

Graduate School at Clemson University

The Brief Courtship with Clemson

When I look back, I can see how one thing so luckily led to another, but in the moment no single detail felt monumental. During the fall of my last year at ULM, I chose a course not based on the subject, but because of the professor who was teaching it. Professor Rodney Mabry had become somewhat of a mentor to me, and I thought very highly of him. With that in mind, I decided to take his *Public Economics and Taxation* course, even though I didn't have a strong interest in it. I figured any time in the classroom with him would be valuable. I didn't know that choice would change my life.

One Tuesday morning as the semester moved forward and with it the college football season, Professor Mabry began his morning class not with a discussion about economics or taxation, but with the announcement that Clemson University had won its football game that past Saturday and was currently undefeated. *Clemson?* I was sure I had heard of it but didn't really know much about it. I liked football, and proudly considered myself a New Orleans Saints fan, but I hadn't paid much attention to college football beyond watching the major bowl games. It started to click for me the following week when Professor Mabry began the class the same way, letting us know that Clemson remained undefeated.

I learned that Professor Mabry had a connection to Clemson. After he received his Ph.D. from the University of North Carolina, he spent a handful of years at Clemson University as a junior faculty member before taking the position as the head of the Department of Economics & Finance at ULM. Unexpectedly, I got caught up in Professor Mabry's enthusiasm and looked forward to his weekly announcements, hoping Clemson could keep it up. They did. On January 1, 1982, I watched Clemson on television win the National Championship with its victory over Nebraska in the Orange Bowl. I marveled at the intense school spirit – all that orange in the stands – and I quickly became enamored with Clemson myself.

Up until that point, I had planned to go to law school after completing my undergraduate degree in economics. I hadn't considered any other options. Then one day, I talked to Professor Mabry and told him how much I enjoyed the football season that year and the Clemson win. One thing led to another and without even realizing it my path shifted away from one thing and toward something else. Based on my work in his class, Professor Mabry strongly urged me to consider enrolling in the M.A. in Economics program at Clemson, with the option of attending law school afterwards. He pushed the fact that although the program was small at the time, it would provide me with an unusual level of personal attention in what he described as the most powerful academic department on campus.¹

I didn't know what I thought of that idea, but it seemed at least worth investigating. Two weeks after Clemson won the National Championship, and not long after Professor Mabry and I had

¹ Professor Mabry returned a few years later to Clemson University where he headed the Department of Finance and eventually spent 16 years as the President of the University of Texas at Tyler. In 2020, the UT System Board of Regents named Mabry as President Emeritus of UT Tyler to signify the enormous contribution he made in developing the university during his tenure.

spoken, my parents and I drove to Clemson, South Carolina from ULM on a Thursday evening after my classes ended. I still vividly remember the orange Tiger Paws painted on the highway leading into town. I was surprised how excited I felt to be there.

At Clemson, I had an appointment with Professor Hugh Macaulay who served as graduate student coordinator in the Department of Economics, in addition to his normal duties of research and teaching. It was a visit to remember. Professor Macaulay had boundless energy and was an incredible salesperson for Clemson. One of the first things I noticed was his bow tie, which struck me as academic and appealing. Little did I know at the time that it was his trademark, and I would never see him without one. I found out later his wife made all his bow ties for him.

During that initial meeting, I learned about some of the people who would be so important to me in the years to come, but of course I didn't know it at the time. Professor Macaulay had barely said hello when he began his apology; he was sorry that, due to being short-handed that day, I would not get to meet two of the prominent professors in the department: Bruce Yandle, who was serving as Executive Director of the Federal Trade Commission in Washington D.C., and Richard McKenzie who was out promoting a new book on economics and liberty. I wondered why he was apologizing to *me*. I was so grateful to have his time and attention; that seemed like more than enough. But Professor Macaulay appeared to care deeply about me, my future, and the impression I had of Clemson. His big selling point was not just the current esteemed faculty, but that Michael Maloney and Robert McCormick would join the faculty in the fall. Lastly, Professor Macaulay also had a prosthetic leg that clanked nonstop as he rushed around, guiding us on a building tour of Surrine Hall where the Department of Economics was housed. I learned he had lost his limb in France in 1944 during World War II while in active conflict and later received the Purple Heart. All these details pushed me in the same direction, one completely different from what I had pictured for myself just weeks before. My mind was made up. I was headed to graduate school at Clemson to study economics. Law school could wait.

After that I didn't look back and things moved quickly. I graduated from ULM on a Saturday night in mid-August 1982. We celebrated with a dinner my parents hosted at a seafood restaurant. Numerous family and friends were there to congratulate me and wish me luck. I was so eager to start my new life I didn't wait until the next day. A few hours after dinner, shortly before midnight, I started the 12-hour drive toward Clemson. with my older brother, Gerald, and a couple of his friends in two trucks packed with my belongings. We arrived at Clemson around noon, had lunch at the Golden Corral Steakhouse on Tiger Boulevard², unloaded everything from the trucks into my apartment near campus, and then my brother and his friends left. I was alone, in a new town, about to begin my next chapter.

The minute they departed, it sank in. I had class in less than eighteen hours, and I had not even seen a syllabus or purchased a textbook. I had been so consumed with finishing up at ULM that I probably had not looked forward enough. I had planned on resting a bit after the all-night drive, but quickly changed gears. I had to unpack, set up my apartment, try to get some sleep, and

² The Golden Corral has since been replaced by Chick fil-A.

then wake early to find out the location of my first class at 9:30 a.m. There was no such thing as orientation week, or even orientation day, back then for graduate students. You just had to find your way. So, there I was, only a little more than three years out from working full-time in the autobody shop and not even knowing if I would go to college to my start of graduate school. My entire life view had changed, as had my path, and I felt nervous and excited and ready.

M.A. in Economics

To complete the M.A. program in Economics, the program I was now enrolled in, you had to take a total of thirty class credits made up of eight three-credit courses and a six-hour thesis requirement. It could be daunting, and some students took two years to finish, especially if they hit a roadblock with their thesis. As Professor Mabry had noted, the Economics Department was a powerful department at Clemson, and given there was no Ph.D. program at the time, the faculty made sure that the M.A. program stood out with a high reputation. Of the eight courses I took, two stood out. It just so happened that I took both of those courses during my first term at Clemson, in the fall semester of 1982.

It seemed fitting that Professor Macaulay taught one of those courses – *Environmental Economics*. The class was eye opening, at least for me. It wasn't a required class, and I had no particular interest in environmental economics, but I took it anyway for the simple reason that Professor Macaulay taught it. This was a strategy that had served me well before, and it would serve me well now. The course materials consisted of academic journal articles and a textbook, *Environmental Use and the Market*, which Macaulay wrote with Bruce Yandle, one of the two prominent professors I was unable to meet during my initial visit as he was on leave as Executive Director of the Federal Trade Commission. Looking back, I think the reason this class made such a big impression on me was because it introduced me to Chicago Price Theory with its primary strong focus on market equilibrium that emphasizes markets and competition in allocating resources to individuals and corporations.³ In standard microeconomics, prices are determined structurally via demand and supply curves, whereas Chicago Price Theory goes further, recognizing that the interactions between supply and demand will impact market prices.

In addition, *Environmental Economics* used academic journal articles to convey a substantive amount of content for the course. I had never taken a class like that before. As an undergraduate student, I had little exposure to journal articles in the classroom, though I was interested. When I saw them mentioned in my various economic textbooks, I would go to the library at ULM and attempt to at least skim some of the articles for a better understanding. But now we were working with the articles directly. I'll never forget our first assigned academic reading in *Environmental Economics*; it was a famous classic then and now, "The Problem of

³ Professor Macaulay received his Ph.D. at Columbia University where he studied under Professor George Stigler who eventually switched to the University of Chicago where he was an extraordinary heavyweight in the development of Chicago Price Theory and a Nobel Prize in Economics recipient. As I will point out on a few occasions, the graduate school backgrounds of my professors at Clemson had an enormous influence on their research and teaching, and in turn, I benefitted greatly.

