Labor Market Intermediation, Commodity Chains, and Knowledge Transfer¹

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This paper has three purposes:

- 1. To improve the conceptualization of labor market intermediation (LMI) by applying theories of intermediation and commodity chains. Specifically, intermediaries exist to reduce and to shift uncertainty and risk: the reductions increase overall productivity, while the shifting increases the returns for those actors who control scarce and valuable assets.
- 2. To emphasize that the configuration of every supply chain reflects deliberate attempts by each producer, provider, and intermediary to regulate the entire chain (not just the relationship with its immediate clients and suppliers) to its advantage. The success of these attempts depends on local/national, occupational, and sectoral conditions of supply scarcity and political power.
- 3. To suggest the utility and disutility of LMI for knowledge development and organizational learning, regional learning, and labor force development.

Intermediation

Commercial intermediation is the process of connecting suppliers and buyers via a third party, the intermediary. It is a very broad concept, ultimately underlying the corporate division of labor within and across economies. Wu [2004: 67] defines intermediaries as "economic agents who coordinate and arbitrate transactions in between a group of suppliers and customers."

We may gain insight into the broad range of intermediaries and intermediation by recognizing their varied roles in managing uncertainty (ignorance of future states) and risk (potential for gain or loss resulting from making decisions in the face of uncertainty). **"Market making" intermediaries** (such as retailers and most wholesalers) select suppliers, buy, sell, and hold inventory [Spulber 1996; Wu 2004]. They thereby accept the risk of misreading or changes in the market. Banks, as financial intermediaries, accept and manage credit risk, interest risk, and temporal risk (of short-term debts and long-term assets). Their scale, scope, and expertise reduce the overall risk in the system, even as they accept some risk. **Brokers** are intermediaries who "provide coordination services without buying and selling goods" [Spulber 1996: 145]. Thus, they do not take on the liquidity, inventory, and other risks of retailers, wholesalers, and the like. Their value added is in the centralization and consolidation of buyers' and sellers' searches, creating scale economies and reducing uncertainty by:

- determining a price that allows suppliers and buyers to interact on either side of the intermediary;
- identifying a wide variety of sellers and buyers for heterogeneous goods or services;
- guaranteeing the quality of suppliers, based on experience with given suppliers; and

• monitoring suppliers, especially suppliers of services – more cheaply than individual buyers because of scale. Thus, they attempt to *reduce* uncertainty for sellers and buyers, for which buyers or sellers are willing to pay.

Sarker et al. [1995: 67] further distinguish intermediaries that benefit the customers (e.g. assistance in search and evaluation, needs assessment and product matching, risk reduction, and product distribution/delivery) and those that benefit the suppliers (e.g. creating and disseminating product information)."

Labor Market Intermediation

Definitions

Most simply, labor market intermediaries (LMIs) are "mechanisms or institutions that intercede between job seekers and employers" [Autor 2004: 1]. These can range from the passive information channel of a newspaper or

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online listing to the intensive activity of a state-sponsored "one-stop shop" that provides screening, training, and job placement for a targeted population. Spulber [1996: 136-7] distinguishes "three types of agents: (1) consumers, (2) market-taking firms and (3) market-making firms...that create and operate markets" between the consumers and the market-taking firms.³ For labor markets, the most direct analogy would be (1) workers, (2) producers that hire workers directly without providing training or internal labor markets, and (3) organizations that search, hire, train, and supply workers as intermediaries or via internal labor markets.

The phrase LMI invites comparison to financial intermediation. "Financial intermediaries lend to large numbers of consumers and firms using debt contracts and they borrow from large numbers of agents using debt contracts as well" [Gorton and Winton 2003: 2]. LMIs attempt to fill employment needs by large numbers of clients through their information about large numbers of employment seekers (or to fill the needs of seekers through their information about vacancies). However "the obligations of firms and the claims ultimately owned by investors are not the same securities; intermediaries transform claims" [Gorton and Winton 2003: 5]. Thus, *contracted production* rather than LMI may be the work analog to financial intermediation, because this is when the worker is paid for labor while the intermediary is paid for product.

