



# Essays on Employee Non-compete Agreements

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**Abstract:** This dissertation presents a multi-method study of the implications of employee non-compete agreements for innovation, entrepreneurship, and the careers of knowledge workers. I find that non-competes bind employees to their employers, especially for those with difficult-to-transfer skills; I also find implications for those who nonetheless leave their jobs. Ex-employees subject to non-competes are more likely to leave their industry when they take their next job, and they are less likely to join a small firm. The results contribute substantially to our understanding of how institutional context, including regulation by the state, can affect entrepreneurial activity.

## Introduction

Ostensibly used to stem the leakage of trade secrets, employee non-compete agreements may hold unintended consequences not only for the individuals who sign them but for broader outcomes of interest including innovation and participation in entrepreneurial activity. Although non-competes date back to the 15<sup>th</sup> century, policymakers and managers alike continue to wrestle with their appropriate use. In 2008 alone, four U.S. states as well as China undertook substantial non-compete reforms. More importantly, that these regions came to opposing conclusions regarding the appropriate use of non-competes—New York and Oregon placing restrictions on their use, while Louisiana and Idaho removed such restrictions—suggests an absence of grounded, rigorous research on their implications.

In this dissertation, I focus on the implications of non-competes both for current workers and ex-employees. The question of whether non-competes discourage workers from changing jobs has

received some scholarly attention, but questions regarding causality remain. The issue of whether non-competes shape post-employment trajectories has received even less attention, prompting me to take a grounded-theory approach. Tying this fieldwork—the first fieldwork on non-competes to my knowledge—together with large-sample analysis from an inadvertent policy reversal in Michigan helps to triangulate on the results via both qualitative and quantitative methods.

### **Skills, Mobility, and the Michigan Experiment (with Deborah Strumsky and Lee Fleming)**

I first investigate whether non-competes bind employees to their employers. While prior scholars have investigated this question, establishing causality had been elusive both due to the limitation of cross-sectional analysis and because firm level data could not examine the mobility of individuals. This study exploits a little-known policy reversal during the mid-1980s, following which the state of Michigan began to enforce non-competes, as a “natural experiment” in order to assess the effects of non-competes.

At the turn of the 20th century, the metropolitan area of Detroit, Michigan in many ways resembled today’s Silicon Valley. Growth of the nascent auto industry was explosive, with 500 firms entering before 1915. Just ten years prior, the Michigan legislature had passed Public Act 329, a subsection of which stated that “all agreements and contracts by which any person agrees not to engage in any avocation or employment are hereby declared to be against public policy and illegal and void.” This law governed non-competes in Michigan until March 27, 1985 when the Michigan Antitrust Reform Act (hereafter, MARA) repealed several bodies of law including Public Act 329. More than 20 pages of legislative analysis of MARA does not mention non-competes as a reason for the bill, raising the question of whether the reversal of non-compete enforcement policy was deliberate. Just after the bill was passed, multiple articles appeared in the Michigan Bar Journal telling practicing lawyers essentially that they were now able to enforce non-competes. Moreover, two years later the legislature passed a

“clarification” of how non-compete should be handled (but which did not reinstate the 1905 ban).

Interviews with Michigan labor lawyers active at the time indicate the policy reversal was inadvertent:

“There wasn’t an effort to repeal non-competes. We backed our way into it. The original prohibition was contained in an old statute that was revised for other issues...we were not even thinking about non-compete language...All of a sudden the lawyers saw no proscription of non-competes. We got active and the legislature had to go back and clarify the law.”

This apparently-inadvertent reversal of enforcement policy presents an unusual opportunity to assess the impact of non-competes. In a controlled experiment, one observes the same subjects both before and after the “treatment.” The control group is the set of states that continued not to enforce non-competes (AK, CA, CT, MN, MT, ND, NV, OK, WA, and WV). By tracking the careers of individuals using data from the U.S. patent and trademark office, it is possible to estimate these effects. The population is restricted to the 98,468 inventors who had at least one patent in Michigan or in another non-enforcing state prior to MARA. The resulting statistical model, estimated using decades of work histories reconstructed from the U.S. patent database, indicates an 8.1% drop in mobility for Michigan-based inventors following the policy reversal when compared with those in other states that continued not to enforce non-competes. Moreover, non-competes had nearly twice as strong of an effect on those whose skills had limited transferability beyond their firm or industry. The results are robust to controlling for the automobile industry, which is overrepresented to Michigan's economy.

