18 Intellectual property and restrictive covenants

Orly Lobel

1 Introduction

Every day, corporations and individuals innovate, invent and compete for success. The decisions we make about innovation are influenced by the benefits, risks and environment in which we interact. This chapter connects the fields of employment relations and intellectual property (IP) by exploring structures of ownership in ideas, skills and the transmission of knowledge in contemporary markets. The chapter examines contractual and regulatory constraints on the use of knowledge, skill and information acquired during the employment relationship. Three interrelated areas of employment regulation are discussed: (1) covenants not-to-compete; (2) trade secrets and non-disclosure agreements; and (3) employee inventions, including pre-invention patent assignment agreements. Drawing on both theoretical literature and empirical analyses of different parts of the labor market, the chapter considers the effects of employment-based intellectual property (EIP) law on market innovation and mobility.

Today’s economy is driven by high velocity labor markets while at the same time relying on highly skilled employees to demonstrate strong commitment to research and development in their firms. While there has been significant attention to the general role of IP law, the role of employment law and contracts in the context of IP and human capital mobility is a relatively new and understudied field. Recent empirical analysis can help assess the differences in regulatory and contractual employment arrangements in the field of intellectual property and explain how these differences may impact the rates of network participation in intellectual endeavors, individual motivation and innovation, organizational behavior and labor market mobility. Jurisdictional variation in legal definitions and contracts serves as a natural experiment to examine the abovementioned effects. A common point of departure in the analysis of EIP is the tradeoff between knowledge development and dissemination (or spillovers), as well as between employee and firm ownership of inventions developed in the workplace.
2 Regulatory and contractual controls over employment-based intellectual property

Intellectual property rights in the employment relationship are governed by common law doctrines, statutory law and contractual arrangements. Employment contracts are commonly characterized as informal, unwritten, implicit, relational contracts that evolve over the period of employment. This characterization remains true of many aspects of the employment relationship as the terms and conditions of work are frequently left unspoken. However, over the past few decades employers have increasingly demanded control over IP rights and post-employment activity. In order to augment this control over the flow of information and skill, employers frequently demand that employees sign covenants not-to-compete and agreements to assign inventions to the company.

Despite the prominence of restrictive covenants and the significance of EIP, the scholarly literature in this area is relatively thin. At the same time, legislators and judges have been struggling to determine the legality and scope of such contractual arrangements by defining default rules, prohibiting ‘unreasonable’ restrictions and interpreting contractual boundaries. Often these statutory and judicial definitions look to balance various factors rather than draw bright line rules. This is largely due to competing interests and concepts of innovation which co-exist in the jurisprudence (Table 18.1). Courts frequently note the two leading tradeoffs between interests in the field: the law values both innovation and dissemination of knowledge; the law aims to both encourage investment training and skill development and to encourage the free flow of information by protecting employee mobility (Lessig 2006; Stone 2002a and Stone 2002b; Kitch 1996).

Moreover, two competing notions of innovation – that innovation happens in individual ‘eureka’ breakthrough moments and that innovation takes place collectively in incremental stages – underlie the uncertainties of the tradeoffs between protections to individuals and firms (Merges 1999; Bartow 1997). As a result of these competing interests, courts usually apply the rule of reason, or ‘reasonableness’, to scrutinizing the EIP arrangement. A common way for judges to draw the boundaries of statutory rights and the reasonableness of contractual agreements in this field is to balance the competing interests at stake (Graves 2006). Inevitably, the standard of reasonableness and the balancing process are applied ad hoc on a case-by-case basis, not easily lending itself to generalization (Fisk 2005). As a result, the lines courts draw between protected and non-protected interests in intellectual property and human capital are not bright ones and the developments in the law leave significant variation among jurisdictions in all three areas of non-competition clauses, trade secret protection and invention assignments.
Non-competition agreements