Another crucial difference is immediately apparent: financial intermediaries take on a risk when they promise a given return to those who invest in them – a risk that LMIs do not take on. The analogy would be if LMIs promised employment, at a specific wage and for a specific term, to those seeking employment, and then had to find clients to provide that employment demand. Given the contingent relationship that potential employees – even executive talent – have with LMIs, the risk is largely transferred to the employment seeker. Rather, the major reasons for LMIs' existence is to reduce producers' long-term liabilities to workers⁴ and to ease the flow of information between and about job vacancies and job seekers.

Functioning

In the search for workers, employers can trade off: search costs (length, intensity, or use of intermediaries), wage rates (which would elicit more and better qualified applicants), training costs (which would allow hiring less immediately qualified applicants) [Mills 1978], and labor productivity (higher with better skills, lower with higher turnover based on poor matches). Job seekers can trade search costs, wage rates, or self-training, in opposite fashion.

From an economic perspective, "the goal of the LMI is to improve the efficiency of labor market operations by shortening search time, reducing search costs, and increasing the quality of worker and employer choices. Intermediaries have traditionally addressed these objectives with four basic types of assistance: (1) improved access to labor supply and demand; (2) improved quality and access to labor market information; (3) special assistance to help people prepare for and adapt to job opportunities and labor market transitions; and (4) interpretation of and adaptation to imbalances in the interaction of labor supply, demand, information, and price" [Cassell and Rodgers 1978: 118]. This list emphasizes the *uncertainty reduction* provided by LMIs. Each side, then, would be more likely to use intermediaries when greater wages are at stake, and when intermediation is less expensive.⁵ A rationalist view would assume that workers who expect (based on experience, networks, or socialization) a high return to a longer search and whose living costs are covered during the search will make use of longer or more expensive searches. The same logic should apply to self-financed training – but how can potential seekers know what training will be useful?

If employers are asked to bear the expense of training, they face a form of **employment risk**, insofar as future occupational needs depend on the future states of technology and product markets. Employers also face a **quality risk**, that a new hire (or even an internally trained worker) does not have the full complement of skills that the occupation calls for. In addition, employers face **mobility risk**, the risk that trained employees will leave before the

³ Notice that Spulber omits workers as agents!

⁴ I will use the work "producer" rather than "employer" to designate a public or private organization that produces a good or service for a market or client base, and "worker" rather than "employee," because one important role of some LMIs is to become the employer of record, so that producers can reduce their official "employment."

⁵ Autor [2001] observes that the nearly trivial costs of posting résumés and job announcements on on-line job boards (a form of intermediary) has created a market for further intermediaries (some automated, some with personal interaction) that will sort through the millions of seemingly relevant résumés and announcements.

employer has recouped a return from the investment, and that another employer will gain the benefit of a trained employee.

Types

Mills [1978] attempts to compare different types of LMI, according to the possible roles each plays. It's relevant here to quote Cassell and Rodgers [1978: 123]: "The LMI best prepared to provide specialized services differs by sector, by characteristics of persons in the local labor supply, and by community, state, and region. It cannot be assumed, therefore, that any particular organization [or medium, such as print, broadcast, or on-line information brokers] is an automatic presumptive deliverer of [a particular of these activities]."

Table 1: Institutions or mechanisms that play roles
in LMI
Educational institutions
Formal
Private Vocational Schools
Formal Apprenticeship
Want Ads
Public Employment Service
Public Employment and Training Programs
Union Referral Programs
Private Employment Agencies
Temporary Help Agencies
Trade Association Meetings & Journals
Labor Contractors
Correctional Institutions
Informal Processes
Internal Labor Markets

Table 2: Roles required to prepare and match
workers and producers
Job Referral & Placement
Information Transfer
Job Search
Occupational
Community
Screening
Accreditation of Applicant
Orientation to Work
Counseling
Remedial Education
Training and Work Experience
Vocational Rehabilitation
Job Development: solicits the creation of new jobs
Financial Assistance
Follow-Up

Temporary and Project-Based Employment

The National Research Council [2001] defines a broad category of "**project-based employment**": (1) regular employees whose continued employment is contingent on the organization matching them with subsequent projects; (2) self-employed contractors; (3) third-party contractors, employed by (a) temporary services firms that do not oversee the actual work done or (b) "business services firms" hired by clients on a project basis. The NRC report viewed these forms as a way of dealing with tight labor markets and recognizing the limited-term need for highly specialized skill sets – essentially providing scale economies and information sources (uncertainty reduction) to workers and producers.