Social Cost” by Ronald Coase published in *The Journal of Law & Economics* in 1960. I was glad that Professor Macaulay had jumped right in and not saved the most important paper for last.

As is the case of many great papers, “The Problem of Social Cost” jolted the status quo when it was written. It was not immediately accepted as influential work, much less in the mainstream of economic thought, but it eventually became one of the most cited papers in all of economics. It was the primary paper for which Ronald Coase won the Nobel Economics Prize in 1991.⁴ Week after week, Professor Macaulay would declare, “according to Coase, externalities are bilateral...how should we think about that?” with respect to all sorts of questions which could be analyzed with economics.⁵ I can still hear his voice in my head.

Coase’s paper, as well as many other important papers which I came to appreciate over the years, tried to address a real-world issue, yet began at a point in a simplistic universe without market frictions or transactions costs. Coase tackled the basic problem of pollution, namely the harmful impact that a firm might have on external parties such as the local community, when the firm’s emissions of various chemicals are released into the environment. If a firm is allowed to freely pollute without retribution, there will be a difference between the social impact and the private impact that the firm will have on the community. Namely, part of the profits that the shareholders of the firm receive are mired in the negative reality that the firm freely polluted and therefore had a negative impact on others. The traditional solution is to stop the firm from polluting or impose a tax that reflects the damage caused. Coase asked whether this solution was optimal in the most basic of all settings, that is, in a world where property rights were well defined and transactions costs were zero. He began by noting that the firm did harm others by emitting harmful pollutants into the environment. But Coase took a subsequent step and argued that a pollution ban would harm the firm. In this respect, as Professor Macaulay regularly declared, “externalities are bilateral.”

It is important to note that Coase was not advocating against pollution bans. Rather, he was trying to understand, not so much where there should be either zero pollution to the delight of the environmentalists or no restrictions on pollution to the benefit of the shareholders of the polluting firm, but instead how much pollution occurs in a world absent of market frictions. The incredible insight from Coase’s paper was that the same level of pollution activity will occur irrespective of who owns the property rights to pollution. That is, the firm will negotiate with the other parties to achieve an optimal level of pollution. If the firm owned the property rights to freely pollute, it would not do so; rather the other parties would pay the firm to reduce pollution

⁴ Indeed, even the normally disposed free market economists at the University of Chicago were skeptical. Coase presented his idea at the workshop which led to a lengthy dinner at Aaron Director’s (brother-in-law of Milton Friedman who was one of the founders of the Chicago Law and Economics School of Thought) home with most of the economics faculty present. By the end of the evening, Coase convinced everyone, including Milton Friedman and George Stigler, that he was correct. A straw vote which started out 1 (Coase was only one voting in favor) to 20 eventually switched to 21 to 0. In my discussion of my time at Chicago, I will mention Aaron Director’s influence on Milton Friedman’s home in Vermont which I owned for a short while until turning it over to Friedman’s Free to Choose Foundation.

⁵ The “externalities are bilateral” quote which Professor Macaulay was a huge fan of, was not in Coase’s actual paper, rather Macaulay’s key takeaway from the paper which always resonated with me.

to the socially optimal level. And if the other parties owned the right to the pollution, the firm would send them payments to increase pollution to the socially optimal level, again, the same level of pollution as if the firm had the full property rights to pollute.

At the time, I thought the paper was ancient. After all, it was published the year I was born, twenty-two years before I read it. Little did I know at the time that forty-plus years later, the Coase Theorem would continue to be widely debated and often misunderstood. Moreover, I have found that applying the Coase Theorem to not only my professional life, but also my personal life, has been invaluable in both understanding and making all types of decisions.

The other class that stood out was the core course in *Microeconomics* taught by Professor McCormick. Of all the classes I took as an undergraduate and as a graduate student, McCormick's class gave me the most difficulty.⁶ That surprised me. Having already taken two microeconomics classes as an undergraduate student, I considered myself proficient in the subject matter of microeconomics. But I quickly realized that while I might have been proficient in microeconomics, I still had a lot to learn. With my prior two undergraduate classes in microeconomics, I highly valued the structure within the subject matter as it gave me a framework to analyze problems. For example, to make predictions about consumer behavior, one starts with an assumption that the consumer maximizes utility, such as happiness, but does so facing a budget constraint which accounts for wealth and for prices of goods and services. One can then build a consumer demand function which would allow us to test refutable hypotheses that can greatly aid us in understanding human behavior in the real world.

Professor McCormick's teaching method was not so much to guide us through the advanced mathematical models but to further develop our understanding of microeconomics theory. He spent a fair bit of time in class putting up the proofs and such, but it was the students' responsibility to become truly grounded in the structural models on our own time. Like Professor Macaulay's class in *Environmental Economics*, Professor McCormick's class was more Chicago Price Theory than standard microeconomics. But it was not purely dogmatic Chicago; rather it was influenced by scholars at other schools such as Rochester, UCLA, and Virginia. Granted those three schools were greatly influenced by Chicago, yet each retained its own identity in the development of economics. I sometimes think *McCormick Price Theory* would have been a better name for the course than *Microeconomics*.

I still remember one of Professor McCormick's questions on the midterm exam, namely "why do authors of economics textbook display downward sloping demand curves in their exhibits"? Most students saw this as a slam-dunk question and responded with an answer along the lines of, "holding other factors constant, quantity demand along a demand curve declines as price of the good in question increases." But this answer is a misread of the question. McCormick proposed that authors do so to maximize the profits from selling their economics textbook. If they drew the profits upward, sloping sales would surely plummet. The point was that Professor

⁶ I was not the only student who found McCormick's course to be difficult. An exception was Mark Wasserman, the clear-cut star of my class who went to Emory Law School after completing his M.A. and then to a super-successful law career where he was most recently the Co-CEO of the large international law firm, Eversheds Sutherland.

McCormick wanted us to think deep, long, and hard before jumping to respond. It was no longer about simply following a model. Professor McCormick forced me to think harder than I thought possible, and, while my learning curve was positive enough, it was not as steep as I would have liked. That's what makes us really grow, though, and in hindsight I have no question that my struggles in McCormick's class had an extraordinarily positive influence on many of my subsequent accomplishments in academia, both in research and in the classroom.

Professor McCormick used two textbooks for the course. The first was *The Structure of Economics: A Mathematical Analysis* by Eugene Silberberg. It was exactly what I expected in a graduate-level course in microeconomics. When I took matrix algebra and calculus at ULM, both courses were eye opening in terms of learning mathematics itself. Silberberg's book took my knowledge to a new level and gave me a far better appreciation of how mathematics is important in the formulation and subsequent empirical testing of economic theories.

The other textbook was *Exchange and Production: Competition, Coordination and Control* by Armen Alchian and William Allen. It was far different from what I expected in a graduate level microeconomics course because, though it did have a lot of graphs, it was void of structural equations and explicit mathematical models. Instead, it was full of authentic questions and observations which made me realize how vibrant economics could be, as opposed to a dismal science. The textbook closely resembled Chicago Price Theory in that it examined the influence of markets in allocating resources and setting prices, albeit with a slant towards property rights and institutions. This book was the first to make me realize that economics can tackle all sorts of questions, far beyond what I gleaned from the basic microeconomics textbooks. I shouldn't have been surprised. Both authors were at UCLA, and Alchian was viewed as the godfather of the UCLA Economics Department which was a powerhouse during his tenure there.

I did not go home for Thanksgiving that fall. It was my first time away from home for the holiday, and I missed having our traditional meal in Louisiana. I spent my time the way I did almost every other day that semester, studying at my carrel in the graduate student office. I shared a meal with other graduate students that afternoon. We didn't have many choices, so we settled on Kentucky Fried Chicken. It was a lonely day, but it had value, as did so much of what I did that year. I told myself it was character building, whether it truly was or not, and more than anything it made me appreciate being part of a close-knit family even more than I already did.