### **Good Work If You Can Get It...Again: A Field Study of Non-competes and Ex-employees**

Even though non-competes bind employees to their employers, it is certainly not the case that non-competes prevent people in all cases from changing jobs. A natural follow-on question is how ex-employees respond when non-competes restrain them from continuing to practice their profession.

Given that this issue has not received prior attention in the academic literature, I attempt to ground my insights using fieldwork.

I began by interviewing 13 people whose occupational trajectories had been affected by non-competes. While these interviews were informative, in order to ensure that my findings were not simply driven by “squeaky wheels” I subsequently gathered interview data from 52 people chosen at random from the population of patenting inventors in the automatic speech recognition (ASR) industry. I chose the ASR industry both given the importance of intellectual property protection and the deep expertise developed by many engineers and scientists in the field. Slightly fewer than half of the interviews were conducted in person, involving travel to California, Arizona, Pennsylvania, New Jersey, and Washington State. (The figure below shows the geographic distribution of ASR inventors I attempted to interview.) These interview data were complemented by a survey of 1029 members of the IEEE engineering organization across a variety of industries.



I found that those who honored non-compete agreements did so most often by taking *occupational detours* in that they changed fields when changing jobs. Such detours were embarked upon reluctantly—particularly by those whose skills difficult to transfer to other industries—and held

negative implications for their compensation, continued development of their expertise, and the maintenance of their professional networks. For example, a speech recognition scientist with a Ph.D. in the field from a top university had co-founded an ASR startup but was later let go. Rather than attempt to work in the same field, he left the ASR industry entirely in order to avoid infringing on the agreement he had signed:

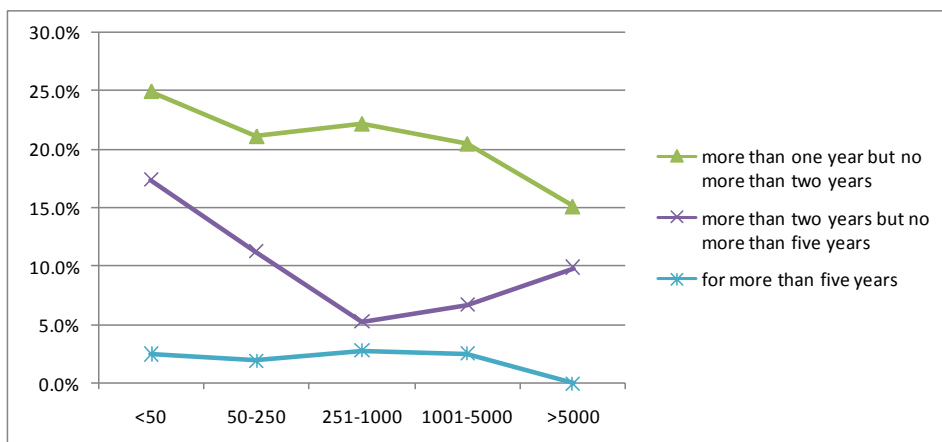
“I had a very strong anti-competition agreement with <former employer>...so for two years I couldn't have gotten involved in another speech recognition company in any case. The employees were very much aware of these non-competition agreements. And many of them on a regular basis would sort of do a gut check and say, ‘Well, if I'm ever gonna leave and there's gonna be two years when I'm not doing speech recognition, what would I do for two years?’”

