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An Economic Analysis of Employee Noncompetition Agreements

Edward M. Schulman*

I. Introduction

An employee will often enter into a noncompetition agreement with his employer under which the employee's right to work for a competitor, or engage in a certain type of business, is restricted after his current employment is terminated.[1] Usually such an agreement restricts the employee's right to engage in a similar business within a certain geographic area for a period of time and prohibits the employee from soliciting customers he dealt with while working for his former employer. Although such an agreement does not completely restrict the employee's future work options, its restrictions could be so onerous that the employee will remain with his current employer rather than attempt to engage in business elsewhere. Occasionally the restrictions of such an agreement are absolute, completely prohibiting the employee from ever engaging in the business anywhere.[2]

Under the common law, an employee noncompetition agreement is a restraint of trade, for it is "a promise [which in] its performance would limit competition in any business or restrict the promisor in the exercise

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1. There are no modern surveys that gauge the extent to which noncompetition agreements are used in the employment context. One older study revealed that of 86 corporations surveyed in 1965, 83 attempted to protect trade secrets through contractual arrangements with employees. 12 Bus. Organizations § 3.02, at 3-8 (1983), *cited by* Phillip J. Clossius & Henry M. Schaffer, *Involuntary Nonservitude: The Current Judicial Enforcement of Employee Covenants Not to Compete—A Proposal For Reform*, 57 S. Cal. L. Rev. 531, 532 (1984).

The case law shows that employee noncompetition agreements have been used in a large variety of occupations. *See* 43 A.L.R. 2d 94 & Supp. 1991 (organizing the case law of restrictive employment agreements by occupation, with categories for accountant, barber and beauty specialist, bill collector, business executive, construction company, driver for hire, employment agency, engineer, exterminator, house-to-house salesman, insurance agent, management consultant, managerial personnel, office worker, optician, optometrist, performer, physician, photographer, real-estate agent, repairman, salesman, stenographer, stockbroker, teacher, technician, tree surgeon, undertaker, veterinarian. Occupations in the miscellaneous category include pilot, real-estate appraiser, and cook.). For a thorough compilation of modern cases that indicates occupations affected by restrictive employment agreements, see Milton Handler & Daniel E. Lazaroff, *Restraint of Trade and the Restatement (Second) of Contracts*, 57 N.Y.U. L. Rev. 669, App. B (1982).

2. Such an agreement would certainly be an unreasonable restraint of trade and either voided or modified by a court. *See, e.g.*, Nature House, Inc. v. Sloan, 515 F. Supp 398 (N.D. Ill. 1981); Guffey v. Shelnut & Assoc., Inc., 278 S.E.2d 371 (Ga. 1981). Presumably, employers use such agreements either out of ignorance of the law or in an effort to intimidate unsophisticated employees.

of a gainful occupation."[3] Naked restraints of trade—*i.e.*, agreements whose sole purpose is to limit competition—are invalid under the common law.[4] An employee noncompetition agreement, however, is not a naked restraint of trade because the agreement is ancillary to the offer and acceptance of employment, an otherwise valid transaction. In the absence of an employment relationship, the employer would not pay an individual for his promise to restrict his work options; conversely, without such a promise, the employer might not hire the individual.

The common law does not regard as *per se* unreasonable an agreement that restrains trade but is part of an otherwise valid transaction.[5] A court will only strike down or modify such an agreement upon a finding of unreasonableness based on the facts and circumstances surrounding the transaction. In determining whether an employee noncompetition agreement is reasonable under the circumstances, courts use a "rule of reason" analysis under which an employee noncompetition agreement will be deemed enforceable if it imposes no greater restriction than is needed to protect the legitimate interests of the employer. In this regard, courts frequently cite the following three part balancing test: an employee noncompetition agreement will be enforceable if (1) it is no more restrictive than needed to protect the employer's legitimate interest, and the employer's need is not outweighed by (2) the hardship imposed on the employee and (3) any likely injury to the public.[6] Although courts often employ this test, any consideration of hardship to the employee and injury to the public is usually subsumed by the analysis of the employer's protectable interest. That is, the main issue courts examine is whether the employer has a legitimate interest and whether the agreement is not overbroad in light of that interest. Once that hurdle is passed, a court will rarely, if ever, reject an agreement on grounds of employee hardship or injury to the public.[7]

A determination of what constitutes the legitimate, protectable interests of the employer and whether the restrictive covenant is narrowly tailored to protect those interests, is, as would be expected, very dependent on the specific facts of each case. In general, an employer is deemed to have a legitimate interest if a noncompetition agreement is being used to prevent an employee from using confidential business information or customer contacts in competition against the employer.[8] If

3. RESTATEMENT (SECOND) OF CONTRACTS § 186 (1981).

4. *Id.* § 187.

5. *Id.* §§ 187, 188(2)(b).

6. *Id.* § 188(1).

7. One exhaustive survey concluded that "the common law treats undue hardship and public injury as the general rubric for characterizing overbroad noncompetition covenants as unreasonable" and that "[p]ublic injury or personal hardship alone have never been dispositive elements for not enforcing noncompetition covenants otherwise reasonable in purpose, geographic scope, and duration." Handler & Lazaroff, *supra* note 1, at 719, 731. *See also* Harlen M. Blake, *Employee Agreements Not to Compete*, 73 HARV. L. REV. 625, 649 (1960).

8. RESTATEMENT (SECOND) OF CONTRATS § 188 cmt. b (1981); Lessner Dental Lab., Inc. v. Kidney, 492 P.2d 39 (Ariz. 1971); New England Canteen Serv., Inc. v. Ashley, 363 N.E.2d 526, 528 (Mass. 1977); All Stainless, Inc. v. Colby, 308 N.E.2d 481, 486 (Mass.

a court does find a protectable interest, the restrictive covenant is enforceable as written only if it is no broader than necessary to prevent the employee from using the information or customer contacts in a manner that damages the business of the employer.[9]

For an illustration of an agreement that was held to be reasonable and not overbroad, consider *Amdar, Inc. v. Satterwhite*,[10] in which a dance studio successfully enjoined a former employee from becoming an instructor at a competing studio in violation of a noncompetition agreement. The court upheld the agreement under which the employee had promised not to accept employment for compensation in a job related to dance instruction for one year and within twenty-five miles of the studio. In enforcing the agreement, the court noted that the defendant had "obtained benefits of compensation, further training and practice and continued knowledge of and experience in the secrets and methods of plaintiff's business."[11] The court also stated that the plaintiff had demonstrated the loss of one customer to the defendant's new employer and the possibility of further loss.[12]

In *Johnson v. Lee*,[13] the defendant, an office equipment repairman, had signed an employment agreement with the plaintiff in 1968 under which the defendant agreed to refrain from competitive business within fifty miles of Valdosta, Georgia, for a period of five years after his employment terminated. When the defendant quit in 1978 and attempted to open a competing business, his former employer successfully enjoined him. Upholding the agreement as reasonable, the court noted that the defendant did have substantial customer contact as well as access to customer records that showed when maintenance contracts would be up for renewal.[14] The court therefore enjoined the defendant from working in the business of unpacking, adjusting, installing and servicing office machines within the geographic and time limitations of

1974). *See also* Edmund W. Kitch, *The Law and Economics of Rights in Valuable Information*, 9 J. LEGAL STUD. 683, 685 (1980); Handler & Lazaroff, *supra* note 1, at 729. *But see* Angela M. Cerino, *A Talent is a Terrible Thing to Waste: Toward a Workable Solution to the Problem of Restrictive Covenants in Employment Contracts*, 24 DUQ. L. REV. 777, 809 (1986) (While the courts of "many states, such as Pennsylvania, give lip service to the notion of nonenforcement of restrictions that are unnecessary for the protection of the employer's legitimate business interests, there is no overt consideration given to what those interests actually are — and are not. There appears to be an assumption that if the employer perceives the restrictions to be necessary, then they must be necessary."); Clossius & Schaffer, *supra* note 1, at 544.