While there is no denying I studied a lot, I also had loads of fun while I was at Clemson. Professors Maloney and McCormick would invite us to their tailgate parties before the fall home football games. I was glad to go for many reasons. It was football, after all, that had initially sparked my interest in Clemson in the first place. I enjoyed the company and the comradery. Also, I was on a tight budget, so I welcomed the fact that there was plenty of food offered at the parties. In addition to the tailgates, the faculty members often hosted get-togethers for the economics graduate students. And best of all were Thursday nights when we would put our books away and hit Tiger Town Tavern and a handful of other fun spots in town. I tended not to be productive at my carrel on Friday mornings!

It was a year of so many firsts that would become important building blocks of my life, and that included my introduction to snow skiing. My younger sister, Linda, occasionally came to visit me

at Clemson. During a trip in January 1983, she decided we should go skiing. I was busy studying and left it to her to research where to go. We ended up at Sapphire Valley, more than an hour north of Clemson, for night skiing. It was snowing that night, and we spent our time trying to master the rope tow (actually, steel). We quickly determined that we needed gloves to have any success with it. By the end of the night, we hopped on the ski lift just before it closed and made it down the ski slope, albeit with a couple of mishaps including disembarking from the lift. It was a memorable night.

In the spring of 1983, I took Professor John Warner's *Labor Economics* class which was an even mix of theory and empirical thought. On the empirical side, it was my first real exposure to econometrics with super-large datasets. While Professor Warner was a great teacher in the classroom, I did not particularly care for the subject matter beyond its adding to my knowledge base of microeconomics. The class had value because it set me down the path of thinking about the link between theory and empirical work. I also began to work with Professor Warner as a research assistant since, as a graduate student, I received a stipend in return for research duties.

That summer, I took *Mathematical Economics* from Professor Maloney. It was not a required class, so I was one of only two students in my program to take the course. The other student was Jack Bridges who majored in math as an undergraduate and thus I had a built-in and talented teaching assistant. Both Jack and Professor Maloney were very patient with me, and I recall Professor Maloney teaching the class as though it was packed as opposed to being only two of us, which I got a kick out of. The class was especially helpful in my continued learning of microeconomics as it often felt like a course in mathematical microeconomics instead of mathematical economics. It was still hard to see the bigger picture at that point, but everything I learned was building what would become an important foundation for all that came after.

I found Clemson to be brutally hot that summer, despite being in the so-called temperate climate of the foothills of the Blue Ridge Mountains in upstate South Carolina; though I will say it was not as hot and swampy as in Louisiana where I grew up. On one particularly hot and humid Saturday, Professor McCormick hired Jack and me to pour a concrete driveway with him and Professor Maloney. To miss the hottest part of the day, we started super early in the morning and by lunch, I deeply regretted my involvement. By the time we finished mid-afternoon, I was totally done for, having completely run out of energy. Jack was even worse off than I, but both Professors McCormick and Maloney seemed unbothered by the intense heat and continued to be in good spirits, acting like they were having a blast. As everything seemed to be that year, it was another learning moment for me. I made up my mind not to accept low-paying jobs in the future.

I continued to do research for Professor Warner, and it eventually led to the master's thesis I wrote during the fall semester. Warner had received a contract from the Center for Naval Analysis (CNA) to examine the impact of business cycles on military retention. The Navy was interested in understanding how the economy impacted their recruiting and retention efforts, and when it made sense to alter monetary incentives to retain a stable Navy workforce. I assisted Professor Warner on this research contract and began the process of developing a master's thesis out of these efforts. It would be partially financed by the CNA under Warner's consulting agreement and would examine the behavior of real wages across business cycles.

Neoclassical and Keynesian theories propose that real wages are countercyclical. That is, as an economy goes into a recession, lower paid and thus less productive employees are the first to be laid off, thus we see the inverse relation between real wages and business cycles. Other macroeconomics theory suggested a procyclical relation. And the empirical evidence, which had focused on aggregate real wages, was mixed, some researchers documenting a positive relation and others a negative relation, with most of the results weak in nature.

My thesis pushed the point that the lack of conclusive evidence by the aggregate studies could be due to the simple fact that the composition of the labor forces changed over business cycles. Thus, I looked at the behavior of real wages for different demographic groups formed based on sex, age, and race. I found that at this disaggregated level, real wages are procyclical across the business cycle. Thus, when economies expand, the increased demand for labor drives up labor costs and therefore real wages, holding constant the various demographics of the respective employees. Consider, for example, that an expansion of the economy is such that the new entrants to the labor force are largely young and uneducated as most other labor force participants are already in the workplace. As a result, the aggregate average wage could decline. But within the group of young and less educated labor force participants, their average real wage increased during expansionary periods due to higher demand for their services, and the same is the case for other demographic groups. Thus, my thesis showed that the recent aggregate studies produced a biased relationship between real wages and business cycles due to the changing employment shares of various demographic groups over the business cycle.

Professor Warner chaired my master's thesis, and upon completion, he and Professor Myles Wallace, another committee member, helped turn my master's thesis into a shorter paper which we published in the *Southern Economic Journal* in 1985. Despite that accomplishment, there was some disappointment. As all the prior research had focused on aggregate data, we thought that by disaggregating in twenty-eight demographic groups and thereby showcasing the bias with the aggregate data, we were in a good position for publication at an even better journal and first attempted the *Journal of Political Economy*. Our timing was awful. Mark Bils at M.I.T. published a similar paper in the *Journal of Political Economy* in 1985 where he not only showed the aggregation bias by looking at employment shares by various demographic groups, but he also had access to a large panel dataset of thousands of individuals over several years and thus was able to refine the analysis even further. We were scooped by a superior paper. Nevertheless, I was still proud that I was able to publish my M.A. thesis in a solid economics journal, as most Ph.D. dissertations do not get published, much less a M.A. thesis.

Instructor of Economics

I was so focused on what was in front of me, finishing my last class and writing my master's thesis, that I gave virtually no serious thought to what came afterwards. I had not given up my plan to eventually attend law school, but the desire to do so had dissipated as I was still learning a lot of economics. And then, a couple of weeks before graduation, Professor Rex Cottle, Department Head of Economics, offered me a single-semester position as Instructor in Economics at Clemson for the spring semester of 1984. The course load was relatively large—two sections of *Introductory Macroeconomics* and two sections of *Introductory*

Microeconomics—and the pay was not great. But I took it anyway since it was my only opportunity to make money. Plus, it gave me the chance to be in front of the room teaching the class as opposed to sitting in the back as a student.

The teaching experience at Clemson was a bit surreal because the norm then, at least in the Department of Economics, was that the bulk of the teaching was done by tenure-track faculty members rather than instructors. There was no Ph.D. program at the time and thus there were no available graduate students to do some of the teaching. Since the students didn't know any better, they saw me not so much as one month past receiving my M.A. in Economics, but rather as an actual professor even though I was only a little over 23 years of age. I was incredibly popular, or at least it seemed that way based on the reception they gave when I would step foot in Tiger Town Tavern. Sometimes I still couldn't believe how different my life was from what I had thought it would be five years before. Since it was my first teaching experience, it engulfed my time and I set aside my plan to attend law school. I also realized that I would need a large chunk of money for law school, and I did not want to put my parents in the position of having to pay for it. They had already been so generous, providing supplemental financing with no request for repayment during my time at ULM as well as at Clemson. My only other choice would have been to take out student loans to pay for law school, and I didn't want to do that.

