level program was to develop skills that are portable across the industry, a more failing of most firm-specific training. The CAW insisted on co-developing/ co-managing the development of the training curriculum and selecting the trainers. The programs were designed to lead to the granting of recognized certificates of training in modern technology, work organization, mathematics and workplace change and involvement. Stress was also placed on peer training and building on trainee experiences. Moreover, training was viewed not just as being technical in nature, but as an exercise in workplace power. As one consultant's report found:

Because both sides must approve curriculum, course content and teaching method cannot favour one side's agenda in ways that seriously contradict the other's. In training, therefore, interests and viewpoints are explicitly identified and presented as such. Disagreements are intended to be described, clarified and analyzed, rather than resolved; larger contexts should be taken into account. Trainees are thus expected to be given skills and resources for making their own interpretations and decisions (Piker, 1996, 5).

The CAW also saw the APSTC as an opportunity for learning and innovation. Moreover, the good system of community colleges in Ontario, used by the APSTC to deliver training on a local basis, could serve as a focal point for the development of collective social capital in an industry characterized by distrust and adversarialism, not only between labour and management, but also between firms themselves. Thus, employees from different firms within a region would be trained together and the CAW had clear vision of developing synergies around regional clusters of industry and local educational capabilities (Paget Consulting, 1996, 12). One CAW organizer articulated the union's perspective on the program:

We have focused on developing a curriculum .... What is innovative about the Auto Parts Council is that it is actually a sectoral curriculum .... It is a curriculum based on a number of fundamentals. One is that this is neither about labour and management's agenda. That does not mean that we pretend that neither has an agenda, it means that you acknowledge the agenda, you put it on the table, and you use it as part of the material for learning. That is an honest way of dealing with differences –can you learn around the differences (CAW representative, 5 July 1995).

Despite delays in developing the program, by mid-1995, 23 firms (including some non-unionized firms) in the automobile components sector were participating in the APSTC and nearly 2000 shopfloor employees had completed the first level of the program. Furthermore, there was evidence that participating in the program had overcome the legacy of poor industrial relations in a number of firms (APSTC

managerial co-chair, July 1995). However, the APSTC soon confronted significant problems. While the program was open to non-unionized firms, many non-union firms refused to participate because of the central role of the CAW. Furthermore, it took much longer to get firms to join the training program and commit their workforces to such an ambitious training program. The lack of any real culture of training in Southern Ontario auto parts firms was a major contributing factor, with firms averaging less than 20 hours of training a year per employee. Indeed, one consultant's report estimated that only 10 per cent of participating firms considered training to be an investment rather than a cost (Paget Consulting, 1996, 20). As the managerial co-chair of the APSTC council made clear, a major impediment to the program was a firm culture of achieving short-term measurable results, rather than a less directly measurable form of social capital development:

One of the criticisms that I hear from the companies ... is that they're always doing needs analysis and a cost-benefit analysis when they look at these types of initiatives in terms of return on investment ... Things are not so hard to see but its difficult to measure the overall results. That basically comes down to a tremendous change in worker attitudes regarding their position in the company and where they see themselves fitting as a valuable entity, but also the general improvement in the overall working environment. In other words, it seems there is less confrontation, and better industry awareness (APTCS Managerial Co-Chair, July 5<sup>th</sup> 1995).

However, the most significant problem that ultimately resulted in the termination of the APSTC was a political one. In June 1995, the neo-liberal Progressive Conservative Party was elected to power in Ontario. After September 1995, no new firms joined the program and in February 1996 the APMA withdrew its support from the APSTC. As significantly, following the APMA decision, the federal government withdrew its financial support from the APSTC. Without the financial support provided by the NDP and more importantly, a government with strong commitment to developing a broader form of stakeholder governance in the auto parts and other sectors, the program collapsed.

### ***Discussion and Conclusions***

What lessons are to be drawn from the failure of the APSTC and the role of labour in regional innovation? The first is that labour proved to be a major initiator of a training program which addressed not only the needs of an industry with at best, a weak commitment to training and a regional learning culture, but would meet the needs of employees who would otherwise be excluded from transferable skills and the means to participate more broadly in a learning economy. Moreover, not only was the co-developed curriculum highly regarded for its technical standards, but it provided an important forum for the development of social capital, not by the denial of conflict between employee and firm interests, but by utilizing this to develop the basis of a consensus on needed skills which also contributed to a reduction in dysfunctional adversarialism. Furthermore, and contrary to the conventional presentation of labour-management relations, it ultimately proved to be business, not labour, which impeded



innovation. In large part this was because many firms within the auto parts sector were unwilling to share power with the union on training and related issues, or lacked a strong commitment to overall skill development. Furthermore, in contrast to some theorists of social capital development such as Putnam (1993), the case of regions such as Ontario reveal the key role of the state in constructing the institutions which can play a role in the development of trust and social capital (see Wolfe, 2002). A problem in Ontario and indeed other regions is that such institutions need to be maintained through both economic and political cycles over the long term.