9. Frequently, a court will hold that the employer has a protectable interest but that the geographic, time or activity limitations of the noncompetition agreement are broader than necessary. Different jurisdictions take different approaches to enforcement in this case. In some, the whole agreement will be declared unenforceable. In others, the court will excise unreasonable provisions if they are severable from the contract and enforce the remaining provisions. In some jurisdictions, the court will modify the contract without attempting to sever the unreasonable provisions. For a discussion of these three approaches, see Jeffery G. Groody, Note, *Partial Enforcement of Post-Employment Restrictive Covenants*, 15 COLUM. J. L. & SOC. PROB. 181, 196-214 (1979).

10. 246 S.E.2d 165 (N.C. App. 1978).

11. *Id.* at 166.

12. *Id.* at 168.

13. 257 S.E.2d 273 (Ga. 1979).

14. *Id.* at 275.

his noncompetition agreement.[15]

Behnke v. Hertz Corp.[16] is an example of a case in which there is no legitimate, protectable interest of the employer. Behnke hired Kreft to work as a clerk at a car rental desk in the Milwaukee airport. Kreft signed an agreement stating: "I agree not to work for any car rental competitor in the city of Milwaukee for one year if and when the present job is terminated." When Kreft quit her job to work for Hertz, Behnke sued Hertz for inducing Kreft to breach her contract and won $982 compensatory and $10,000 punitive damages. On appeal, the Wisconsin Supreme Court reversed.[17] The court noted that since there was no evidence that Kreft could take trade secrets or customers away from the plaintiff, the restrictive covenant was unnecessary for the protection of the employer and hence unreasonable.[18]

It should be noted that in a few jurisdictions, statutes have displaced or limited the common law. In Louisiana, for example, an employee cannot be contractually restricted for more than two years from competing against a former employer.[19] In Colorado, all employee covenants not to compete are void, with some exceptions, *e.g.*, a "contractual provision providing for recovery of the expense of educating and training an employee who has served an employer for a period of less than two years."[20] In California, all employee noncompetition agreements are void.[21] More commonly, states that address the issue merely codify existing common law.[22]

In evaluating the current state of the law in this area, academics have reached sharply different conclusions. Those who believe that contracts made in a free market enhance the contracting parties' welfare argue that these contracts should be subject to regular contract law and not to a reasonableness test.[23] Under that approach, almost all employee noncompetition agreements would be upheld. Others argue that an employer's legitimate interests are already protected by trade secret and principal-agent law and that noncompetition agreements therefore give employers no protection beyond what they already have. Under this view, noncompetition agreements are not used to protect the employer's legitimate interests, but rather to intimidate workers from going

15. *Id.*

16. 235 N.W.2d 690 (Wis. 1975).

17. Although the verdict was reversed on appeal, the fact that the plaintiff could get the case before a jury and win large damages supports the contention of those who claim that noncompetition agreements, even unreasonable ones, create enough uncertainty in the minds of employees and future employers that these agreements unnecessarily inhibit mobility and deter competition. Therefore, some claim that all noncompetition agreements should be prohibited. The employer would still receive protection from unfair competition through trade secret and agency law.

18. *Behnke*, 235 N.W.2d at 693.

19. 16 LA. REV. STAT. ANN. § 23:921(C) (West 1985 & Supp. 1990).

20. COLO. REV. STAT. § 8-2-113(2) (1990).

21. CAL. BUS. & PROF. CODE § 16600 (West 1987).

22. *See, e.g.*, ALA. CODE § 8-1-1 (West 1984); FLA. STAT. ANN. § 542.33 (West 1988 & Supp. 1991); WIS. STAT. § 103.465 (West 1988).

23. Maureen B. Callahan, Comment, *Post-Employment Restraint Agreements: A Reassessment*, 52 U. CHI. L. REV. 703 (1985).

into competition.[24]

This Paper focuses on the dynamics of the bargain between employer and employee and measures the impact of a noncompetition agreement on the welfare of the contracting parties and society. Part II makes some preliminary remarks about the economic approach that will be used. Part III discusses four reasons why an employer and employee, under perfect competition, might enter into a noncompetition agreement. It addresses, for each reason, the potential gain from trade and whether market imperfections lead to sub-optimal agreements. Where appropriate, the question of whether an agreement's anticompetitive aspects diminish social welfare is also addressed. Part IV summarizes the conclusions reached and outlines a rational legal regime.

II. Economic Approach

In a perfect market, a freely made contract will increase the overall welfare of all parties involved. This conclusion stems from the basic principle that a person will only engage in a trade if he feels the trade will make him better off—that is, if there are gains to be made from the trade. The economist's traditional support of free markets is a result of the welfare-enhancing nature of trade.

One conventional definition states that a market is perfect when the following five conditions are met: (1) all buyers and sellers are atomistic (no individual can affect the price of the good through large sales or purchases); (2) there are no externalities (all costs and benefits are reflected in the price of the good); (3) there is free mobility of resources (with costless entry and exit from the market); (4) all parties have perfect information (they know exactly what the bargain entails); and (5) the product in the market is homogeneous (all products are identical, so buyers choose a seller based solely on price).

Trade in a given market will not maximize welfare if one of these five criteria is not met. In that case, government intervention may be justified, whether by statutory or judicial regulation of trades, government efforts to supply information to the market or the taxation of behavior that produces externalities. In addition, if a certain type of bargain will lead to imperfect competition in the future, government intervention is necessary. For example, it is widely accepted that governments should prohibit agreements that lead to cartels even though the agreement is beneficial to the contracting parties.

It is commonly agreed among economists that labor markets are not perfect.[25] Wages tend to be sticky and do not fluctuate with short-term swings in supply and demand, as one would expect in a perfect market. Because of sticky wages, periods of excessive unemployment often occur, even though perfect competition would suggest that this is impossi-

24. Clossius & Schaffer, *supra* note 1.

25. For a general discussion of how the labor market differs from a perfectly competitive market, see Lester C. Thurow, Dangerous Currents: The State of Economics 173-215 (1983).

ble. In addition, monopsonistic buyers of labor exist in some communities, a problem made possible by the lack of easy and costless labor mobility.

Nevertheless, in analyzing the efficiency of noncompetition agreements, it is useful to start with the presumption that perfect competition exists and that noncompetition agreements enhance the welfare of both the employer and employee. The next section begins, therefore, with the presumption that whatever value the employer gains from a noncompetition agreement (*e.g.*, assurance that employees won't use secrets or customer contacts in competition, or assurance that employees won't quit frequently due to the difficulty they will have transferring their skills) exceeds whatever loss the employee incurs as a result of hindered mobility. Under this assumption, because the gain to the employer exceeds the loss to the employee, the employer will be able to compensate the employee—in salary or training or in some other manner—by an amount that more than covers the employee's loss.

This starting point forces identification of what both parties hope to gain from such an agreement. Once a potential gain from trade under perfect competition is identified, it is possible to consider whether a market imperfection leads, in fact, to sub-optimal trades or whether the agreement itself causes a market imperfection going forward and should therefore be prohibited.