When the spring semester was over, my experience as a "professor" abruptly ended as well. I was no longer a "faculty member" in Clemson's prestigious Department of Economics; instead, I was just another unemployed guy with a graduate degree in economics. I didn't know what to do. A week later I was back in my hometown in Louisiana. Rather than spend much time thinking about the future and how I would either put my degrees to work or revisit going to law school, I buried myself in work to build a cash cushion in case I decided to attend law school. I had no desire to return to the autobody shop that summer, so I chose to perform a variety of jobs for my parents. They paid me well at \$20 per hour (the equivalent of over \$60 per hour today), and I worked a minimum of sixty hours per week, and up to eighty hours for a couple of weeks. The work involved a steady shift during the rush hours at the Dairy Queen, which my parents had built years prior and still operated. During off periods, I repainted everything in sight, including both the interior and the exterior of the Dairy Queen, as well as the steeply sloped red roof.

I also did a lot of mowing that summer, both on a tractor mowing various pastures and on a regular lawn mower. I was going about my business, keeping busy and trying to stay cool in the intense summer heat, when one day in late July 1984 my mother told me that a Mike Maloney had called and wanted to speak with me. When I returned Professor Maloney's call, I had no idea my life was going to change again, moving in a direction I hadn't thought possible. He informed me that the department had just received permission to launch a Ph.D. Program and asked if I would consider returning to Clemson a few weeks later to join the inaugural class. I thought about the work I had been doing—good, honest work—but how long was I going to be satisfied with that? Not long, I knew. I thought about law school, and how it always felt like a thing just out of reach. Maybe I wanted it that way, I wasn't sure. I had no plans beyond right now (no concrete plans anyway). I took a deep breath and gladly accepted the offer to resume my graduate studies in Economics. That decision ended my plan to attend law school once and

for all, though I didn't know it yet. I did, however, publish a few of my research papers in law review journals such as the *Cornell Law Review*, *Virginia Law Review*, and *The Business Lawyer*.

Ph.D. Program in Economics (Pre-Dissertation)

Three weeks later, I was back at Clemson. While I had always worked hard in school, I realized I needed to step it up to achieve success at this next level. I found a cheap apartment to rent near campus.⁷ My Ph.D. stipend came with a caveat, namely I would have to teach two sections of *Introduction to Microeconomics* each semester. The Department's intended plan was for me to teach either *Introduction to Microeconomics* or *Introduction to Macroeconomics*. Having taken both courses, I knew I enjoyed the former far more than the latter, so I let the people in charge know that I didn't want to teach macroeconomics. Microeconomics it was. I found myself with quite difficult classes to take as well as about sixty undergraduate students to deal with. In addition to all of that, it was time to start thinking about fields of study within economics and potential research projects. Time management became crucial.

My approach to time management began early each morning. As an Instructor in Economics, Clemson gave me a parking pass in the employee lot next to Surrine Hall, which Professor Maloney, as the Department Chair, made sure I kept for the entirety of my time as a Ph.D. student. There were a handful of spots in front of Surrine Hall, so I made certain I was there by 7:00 a.m. each morning to grab the closest spot to the building well before the other faculty members arrived for their 8:00 a.m. classes. Most mornings, I grabbed breakfast-to-go from Hardees' just off campus. That was noteworthy because the only other person also grabbing a biscuit and a coffee that early was Danny Ford, Clemson's head football coach. After about twenty encounters, he would nod to me and I would nod back, though we never spoke—I didn't dare. I was in awe of Coach Ford and unwilling to take a chance and embarrass myself by saying something stupid.

By that point all the foundational work I had done with my earlier microeconomics classes as both an undergraduate and a graduate student afforded me a solid base of knowledge, and I was now taking big steps in my understanding of the subject matter with *Advanced Microeconomics*. The course was taught by Professor Matt Lindsay, who had recently arrived at Clemson from Emory. Before that, he had a fruitful career as a tenured professor at UCLA.

Lindsay's *Advanced Microeconomics* was a lot of Chicago Price Theory, albeit with a UCLA and a UVA slant.⁸ I learned much in this course, but the big takeaway to this day was obtaining a far better understanding of why firms exist and how they are organized. From my prior classes in microeconomics, the firm was largely a "black box" that transformed inputs into outputs via production technology. Assuming the firm is for profit, management would set the overall level of production to maximize profits. At a basic level, I appreciated the discipline and mathematical rigor in thinking of a firm in this manner. It provided a great foundation for understanding how

⁷ The monthly rental rate for my one-bedroom apartment on Creekside Drive was \$200, now roughly \$600.

⁸ Professor Lindsay received his Ph.D. at the University of Virginia and studied under James Buchanan, Nobel Laureate, during the late 1960s. During the 1960s and 1970s, UVA was widely heralded for its focus on political economy and public choice.

firms choose the level of output to generate and how firms alter levels of output based on the level of competition of the environment they operate in. But it did little in addressing the many questions I had during my pre-college autobody shop days in the years prior. In other words, it hadn't yet moved the information from the classroom to the real world.

Several impactful articles covered in Professor Lindsay's course advanced my understanding of why firms exist and how they are structurally organized and likewise addressed my questions. Two papers stood out. The first was "Production, Information Costs, and Economic Organization" by Armen Alchian and Harold Demsetz published 1972 in the *American Economic Review*. The other paper was "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" by Michael Jensen and William Meckling published 1976 in the *Journal of Financial Economics*. These papers, and several other related papers, added vivid color to my black-and-white understanding of decision making at firms. They brought everything back full circle with respect to many of my earlier questions that dealt with incentives, shirking, property rights, team production and synergies, to name a few. At the time, I did not appreciate how relatively new these papers were. At eight and twelve years old respectively, they already seemed like old papers to me. Yet even in 2023, roughly fifty years since their publication, these papers remain on numerous reading lists in graduate economics classes and are considered heavyweights among the classics. Indeed, the Jensen and Meckling paper today is considered by many outlets as the most highly-cited paper in all of economics.

Through that course, Professor Lindsay introduced me to the most impactful paper in terms of influence at the start of my research program as a Ph.D. student. He was, in my opinion, the absolute best faculty member to learn from. He was a scholar and an academic and I credit him with my rapid understanding of difficult papers and subject matter. I was in awe of him. The paper that stands out was "The Role of Market Forces in Assuring Contractual Performance," by Benjamin Klein and Keith Leffler, published by the *Journal of Political Economy* in 1981. Once again, I was able to connect real-world situations to the classroom, which was exciting. It connected me back to my childhood days in a small town in Louisiana.

My parents built their Dairy Queen in 1964; this was during the heyday of the Dairy Queen buildout in small towns across the South and the Midwest during the 1960s. Franchise owners paid royalty fees of nearly 10 percent of total revenue to Dairy Queen corporate. Roughly half of the royalty fees were to cover national advertising to promote the overall brand. For many franchisees, the advertising royalty fee is particularly painful because of the difficulties in measuring the actual benefit to their specific franchise. My parents, like other operators, chose to terminate the relationship with Dairy Queen. A big part of their decision came from the sense that they received minimal benefit from the national advertising. They figured this was the case as their Dairy Queen was in a small rural town not close to any major highways. Consequently, nearly all customers were locals who were either repeat customers or found their way there through word of mouth, and not through any type of national advertising. If their Dairy Queen had been located near the exit of an interstate highway, the national advertising would have had much greater value in terms of brand recognition. In that case, the advertising could have brought people to them since there would be less repeat business at their location. I recall my father negotiating with Dairy Queen, suggesting that the advertising royalties should vary cross-

sectionally among franchisees based on the expected benefits, but Dairy Queen was not at all receptive to the concept. Eventually, my parents terminated the franchise model with Dairy Queen and changed the name to The Jena Burger Barn.

Another anecdote from my earlier days in Louisiana, and one that pertains to the paper Professor Lindsay introduced me to, goes back to the autobody shop I worked at during and after high school. One of my impressions from my two-year tenure at the body shop was the substantial cross-sectional variation in the quality of repair work on cars based on the technician doing the work. While I did not necessarily want a career in the autobody business, my time there had great value; it was based on these observations that I started thinking about going to college. Specifically, I had in mind a franchise type model of autobody shops that would convey some level of consistent quality, and I thought it would be useful to learn some accounting and finance to support that idea. Once I started college, however, I lost any urge to return to the business. Interestingly, Gary, my first cousin, who is one year younger than I am, worked in the same autobody shop as I did during his senior year of high school when I was employed at the shop full-time. Within two weeks of starting part-time work at the autobody shop, my cousin eclipsed my level of technical abilities. Gary now manages an autobody shop for a national franchise that was originally a single business based in Chicago before starting to nationally franchise in 1998.