Temporary employment, whether direct or through LMIs, assists producers to realize labor costs as truly variable [Ciscel & Smith 2005]. Doeringer [1994] recognizes the growth in what he calls "the employment-at-will sector," which indeed has become the dominant form of employment *growth* for highly skilled technical workers, many trades people, as well as low-skilled clerical, service, and assembly workers. These entail the most rapidly growing occupations (with the exception of clerical occupations) in some of the most rapidly growing sectors within the U.S. These "firms want to hire workers who are job-ready, and they deliberately place the burden of human capital formation on workers and schools" [102] – essentially shifting the risks of selecting and paying for training to the individual worker (or the state).

Peck and Theodore [2002] note that temporary employment arrangements account for a much smaller proportion of total employment in the US than in other OECD countries: "The potential demand for temps may be dampened in the US because the 'mainstream' employment relation is already relatively 'deregulated' and because the labor market as a whole is already substantially 'flexible'" [144]. However, the *proportion of temporary employment* handled by LMIs (specifically, temporary services firms) is much *greater* in the US than in many other OECD countries, and the proportion of employment handled by temporary services firms is much greater in non-unionized, relatively deregulated settings within the US.

Temporary Services

Temporary services (TS) as a form of intermediation has been predicated on the quantitative flexibility (esp. important in clerical and support employment), economies of scope (for specialized workers, not needed by individual producers at all times, esp. important in technical and professional workers), and regulatory slipperiness (esp. important in blue-collar employment) it brings to producers [Theodore and Peck 2002]. For "basic" labor, LMIs provide economies of scale in search, from the employer's and employee's perspective. For highly specialized labor, LMIs provide the benefits of established networks of employers and employees.

Gannon [1978] cites early 1970s figures that the US temporary services industry has about 65-70% of its employment of clerical workers, 25-30% in industrial occupations, and 2-5% in professional/technical. He notes "three major periods of growth": 1947-59, when producers began to use temporary services firms to deal with sudden departures or illnesses of workers; the 1960s, when the founder of Manpower, Inc. argued that corporate flexibility would be maximized by a mix of permanent full-time, permanent part-time, and temporary-services employees; and the late 1960s into the 1970s, when temporary services firms began offering project managers, contracted training, and other labor-related services tailored to the producer. Value-added services were expanded in the early 1990s: "national contracts (multisite temporary labor-supply agreements with major corporations), master vendor relationships (centralized coordination of temporary services), and vendor-on-premises (VOP) programs (on-site management of temporary workers)" [Theodore and Peck 2002: 480]. However, VOP arrangements bring greater stability and value-added to temporary services providers at the cost of lower profit margins! The first two provide a sort of "one-stop shopping" for all temp employment needs, analogous to the public-sector attempts to develop one-stop shops for all employment training and placement needs for the individual – each attempts to increase the benefits of intermediation while avoiding the extra activity that it takes to work with a set or series of intermediaries.

Forde and Slater [2005] note the contradictory claims of industry groups, government statisticians, and labor groups regarding the pay and preferences of temporary and agency-employed workers: "60 percent of agency temps earn as much or more than their permanent equivalents" versus "agency pay averages around 68 percent of permanent employee pay" [250]. Temporary workers largely prefer the flexibility, versus most claim it is a second choice to permanent work.

In a survey of organizations belonging to the US trade association ASA (American Staffing Association), 80% of respondents' clients used TS services at times to "fill in for absent employees or temporary vacancies"; 72% at times to provide quantitative, seasonal flexibility; 68% at times for special projects; 59% at times to "help find good permanent employees" [Berchem 2005: 10]. "According to the [US] Bureau of Labor Statistics, 79% of temporary employees and 90% of contract employees work full time, compared with 83% of workers in traditional arrangements" [Berchem 2005: 9]. In the UK, Forde and Slater [2005] found:

- Agency employment is heavily concentrated in "clerical and secretarial and routine operative jobs," and the fastest growing areas are "general clerks, other routine operatives, and stores dispatch workers (mainly warehouse assistants)" [257], and pointedly not in high-skill occupations.
- Agency work and "other temp work" pay substantially less than similar permanent positions, while "fixed-term contract jobs...pay more, on average, than permanent jobs" [260].
- About half of the polled agency workers were in permanent employment a year later. The likelihood of finding permanent employment was lower for older workers and for workers without a post-secondary degree.