III. A Welfare Analysis of Four Potential Gains from Trade

Academics have identified four potential gains provided by employee noncompetition agreements. These gains stem from bargains over employee goodwill, the disclosure of business secrets, the undertaking of expensive training by the employer and the stabilization of wages. Although for analytic purposes we will examine each gain separately, in any particular case the bargain may involve more than one of these reasons.

A. *Employee Goodwill*

Often an employee enhances a firm's value in a way that depends on the employee's continuing presence. For example, customers may grow to like and trust an employee enough that they would follow him if he moved to another firm or started his own business. Even in the absence of customer contact, an employee's consistent presence can help lift the productivity of all workers—high employee turnover is usually associated with low productivity, partly because people work best together when they have had time to develop a team mentality.[26]

The value that an employee adds to a firm by his presence may be called employee goodwill, just as a business name or location is said to have goodwill. Some analysts argue that an employer pays a wage to an employee to develop employee goodwill. Not only would it be wrong to

26. *Id.* at 205.

allow the employee to leave the firm and appropriate the goodwill for himself by taking customers or employing trade secrets elsewhere, but the prospect of such a departure could chill the employer's desire to hire the employee in the first place.[27] In this analysis, noncompetition agreements are justified as enabling an employee to sell goodwill to an employer for a wage, just as a noncompetition agreement enables the owner of a business to sell his business's goodwill.[28]

Many noncompetition agreements are entered into, and upheld by courts, specifically to protect an employer's interest in employee goodwill. For example, often an employee covenants that after termination of his employment he will not solicit customers with whom he came into regular contact.[29] Even in the absence of such an explicit covenant, courts often uphold agreements with geographic restrictions on the employee's post-employment activity if the restriction corresponds to the geographic range of the employee's customer contact.[30] Hence, it is important to analyze carefully whether a noncompetition agreement in this context actually maximizes social welfare.

Our analysis of the labor market indicates that no employee with perfect information will enter into a noncompetition agreement in order to sell his employee goodwill. By restricting attractive employment opportunities in the future, a noncompetition agreement forces a prospective employee to make a long-term commitment to a firm. Only if an employee underestimates the value of the goodwill he will bring to or develop at a firm will he be willing to enter into such a long-term contract.

In an efficient market, employees earn a return equal to their marginal revenue product of labor (MRP), which is the increase in revenue that a firm experiences when it hires an additional employee but holds all other inputs of production constant.[31] If by hiring an additional employee, but adding absolutely nothing else, a firm's revenues increase by $\$X$ per year (*i.e.*, $\$X$ is the employee's marginal revenue product), then,

27. Cerino, *supra* note 8 at 807.

28. *Id.*

29. *See, e.g.*, Group Ass'n Plans, Inc. v. Colquhoun, 292 F. Supp. 564 (D.D.C. 1968), *vacated on other grounds*, 466 F.2d 469 (D.C. Cir. 1972) (enforcing restrictive covenant that barred insurance broker from soliciting business from concerns that were his employer's customers during his term of employment).

30. *See, e.g.*, Marshall v. Covington, 339 P.2d 504 (Idaho 1959) (enforcing restrictive covenant between medical clinic and physician requiring physician not to practice medicine or surgery for three years within twenty-five miles of clinic if physician left clinic for any reason, noting that the territorial scope of a restrictive covenant is reasonable if not broader than the territory throughout which the employee established contact with the employer's customers); Standard Register Co. v. D.C. Kerrigan, 119 S.E.2d 533 (S.C. 1961) (enforcing noncompetition agreement in which sales representative coveted that for two years after leaving employer he would not sell, in competition with employer, to accounts or in territory in which he performed duties for employer).

31. The conclusion that an employee's wage equals his marginal revenue product (*i.e.*, his contribution to the firm's revenue) holds true only when the firm incurs no additional capital costs by hiring the employee. If additional capital costs are incurred, the employee's wage will equal his marginal revenue product discounted by an amount to cover a fair rate of return on the additional capital required.

under perfect competition, the employee will be compensated $X per year.[32] If he were paid less than $X per year, it would be profitable for a competing firm to hire the employee at a slightly higher wage. This process would continue until an equilibrium wage of $X was reached. An employee's contribution to a firm's revenues includes the revenue resulting from the employee goodwill he develops. In a perfect market, therefore, a worker will always be fully compensated for his employee goodwill.

A simple illustration will demonstrate this. Suppose that I am a haircutter and have just started working in a hair salon. Assume that because of the vast size of the salon and the large supplies it has on hand, the salon incurs no additional costs when my presence is added (while this is clearly an unrealistic assumption, it leads to clarity of exposition with no change in conclusion).[33] Suppose I know that after a short time with the salon I will generate $40,000 worth of business on an annualized basis. Of this amount, $25,000 will represent revenue from customers who like and trust me and will move to another shop if I move. The value of my employee goodwill will therefore be $25,000. The other $15,000 will be revenue derived from walk-in customers or customers who like the shop and its location. Thus, $15,000 of my revenue will result from business goodwill. Since this is a perfect market, with perfect information, what will my salary be? It must be $40,000 per year.

At this point, one might interject that this can't be the result if the going salary for haircutters under these circumstances (*i.e.*, when no additional capital costs need be incurred by a salon) is, say, $25,000. If that's the case, one might assert, then the hair salon will refuse to pay me $40,000 and will find someone else at the going rate of $25,000. The salon will earn the difference ($15,000) as a supernormal return on investment. This argument, however, fails to take into account that $25,000 could not be the equilibrium wage if the cost of haircuts were such that haircutters generated $40,000 in additional revenues each year (with no increase in capital costs). Firms would bid the salary up to $40,000 in an effort to obtain the difference between the salary and the $40,000 revenue.

Thus, in an efficient market I will always be compensated by an amount equal to my marginal revenue product. The portion of my revenue that results from employee goodwill is irrelevant to this determination. With perfect information, I will have no desire to enter into a noncompetition agreement, which will restrict my mobility, unless I am compensated by more than my MRP. But no employer would ever agree

32. Some may find it counter-intuitive that an employee could earn his contribution to revenues, for it then appears that the firm reaps no benefit. This result is based on the economist's definition of "zero" or "normal" profits as profits that provide a fair rate of return on capital given the risk to which the capital is exposed. That is, if the return on capital is no greater than the return that could be gained in other ventures of equal risk, then the firm is said to earn normal (or zero) economic profits.

33. *See supra* note 31.

to pay a wage that exceeded my contribution to revenues. Hence, if the salon and I are willing to enter into an employment agreement, which contains a noncompetition clause, either the salon has overestimated my contribution to its revenues (my MRP) or I have overestimated it. One of us is operating with imperfect information.

For a number of reasons, it is reasonable to assume that it is the employee who systematically miscalculates his MRP. The firm deals with many employees and is, therefore, more familiar with the marginal revenue product of labor. In the case where additional capital inputs are required, the firm also has more information about the quantity and cost of such inputs. Most importantly, if a firm did systematically overestimate employee goodwill, and thus was able to induce workers to enter long-term contracts by implicit or explicit[34] promises of wages above MRP, the firm would be driven out of the market by competitors who operate at a lower cost by not entering into such agreements. Workers, however, will continue to work, even in the long run, if locked into sub-optimal wage agreements.

In the hair salon example, this reasoning would apply as follows. As a new haircutter, I am not as knowledgeable as the salon about the number of customers I will see each week. Further, I know little about the cost of renting and running a shop. Thus, I cannot accurately calculate my contribution to the firm's revenues or a fair discount to cover associated capital costs. If the firm offers me a salary that appears generous, but has a noncompetition agreement, I may take it. Later, when I learn more about the revenues and costs associated with running a salon, I will want to leave because I will realize that my salary is sub-optimal. At that point, however, I will be immobilized by the noncompetition agreement.