So how does Klein and Leffler's paper connect to my history and thoughts in Louisiana less than a decade before? Klein and Leffler theoretically analyzed the enforcement mechanism of repeat sales to customers of firms. While economists have long considered that brand names and reputations are important to generate repeat sales, there is the potential for firms to cheat and thereby reduce expenses through a reduction in product quality to generate a sudden increase in profits. So, what keeps firms from cheating? Interestingly, Klein and Leffler model price as the mechanism to assure the contractual performance by the firm. High-quality firms build reputations and brand names that allow them to charge a price premium to assure high quality. By cheating, the firm gains through the one-time increase in profits. But this profit increase is smaller than the present value of the stream of cash flows due to the lost price premium, as firms can only cheat once. In that way, it is short-sighted since a valuable reputation or known brand name allows a firm to charge a price premium because it assures customers of reliable quality. But if firms cheat, they lose all the economic rents and likely loyal customers. Therefore, the price premium is a deterrent to cheating.

This paper resonated with me in an enormous way because it connected back to my earlier years in Louisiana. It allowed me to better understand why a franchise such as Dairy Queen highly valued their brand and attempted to ensure that franchises did not deviate from the intended product quality, and why Dairy Queen charged franchises a high percentage of revenue. But I also better understood why it was optimal for my parents to terminate the relationship with Dairy Queen. Instead, they built a reputation based on repeat sales and were able to charge a price premium without the Dairy Queen label. I thought about how I could do empirical research on the value of brand names. I was in business. I had a conceptual broad research agenda that I was excited about.

The other impactful first-year Ph.D. course was *Advanced Macroeconomics* by Professor Daniel Benjamin. Professor Benjamin had just finished a stint in Washington, D.C. where he had been Chief of Staff at the Department of Labor and had also served on the staff of the Council of Economic Advisors, having received his Ph.D. from UCLA. My first impression of Professor Benjamin was when he presented one of his research papers to the faculty and graduate students while under consideration for an appointment as a professor at Clemson. The economics workshops at Clemson during the 1980s were lively to say the least. Often, the presenter found it difficult to get very far in their presentation due to non-stop questions from the faculty members; sometimes the questions started before the presenter could even get the opening sentence out of their mouth. Professor Benjamin's workshop was no exception. Though I do not remember which paper he presented, I vividly recall Professor McCormick interjecting from the beginning of the workshop, and others piping in as well. Professor Benjamin was non-plussed from the get-go and was able to calmly manage the entire presentation without a hitch. It was obvious he could succeed at Clemson, notwithstanding the Department's strong negative opinion about macroeconomists, at least relative to microeconomists.

My two undergraduate courses in macroeconomics, and to a lesser extent, my M.A. level course by Professor Myles Wallace, were largely Keynesian focused with a mix of monetarist economics as well. In contrast, Professor Benjamin's course, *Advanced Macroeconomics*, had strong foundations in microeconomics, finance, and rational expectations, largely of the UCLA tradition (which was then known as one of the strongest economics departments). I am not certain who taught macroeconomics to Professor Benjamin at UCLA, but I benefitted greatly from the teachers he had. Indeed, it was probably around the time I took Professor Benjamin's course that I realized how important and relevant the graduate school education of my professors was to my own graduate school education.

There were so many faculty members I learned from, sometimes it was hard to believe there were that many talented people in one place—and I was lucky enough to be there, too. In early January 1986, I returned to Clemson after spending Christmas with family in Louisiana. As I was unlocking my office to get back in, I heard a rustling in the office across the hall, one that had been vacant for the past several months. I had no idea that I was about to be hit by a hurricane and a tornado at the same time, in a very good way. It was my first awareness that John Harold Mulherin, a Visiting Assistant Professor of Economics, had arrived at Clemson. Harold received his undergraduate degree at the University of Georgia and his M.A. and Ph.D. at UCLA in Economics. After UCLA, he had a stint in the corporate finance group at Getty Oil and at Federal Home Loan Mortgage Corp. to model mortgages before coming to Clemson. We instantly became colleagues and friends, and soon started collaborating as researchers. Within hours of meeting him, I quickly realized he had one of the strongest personalities of anyone I had ever met. We would work together beyond our time at Clemson, at the U.S. Securities & Exchange Commission, but of course I didn't know that yet.

My preliminary research idea was to develop an empirical test of the Klein and Leffler theory, specifically to see if certain types of firms had substantial reputational value. While I had not taken any finance courses, I knew from my various classes in economics that this would be an arduous undertaking because of the difficulty of producing reliable estimates of firm values.

During the 1986 spring semester of my second year in the Ph.D. program, a breakthrough occurred when Professor McCormick taught a new course, *Financial Economics*. I enjoyed this course far more than my experience taking *Microeconomics* with him back in the 1982 fall semester and, I was pleasantly surprised to find, it came more naturally to me.

Financial Economics under McCormick was heavily influenced by his prior stint as a junior faculty member at the University of Rochester before returning to Clemson in 1982. At Rochester, McCormick was in the economics group within the Graduate School of Management which is now the Simon Business School. Back then, Rochester's business school looked a lot like a University of Chicago satellite as many of its esteemed faculty came from the Ph.D. Program at the University of Chicago. Unlike Clemson's business school, which is big and expansive with a large faculty (due to a high number of undergraduates), the Graduate School of Management at Rochester was for MBA and PhD students only, and thus without an undergraduate program. The uniqueness of a small business school like Rochester is the collaboration and discourse across the various units. In contrast, and at most business schools, departments such as economics or accounting are largely siloed from each other. The Rochester influence was manifest in McCormick's class. It brought in other disciplines such as accounting and organizational structure which was incredibly constructive in terms of better understanding the theory of the firm, and especially corporate governance. It made me realize the enormous influence that economics, particularly microeconomics, has on other disciplines.

McCormick's class added financial event studies to my econometrics toolbox. A financial event study is an empirical analysis of the impact of a significant event on the prices of certain securities, usually stocks of publicly traded firms. The basic event-study methodology controls for overall stock-market movements during the event window and assesses the statistical significance of the stock's excess return, accounting for the prior relation between the stock and the overall stock market. In other words, the methodology behind an event study is to disentangle two types of information on a firm's stock price, information specific to the firm and market-wide information which is expected to impact all firms to some degree.

At the time of McCormick's course, event studies had become a mainstream staple of empirical analysis in finance. The first published event study was "The Adjustment of Stock Prices to New Information," by Eugene Fama, Lawrence Fischer, Michael Jensen, and Richard Roll, of the University of Chicago in 1969. Their paper was seminal in that it provided the foundation for how we can think about stock prices changing in response to new information. Their paper was published in the February 1969 issue of the *International Economic Review*, after having been rejected by other academic journals, which is often the case for new research that challenges the status quo. This took me back to Armen Alchian, the legendary force behind the economics group at UCLA for his work on the theory of the firm. Alchian indicated that he had conducted an event study as well at RAND in 1954 to determine the fuel material in the hydrogen bomb, but the study was destroyed due to the possible threat to national security.⁹

⁹ A former Clemson Ph.D. student replicated Alchian's study sixty years later. Newhard Joseph, "The Stock Market Speaks: How Dr. Alchian Learned How to Build the Bomb," *Journal of Corporate Finance* (2014).