One-quarter of interviewees in the random sample who had signed a non-compete and then left their employer reported exiting the ASR industry due to the non-compete. Taking a detour negatively affected individuals in at least two ways. First, although those who changed fields looked for jobs in which they could utilize some of their skills, they lost the ability to develop and enhance expertise specific to the industry they had left. Second, the inability to exercise their existing skills led to them to take jobs with compensation lower than they could earn if able to continue to work in their chosen field. “I intentionally looked for general-purpose programming, and I took a substantial pay cut to go there,” recalled a principal scientist who avoided legal entanglement by taking an occupational detour.

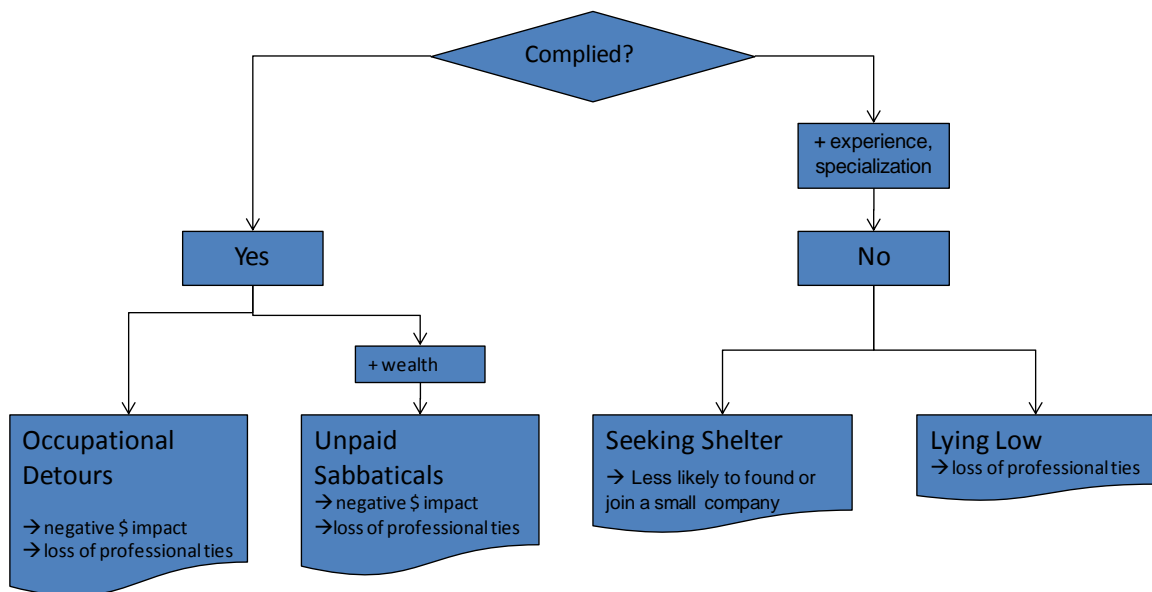
In a few cases, instead of taking an occupational detour an individual did not seek paid employment for the duration of the non-compete. The option to embark on an *unpaid sabbatical* was facilitated by personal financial resources. For example, an independently wealthy executive who became dissatisfied following an acquisition resigned from the company and “went to [university] for a year and worked there [unpaid] for a year because of the non-compete. I certainly chose not to try to fight the non-compete. Just for clarity's sake I didn't want to have any question around it.”

Of those who did not honor the non-compete—i.e., who subsequently took a job in the same field—most decided to *seek shelter* by joining a large company with sufficient resources to deter legal action by the former employer. Several interviewees expressed concern that a lawsuit could be more damaging if they subsequently joined a small firm. Said one ex-employee: “I consciously excluded small companies because I felt I couldn’t burden them with the risk of being sued. [They] wouldn’t necessarily be able to survive the lawsuit whereas a larger company would.” Others indicated that joining a large firm would lessen the likelihood of a lawsuit not only thanks to its ability to handle litigation, as described above, but also because it could provide an occupational detour within the firm.