Non-competition agreements are designed to restrict an employee’s post-employment ability to work for a competitor or start a competing company. Although restrictions on trade are generally unenforceable under the common law, covenants not-to-compete are viewed as an exception. Most jurisdictions in the United States use an overarching requirement of ‘reasonableness’, otherwise referred to as the common law rule of reason (American Law Institute (ALI) 1981, § 188 cmt. a.) when determining the validity of covenants not-to-compete and other restrictive post-employment covenants (Merges et al. 2003). Section 186(1) of the Restatement (Second) of Contracts (1981) states that a noncompete agreement will be found ‘unenforceable on grounds of public policy if it . . . unreasonably’ restrains trade. Most states interpret the reasonableness standard such that non-competes are deemed unreasonable if the restriction is greater than what is needed to protect the employer’s legitimate business interest or if the employer’s need ‘is outweighed by the hardship to the [employee] and the likely injury to the public’ (ALI 1981, § 188 cmt. a.). In other words, the reasonableness of the covenant is determined by a triangular inquiry: (1) From the employer’s perspective, is the agreement reasonable in the sense of not imposing more than what is necessary to protect a legitimate business interest? (2) From the employee’s standpoint, is the restraint reasonable in the sense of not imposing undue hardship? (3) From a public perspective, is the restraint contrary to the public interest (Newman and Crase 2007)? These

Table 18.1  Schematic table of EIP arrangements/tradeoffs

<table>
<thead>
<tr>
<th>Policy Field</th>
<th>IP Protection</th>
<th>Non-protection Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-compete Agreements</td>
<td>Protect Employer’s Investment in Skills &amp; Training</td>
<td>Protect Public Interest in Employee Mobility; Protect Knowledge Spillover</td>
</tr>
<tr>
<td>Non-Disclosure Agreements and Scope of Trade Secrets</td>
<td>Protect Employer’s Valuable Secrets &amp; R&amp;D Investment</td>
<td>Protect Employee Skill and Human Capital; Protect Public Interest in Research Networks and Knowledge Dissemination</td>
</tr>
<tr>
<td>Invention Assignment</td>
<td>Protect Employer’s Investment; Prevent Hold-over Behavior; Anti-commons Inefficiencies</td>
<td>Protect Public Interest in Individual Innovative Motivation</td>
</tr>
</tbody>
</table>
concepts of reasonableness, hardship or legitimacy of interests are all standards that defy bright-line definitions and the courts have largely utilized a case-by-case evaluation that does not easily lend itself to principled analysis. In *Mathias v. Jacobs*, a New York District Court explained the triangular balancing dilemma, noting that while ‘[p]ublic policy favors economic competition and individual liberty and seeks to shield employees from the superior bargaining position of employers’, the court must also consider the interests of ‘freedom of contract’. In the *Mathias* case, the employer’s non-compete contract was deemed unreasonable when its overreaching terms prohibited the employee from having any contact, including purely social interactions, with the employer’s customers and/or prospective customers, the employer’s employees and any entity that might be the subject of a future acquisition by the employer. In most jurisdictions in the United States, the standard of reasonableness has been interpreted to govern the time, subject-matter, and geographic scope of the restrictive covenants. Namely, the enforceability of a non-competition agreement is judged according to the rationality, legitimacy, and fairness of the geographic area implicated, the restriction’s duration, and the realm of competitive activity curtailed. Often the three elements are understood as interrelated. In most states where noncompete clauses are legally allowed but judicially restricted in their scope, courts increasingly consider the speed with which technology changes in a particular field (Dawson 2007; Lester 2001).