To summarize the above argument: It is not to an individual's advantage to restrict his mobility unless he is promised more than what he believes his MRP will be. Since employers have more accurate information about the average employee's MRP, and since employers can't remain solvent in the long run if they pay employees more than their MRP, it is unlikely that employers systematically pay excessive wages. Thus, only employees who underestimate their current or future MRP are willing to restrict their mobility by entering into noncompetition agreements, and as a result they earn suppressed, noncompetitive wages.[35]

34. An explicit wage promise would be a contractual agreement about future wages. An implicit wage arrangement would be one in which a potential employee examines the salaries currently being paid to employees of varying tenure. If the employee believes that the firm must maintain the current wage pattern to preserve its reputation in the labor market, he will use the current wage pattern as a reliable indication of the wages he can expect in the future.

35. Under pure competition, an employee would know his MRP just by looking at competitive wages (*e.g.*, learning what other hair salons pay starting haircutters). Clearly, market imperfections or anomalies prevent the employee from learning what his competitive wage should be. This paper will not examine those imperfections, except for two speculations:

(1) The market has devolved to a state where all employers offer noncompetition em-

Thus, noncompetition agreements are not the result of the efficient sale by rational workers of their employee goodwill, and these agreements cannot be analogized, though some commentators have tried,[36] to the sale of business goodwill by firms. In fact, employees are only assured of receiving a fair price for their goodwill if they retain the right to move whenever their wages do not reflect their MRP.[37]

Some may argue that if the sale of employee goodwill through the use of noncompetition agreements was prohibited, employees would be able to expropriate value that was due not to their contribution, but to the employer's. Thus, in the haircutter example, one might argue that it is unjust for the employee to use the employer's facilities and capital investment to build a loyal clientele that will follow the employee when he leaves. To accept such an argument, however, is to be led down a slippery slope with no logical stopping point. Certainly, all workers enhance their human capital and become more valuable through work experience, and workers are willing to accept wages that do not reflect their full contribution to a firm if they are developing general skills that enhance their value.[38] But, any general increase in value from on-the-job experience cannot justify indentured servitude. To say that a haircutter unjustly expropriates value from his firm when he leaves with $25,000 worth of customers is the same, analytically, as saying that a journalist (or banker or lawyer) who was hired for $15,000 per year but is now worth $40,000 should not be permitted to leave his firm if a competitor offers a salary more commensurate with the individual's current value to firms.

B. *Business Secrets*

1. Effect on the Contracting Parties

Sometimes a firm's profitability depends in part on secret processes or formulas used by the firm. The firm may be able to expand its output most efficiently if it can teach new employees these secrets. If, however,

ployment contracts at suppressed wages. This would explain why individuals enter into noncompetition agreements but would not justify their prevalence.

(2) The labor market is not a spot market in which all workers have the same productivity and earn the exact same wage. Employees have varying levels of productivity based on their innate ability; further, an employee's productivity will change over time (presumably it will rise). At the time the employee enters a long-term contract he is trying to predict his innate and future productivity and judge the long-term wage offer against that estimate. There is no easily available market information that will help the employee earn a fair wage under these circumstances. The employer is in a much better situation to estimate the average worker's present and future productivity. For a general discussion of how individuals make decisions under uncertainty, see Amos Tversky and Daniel Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, *in* UNCERTAINTY IN ECONOMICS 19 (Peter Diamond & Michael Rothschild eds., 1978).

36. *See, e.g.*, Cerino, *supra* note 8, at 807.

37. It is important to note that this conclusion does not diminish the possibility that employees might have other rational reasons to enter noncompetition agreements, *e.g.*, obtaining expensive training, communicating business secrets or stabilizing wages. These possibilities are examined in the sections that follow.

38. This conclusion, which is widely accepted by economists, is discussed more fully below.

the employer fears that employees will leave the firm and use confidential information at a competing firm, the employer may decide to limit the number of employees and forego expanding output. Alternatively, the employer's response to a fear of disclosure may be to expand output but expend resources to prevent employees from fully understanding the firm's secrets. For example, the firm could carefully divide work among different classes of employees to make sure that no single employee understands "the big picture," even if this work flow is not the most efficient.[39] In either event, the firm's profits are below what they would be if the firm could just reveal the secrets to employees without fearing that employees will "steal" the information.

It is true that some confidential business information will be given "trade secret" status under the law. As defined in the *Restatement of Torts*, a trade secret is:

> [A]ny formula, pattern device or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. . . .
>
> . . . Some factors to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; [and] (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.[40]

A trade secret is generally regarded as taken unlawfully when it is discovered by an improper or deceitful means or its disclosure or use by a party constitutes a breach of confidence.[41] Anyone unlawfully taking a trade secret, including former employees, can be sued for damages, and an injunction can be obtained preventing the use of the trade secret.

Trade secret litigation is difficult and risky, however. First, it is difficult to detect the unlawful use of a trade secret by another party.[42] The difficulty of detection is what made the secret possible in the first place. For example, if the trade secret involves a process for making widgets at a lower cost than the competition, the process could remain a secret because simple examination of a widget does not reveal the process, or perhaps that even some unusual process was used. Therefore, it would be difficult to discern that a former employee had in fact revealed the secret process to a competitor and that the competitor was now using it.

In addition, trade secret litigation involves a risk that the secret will

39. Paul H. Rubin & Peter Shedd, *Human Capital and Covenants Not to Compete*, 10 J. LEGAL STUD. 93, 97 (1981).

40. RESTATEMENT OF TORTS § 7 cmt. b (1939).

41. *Id.*

42. Kitch, *supra* note 8, at 690.

be revealed, for the plaintiff must at least reveal the existence of a secret. Although courts have devised methods for keeping the actual secret confidential, risk of disclosure is inherent whenever the details of a secret are organized, documented and communicated.[43]

A noncompetition agreement enables an employer to reveal trade secrets to employees more freely. It is easy to detect that an employee violated a noncompetition agreement and litigation over the contract entails less risk of trade secret disclosure.[44] Because an employer can increase profits by revealing secrets to employees and expanding output, the employer will desire these agreements.

When an employer is assured by a noncompetition agreement that confidential information will not be diverted to competitors, the employer will divulge trade secrets and other confidential business information[45] to an employee. This will raise the employee's MRP, for an employee to whom secrets can be divulged can be trusted with broader and more meaningful assignments and will therefore contribute more to the firm's revenues. Part of this incremental increase in the employee's value will be used to compensate the employee for giving up a large degree of mobility. Thus, when noncompetition agreements are used in a perfect labor market[46] solely to protect trade secrets and confidential information, the agreement does enhance the welfare of both parties.

It is worthwhile to consider how the increase in profits (resulting from the incremental increase in a worker's MRP) is divided between the firm and the employee. Although the employee may know the MRP of his general skills, he has no way of knowing what the secret is ahead of time, and no way of knowing, therefore, what his value to the firm will be when the secret is divulged. Although he will demand to be compensated for the restricted mobility he will incur by signing a noncompetition agreement (let us call this the *immobility premium*), he will not know how much further he can bargain with the firm. Furthermore, in a competitive labor market, he will be unable to ask for more than the immobility premium: if the premium is fair compensation for immobility, many workers will be willing to accept the job offer.

A simple example will illustrate this. Suppose I am a cook with general skills. My marginal revenue product is $15,000; I know my MRP because it is my competitive wage in a perfect market.[47] I value mobility, it gives me the assurance that if my work environment becomes unpleasant or if my general skills should become worth more than my employer can pay, I can move to another restaurant at will. I would be

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43. *Id.* at 691.