From a political economy perspective, LMI eases both the extraction of cost savings from workers (by making employment a function of ever-lower bids from third-party employment agencies) and the shifting of costs onto workers or governments (by reducing the expectation of training or the regulatory requirement for benefits) [Prasch 2005]. This perspective emphasizes the *risk shifting* provided by LMIs. Ciscel and Smith [2005] note the use of LMIs to move the culpability for work conditions from the retailer or brand name, and even from the contract manufacturer, to a third-party labor supplier (or to individual contract workers). Berchem [2005] cites a study by Nayar and Wallinger (published in *Decision Sciences*) that found corporate "earnings, gross margins, and stock returns improved after the increased use of contingent labor" [9].

By using a set of time-series for occupational change, IT adoption, and wage inequality in the US, Howell [1996] concludes "While the early 1980s probably marks the beginning of a new technological regime based on information technologies, in my view the root cause of the radical wage restructuring of the low skilled US labour

market cannot be explained by skill-biased technological change. An alternative 'shifting wage norms' explanation is proposed. ...many employers began to adopt low-wage human resource strategies in the late 1970s" – union-busting, relocation, reliance on temporary and part-time workers [292].

Share prices often increase upon corporate announcements of employment reductions; analogously, political pressure often results in government-agency announcements of employment reductions. Yet reductions in force, even when called "restructurings," are not generally accompanied by proportional reduction in lines of business, desired market share, or government services. Management implication is that labor productivity will rise – but some of the increased output/worker is accomplished through indirect employment, contracted to other producers or to employment intermediaries. The benefits to the primary organization are (a) illusory – the reduction in official employment – and (b) long-term – the reduction of long-term benefit, unemployment insurance, and retirement expenses.

Intermediation in Commodity Chains

The configuration of every commodity chain reflects deliberate attempts by each producer, provider, and intermediary to regulate the entire chain (not just the relationship with its immediate clients and suppliers) to its advantage. Gereffi [1999] emphasizes that market power is conferred by the ability to enforce a monopoly or monopsony on the supply of or demand for a product or service. In any commodity chain, the greatest market power is by the component of the chain with the most sustainable monopoly and monopsony. This is no longer manufacturing except in the most specialized contexts. This is seldom labor.

"The equilibrium bid-ask spread, which separates buyer willingness to pay and supplier costs, is a consequence of transaction costs [searching and matching], asymmetric information [monitoring quality] and the returns to intermediation activities [including the value of time and effort that would go into direct or non-mediated procurement or sale]" [Spulber 1996: 150]. Generally, TS firms have maintained a 30-40% spread between wages paid and revenues/worker. However, this margin has tightened as competition has increased and as TS firms began using less- and less-skilled labor for the low-end industrial positions – where producers have begun to see TS firms as a source of low-wage labor, as opposed to primarily as a source of temporal and regulatory flexibility [Peck and Theodore 2002].

Profits and control could be high for LMIs only if they are the preferred source for a specialization or quality of labor that is very rare in a given region or country. The worker would benefit from being parceled out to the highest bidder, without direct marketing and search costs. The producing firm would be able to identify these rare workers and make attractive limited-term offers. In a "knowledge economy" those rare workers are highly skilled workers whose specializations are needed by different firms at different times, and whose skills benefit from experiences across different firms. "Temporary employment agencies are seen as playing an important role in matching 'expert' knowledge workers with a series of short-term appointments" [Forde and Slater 2005: 254].

Forde and Slater's [2005] illustrate that temp agencies in the UK have been somewhat successful in upgrading their services to the provision of managers and "welfare associate professionals (nurses, therapists, welfare workers)" [259], but that knowledge-intensive and IT workers are hired through other, non-mediated temporary arrangements. I interpret this to indicate that higher skilled and highly specialized workers are more able to rely on their specific resumes and networks, and their employers recognize the need to search directly for a particular set of qualities and capabilities. Meanwhile, less skilled clerical workers and operatives, and more certificated health-care workers (and some IT workers) are able to be "bundled" and hired through intermediaries.⁶ Producers would rather negotiate temporary or project contracts directly with specialized labor, rather than going through a TS firm. The search for possible candidates may be helped by a search firm, especially one that focused on such specialized labor.