Historically, under early English common law, all contracts that tended to restrict trade were void as a matter of public policy. When competition in the United States grew, most courts began gradually to tolerate restraints against trade, including covenants not to compete (*Wright v. Ryder* 1868). Some state legislatures reacted to this shift by enacting laws that declare non-competition agreements void. Today only a handful of states prohibit all or most covenants not to compete between employers and ex-employees. California is unique in its strong stance against the enforceability of non-competition clauses (California Business and Professions Code, § 16600). The California judiciary has stated that California’s strong public policy against restrictive covenants aims to ‘ensure’ that every citizen shall retain the right to pursue any lawful employment and enterprise of his or her choice, ‘protect[ing] the important legal right of persons to engage in businesses and occupations of their choosing’ (*Advanced Bionics Corp. v. Medtronic, Inc.* 2002). However, Gilson (1999) argues that California’s ban is based on a historical coincidence rather than a recent or intentional human capital-based policy. There are conflicting court opinions regarding the intent, proper scope and application of this prohibition on non-competes. The language of § 16600 states that ‘[e]very contract by which anyone is restrained from engaging in a lawful profession, trade, or business of any
kind is to that extent void’. The California Court of Appeal has interpreted § 16600 broadly to prohibit all agreements that do not fall under one of the statutory exceptions (§ 16601 and § 16602) or the trade secret exception. In contrast, the Ninth Circuit Court of Appeals, interpreting California law, has construed § 16600 more narrowly and allows a ‘narrow restraint’ exception to the general rule voiding non-competition agreements. In August 2008, the California Supreme Court in Edwards v. Arthur Andersen reaffirmed that in California, non-competition agreements between an employer and employee that even just ‘partially’ or ‘narrowly’ restrict an employee’s ability to practice the employee’s trade or profession are prohibited. This affirmation of California’s strong stance against any form of non-compete restriction is contrary to what the Ninth Circuit and other federal courts had previously approved as California law.

It should be noted that a central reason why non-competes are necessary as a means of preventing competitive work is that, except under special circumstances, it is well-established that courts will not order specific performance for ‘personal service’ contracts, which include employment contracts. A few critics have argued that the unavailability of specific performance denies employees valuable bargaining leverage (Wonnell 1993). Similarly, Sterk (1993) criticizes jurisdictions that limit the enforceability of non-competes, arguing that such limitations reduce employees’ ability to contract for the sale of their human capital. At the other end of the spectrum, others criticize the enforceability of non-competes from a fairness perspective as limiting employees’ right to work (Closius and Schaffer 1984).

The law and economics scholarly debate on restrictive covenants often begins with the seminal work of Gary Becker (1993), who distinguished between ‘general’ and ‘specific’ job training. General training includes any skills that are valuable to many companies in a given industry while specific training is when an employee develops skills that are only useful to a particular employer (Posner 1998). In Becker’s (1975) model, employees will pay for general training, which provides useful skills for work in the industry, while employers will pay for specific training, which is only applicable to the company. However, according to Rubin and Shedd (1981), restrictive covenants are necessary to promote efficient investment in human capital because, in the real world, some general training costs are too high for employees to self-finance.

For example, knowledge of a customer list or trade secret is general training because it is valuable to more than one employer. In a perfect market, the employee would pay for training in such information either directly or through reduced wages. The employer would not care if the employee left with such information, and was compensated for it by a
competing employer, since the employer would already have been paid for the value of this information by the employee. However, in reality, most salesmen and production employees cannot afford to pay for the value of a customer list or trade secret by any means. As a result, the employer would like to restrict the employee’s later employment to prevent appropriation of the value of the customer list or trade secret. Without covenants not-to-compete, employers would under-invest in employee training (Glick et al. 2002; Rubin and Shedd 1981).

Analyzing the non-compete covenant from an ex-post perspective, Eric Posner and George Triantis (2001) argue that only generalized training should be covered by restrictive covenants and that if the restriction is valuable enough to the parties, they will renegotiate at the time of the possible breach. Trebilock (1986) argues that absent severe market failure, wages will normally reflect the opportunity costs of any future contractual and regulatory restrictions on employee mobility, thus rendering judicial limitations on non-compete contracts unnecessary. Relatedly, Glick et al. (2002) suggest assessing the validity of post-employment covenants not-to-compete under the law and economics framework of market failure. According to their framework, restrictive covenants should always be enforced except where there is evidence of one of three types of market failure: (a) imperfect (including asymmetric) information; (b) constrained choice; and (c) externalities (see Table 18.2). They suggest that under the first two types, standard contract defenses should be used, while with externalities, restraint of trade and the rule-of-reason analysis (as originally applied in common law and implemented in the Sherman Act) should be applied. A different approach is developed by Lester (2001), arguing that failures in the formation and enforcement of non-competes challenge their efficiency and a better approach would be reliance on training repayment agreements.