More generally, I have stressed the important role that unions can play in innovation networks at a regional scale. However, this role is not just the one usually prescribed for them in much of the learning literature, as simply ‘partners in innovation’ (and junior at that), directed by business. The fact that labour and business often have very different and sometimes antagonistic interests must be recognized. However, I have further argued that rather than simply viewing adversarialism as an impediment to progressive change, this can actually be functional to innovation. Thus, innovation based on a consensus, in which labour simply follows a pre-set managerial agenda may not have desirable results for either labour or the firm. Managerial competence in the initiation of innovation and its implementation cannot be assumed, and it may be that a strong, independent, if not adversarial, position by labour may prove to be an important contributing factor to innovation development. But it should be recognized that the role of unions is not simply to advance innovation as defined by firms or developing partnerships with and between regionally clustered firms. Firstly, as has been seen,

advancing innovation may not necessarily increase firm profitability, employee conditions and job security. Thus participating in innovation partnerships may be a relatively low priority for unions. Furthermore, one historic role of the labour movement is to advance the interests of all workers regardless of skill (Hyman, 1999) and by focusing solely on developing innovation strategies would place unions in a position of only protecting those with an already relatively privileged labour market status (Eisenshitz and Gough, 1994). However, as noted earlier, unions are likely to promote innovation since unionization forces firms away from simply low wage strategies, and generally contributes to a less skewed income distribution. Thus, the fact that one effect of unions in developing an independent role and furthering overall worker interests is often the enhancing of innovation, needs to be both recognized and further researched.

Having argued this, unions can and do play a role in regional innovation networks. As Maskell and Tornquist (1999) emphasize, regions must attempt to convert what they term pedestrian resources into core capabilities and since ubiquitousness cannot be turned into sources of competitive advantage, regions must channel a firm's non-trivial inputs into productive assets. However, these are not easily replicable and there is a need for heterogeneity of knowledge at the regional scale, since the exchange of otherwise internal information through "geographically concentrated tacit knowledge-sharing and cross fertilization of ideas enhances knowledge creation at the level of the firm" (Maskell and Tornquist 1999, 48). The evidence presented in this paper suggests very strongly that unions can play such a role, since they often represent independent sources of knowledge,

and are based on networks at local and other scales, which in turn inform alternative perspectives of production.

The learning region and innovation literature often argues for a 'New' New Deal strategy for the development of less favoured regions (LFR) which in contrast to earlier strategies, which focused on slowing innovation, increasing protectionism and redistributing income from rich to poorer regions, advocates the enhancement of learning and innovative capacities (see The European Commission, 1997; Maskell and Tornquist, 1999). This does not require that nations/regions become high tech (ie R+D intensive) to achieve some degree of sustainable prosperity, since there are viable R+D extensive development paths in high-cost and highly unionized nations such as Sweden and Denmark. Labour can play a key role in such innovation systems for while labour market rigidities, especially in smaller nations/regions might not facilitate the growth of R+D intensive innovation, low to medium-tech innovation systems typically require some degree of workplace consensus with workforces and relatively low turn over to pursue innovation (see for example Soskice, 1997). Moreover, while the Scandinavian and German industrial relations systems have been remarkable for their low strike record, they are not just consensus based. Unions in both systems have a very strong sense of their interests as not being just those of management, but they use co-determination to advance these worker interests in ways that have largely been consistent with the workplace/ strategic innovation (Berggren, 1992; Streeck, 1996).

However, it must also be argued that New, New Deal strategies cannot in themselves guarantee the narrowing of regional income differentials, or overcome problems of macro-economic co-ordination. It is thus highly likely that redistributive policies to LFR will remain necessary, if not desirable, for such regions (see Amin, 1999) and indeed there may even be a viable case for some forms of protection of vulnerable industries in regions where alternative good employment possibilities are slim (see Lazonick, 1991). A major challenge confronting labour in an era of globalization, then, is how they can continue their legitimate role in extending and representing worker interests through a strategy of functional adversarialism, while at the same time building on the increasing knowledge and innovation requirements of firms and regions which create and sustain social capital development.

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