⁶ "The TSI has restructured [by increasing its] occupational, industrial, and geographic 'reach,' while the basic business model of the temp agency – the wholesaling of industrial and clerical labor under tight profit margins and relentless competitive pressures – has remained stubbornly impervious to fundamental change" [Theodore and Peck 2002: 484].

"Many agencies have discovered that their attempts to get not just ahead but "above" the competition through value-adding strategies foundered when it became impossible to pass increased costs on to business clients (who hold most of the power in this unusual version of a consumer-driven supply chain)" [Theodore and Peck 2002: 465]. More generally, this indicates the influences on market power within the supply chain, and how the locus of power might differ in different sectors, places, and times. The scarcer the supply of labor and/or the faster the rise in labor demand, the more the TSI can grow, increase profit rates, and increase wages paid. Note that the presence or importance of firm-specific skills increases the tightness of the labor market – but may also reduce producers' willingness to externalize labor through intermediation.

Knowledge Generation and Dissemination Within Organizations

Let's define **organizational competence** as the ability for an organization to make use of information to improve its operations. "Competence has a large tacit component, and is asymmetrically distributed [across organizations]. It may reside in individuals, but is in the context of the theory of the firm and strategic management perhaps best seen as a property of organizations rather than of individuals" Foss [1996: 1]. If competences are to earn a return on the investment required to generate them, they must be: valuable, unique (or a unique combination), not easily imitated, and not easily substituted [Eriksen and Mikkelsen 1996: 62-3].

Organizations gain competencies beyond the knowledge of individuals, through the division of labor. Jessop [2000: 65] emphasizes "the separation of intellectual and manual labor and the transformation of the former into wage labor producing knowledge for the market." The process of creating organizational practices and procedures increases the effectiveness of individuals and reduces the organization's dependence on specific individuals [Nonaka and Takeiuchi 1995]. Therefore, human resources management (recruitment, hiring, training, use of LMIs, contracted labor) is a key part of knowledge management, and a key way that individuals' capabilities become organizational capabilities – or not. How might organizations make use of LMI to maximize competences?

Loasby [1996] distinguishes two dimensions of competences: "the degree of specificity" of application; and "the degree of control" – how well and how exclusively does the firm control the competence [41]. Specificity is enhanced by organizational focus on a set of products, technologies, and market segments, and by the specificity of skills developed and deployed in the organization. As noted above, one important role of LMI is to help producers identify, screen, and hire personnel with specialized capabilities. However, the expense of maintaining specialized expertise prompts some producers to hire these personnel on a project-by-project basis (at times, through intermediaries), which reduces (a) the producer's degree of exclusivity and control over the personnel and (b) the ability of the personnel to work with others in the organization to develop *organizational* competences.

Some research indicates that the regular *movement* of skilled personnel among organizations is beneficial. Capello and Faggian [2005] surveyed 217 firms in Milan (62), Piacenza (65), and Belluno (90), all in prosperous Italian regions, but with very different industrial compositions. Controlling for firm sector and size, their proportion of revenues from "innovative products" showed a significantly positive relationship to these indicators of laborforce mobility:

- employees hired from other local firms in past 5 years / total employees hired in past 5 years;
- employees hired from other local firms in the same sector in past 5 years / total employees hired in past 5 years;
- employees hired from other local firms in different sectors in past 5 years / total employees hired in past 5 years; along with
- "Importance of local suppliers and customers in fostering product innovation."

Cooke et al. [2005] surveyed 455 smaller firms, grouped into five sectors, across all 12 UK Standard Regions. The authors asked questions about the firms' economic and innovative performance, business collaborations, and managers' social connections – within and outside their local regions. From this, the authors extracted relationships between SME performance and inter-firm connections (what they called firm-specific social capital), and between SME performance and aggregates of social capital within each region. They found that individual firms' connections matter for their innovativeness. "Specifically, innovative firms tend to make greater use of collaboration and information exchange, to be involved in higher trust relationships, and to make greater use of non-local networks" [1074].