Table 18.2  Glick, Bush and Hafen typology of market failures

<table>
<thead>
<tr>
<th>Market Imperfections</th>
<th>Corresponding Contract Defense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Externalities</td>
<td>Restraints of trade</td>
</tr>
<tr>
<td></td>
<td>Interference with economic relations</td>
</tr>
<tr>
<td>Incomplete Information</td>
<td>Frustration of purpose</td>
</tr>
<tr>
<td></td>
<td>Mutual Mistake</td>
</tr>
<tr>
<td>Constrained Choice</td>
<td>Unconscionability</td>
</tr>
<tr>
<td></td>
<td>Coercion</td>
</tr>
<tr>
<td></td>
<td>Duress</td>
</tr>
<tr>
<td></td>
<td>Necessity</td>
</tr>
</tbody>
</table>

Source: Glick et al. (2002).
In addition to the debate over the formation and desirability of enforcing non-compete covenants, several commentators question the ability of the courts to place a monetary value on a breach. Russell (1990, p. 90) describes the lack of a mathematical formula for use by the courts to determine the value of a covenant not to compete. According to Russell, ‘there are too many qualitative considerations to consider; the facts and circumstances of each case must be analyzed’. Building on this lacuna, Dawson (2007) develops a mathematical model that could be used to estimate the value of non-competes in order to promote greater consistency and accuracy. Dawson argues that inaccurate damage awards for non-compete breaches create incentives for employers and employees to enter into inefficient contracts. In particular, he suggests that the judicial practice of awarding lost profits, as opposed to fair market value (which, he argues, is less than lost profits) may provide an incentive for employers to encourage more employees to sign covenants not to compete (CNCs) and perhaps even litigate more cases. Dawson warns that ‘if CNC damage awards are too high, the aggregate quantity of CNC restrictions, both in terms of the total number of CNC contracts signed per period and extent of restrictions per CNC contract, may be too extensive. The result would be an undue aggregate restriction on both the entrepreneurial activity of separated employees and an undue aggregate protection of the covenantee’s market share and investment in knowledge-based intellectual property’ (Dawson 2007, p. 56). The critique of overreaching and in terrorem effects of restrictive covenants is frequently voiced (Blake 1960; Fisk 2002).

B Trade secrets

Trade secrets have been particularly difficult to define jurisprudentially. In the United States, forty-two states have enacted trade secret statutes adopting some variation of the Uniform Trade Secrets Act (UTSA) drafted by the National Conference of Commissioners on Uniform State Laws. The UTSA defines a trade secret as ‘information, including a formula, pattern, compilation, program, device, method, technique, or process that (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy’. The requirement of secrecy entails that protection will not be granted to information that is public or discernible by proper means. The UTSA allows injunctive relief as well as monetary remedies for misappropriation. It should be noted that in some cases trade secret misappropriation is a criminal offense. The Economic Espionage
Act of 1996 has made theft of trade secrets a federal crime. The definition of trade secret in the act generally tracks the USTA.

Despite statutory definitions of trade secrets which usually follow the UTSA, courts still struggle with defining the boundaries of protected trade secrets. In general, again recalling Becker’s seminal analysis, courts have tried to distinguish between general skills which belong to the employee, and general proprietary information of companies, which can be the subject of trade secrets and non-disclosure agreements. In other words, the rule that an employer cannot protect knowledge or skills gained from general training is frequently the starting point for courts’ analysis. There is no clear rule, however, drawing a line between the two. As one scholar describes this difficulty, ‘outside the fuzzy line delineating protectable trade secrets are . . . categories of unprotectable information [including] . . . that which constitutes an individual’s personal or professional skills’ (Pooley 2006, p. 101). Over the years, different jurisdictions have debated whether trade secrets encompass such information as customer lists and data, contract expiration dates, product costs and pricing formulas, marketing plans, advertising methods and business strategies. For example, the area of negative know-how, the idea that an employee who moves to a new workplace can be liable for not repeating past mistakes and failures, has been described as one of ‘the strangest’ EIP developments (Graves 2007). More broadly, defining the lines between industry know-how and firm-specific knowledge has been an ongoing adjudicatory struggle. Some courts refuse to find company proprietary rights over their employees’ ‘problem-solving ability or knowledge of mistakes to be avoided’ (SI Handling Systems v. Heisley 1985). Some courts show great deference to the definitions of employers of proprietary information. Courts that are more reluctant to expand the range of trade secrets indicate greater concern about promoting competition, free flow of information or employee mobility. Similarly, some courts require far greater specificity on the content of the trade secret, requiring employers to identify the precise proprietary information supporting the non-compete and show that this information is indeed confidential and at least partly unique.