44. *Id.* at 690-91.

45. In our discussion, we use the term "business secret" or "confidential business information" to mean confidential business information in a broad, general sense, whether or not it would be deemed to be a trade secret under the common law with concomitant property rights.

46. That is, a market that is perfect in all respects except for the existence of trade secrets. Under perfect information, of course, secrets could not exist.

47. Again, a market that is perfect except for the existence of restaurants with trade secrets.

willing, however, to sacrifice mobility for an extra $3,000 per year. Most other cooks have an identical immobility premium.

A restaurant renowned for its expensive but secret-recipe dishes decides to hire another cook to expand its output. The restaurant insists that any cook hired enter into a noncompetition agreement so that the restaurant will be assured that its secret recipes are not divulged to competitors. The restaurant knows that, all other things being equal (*i.e.*, no additional capital is required), the incremental increase in revenue resulting from hiring another cook (the cook's MRP) will be $25,000. Since the competitive wage for a cook is $15,000, the restaurant will generate supernormal revenues of $10,000 because it can charge high prices for the unusual dishes the new cook will prepare.

The firm will only have to pay me $18,000 per year—the value of my general skills plus the immobility premium. I won't know to ask for more;[48] further, if I did insist on more, plenty of other cooks would be willing to work for $18,000 per year. Thus, the firm will gain $7,000 from entering into the noncompetition agreement and I will gain $3,000. This arrangement is not unfair to me. I am getting what I consider a beneficial deal or I would not have signed the agreement.

This analysis assumes, of course, a perfect labor market. As the analysis in the previous section illustrated, there is reason to believe that employees systematically enter sub-optimal long-term agreements concerning their wage because of asymmetric information about the employee's initial productivity and probable increase in productivity.

2. Effect on the market

Even though the employer and employee may benefit when they enter into a noncompetition agreement that makes it possible to more fully exploit a secret, the agreement is not economically efficient if it does not maximize social welfare. In this section, the effect of noncompetition agreements on the market is examined using the concepts of consumer and producer surplus. This is an approach heretofore unexplored by commentators.

Many commentators have argued that noncompetition agreements are good because, by assuring firms that they will be able to expand output while retaining secrets, they give firms an incentive to *develop* new processes and ideas and to *exploit* these innovations.[49] It is certainly true that enabling firms to derive maximum profits from secrets encourages them to invest in research and exploit unique findings. That does not, however, answer the question of whether, on balance, the increase in research and exploitation improves social welfare by more than the loss caused by the introduction of monopolistic competition. The bold as-

48. Although I know the price charged by the restaurant for its dishes, because the recipes are secret I do not know the cost of preparing the dishes. Thus, I do not know how much the restaurant earns with each sale. I also do not know how much the restaurant spends to research and develop its recipes.

49. *See, e.g.*, Callahan, *supra* note 23, at 715.

sertion made by these commentators has the same analytic merit as saying, without theoretical or empirical backing, that monopolies are good because the supernormal returns they earn will give them an incentive to develop new products.

The key to understanding the welfare effects of noncompetition agreements used to protect business secrets is this: secrets lead to monopoly power. It is true that many secrets involve the manufacturing of an existing good by a new low cost method or the provision of a unique good or service. While society benefits from new goods and lower production costs, the introduction of monopoly power leads to inefficient production decisions.

The following analysis will show that when the motivation for a noncompetition agreement is to enable a firm to expand output while retaining a secret, the net effect on social welfare is indeterminate. One's assumptions about market behavior also drastically affect the predicted results. For purposes of this analysis, assume that n firms compete in a perfect market and sell a total of q units of a good at a price, p_1, equal to marginal cost, mc_1. Each firm initially sells an equal amount, q/n units. Assume further that the marginal cost of each unit is constant over the relevant production range so that each firm's supply curve is horizontal. Suppose now that one firm, F, discovers a secret process for making the good at a lower marginal cost, mc_2. (Again, F has a horizontal cost function, but its cost function is now below the prevailing cost function of other firms.) F must now choose its desired output and price. In order to expand output, F will have to hire new employees and reveal the secret process to them.

Two situations must be considered:

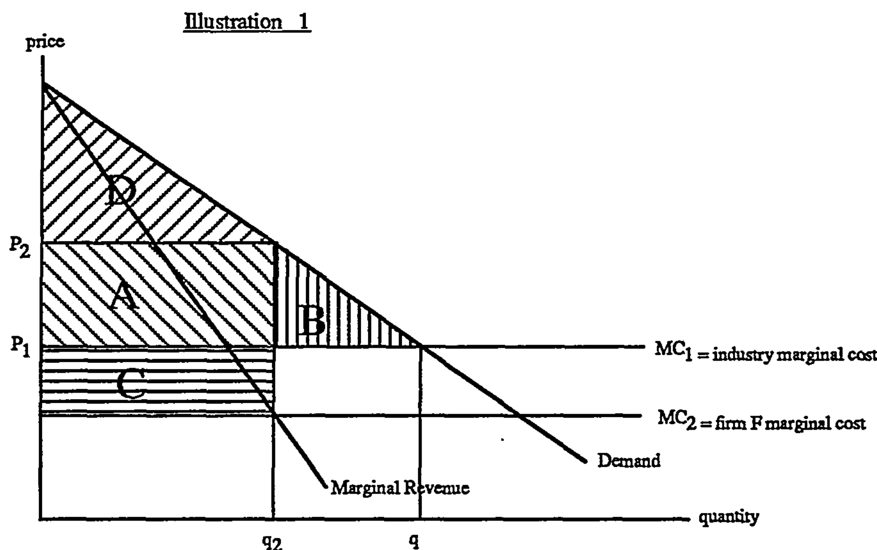
(a) Noncompetition agreements are not legal. If noncompetition agreements are not legal, then the firm will fear that employees will "steal" the idea and reveal it to competitors. In this case, the firm will not hire additional employees and will keep output at its current level, q/n, and sell the good at the going price, mc_1. The firm will make noncompetitive, or supernormal, profits of $q/n(mc_1 - mc_2)$. Because no change in consumer surplus results, the only gain to society is the small savings in resources that come about by F's production of q/n units at a lower price. That is, the small gain in net social welfare equals F's profits of $q/n(mc_1 - mc_2)$.

(b) Noncompetition agreements are legal. If noncompetition agreements are legal and are easily enforceable, then F will be able to hire employees, expand output, and take over the market. Society will gain in the sense that more units will now be made at a lower cost than before. As we will see, however, the monopolistic pricing that may result will cause inefficiencies. The net effect on social welfare will be indeterminate.

Consider the following two pricing policies. First, imagine that F can charge a monopoly price, p_2, above mc_1. Other firms, which can produce and sell at mc_1, will fear entering the market because they know that

F can undercut them at will.[50] The firm will produce units until the marginal revenue from an additional unit equals the marginal cost of a unit. In Illustration 1, this will occur at q_2 units; the firm will charge p_2, the price which results in a quantity demanded of q_2 units. In this case, consumer surplus will fall from the shaded areas DAB to D. Producer surplus will rise from nothing to CA. The change in net social welfare (NSW) will depend on the relative sizes of area B, the deadweight loss resulting from lost consumer surplus, and area C, the gain resulting from production at a cost lower than mc_1. (Area A represents a transfer in surplus from consumers to *F*.) The sizes of areas B and C will depend on the elasticity of demand and the cost savings enabled by the new secret process. Under this pricing policy, we cannot categorically say whether social welfare is improved by allowing noncompetition agreements.