Knowledge Generation and Dissemination Within Regions

Much recent writing has argued that useful knowledge is a linchpin of macroeconomic productivity, and that despite the seeming mobility of "knowledge," some of its development and use is tied to particular places. Perhaps more broadly, Storper [2002] argued that "learning economies" is a more accurate description of successful economies than "post-industrial," "flexible," or "knowledge-based," which phrases suggest that capitalism has fundamentally changed and that disembodied "knowledge" is paramount.⁷ A region can be simultaneously a locus of shared communities of cultural and technical practice, a container of potential employees and support services familiar with surrounding sectors and actors, and a source for smaller firms to ideas far outside the individual entrepreneur's experience [Belussi and Gottardi 2000].

Labor force management (including training, migration, and inter-organizational movement) is key to the development of regional knowledge and learning. How might regional institutions operate to maximize regional learning?

Regional economic development policy has increasingly recognized that residents and institutions are the "stickiest" regional assets. Rather than chasing and subsidizing private capital investment, State and local governments should attempt to draw residents into the labor force, subsidize their occupational attainment and further training, provide high-quality physical infrastructure, and catalyze mixed-sector forums for information sharing about human-resource needs. Education and training provided by secondary and two-year post-secondary institutions are the most important to calibrate to local needs, as these services are used almost exclusively by local residents and local employers.

Labor stability and tenure result in more returns from employer-provided training, and greater importance in keeping long-term employees interested and challenged [Stern 1996; Freeman 1988; Sorge and Streeck 1988; Jessop 2000; Gertler 2004]. Rapid increases in worker mobility (whether motivated by employers or employees) reduces employers' already-low willingness to invest in worker training. However, it increases workers' desire for continued training [Stern 1996]. One result of this is indeed the increased willingness of workers, especially knowledge workers, to bear the time and out-of-pocket costs of training (through corporate certification, community colleges, online courses, advanced degrees). This has increased the demand for evening, distance, and professionally oriented programs by colleges, universities, product vendors, and for-profit training centers: another example of the externalization of costs and risks from producers onto workers and their households, and onto the public sector. It also makes it very important that workers be able to get advice on reasonable training choices and options – advice that is hard to get, since the colleges and universities don't know what will be needed in the future. Does this result in misallocation of resources spent on education and training? Does this over-steer workers toward general programs?

We can imagine two alternative regional economic implications of the externalization of labor and labor training:

- (1) Labor mobility and labor contracting, assisted by LMIs, allows the individual to become an agent of intercorporate and regionally based learning.
- (2) Labor contracting and temping may provide limited learning to the individual worker, but because the worker does operate and move as an individual, this form of inter-firm articulation leads to even less organizational learning than does even a simple division of labor.

The salience of (1) versus (2) depends on the occupation of the worker, the extent to which competitive advantage is lodged or sourced in that occupation, the geography of worker mobility, and the ability of organizations to make use of individuals' knowledge and networks.

However, the individual is not the only object of training and development, in creating regions with adaptability and innovativeness. "Social capital" is a complex notion that includes mutual awareness of individuals' and organizations' competences and weaknesses, sufficient trust among individuals and organizations to allow (at least limited) collaboration, and the possibility for regular interaction toward shared goals [Tura and Harmaakorpi 2005]. Geographic proximity increases the possibility of close interaction among organizations and movement of

⁷ Florida and Kenney [1993] coined the phrase "innovation-mediated production" to encapsulate the role that product, process, organizational, and marketing innovation play in creating profitability in almost every sector.

individuals among organizations. Sectoral similarity increases the proportion of individuals with knowledge, skills, and backgrounds that are valuable in the organizations they move into. This is one source of the beneficial results of "clustering" in those sectors and activities based on new knowledge. **Leadership** is the practice of identifying these common motives and goals, and working with and across them to align people's activities [Burns 1978].⁸ **Leadership development** (as opposed to leader training) entails improving groups' self-awareness and effectiveness of groups, and improving ability of the group to liaise with other groups to accomplish specific tasks. Leadership development focuses on groups and their constituent members, getting all members to play (varied) leadership roles⁹ [Day 2001].