As with covenants not to compete, courts attempt to prevent employer restrictions over information which is part of the general training livelihood of an employee. One court limited protected interests to cases where the training or education is ‘extraordinary’, defined as ‘that which goes beyond what is usual, regular, common, or customary in the industry in which the employee is employed’ (Hapney v. Central Garage, Inc. 1991). Another court recently explained that ‘no restrictions should fetter an employee’s right to apply to his own best advantage the skills and knowledge acquired by the overall experience of . . . previous employment, [including] those
techniques which are but skillful variations of general processes known
to the particular trade’ (Sevens Enterprises, Inc. v. Del Rosario 2006).
Nevertheless, some jurisdictions have recently allowed employers to claim
ownership over employee skills as part of costly employer investments in
training, regardless of the type of training (Arnow-Richman 2007).

In general, the definition of trade secrets has expanded over the years
(Kitch 1996). The definitional and doctrinal variations indicate the juris-
prudential uncertainty about the law and policy of trade secret law and
restrictive covenants. Moreover, because of the ambiguity in the legal
definition of trade secrets and their uneven enforcement across various
industries, employees often misinterpret their obligations and are uncer-
tain about their possible liabilities (Feldman 2003). In an empirical study
of Silicon Valley high-tech workers, Feldman (2003) demonstrates the
significance of workplace culture and industry norms to trade secret defi-
nition and enforcement. Hyde (2003) similarly argues that in the Silicon
Valley, characterized by high mobility and a networked economy, employ-
ers have tended not to enforce their trade secret contractual and statutory
rights through litigation.

The relationship between non-compete covenants and trade secret pro-
tection is complex. In the context of enforcement of non-competes, some
courts require the existence of a trade secret to support the enforceability
of the contract. In trade secret litigation, the existence of a restrictive
covenant often serves as evidence of the employer’s efforts to maintain
secrecy. Finally, some states employ the doctrine of inevitable disclosure in
trade secret litigation, which allows the creation of a de facto non-compete
restriction, even absent a restrictive covenant, if the employer can demon-
strate that the ex-employee will inevitably misappropriate trade secrets in
her new position (Godfrey 2004).

As with covenants not to compete, economic analysis of trade secrets
suggests that protection of information through trade secret doctrine and
non-disclosure contracts is necessary to encourage investment in skill
training, research and development. Bone (1998), for example, argues that
protection of trade secrets is necessary to allow employers to recoup their
investment, tracing the same rationales for granting copyright and patents.
Similar to Rubin and Shedd (1981) in the context of non-competes, Kitch
(1980) explains that the possibility of an employee paying for the informa-
tion him or herself is likely to run into liquidity problems. Similarly, carrots
or ‘golden handcuffs’, such as stock options, deferred compensation and
other forms of profit sharing, are limited in their ability to replace the
sticks of EIP restrictions (Lester 2001). Lester and Talley (2000) develop a
model for adjudicating disputes over valuable trade secrets, arguing that an
optimal trade secret doctrine would expressly consider the parties’ relative
skills at making value-enhancing investments. Importantly, the context of non-disclosure agreements, like non-competes, is ridden with information asymmetry (Arnow-Richman 2001, 2007; Estlund 2006). Normally, the employer knows more about the material information that will be disclosed and the nature of its operation. Often the employee is asked to sign a non-disclosure agreement without seeing the information itself which is the subject of the agreement, as well as without knowing about the company and its likelihood of succeeding. As a result, there may be an incentive for the employer to keep the details of the information vague (Triantis 2002).