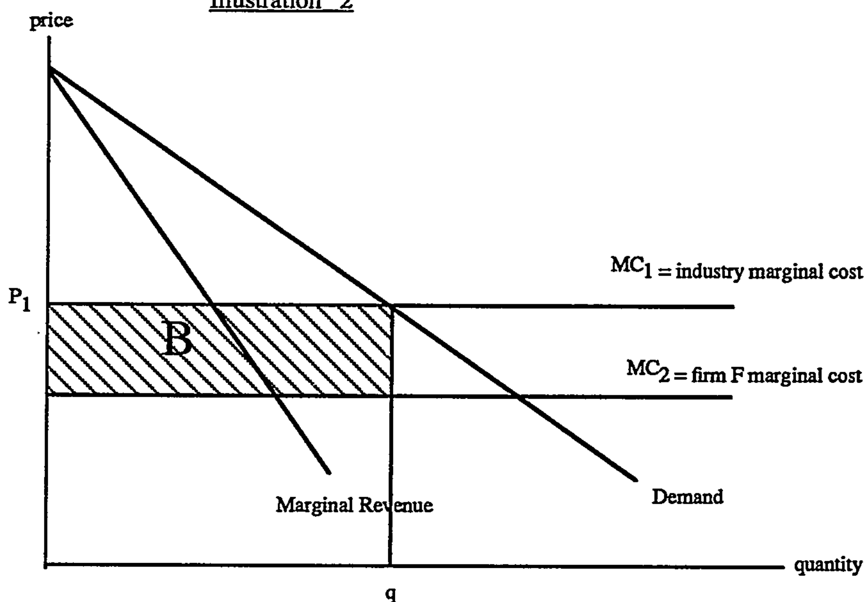
Illustration 1



A second policy by *F* would be to charge a price just below mc_1 in order to keep competitors out of the market. For ease of exposition, in Illustration 2 firm *F* is shown as charging mc_1. In this case, there is no change in consumer surplus. Firm *F* earns producer surplus equal to the shaded area B. The gain in net social welfare is equal to B, the savings that come from producing *q* units at a lower cost than before.

50. Undercutting by *F* will not amount to predatory pricing, in violation of the antitrust laws, as long as *F* charges more than its marginal cost of mc_2. Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227, 231-33 (1st Cir. 1983).

Illustration 2



Thus, with respect to the exploitation of business secrets, it is unclear whether noncompetition agreements improve net social welfare because the exploitation of a secret leads to monopoly power. Under traditional monopoly pricing, the effect on net social welfare is indeterminate. If monopolistic competition leads to pricing at just below the marginal cost of other firms, there is a gain in NSW; it is unclear, however, whether one can expect this pricing policy.

This Paper will not develop a model of investment in research and the effect of noncompetition agreements on innovation. It is expected, however, that a simple model would be even more ambiguous and indeterminate than the model for the exploitation of business secrets.

The common law and statutes take a strong stance against restraints of trade in general, under the theory that the loss to society caused by monopoly pricing exceeds whatever gain a monopolist or cartel might conceivably bestow on society as a result of earning supernormal profits.[51] Given this strong disapproval of monopoly power, it is curious that academics and courts have justified noncompetition agreements on the grounds that they will encourage firms to invest in research and fully exploit ideas. As shown above, it is difficult to justify this assertion using simple economic theory. Casual empiricism suggests that the assertion

51. For example, under the federal antitrust statutes the following pro-restraint arguments have been rejected: that a professional society can prohibit competitive bidding by engineers to prevent low bids that might result in inferior work, National Society of Professional Engineers v. United States, 435 U.S. 679 (1978), and that manufacturers of women's garments can agree among themselves that each manufacturer will boycott any retail store that sells cheap "knock off" copies of another manufacturer's garments in order to police and deter illegal, tortious acts by retailers, Fashion Originators' Guild of America, Inc. v. FTC, 312 U.S. 457 (1941).

is not true. For example, California, a state known for its vigorous and innovative high technology industries, does not allow noncompetition agreements that restrict employees.[52]

Perhaps noncompetition agreements are accorded special treatment for a "natural rights" reason. Unlike other restraints, in which a producer does nothing of special value but attempts to increase profits through collusive agreements with other producers, in the case of a noncompetition agreement the producer has done something of value by creating an idea or process desired by society. Courts and commentators may feel that one should be allowed to protect this intellectual property if one is willing to pay others (through higher wages) in order to maintain sole ownership.[53]

On balance, it appears that any loss in social welfare from noncompetition agreements related to business secrets is neither great nor systematic. Clearly, in a well-functioning labor market, employees who sign noncompetition agreements will benefit from the payment of an immobility premium. As for the costs and benefits of monopoly power, simple economic theory shows that net benefits occur in some instances and net losses in others, depending on the supply and demand curves of the particular case. This is in contrast to the use of naked restraints of trade through collusive agreements, in which case there is *always* a net loss to society because monopoly pricing is introduced without innovations (low cost production methods, new products) that provide countervailing benefits.

As shown by the discussion of employee goodwill, there is reason to believe that employees systematically make sub-optimal decisions when an agreement calls for an estimate of long-term productivity. A firm has better information than a new employee about the employee's current value to the firm as well as the general potential for productivity growth in the industry. State legislatures might therefore approach an equitable balance by limiting the term of those noncompetition agreements designed to protect business secrets so that, after a definite number of years, an employee would be free to leave the firm and immediately enter a position of competition against his former employer. For example, a noncompetition agreement could have a maximum statutory term of six years, after which time the employer and employee would be required to renegotiate the noncompetition agreement. This would impose limits on employers, who might be constrained from imparting secrets to an employee as the statutory expiration of a noncompetition agreement approached, but this concern is counterbalanced by the protection such a statute would afford employees.

52. CAL BUS. & PROF. CODE § 16600 (West 1987). *See also* James H. A. Podey, *Restrictive Employee Covenants in California*, 4 SANTA CLARA COMPUTER & HIGH TECH. L. J. 251 (1988); Kitch, *supra* note 8, at 710.

53. As noted above, one is given special proprietary rights in trade secrets, but the nature of trade secrets and traditional remedies make it difficult to prevent the disclosure of the trade secrets by former employees who join competitors.

C. *Training*

Many firms expend significant resources training employees. Following Gary Becker's analysis of human capital,[54] economists have classified training in two categories: general training, in which the skills an employee learns are of value to many competing firms, and specific training, in which the skills the employee learns are of value only to the firm doing the training. Teaching a junior bank officer how to analyze loan requests is an example of general training, for the skills the employee learns can be utilized at many competing banks. But teaching the employee how that bank organizes its files and forms is an example of specific training, for that knowledge is of no use to competitors who have their own systems in place.

According to Becker, a firm will not subsidize the cost of teaching a worker general skills because the worker can easily transfer those skills to another firm. In fact, if the firm did pay for a worker's general training, after the training the firm would lose the worker to firms that do not train workers and can therefore afford to pay higher wages. Thus, employees themselves must pay for general training through wages that are below the marginal product of labor. For example, if an untrained worker has a marginal product of labor of $100 per week, and training costs $20 per week, the employee will accept a wage of $80 per week during the training period. This assumes, of course, that $20 is an efficient level of training—that is, the present value of the future increase in productivity is equal to or greater than $20.

An employee will *not* pay for the cost of specific training, however. Because specific skills cannot be used at competing firms, an employee's competitive wage will not rise with an increase in specific skills. Therefore, firms must pay for all specific training. During and after the training period, the employee will receive a wage equal to the marginal productivity of his general skills—his competitive wage. Thus, a novice cook will accept a depressed salary if he is learning how to prepare dishes for that training increases his future value. An accomplished chef, however, will not accept depressed wages to learn how a restaurant's kitchen is organized because that specific knowledge does not increase the chef's value to other firms.