By the early 1980s, event studies were in full swing in areas beyond traditional finance topics such as mergers, specifically in the areas of accounting and in law and regulation. For example, Professors Maloney and McCormick had published "A Positive Theory of Environmental Quality Regulation" in the *Journal of Law & Economics* in 1982. Their paper employed event study analysis to document that increased environmental regulations to textile firms resulted in higher stock prices of certain textile firms due to the reduction in supply given the higher cost, and hence an increase in output prices. By the 1980s, the methodology for event studies was more structured and standardized. Notwithstanding that event studies were fully up and running, two roadblocks remained. First, one needed access to the CRSP (Center for Research in Security Prices) stock prices and dividends database at the University of Chicago, which was expensive. At the time, CRSP was the only academic vendor with a comprehensive history of dividend and stock price data, and the University of Chicago had no desire to subsidize the research efforts of academics at other institutions. Therefore, the university charged the market price for accessing the data. During this period, only the largest and most research-focused universities subscribed to the CRSP tapes. The second hurdle was that you needed to be at an institution with a large mainframe computer, especially if you wished to conduct an event study which employed a large amount of data. As a major research university, Clemson had plenty of computing firepower to meet most types of event studies.¹⁰ And because of Professor Maloney and McCormick's research, Clemson also had a subscription to the expensive CRSP tapes.

In late January 1986, a few weeks after the start of the course *Financial Economics*, the Space Shuttle Challenger disintegrated just over a minute after its launch from Cape Canaveral, Florida, killing all seven members aboard. This was the first fatal accident of an American spacecraft. The horrific disaster occurred late on a Tuesday morning, and it was a somber class that afternoon in *Financial Economics*, especially given a schoolteacher was one of the flight members. We discussed the disaster during the class, specifically how we thought that the crash would impact the stock prices of the various aerospace contractors to NASA involved in the manufacture of the Challenger. Again, the real world came into our classroom.

It struck me that I could research the impact of a disaster on a firm's stock price and perhaps produce a clean and novel test of the implications for the reputational or brand-name capital of the firm. The uniqueness of a disaster with respect to an event study is that it is typically unexpected and moreover generally not related to overall market movements. I soon settled on a disaster which had taken place only a few years prior, that of the cyanide poisoning of Tylenol capsules produced by Johnson & Johnson.¹¹ I focused on this topic for my class paper in *Financial Economics* with the thought that it would lead to a Ph.D. dissertation topic.

¹⁰ The mainframe computer at Clemson also had email functionality during my period there in the 1980s, but only with individuals at other large research institutions via BITNET (Because Its Time Network) which predated the World Wide Web.

¹¹ I could have studied the impact of the Challenger crash on the various manufacturers and contractors involved in the development of the Challenger, but during that era the CRSP data was made available only after the end of each calendar year and thus I would have needed to wait until the Spring of 1987. Several years later, Professors Maloney and Mulherin published about the Challenger crash in 2003.

In September 1982, Johnson & Johnson announced that the deaths of six people had been caused by ingesting cyanide-laced Tylenol capsules. The poisonings were covered non-stop by nearly every media outlet, an unprecedented event in business history. Due to the magnitude of the event, I decided that I would conduct an event-study analysis to evaluate the impact of the poisonings to the Tylenol brand, specifically, and to Johnson & Johnson in general. I thought that the Tylenol poisonings would be a great candidate to test Klein and Leffler's theory that brand names can assure high-quality products. To summarize their model, if a firm cheats and reduces product quality below what is expected by consumers, then the brand-name capital of the firms declines since consumers reduce demand and thus eradicates the price premium which the firm was able to charge. With the Tylenol poisonings, I could take it a step further. Namely, even if the firm does not intentionally decrease product quality, do consumers still hold firms responsible for negative acts by third parties?

As this was my first event-study analysis, I probably went a bit overboard in establishing the reliability and the robustness of the results. There were four basic steps to the process. First, I established the event window to estimate the abnormal returns to Johnson & Johnson attributed to the poisonings. I settled on going out twenty trading days after the first announcement. I picked this window as information kept coming out for several days after the initial announcement and I wanted to make sure that the stock price had completely impounded the information. For example, the initial announcement revealed only two deaths; but four more deaths were revealed a few days later. Second, I employed regression analysis to estimate the historical loadings of Johnson & Johnson stock returns to the overall stock market returns; that is, Johnson & Johnson's equity beta to the stock market. Here, I used the 253 trading days, replicating a calendar year immediately prior to the initial announcement. With this estimate of beta, I could then compute the abnormal return each day over the event period by simply subtracting the predicted return to Johnson & Johnson's stock price, given the stock market return that day, from the actual return to Johnson & Johnson's stock price.

The third step in the process was to calculate the cumulative abnormal return over the period after the initial announcement. The estimate was incredibly large in magnitude in that Johnson & Johnson's stock price declined over 24 percent relative to its expected stock price return had the poisonings not occurred. The fourth step in the process was to establish statistical significance. Given that Johnson & Johnson is a large multinational company with a diversified portfolio of products, the 24 percent stock price decline was statistically significant at any conventional level of importance. Likewise, the strong statistical significance is robust to numerous alterations to the event-study methodology, such as the length of the pre-disaster estimation period to calculate the beta, the length of the event window, the choice of equal- or value-weighted stock returns, among other considerations. It is important to perform these various adjustments so that one can rule out the possibility that Johnson & Johnson's stock price declined by chance alone.

Today, a highly motivated high-school student could compute this type of empirical analysis on their laptop. But in the mid-1980s, it required a lot of programming via Fortran and SAS at Clemson's computing center. Professor Maloney noticed I was spending a lot of time at the computing center and gave me a Texas Instruments computer terminal, a Silent 700, which I

used in my small office. The Silent 700 was not a computer with processing ability, but rather a terminal which could connect to Clemson's mainframe computer. It looked like a typewriter with a coupler in which to place the handset of a telephone. The Silent 700 did not have a monitor; instead, it had a built-in printer with thermal paper. I simply dialed into the mainframe and commenced programming. They were expensive devices, costing about \$20,000 in current dollars. I felt important, as I was initially the only Ph.D. student with one. I had to be super careful when typing my computer code since mistakes were not reversible. If I made a mistake, I would have to restart by writing the computer program. It was all so precarious that if my office phone rang, it caused a glitch in my typing, and I had to restart. So, I did my programming late at night and asked any friends not to call me. Some friends took that as an invitation to stop by instead, thus interrupting my work.

The purpose of the event study was to establish the magnitude and statistical significance of the decline in Johnson & Johnson's stock price during the period when information was released about the cyanide poisonings of Tylenol capsules. In the aftermath of the poisonings, management of Johnson & Johnson miraculously revived the Tylenol brand, making an unparalleled comeback that has been viewed as one of the most amazing product rebounds in business history. Having a 37 percent market share before the poisonings, despite having to pull Tylenol capsules from the shelves and repackage capsules with a triple safety seal, the market share rebounded to a 30 percent within six months and eventually returned to its spot as the top pain reliever. By all measures, Johnson & Johnson had reestablished confidence in the brand and became the textbook story for decades in terms of how to handle disasters.

While the Tylenol brand made a remarkable recovery, I showed that the stock price of Johnson & Johnson failed to rebound from its abnormal decline of 24 percent relative to the stock market in response to the poisonings. Indeed, for the subsequent eleven months after the end of the event-window, Johnson & Johnson stock declined even further, almost an additional 40 percent relative to the stock market and over 25 percent relative to other over-the-counter drug producers. This lack of recovery suggests that investors did not overreact when the cyanide poisonings occurred. The challenge for me was to reconcile the fact that Johnson & Johnson did an incredible job in managing the crisis, yet its stock price seemingly failed to likewise rebound.

First, it is important to note that the substantial stock-price decline and the lack of a stock-price rebound is consistent with the Klein and Leffler theory; namely, that the value of the brand-name capital is based on the expected profits from future sales based on the ability to charge a price premium. If investors expect the price premium to decline, then it is represented by a decline in the brand-name capital and thus hits the stock price in a permanent way. But this evidence just provides indirect support for their theory. The next step is to analyze whether Johnson & Johnson had to reduce the price of Tylenol and/or substantially increase its investment in brand-name capital such as by higher-than-normal advertising and other measures to assure customers that, going forward, Tylenol would resurrect its stature.