Finally, the context of trade secrets disputes is frequently used in illustrating the problem of strategic litigation. Strategic litigation on the part of the ex-employer occurs where the employer does not in fact seek to vindicate a substantive legal right such as trade secret misappropriation, but instead uses the litigation process to impose costs on the opposing party – the ex-employee and the new employer. The example is most salient when an employee leaves to form a start-up venture. Litigation of trade secret claims, even if largely without basis, can create sufficient uncertainty to kill the venture (Silverman 1990). The growing importance of EIP should provide fertile grounds for future study of the effects of trade secret law and contract on employee mobility, innovation and organizational behavior characteristics.

**C Invention assignment**

Employers routinely demand that new employees sign contractual agreements pre-assigning any future inventions to the employer, including hold-over clauses (that is, the assignment of any job-related patents even if filed after the employee leaves the company). In today’s economy, most employees do not have property rights in their inventions (Merges 1999). Both the common law default rules and common contractual agreements generally assign IP ownership to the employer (Fisk 2005). Under existing law, however, eight states limit the ability of employers to contractually pre-assign employee inventions by statute, and in other jurisdictions courts have limited the scope of assignment using public policy and reasonableness standards. The California statute, which is typical of the eight minority states, prohibits pre-assignment where an employee’s invention was ‘developed entirely on his own time without using the employer’s equipment, supplies, facilities, or trade secret information’, unless the invention is related to ‘the employer’s business or actual or demonstrably anticipated research or development’ or when the invention is a result of ‘any work performed by the employee for the employer’. In the majority of states, however, courts interpret pre-assignment contracts broadly and favorably for the employer, finding the contracts binding even in cases
when the employee had already invented the invention before signing the contract.

A common explanation for the widespread default rules in favor of employer ownership is risk allocation – employers invest the resources and incur the risk of production while employees prefer a stable secure salary (Posner and Landes 2003). Another explanation is that today’s invention occurs through team production rather than individualized effort. Granting multiple inventors property rights can result in anti-commons inefficiencies (Heller 2005), including the transaction costs of re-assembling rights. In addition, economic analysis predicts that the incentive structure to invent can be captured in the workplace by a reward system rather than the traditional patent assignment (Gely and Bierman 2004; Merges 1999). Nevertheless, some scholars argue that the current policy of employer ownership drains individual creativity and stifles workers’ will to produce (Bartow 1997; Riley 1994). In practice, as described above, while most jurisdictions allow broad pre-invention assignment, some jurisdictions are more concerned about a broad scope of invention assignment to employers.

Moreover, in some industries, in particular in a university setting, there is a more common practice of shared ownership. Yet, even in university settings, in the past few years there has been a process of redefining invention ownership policies and allocating a smaller share to employees (Mowery et al. 2004). As in other areas of EIP, courts attempt to balance the competing interests under the assumption that the public good is benefited both from allowing companies to contractually pre-assign patent rights to the employer and from encouraging the individual inventor through patent rights. Again, jurisdictional variation and industry variation are fertile grounds for further research on spillover, innovation and optimal employment arrangements.

The question of IP ownership assignment is closely related to the analysis of start-up ventures. As Bankman and Gilson (1999, p. 289) describe, ‘[t]he prototypical start-up involves an employee leaving her job with an idea and selling a portion of that idea to a venture capitalist’. They engage the puzzle of whether we witness more former employers developing more of the ideas that serve as the basis of a start-up venture. The question is puzzling since the former employer ‘can be expected to have better information concerning the employee-entrepreneur and the technology, have opportunities to capture economies of scale and scope not available to a venture capital-backed start-up, and will receive more favorable tax treatment than the start-up should the innovation fail. In connection with an auction of the idea, the former employer should have both a more accurate estimate of its value and receive an element of private value not available
to the venture capitalist’ (Bankman and Gilson 1999, p. 289). Bankman and Gilson (1999) suggest that the venture capitalist may have superior information about the employee innovation and that employer bids on employee innovation may create future incentive for other employees to establish internal property rights in their research efforts, thus reducing future research and development output. As an alternative explanation for the high rates of start-ups, Wiggins (1995) describes the difficulty of enforcing employers’ promises of compensation to the employee for a successful innovation. Anton and Yao (1995) similarly argue that because property rights are imperfectly specified in the context of employee invention, we witness inefficient results, where an employee will prefer to venture a start-up even when joint employer/employee ventures would be more profitable if the employer was introduced to the innovation.