Conclusions

Academic writing and policy formulation would be improved by viewing LMIs as parts of commodity chains: firms and other institutions that add value by reducing, shifting, or managing the several risks associated with identifying, selecting, contracting with, and training employers and employees. This perspective allows us to understand the circumstances under which LMIs shift risk, reduce risk (to the benefit of the system), and which party(ies) benefit from the reduction in risk. Government regulation and institutional norms can then be adjusted to place costs and risks more deliberately.

Labor market intermediaries, conceived broadly to include private, public, education-based, and communitybased organizations, exist in part to bring some coherence to the movement and development of individuals among organizations. They play roles in individuals' skill development and in organizations' creation of internal and external knowledge communities ("communities of practice" in the parlance developed by Wenger [1998]). Identifying the operation and implicit coordination among these organizations is an important policy-design problem.

There is, of course, irony in the need for increased cooperation and communication within and among producers at the same moment in capitalism when the fordist norm of long-term employment by core workers has eroded. Key personnel must develop strong connections quickly within and outside their organizations. This literature suggests that skilled workers and managers (even entrepreneurs) have become part of a constellation of resources within a region (or around the world), and that they freely associate with each other for limited amounts of time, recognizing (in optimal cases) that their individual achievements depend on high-quality associations.

References

- Autor, D. 2001. Why do temporary help firms provide free general skills training? *Quarterly J. of Economics* 116(4): 1409-1448.
- Autor, D. 2004. Labor market intermediation: what it is, why it is growing, and where it is going. *NBER Reporter* (Fall). Accessed at <u>http://www.nber.org/reporter/fall04/autor.html</u>, 24 May 2006.
- Belussi, F. and G.Gottardi. 2000. Models of localised technological change. Ch. 1 in *Evolutionary Patterns of Local Industrial Systems: Towards a Cognitive Approach to the Industrial District*, ed. by Fiorenza Belussi and Giorgio Gottardi. Aldershot, England: Ashgate.
- Berchem, S.P. 2005. Rebound: ASA's annual economic analysis of the staffing industry. *Staffing Success* (May-June): 1-11.
- Burns, J.M. 1979. Leadership. New York: HarperCollins.
- Capello, R. and A.Faggian. 2005. Collective learning and relational capital in local innovation processes. *Regional Studies* 39(1): 75-87.
- Cassell, F.H. and R.C.Rodgers. 1978. The public employment service as a labor market intermediary. Ch. 4 in *Labor Market Intermediaries*, Special Report 22, National Commission for Manpower Policy (Washington, DC).

⁸ "Leadership is the reciprocal process of mobilizing, by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers" [Burns 1978: 425].

⁹ Viewing "leadership as a social process that engages everyone in the community,... each person is considered a leader, and leadership is conceptualized as an effect rather than a cause" [Day 2001: 583].