To gauge the loss of Johnson & Johnson's brand name capital, I started with the overall losses based on the -24 percent abnormal stock return, which is \$2.1 billion of the equity

capitalization.¹² However, this loss did not distinguish between losses realized by Johnson & Johnson versus losses realized by other over-the-counter drug companies due to the case that all capsules, specifically, and other drug products, generally, will be associated with a higher probability of tampering, all else equal, going forward. I also accounted for all direct costs associated with the poisonings. The net result, and beyond the losses suffered by other drug manufactures and the out-of-pocket losses, I documented that Johnson and Johnson lost roughly \$1 billion, or around 14 percent of its market value.

The last step was to identify the sources of the decline in cash flows, which I could attribute to the 14 percent decline in the equity value given to a loss of brand-name capital. I was able to document several such events. First, Johnson & Johnson reduced the price of Tylenol capsules relative to other pain relievers and had not recovered its price premium status by the end of that year. Moreover, while Johnson & Johnson received accolades for returning Tylenol's market share to 34 percent, it failed to control 50 percent of the market as forecasted by 1986 and remained at 34 percent.

Overall, the empirical evidence is consistent with the Klein and Leffler economic theory of brand names. The Tylenol brand assured customers of high-quality and safe pain relievers. While it remained unknown as to why the party who tampered with Tylenol capsules targeted Johnson & Johnson, the reduction in equity value due to a decline in the price premium which Tylenol was able to enjoy implies that Johnson & Johnson was held responsible due to the reduced assurance of product quality. Thus, even in a world absent of drug regulations, economic forces are at work to discipline firms when their products fail to meet consumer expectations.

By the end of the spring semester, my paper went well beyond the requirement for a class paper in *Financial Economics* and had potential for a chapter in my Ph.D. dissertation. Everything was moving forward and, it felt, picking up speed. It was super-busy as I was taking a couple of other classes that spring semester, plus I took my preliminary exams in microeconomics and macroeconomics to advance to the next stage of taking my field exams and writing a dissertation. Time was flying.

Despite working non-stop, I also had a great time with colleagues and friends, just as I had while I earned my master's degree. In addition to going out, I loved to cook - I still do - and I would occasionally invite people over to my place for dinner. One memorable Saturday night, I cooked a big pot of shrimp etouffee, a creole Louisiana specialty, and barbecued chicken on my outside grill. A few graduate students stopped by as well as Professors Maloney and McCormick. Maloney's wife, accompanied him and took note of my record collection. She proceeded to rate each one by placing them in one of two categories, okay and not okay. Once the piles were complete, Marty began to treat the "not-okay" records as frisbees and spun several of them out from my second-floor apartment into the parking lot below. I didn't mind and probably agreed with her. We all laughed like crazy.

¹² In context, it would be roughly \$160 billion in today's dollars as the stock market has grown an annualized 11.3% since 1982.

The Ph.D. Dissertation

Professor Benjamin took a keen interest in talking about my research and I gave him a copy of the Tylenol paper. He shared numerous comments that greatly improved the paper's quality. Moreover, based on Professor's Benjamin's recommendation, the Western Economic Association (WEA) invited me to present the paper at its annual conference in San Francisco during the summer of 1986. The paper was positively received at the conference and roughly one year later I submitted a revised version of the paper to *Economic Inquiry*, the academic journal affiliated with the WEA. It was eventually published in 1989.¹³ I owe a debt of gratitude to Professor Benjamin for a huge amount of encouragement to continually improve the Tylenol paper and for championing it to his colleagues in the profession. Moreover, I was starting to appreciate the valuable benefits of networking.

With the initial success of my Tylenol paper at the 1986 WEA conference, it became readily apparent that I had hit on a solid research topic for my dissertation. An attractive feature of analyzing the Tylenol poisonings was that the information surrounding the poisonings was released over a narrow window of a few days. However, a limitation of the research design was that it was a sample of just a single observation, thus reducing the statistical inference one could make relative to a large sample of related events.¹⁴

My research into disastrous events and their economic impacts grew. Professors Maloney and McCormick had gained access to a database of aircraft accidents in the United States. I do not recall to what purpose they planned to utilize the database, but it struck me that I could use airline crashes to examine the role of brand names in the airline industry. Specifically, do consumers punish airlines when crashes occur or are crashes instead simply considered random effects that bear no impact on the reputation of the airline? I had no idea what I would learn by analyzing airline crashes, but I was super pumped up to begin the research and I was grateful to Maloney and McCormick for sharing their aircraft-accident database with me.

I focused on airline crashes with the following three characteristics: (1) the airline's stock was publicly traded on a national stock exchange such as the NYSE; (2) the crash occurred in 1963 or after, due to the availability of daily stock price data from the CRSP tapes; and (3) at least one fatality occurred because of the crash. With these three parameters, I ended up with a resulting sample of 56 fatal airline crashes. My next step was to assign each crash to one of two categories—pilot error, which encompassed 34 of the crashes, and manufacturer error or miscellaneous, which counted for the other 22 crashes. I determined this bifurcation using the official report of each crash from the National Transportation Safety Board (NTSB).

I went back to Klein and Leffler who theorized that brand names are a mechanism to assure contractual performance by firms. Namely, if a firm invests resources in establishing a brand name which conveys consistent and/or high product quality it can charge a price premium that quickly dissipates if the firm fails to perform as expected. This is the beauty of using a stock-

¹³ "The Impact of External Parties on Brand-Name Capital: The 1982 Tylenol Poisonings and Subsequent Cases," *Economic Inquiry*, 601-618 (October 1989).

¹⁴ The Tylenol paper did briefly examine five subsequent poisonings to the 1982 Tylenol poisonings, but these were relatively minor in comparison.

market event study to gauge the stock price response to a catastrophic event such as an airline crash. If consumers view the airline as at fault, they will reduce the price they are willing to pay, which will be immediately captured by a decline in the airline's stock price. And with respect to the bifurcation of crashes due to pilot error versus crashes beyond the direct control of the airline, my thesis was that pilot error crashes are more likely to result in a loss of brand name capital than other crashes.

Considering the historical relation between the stock prices of the airlines and the stock market, and for the stock market movements during the crash window, I documented that those crashes attributed to pilot error resulted in a statistically significant stock price decline more than two percent. Meanwhile, for the sample of 22 crashes not due to pilot error, the stock prices of the respective airlines decline at the time of the announcement was less than half of the amount attributed to the pilot-error crashes and not statistically different from zero.

The base-line results treated every crash equally with respect to the stock price reaction. In alternative specifications, I distinguished the crashes in various ways to give more weight to the more impactful crashes, for example, the ratio of fatalities in a crash to the number of passengers flown that year by the airline. These alternative specifications largely strengthened the statistical significance of the pilot error crashes, and the lack of significance for the other crashes remained. Overall, the stock market appeared to correctly assess blame on average at the time the crash occurred and often months before the official crash report from the NTSB. Stated differently, the results implied that airlines realized a larger loss in brand-name capital if the crash was attributed to pilot error as opposed to causes not directly attributed to the airline. Thus, market forces clearly appear to be at work.

But there were other things to keep in mind. As mentioned above, the decline in brand-name capital reflected a reduction in the price premium airlines can capture. But it was possible that a different phenomenon could explain the results, namely an increase in insurance rates in the aftermath of crashes. I expected that insurance rates would increase for commercial airlines in the aftermath of a crash, but I had no sense of how much the insurance rates would increase. My starting point for the research was *Business Insurance*, a news magazine for insurance executives. I combed through dozens of issues and was able to uncover anecdotal evidence indicating that insurance rate hikes occurred following airline crashes. One clear example that stood out from my examination of *Business Insurance* articles was Pan American Airlines, which realized two accidents over a short period (1982-1983). Its overall insurance increased 90 percent from 1982 to 1984, a period during which rates did not increase materially for most other airlines. I also learned from this research that airlines were required to not only carry liability insurance but were also required to report the amounts paid for both liability and hull insurance to the U.S. Department of Transportation.