In sum, increasingly and frequently in high-skill work, employers demand written restrictive contracts from their employees as part of the hiring or promotion process. A common theme in EIP adjudication is an attempt to foster competition and information flows through employee mobility, while at the same time protecting the employer’s legitimate IP interests and encouraging R&D investment. Moreover, common concerns include overreaching by employers, increasing transaction costs because of doctrinal uncertainty, and the tradeoffs inherent in the selection of categorical rules versus defaults. The lines the law draws between protected and non-protected interests are still evolving and their effects are understudied. Crucial questions remain unsettled about the relative impact of policy regimes, institutional arrangements and contractual relations on generating ideas and innovation and the flow of information.

3 The information economy and the new world of work: industry-dependent policy?

In 1928, Joseph Schumpeter described the challenge of innovation as ‘the resistances and uncertainties incident to doing what has not been done before’ (pp. 379–80). Schumpeter thus described successful innovation as accessible for, and appealing to, only a distinct and rare type of individual. Today’s workplaces, however, innovate daily. Twenty-first century companies rely on highly skilled employees to engage in research and development and to offer ideas on how to be more productive, unique and efficient. The new workplace is flatter than in the past in the sense of having a less hierarchical structure and a greater emphasis on bottom-up production (Lobel 2001, 2003, 2006). In some organizations, the ‘boss’ becomes more of a ‘coach’, motivating and training her employees to think rather than take orders. The shift from twentieth-century industrial production to a twenty-first century digital era has meant that companies
derive value from knowledge work. In the early twentieth century, an era of industrial production, job descriptions were clearly defined (Lobel 2003). Today, employers expect spontaneous and innovative activity from their employees, beyond any specific role description (Deckop 1999). This is particularly true in certain industries that rely on constant innovation to remain competitive. For example, the biotech industry introduces new products in a rapid and changing environment and intellectual property is the dominant asset in the industry (Fraser Tiedemann 2007). At the same time, as the new economy is characterized by increased mobility, dynamic technological changes and rapid industry restructuring, employees must move among jobs more than in the past (Lobel 2001, 2006). As several of the chapters in this volume demonstrate, work relations have become more casual in the sense that there is a reduced expectation of continuity. Employees are expected to be more mobile, not only locally but globally.

Recent studies of the economics of geography are significant to the field of EIP in the new economy. There is growing empirical evidence that high employee turnover is positive for productivity in certain types of industries, particularly those in which research and development is a core activity (Almeida and Kogut 1999; Abowd et al. 2007). Economic geographer AnnaLee Saxenian (2002) characterizes the new global economic mobility as the shift from ‘brain drain’ to ‘brain circulation’. She uses the image of the Greeks who sailed with Jason in search of the Golden Fleece to describe ‘the new Argonauts’: foreign-born, technically skilled entrepreneurs who, armed with Silicon Valley experience, quickly form partnerships and manage cross-border business operations. Indeed, the Silicon Valley has bred a mythology of employees who leave stable, well-paid positions, and work out of their garage to become highly successful in the knowledge economy (Bankman and Gilson 1999). Some scholars have suggested that California’s refusal to enforce non-compete clauses has contributed to the success and growth of high-tech, high-velocity networks such as those in the Silicon Valley (Saxenian 1994, 2002; Gilson 1999; Hyde 2003). Hyde (2003) views innovation as inherently ‘porous to outside influence’, suggesting that it is the mobility of workers that positively affects industry growth. Gilson (1999) discusses agglomeration economies, which are spatially connected industries that benefit from their network ties and proximity. Moreover, Saxenian (1994) suggests that the Silicon Valley’s growth has in part enabled a culture in which business failure was perceived as a positive step in the evolution of high-tech entrepreneurs. Related to the success of Silicon Valley and its highly skilled, highly mobile labor force, is another fertile area of inquiry: positive spillovers and partnerships between universities and private sector companies. Universities create fundamental research that serves as the basis for applied innovation in the private
sector (Lemley 2006; Mowery et al. 2004). Alliances between universities and private industry have been central in certain high-density innovation localities (Rai and Eisenberg 2003; Azoulay et al. 2007).