- Ciscel, D.H. and B.E.Smith. 2005. The impact of supply chain management on labor standards: the transition to incessant work. *J. of Economic Issues* 39(2): 429-437.
- Cooke, P., N.Clifton, and M.Oleaga. 2005. Social capital, firm embeddedness and regional development. *Regional Studies* 39(8): 1065-1077.Gorton, G. and Winton, A. 2003. Financial intermediation. Wharton Financial Institutions Center working paper 02-28; *Handbook of the Economics of Finance*, edited by George Constantinides, Milt Harris and Rene Stulz (Amsterdam: North Holland).
- D.V. Day. 2001. Leadership development: a review in context. Leadership Quarterly 11(4): 581-613.
- Doeringer, P.B. 1994. Can the U.S. system of workplace training survive international competition? Ch. 5 in *Human Capital and Economic Development*, ed. by S.Asefa and W.C.Huang. Kalamzoo, Michigan: Upjohn Institute.
- Eriksen, B. and J.Mikkelsen. 1996. Competitive advantage and the concept of core competence. Ch. 4 in *Towards a Competence Theory of the Firm*, ed. by Nicolai J. Foss and Christian Knudsen. London: Routledge.
- Florida, R. and M.Kenney. 1999. *Financiers of Innovation: Venture Capital, Technological Change and Industrial Development*. Princeton: Princeton U. Press.
- Forde, C. and G.Slater. 2005. Agency working in Britain, character, consequences and regulation. *British J. of Industrial Relations* 43(2): 249-271.
- Foss, N.J. 1996. The emerging competence perspective. Ch. 1 in *Towards a Competence Theory of the Firm*, ed. by Nicolai J. Foss and Christian Knudsen. London: Routledge.
- Freeman, C. 1988. Japan: a new national system of innovation? Ch.16 in *Technical Change and Economic Theory*, ed. by Giovanni Dosi, Christopher Freeman, Richard Nelson, Gerald Silverberg, and Luc Soete. London: Pinter.
- Gannon, M.J. 1978. An analysis of the temporary help industry. Ch. 7 in *Labor Market Intermediaries*, Special Report 22. Washington, DC: National Commission for Manpower Policy.
- Gereffi, G. 1999. International trade and industrial upgrading in the apparel commodity chain. J. of International Economics 48: 37-70.
- Gertler, M.S. 2004. *Manufacturing Culture: The Institutional Geography of Industrial Practice*. Oxford: Oxford University Press.
- Howell, D.R. 1996. Information technology, skill mismatch and the wage collapse: a perspective on the US experience. Ch. 14 in *Employment and Growth in the Knowledge-Based Economy*. Paris: Organisation for Economic Co-operation and Development.
- Jessop, B. 2000. The state and the contradictions of the knowledge-driven economy. Ch. 5 in *Knowledge, Space, Economy*, ed. by J.R.Bryson, P.W.Daniels, N.Henry, and J.Pollard. London: Routledge.
- Loasby, B. 1996. The organization of industry. Ch. 3 in *Towards a Competence Theory of the Firm*, ed. by Nicolai J. Foss and Christian Knudsen. London: Routledge.
- Mills, D.Q. 1978. Labor market intermediaries: an overview. Ch. 2 in *Labor Market Intermediaries*, Special Report 22. Washington, DC: National Commission for Manpower Policy.
- National Research Council. Committee on Workforce Needs in Information Technology. 2001. *Building a Workforce for the Information Economy*. Washington DC: National Academy Press.
- Nonaka, I. and H.Takeuchi. 1995. The Knowledge-Creating Company. New York: Oxford U. Press.
- Peck, J.A. and N.Theodore. 2002. Temped out? Industry rhetoric, labor regulation and economic restructuring in the temporary staffing business. *Economic and Industrial Democracy* 23(2): 143-175.
- Prasch, R.E. 2005. The social cost of labor. J. of Economic Issues 39(2): 439-445.
- Sarker, M., Butler, B., and Steinfeld, C. (1995). Intermediaries and cybermediairies: a continuing role for mediating players in the electronic marketplace. *Journal of Computer-Mediated Communication*, 1(3).
- Sorge, A. and W. Streeck. 1988. Industrial relations and technical change: the case for an extended perspective. R. Hyman and W. Streeck, eds. *New Technology and Industrial Relations*. Oxford: Blackwell.
- Spulber, D.F. 1996. Market microstructure and intermediation. Journal of Economic Perspectives, 10(3): 135-152.
- Stern, D. 1996. Human resource development in the knowledge-based economy: roles of firms, schools, and governments. Ch. 10 in *Employment and Growth in the Knowledge-Based Economy*. Paris: OECD.
- Storper, M. 2002. Institutions of the learning economy. Ch. 7 in *Innovation and Social Learning: Institutional Adaptation in an Era of Technological Change*, ed. by M.S.Gertler and D.A.Wolfe. Basingstoke, Hampshire: Palgrave Macmillan.
- Theodore, N. and J.Peck. 2002. The temporary staffing industry: growth imperatives and limits to contingency. *Economic Geography* 78: 463-493.
- Tura, T. and V.Harmaakorpi. 2005. Social capital in building regional innovative capability. *Regional Studies* 39(8): 1111-25.

Wu, S.D. 2004. Supply chain intermediation: a bargaining theoretic framework. Ch. 3 in *Handbook of Quantitative Supply Chain Analysis: Modeling in the E-Business Era*, David Simchi-Levi, S. David Wu, and Z. Max Shen (Eds.). Kluwer Academic Publishers.

Wenger, E. 1998. Communities of Practice: Learning, Meaning, and Identity. New York: Cambridge U. Press.