In this analysis, there is no need for a long-term contract between employer and employee. A firm that pays for specific training need not fear the loss of an employee because the firm can always match competing wage offers. To retain the employee the firm need only pay the prevailing wage the employee could earn at other firms. This the firm will gladly do, since it values the employee more highly because of the employee's specific skills. On the other side of the coin, an employee who pays for general training through lower wages need not seek a long-term contract with the employer; after his training, many firms will seek him out for his general skills and pay him a competitive wage for those skills.

54. GARY S. BECKER, HUMAN CAPITAL (1964).

Becker's analysis is not robust, however, because it fails to take into account the situation where the cost of general training exceeds the employee's wage.[55] For example, suppose that the cost of training an airline pilot is $300,000 per year for three years. Even if this were an efficient investment, few employees could afford to pay for this training directly, and none could afford to pay for it by accepting decreased wages during the training period. Of course, since the ability to pilot a plane is a general skill desired by competing firms, under Becker's analysis no airline will pay for this training.

If an employee could commit to work the number of years necessary for the airline to recoup its investment, the airline would then be willing to make the investment. Such contracts, which smack of indentured servitude, are not enforceable under the Constitution and the common law.[56] A noncompetition agreement, however, enables the pilot essentially to bind himself to the airline; as long as the airline pays the pilot more than he could earn in other industries, the pilot will stay with the airline. Thus, while the pilot cannot enter an enforceable contract that explicitly requires him to serve the airline for a set number of years, the pilot can indirectly accomplish much the same result by entering into a noncompetition agreement. The noncompetition agreement thus induces the employer to make the long-term investment in expensive training. Gains can be made from investing in training and the employee and employer can share these gains through higher lifetime wages and profits.[57]

The argument that noncompetition agreements are needed to induce employers to spend large sums training workers has much analytic merit. One can imagine many situations in which the cost of general training is so high that employees cannot pay for the training either directly or through reduced compensation.[58] In such cases, a noncompetition agreement serves as an effective long-term contract between

55. Callahan, *supra* note 23, at 717; Rubin & Shedd, *supra* note 39, at 96.

56. *See* Pollock v. Williams, 322 U.S. 4, 17 (1944) ("The undoubted aim of the Thirteenth Amendment as implemented by the Antipeonage Act was not merely to end slavery but to maintain a system of completely free and voluntary labor throughout the United States."); Arthur v. Oakes, 63 F. 310, 317-18 (7th Cir. 1894). The court in American Broadcasting Companies, Inc. v. Wolf succinctly summarized the development of this principle:

> Courts of equity historically have refused to order an individual to perform a contract for personal services. Originally this rule evolved because of the inherent difficulties courts would encounter in supervising the performance of uniquely personal efforts. During the Civil War era, there emerged a more compelling reason for not directing the performance of personal services: the Thirteenth Amendment's prohibition of involuntary servitude. It has been strongly suggested that judicial compulsion of services would violate the express command of that amendment. For practical, policy and constitutional reasons, therefore, courts continue to decline to affirmatively enforce employment contracts.

420 N.E.2d 363, 366 (N.Y. 1981) (citations omitted).

57. The airline industry avoids this problem altogether; most pilots receive their training in the Air Force and later join private industry. Callahan, *supra* note 23, at 717.

58. Economists have studied why capital markets fail to provide financing for individuals who are capable of making an efficient investment in education and training. For a brief summary of why the capital market fails in this regard, see LESTER C. THUROW, INVESTMENT IN HUMAN CAPITAL 77-78 (1970).

employer and employee, assuring the firm that it will have time to recoup its investment.[59]

Most noncompetition agreements, however, provide that if the employee *ever* leaves the firm, the noncompetition restrictions will apply. Let us call these *infinite noncompetition agreements*. Even though the employment contract or the courts will limit the duration of the restrictions once the employee has left the firm, these agreements are *infinite* in the sense that the duration of the restrictions does not begin until the employee has left. This means that no matter how many years the employee serves his firm, he still faces a severe burden upon termination of his employment.

Infinite noncompetition agreements are not necessary to support efficient, long-term investment in training. In fact, one would expect that in a world of perfect information, bargaining would lead to contracts specifying that if the employee left the firm within X years, he would not be allowed to compete, where X years of service at an express or implied wage of $\$Y$ was a period sufficient for the firm to recoup its investment in training. Let us call these *limited noncompetition agreements*.[60]

Suppose, as in an earlier example, that it costs $300,000 per year for three years to train an airline pilot. It may be that, given a pilot's value to an airline during and after training, an airline will recoup its investment in ten years if it pays a pilot a salary of $70,000 per year for ten years. After implicitly or explicitly assuring a prospective pilot of such a salary, an efficient employment agreement would therefore provide that if the pilot leaves the airline within ten years he will not work for a competitor. As long as the pilot can earn no more in some other line of work, the airline need not fear that the pilot will quit during the ten-year duration of the limited noncompetition agreement.

One could design an infinite noncompetition agreement for the above example that would also be fair. It might be that, given the average starting pilot's life expectancy, an airline that paid for the cost of training would, on average, recoup its investment if it paid a pilot a salary of $85,000 for the rest of his career. While infinite noncompetition agreements are not necessarily inefficient, it can be concluded that they are unnecessary, for one could always design a limited noncompetition agreement that would induce the optimum investment in training.

If the reason for a whole class of noncompetition agreements is that they are needed to induce investment in training, then it is curious that almost all noncompetition agreements appear to be of the infinite vari-

59. The traditional legal doctrine in this area, *supra* notes 3-8 and accompanying text, does not include consideration of the employer's investment in training. Rubin and Shedd, *supra* note 39, argue that the courts act in a manner that takes employer investment in training into account even though a different rationale is put forth.

60. Both Rubin and Shedd, *supra* note 39, and Callahan, *supra* note 23, argue that noncompetition agreements enable efficient investment in human capital. Neither recognizes, however, that *infinite noncompetition agreements* are not needed to induce employer investment and in fact may be detrimental to employees who lack the information required to make long-term contracts concerning their productivity.

ety.[61] For the same reasons discussed in the section evaluating employee goodwill, it is reasonable to conclude that employees are at particular risk of making sub-optimal contracts when they make long-term decisions involving their future productivity. That is, an employee is in a bad position to evaluate his current and future value and is, therefore, highly likely to strike a bad bargain with a firm operating with fuller information.

Given that limited noncompetition agreements can be used to induce efficient levels of training, there is no reason to allow infinite noncompetition agreements if their purpose is to induce investment in human capital. A statute that limits the duration of a noncompetition agreement to, say, six years of service with a firm (after which the noncompetition covenant would expire), and requires the firm to make some showing of how it calculated training costs and derived a reasonable noncompetition term, would go far toward protecting employees. Colorado seems to follow this logic by making all employee noncompetition agreements unlawful except for those that provide for the recovery of the expense of educating and training an employee who has served the employer for less than two years.[62]

D. *Implicit Contracts to Stabilize Wages*

In a labor market characterized by perfect competition, the equilibrium wage will equal the marginal revenue product of labor. The MRP depends, in turn, on the price that the product sells for, the quantity sold and the cost of other inputs. Because these characteristics fluctuate constantly, especially over the term of a business cycle, labor's marginal revenue product fluctuates constantly. In a perfect market in which labor is sold as in a spot auction, wages should therefore move up and down frequently.