One of the central ways in which knowledge is diffused in the market is through employee mobility. Workers engage with technologies, systems and ideas and frequently move to new companies. The broad policy concern is how to maintain the ability of workers to change their employment freely, and at the same time, facilitate teamwork and corporate investment in research and development projects. However, there is presently relatively little research comparing information spillover contributors and the ways in which non-competition law and doctrine affect knowledge diffusion (Frischmann and Lemley 2007; Bishara 2006). The recent developments in the labor market have raised questions about how to strike the best balance between an employee’s mobility and the protection of the employer’s business investment and intellectual property in the new economy. Recent scholarship argues that an updated set of policies and programs must follow. Stone (2001, 2002b) for example, argues that because the new psychological contract between employers and employees includes the promise for employees that they will gain new skills and maintain mobility, non-competes should only be enforced when they protect trade secrets. Fisk (2006) argues that in today’s highly mobile and creative labor market, the law should recognize attribution rights for employees as separate from exclusive rights to control and exploit information. Bishara (2006) suggests a hybrid model of selective enforcement that differentiates among workers as ‘creative’ or ‘service’ employees. The hybrid model attempts to reconcile the goal of promoting employer investment in skill training and the goal of promoting information spillover through employee mobility by enforcing stronger restrictions in the context of service employees and only weaker restrictions in the context of creative employees (Figure 18.1).

Beyond academic inquiry, there are indications that courts are also increasingly concerned about the changing nature of the new economy and its fit with EIP doctrines. For example, some courts have held that while non-compete covenants that restrict competitive employment for three years were enforceable in the past, in today’s fast-paced industries, covenants lasting over one year curtail the public interest in employee mobility and are not necessary to serve the employer’s interest. As companies face change at unprecedented rates and need employees who are highly capable, experienced and willing to exercise independent judgment, the field of EIP is likely to become the subject of more interdisciplinary inquiry. Human capital is one of the most important assets of companies in many industries and both the ability to retain skilled employees and positive
spillover from employee mobility are key to economic development and competitiveness.

4 Conclusion

While there is an enduring debate and inquiry about the effects of intellectual property law and policy on inventive activity and technological progress, the intersection between employment law and intellectual property rights has been relatively understudied and there is fertile ground for more empirical and theoretical inquiry. As should be evident from the above discussion, the jurisprudence and scholarly analysis of the field of EIP is still in formation. In all of these contexts of EIP, because restrictive covenants are ex-ante arrangements and the adjudication of disputes is generally decided through balancing of interests, arrangements will regularly be imperfect. Moreover, interwoven developments in production, technology and globalization have changed the nature of labor and employment law relations. While many commentators have recognized the mismatch between existing policies and contemporary market realities, the literature that attempts to offer a comprehensive vision for twenty-first-century employee intellectual property law is still scarce. More studies are needed for a full assessment of how differences in regulatory and contractual
arrangements in the employment relationship impact such ventures as the rate of patent filings, the rates of network participation in intellectual endeavors, individual and group innovation, organizational behavior and labor market mobility.

Bibliography


Almeida, Paul and Bruce Kogut (1999), ‘Localization of Knowledge and the Mobility of Engineers in Regional Networks’, Management Science, 45 (7), 908–17.


Intellectual property and restrictive covenants


California Business and Professions Code, § 16600.


Vitols, Sigurt and Lutz Engelhardt (2005), ‘National Institutions and High Tech Industries:


List of cases

International Business Machines Corp. v. Bajorek, 191 F.3d 1033–42 (9th Cir. 1999).
Wright v. Ryder, 36 Cal. 342–62 (1868).