In addition to the protection a large firm could afford against a lawsuit concerning an existing non-compete, some interviewees saw advantages in how large companies might handle future non-competes. Even though one could imagine that larger firms with more market power in greater financial or legal resources might be more likely to engage in litigation, non-executives in particular felt that they would be less of a target after leaving a large company. Ex-employees may also have avoided small companies in order to avoid being required to sign unusually long non-competes. Although one might suspect that larger firms could be inclined to require more punitive non-compete agreements, the survey data suggests the opposite. Firms with fewer than 250 employees appeared more likely to use non-competes that extended two years or longer, as shown in the following chart:



Not all ex-employees who decided not to comply with the non-compete joined large firms. Those who took jobs with small companies decided to *lie low* in order to prevent their prior employer from knowing that they were competing with them. Doing so carried negative implications both for the strength of their professional ties and the growth of their firms. “People would leave and not say where they were going, so I lost touch with a lot of my colleagues,” observed an ASR engineer. The figure below summarizes the findings of the field study.



### Technical expertise, non-competes, and the staffing of small firms

Even though the accounts of the fieldwork are compelling, that most of them are drawn from a single industry raises the question of how broadly these findings can be generalized. Thus I return to the Michigan experiment in order to test whether the fieldwork constructs are also found in large-sample analysis across a variety of industries.



The analysis resembles that of testing whether non-competes bind employees to their employers, except the population is restricted only to those inventors who changed jobs. I find evidence of the *occupational detour* construct in that Michigan inventors following the policy reversal were 4.3% more likely to change fields when changing jobs than were those in states where non-competes continued to be unenforceable. This finding also points to a key distinction between non-competes and other forms of intellectual property protection: while patents, trademarks, copyrights, and nondisclosure agreements all restrict access to the *output* of the innovative process, non-competes restrict access to the *inputs* as well—namely, the relevant expertise of the inventors themselves. Moreover, non-compete agreements restrict the use not only of skills acquired by the employee while at the company where someone signed a non-compete, but also prior skills obtained at other employers or through education.

I also find evidence for the *seeking shelter* construct. Michigan inventors who changed jobs after the policy reversal who change jobs after Michigan began to enforce non-competes were 6.0% more likely to join a firm of above-median size than those in states that continued not to enforce non-competes. This result is driven not only by the motivations of individuals identified in the fieldwork but likely also by the reluctance of small firms to attempt to hire those subject to non-competes. Several scholars have documented the difficulties that small firms face in hiring talent, which are exacerbated in the case of non-competes by the asymmetric costs of the legal system.

## **Conclusion**

This dissertation substantially extends our understanding of non-competes: that they discourage individuals from changing jobs; that those subject to such contracts are more likely to change fields when they change jobs; and that ex-employees are less likely to join small companies when non-

competes are enforced. It moreover identifies characteristics that moderate the impact of non-competes, including the transferability of one's expertise and personal wealth.

This work also contributes substantially to our understanding of how institutional context affects participation in entrepreneurial ventures. Several scholars have established that once an original opportunity has been identified, entrepreneurs must marshal both financial and human capital in order to execute. Unless employees are to be recruited exclusively from universities or other organizations that do not require non-compete agreements, these findings show that it will be more difficult for small ventures to attract talent in regions where non-competes are enforceable. First, employees are less likely to leave their current jobs, especially when they possess the sort of deep expertise that will likely be of interest. Second, even when those subject to non-competes change jobs, they are less likely to continue to work in the same field. Third, fear of litigation coupled with the asymmetric costs of the legal system drive ex-employees away from small ventures and toward larger firms. Thus while prior research on non-competes has focused primarily on whether founding rates of new firms decline, this work shows that non-competes also discourage the *growth* of new ventures.

This study also opens several avenues for future work. Given the career limitations placed on individuals by non-competes, will regions that enforce non-competes experience “brain drain” of their top talent to regions that do not enforce these agreements? Will those who remain in enforcing regions find themselves less motivated to develop firm specific or industry-specific expertise, lest it not be portable to their next job? Moving from the individual level to the firm level, will unsanctioned spinoffs distance themselves—either strategically or geographically—where non-competes are enforced? Does the use of non-compete agreements slow the pace of technological change? Answers to these questions, coupled with the findings of this dissertation, will inform the choices of individuals, managers, and policymakers alike.