In fact, most workers' wages remain fairly stable. Rather than abandoning the spot auction model, however, many economists have theorized that stable wages may be the result of optimizing behavior between risk averse workers and risk neutral firms.[63] Workers are averse to having their wages fluctuate and would prefer a stable wage that has the same present value as a fluctuating stream. Firms, or their stockholders, can diversify their sources of income and rely on capital markets more readily; for this reason, firms are risk neutral and are willing to make actuarially fair bets. One economist summarized the potential gain from trade in this way:

> By agreeing to accept some of the risk of wage variation, employers implicitly offer an insurance service to workers. This

61. Almost all cases that are litigated involve infinite noncompetition agreements. It is possible that limited noncompetition agreements are often used but don't lead to litigation. This seems unlikely, however, since the courts and commentators rarely consider limited noncompetition agreements when discussing the issue.

62. COLO. REV. STAT. § 8-2-113 (1986 & Supp. 1990).

63. Mark P. Taylor, *The Simple Analytics of Implicit Labour Contracts*, 39 BULL. ECON. RES. 1 (1987).

is attractive to workers because of their risk aversion and is relatively costless to the firm because of its risk neutrality. Thus, "Risk-reducing policies are the cheapest and hence most profitable way of attracting any given work force."[64]

The arrangement between the firm and the employee has been called an implicit contract by economists because one rarely sees an actual long-term contract spelling out the wages that the employee will receive. If these implicit arrangements do exist, perhaps one reason they are never subject to contractual agreements is that it is too difficult to state ahead of time the exact manner in which a worker's lifetime wages will be smoothed out. A worker's wage will still vary as his productivity changes (*e.g.*, he is promoted to a higher position) and as the long-term health of the industry changes. What is filtered out by an implicit contract is short-term changes in the productivity of labor resulting from "noise" in the market.

An employee may be willing to enter into this arrangement with a firm based on the firm's reputation. That is, an employee may be willing to accept a wage that is temporarily below his marginal revenue product because the firm has a reputation for maintaining stable wages. This reputation is valuable in attracting new workers and so the employee is fairly assured that the firm will not renege by lowering the wage when the productivity of labor temporarily falls.

But what stops an employee from reneging on his end of the agreement? An employee earning a stable wage above his MRP from firm *A* could, when his MRP rises above that stable wage, move to firm *B*, which pays its workers a fluctuating wage tied to worker productivity. Workers do need to protect their reputation because firms that pay stable wages will be wary of workers who change jobs frequently. An employee can, however, mask the fact that he is reneging on a stable wage arrangement, whereas a firm generally cannot. Employees can cite a multitude of reasons for leaving a firm—geographic preference, dissatisfaction with management, a desire for a slightly different job or work environment, *etc.*

Thus, the argument goes, the firm wants some assurance that the worker is making a long-term commitment. A noncompetition agreement, by essentially binding the employee to the firm, serves as an effective commitment and thus induces the firm to enter the optimizing arrangement of stable wages.

Upon closer examination, however, this argument fails. Both theory and causal empiricism suggest that an employee has no need to make a long-term commitment to a firm in order to enter a stable wage arrangement. Assuming that most workers are risk averse, all firms would offer implicit, stable wages. That is, it would be in no firm's interest to offer fluctuating wages, because the firm would not be able to attract workers. Therefore, a firm that offers stable wages need not fear

64. *Id.* at 4 (citing Martin N. Baily, *Wages and Employment under Uncertain Demand*, 41 REV. ECON. STUD. 37 (1974)).

that a worker will be motivated to leave to take advantage of wages that are temporarily higher at a competitor that pays fluctuating wages. This explains why stable wages are the norm in most labor markets, including those in which noncompetition agreements are not typical (*e.g.*, food service, janitors, librarians and guards).[65] Thus, it is unlikely that noncompetition agreements facilitate implicit contracts relating to stable wages.

A review of the cases and the literature reveals no instance in which implicit contracts were cited as a potential justification for enforcing a noncompetition agreement. This is not surprising. The implicit arrangement does not fit the legal requirements of a contract (a meeting of the minds, offer and acceptance or identifiable consideration). Furthermore, it is unlikely that a firm would argue that it is *obligated* to pay employees a certain implied wage, even if this lends credence to the firm's effort to enforce a particular noncompetition agreement.

IV. CONCLUSION

This Paper has examined four potentially welfare-enhancing bargains between employer and employee that have been said to explain the existence of employee noncompetition agreements. Those bargains involved employee goodwill, the disclosure of business secrets, investment in expensive training and stable wages. A close economic analysis of these potential gains revealed the following:

1. Noncompetition agreements should not be enforced when the sole justification by the employer is the need to protect his interest in employee goodwill—that is, in revenue that depends upon the worker's continued employment, such as the revenue a worker generates through close customer contact. In a perfect market an employee will earn a wage equal to his marginal revenue product, including revenue generated by the goodwill the employee develops. If an employee is being compensated on this basis, a firm need not fear that he will leave. The fact that many employees do enter noncompetition agreements related to employee goodwill indicates that employees systematically underestimate their long-term value and enter sub-optimal long-term agreements because of asymmetric information in the labor market.

2. A noncompetition agreement induces a firm to disclose business secrets to employees. This disclosure enables an expansion in output, and, hence, an increase in the firm's profits. Part of the increase in profits will be used to compensate employees for giving up a large degree of mobility. Thus, in a perfect labor market, a noncompetition agreement related to business secrets will enhance the welfare of the contracting parties. There is strong reason to believe, however, that labor markets are not perfect and that employees make sub-optimal long-term agreements due to asymmetric information about their productivity.

When a noncompetition agreement is related to the disclosure of business secrets, the effect on the market is indeterminate. These agree-

65. Rubin & Shedd, *supra* note 39, at 99.

ments encourage firms to develop and exploit secrets, but they also introduce monopoly pricing. Net social welfare will increase in some instances and decrease in others.

3. An employer will expend large amounts of time and resources teaching an employee general skills only if the employer can be assured that the employee will not leave the firm to join a competitor shortly after the end of the training period. By prohibiting attractive employment options, noncompetition agreements effectively bind an employee to the firm and can thus induce investment in training. But most noncompetition agreements are of unlimited duration in the sense that they do not expire after a given period of employment. Under such agreements, an employee's mobility is restricted no matter how long he has served his employer. A noncompetition agreement that expires after a reasonable period of employment (a period long enough for the firm to recoup its investment in training) will also induce expensive training of employees. Such an agreement has the benefit of permitting the employee to leave and immediately assume a competitive position after serving his employer for a reasonable period of time.

4. It is unlikely that implicit arrangements between a firm and its workers to stabilize wages give rise to employee noncompetition agreements. Employees have no need to bind themselves to employers to induce stable wages.

Given the above, a rational legal regime should hold noncompetition agreements enforceable only under the following circumstances. First, a noncompetition agreement would be appropriate when the employer spends direct and quantifiable funds educating employees and needs assurance that the firm will be able to recoup that investment over time. The burden should be on the firm to show that the duration of the restriction is reasonable in light of the direct investment in training. Once an employee has served the employer for a reasonable period in light of the training costs, the employee should be free to join competitors without further restrictions. Second, a noncompetition agreement would be enforceable when the firm has trade secrets of substantial value which are routinely taught to employees. To prevent employees from making sub-optimal long-term commitments, the duration of noncompetition agreements should be limited by statute. For example, a statute could require that these restrictive covenants expire within a definite period not to exceed six years. Six years after entering an agreement containing a noncompetition covenant, the covenant would expire and the employee would have an opportunity to renegotiate the agreement. Such a rule would protect employees and have no other serious effect on welfare.