The insurance data from the Department of Transportation was annual and covered all years of the crashes I studied for both hull insurance and liability insurance. I found that the anecdotal evidence from the Pan Am crash mentioned above generalizes to the larger sample of crashes. Holding other factors constant, insurance rates increased significantly for airlines carriers with respect to at-fault crashes, but not for crashes deemed not to be the fault of the airline. And when I capitalized the increased insurance costs due to the at-fault crashes, it accounted for

roughly one third of the total stock market losses. Thus, I was able to attribute two thirds of the stock price decline to the loss of brand-name capital of the airlines. The policy implication from this research was that the market was efficient, on average, of punishing negligent airlines, irrespective of government regulations. And while it is often months before the NTSB officially assigns blame for a crash, the stock market tended to quickly figure it out right after the crash.

I was happy with my research output. I decided to ask Professor Maloney to chair my Ph.D. dissertation since he had already devoted a great deal of time to making sure I was able to navigate through the Ph.D. program and produce a high-quality dissertation. In addition, Professor Maloney had put such a huge amount of effort into the airline crash paper that, after I graduated, I asked if he would also join me as a co-author and submit the paper to an academic journal. Our initial plan was to submit the paper to the *Journal of Political Economy*, which was edited at the University of Chicago.

Prior to submitting our paper for publication, we learned that a competing paper written by professors at the University of Michigan was just accepted for publication at the *American Economic Review*. It was the second time I was scooped when I believed I had a great paper worthy of publication in one of the best economics journals. We could have still submitted our paper to the *Journal of Political Economy*, but the chances of getting it accepted for publication had decreased substantially. We became concerned that someone else would publish a similar paper and thus further reduce our chances of publication in an excellent journal. We decided to submit the paper to the *Journal of Law and Economics* where it was accepted without any required revisions, an unusual feat in most economic journals.

While the *Journal of Law and Economics* was not at the same level as top journals such as the *American Economic Review* or the *Journal of Political Economy*, it is a highly ranked journal housed at the University of Chicago and has published numerous seminal articles over the years, many written by Nobel Laureates.¹⁵ The acceptance rate at the *Journal of Law and Economics* is low, less than 10 percent of papers submitted. The same is true of *Economic Inquiry* where I published the Tylenol paper. I felt lucky to have published two papers out of my dissertation at high-ranking economics journals whereas most dissertations never make it to publication outside of the dissertation itself. Moreover, both papers continue to this day to receive citations in numerous outlets including books, academic journals, and government reports.

I would be remiss not to mention a paper which I could have included in my dissertation as a third essay, but the two papers included were sufficiently qualified on their own. As part of my research agenda to understand the brand-name value of corporations, Professor Benjamin and I wrote a paper about the introduction of New Coke by the Coca-Cola Company in 1985. Coca-Cola did not merely introduce a new cola, but rather New Coke would replace its flagship Coca-Cola to better compete against Pepsi. Within days, virtually everyone knew of this blockbuster product change. Less than three months later, in response to overwhelmingly negative consumer reaction, the Coca-Cola Company reversed its decision.

¹⁵ Recall from the earlier discussion in this chapter that Ronald Coase's paper which generated his Nobel Prize was published in the *Journal of Law and Economics*.

For that paper, we analyzed the stock price reaction to Coca-Cola's decision to introduce New Coke and the subsequent reversal, as well as the demand response as measured by the price premium which Coca-Cola charged its distributors for Coca-Cola concentrate. Coca-Cola's stock price declined 2.6 percent on the announcement date, 7.3 percent within two weeks, and the stock price did not rebound during the next several weeks leading up to the reversal. When Coca-Cola subsequently reversed the decision, its stock price increased immediately, but this was short lived as it declined relative to the markets shortly afterwards. Overall, the stock market evidence suggested that the replacement of the original formula with New Coke resulted in a significant and sustained drop in Coca-Cola's stock price and did not recover at least going out to a full year, notwithstanding the eventual reversal.

Our focus of the paper was to understand why Coca-Cola's stock price failed to rebound even though the company reversed its decision to replace its flagship product. We first documented that the cost increases incurred by Coca-Cola could only explain a small fraction of the stock market losses. Thus, the substantive impact should be on the revenue side of the equation, thus either via a decline in the forecasted market share or a decline in price.

Prior to the introduction of New Coke, Coca-Cola had a market share of 22.5 percent, which had been declining, in part due to the introduction of Diet Coke in 1982. After accounting for the long-term continuing decline in the market share of Coca-Cola and for the introduction of Diet Coke, which partly cannibalized its flagship product, we estimated that the market share of Coca-Cola declined over a percentage point in 1985; this was highly statistically significant after accounting for other factors which could explain its market share decline. Moreover, we included the market share of New Coke with the share of Coca-Cola. And even though Coca-Cola quickly restored its flagship product, it was unable to recover market share in the subsequent year.

For the price data, we obtained quarterly concentrate prices for Coca-Cola and Pepsi from *Beverage Digest* over the period of 1980 to 1989, based on what each company charge their respective distributors. Over the entire period, Coca-Cola maintained a price premium of roughly 3.2 percent. Accounting for various factors that could alter the differences in concentrate prices charged by Coca-Cola and Pepsi, we found that commensurate with the introduction of New Coke and the subsequent reversal of that disastrous decision, the premium realized by Coca-Cola declined by a significant 9 percent. When we took the present value of the lost cash flows due to the decline in the price premium, accounting for the slow recovery in the premium during the four years after the fiasco, the present value was roughly equivalent to the stock market losses realized in the immediate aftermath of the decision.

Our conclusion was that commitments by companies were important. When these commitments were broken, the penalties could be harsh in the form of a reduction in the prices consumers were willing to pay. Professor Benjamin and I spent an incredible amount of productive time on this paper, and we aimed high with the goal of publishing it at the highly prestigious *Journal of Political Economy* where the Klein and Leffler paper had been published in 1981. A few months after submitting our paper, we received a letter from the Nobel Laureate, George Stigler, informing us that he agreed with the referee on two counts. First, it was a good paper and second, we failed to robustly demonstrate the actual link between consumers' rejection of New Coke and the decline in the price of concentrate. Stigler referred us to the *Journal of Business*

where the paper languished for a few years until we eventually dropped the project as we could never convince the referee after a second revise-and-resubmit of our results (the paper was not rejected by the editors, rather we chose not to resubmit it for a variety of reasons). Personally, it was one of my favorite papers. I learned a lot from Professor Benjamin through the research and writing of the paper, but the reviewers simply had a tough time grasping that market forces could work so effectively and efficiently in punishing poor decisions by corporations.

In addition to all my research, I also taught several different courses as a Ph.D. student, including *Introductory Economics*, *Introduction to Microeconomics*, *Industrial Organization*, and *Managerial Economics*. I made the courses my own by using my version of price theory, largely Chicago Price Theory with a lot of UCLA influence. One of my classes had over 200 students. During my final summer in 1987, I taught a section of *Labor Economics*, an undergraduate version of the class I had taken from Professor Warner. When I was a student in his class, I did not particularly have any interest in it beyond learning more microeconomics and price theory, which felt ironic once I became a teacher of the same class.

During the summer of 1987, athletes made up a disproportionate amount of the students enrolled in undergraduate classes, as is the case today. *Labor Economics* was no different that summer and, in many ways, that was how I ended up at the helm of that class. There were about 20 to 25 students in the class, mostly football players and a mix of basketball, baseball, and other Clemson athletes. There were only two or three non-athlete students in the class. Once again, I was brought back to what had first sparked my interest in Clemson in the first place – football. Leading up to that summer I had become friends with two of Clemson’s football players, neither of whom took the class, but still played a role. Kevin Brady started out as a quarterback, then switched to cornerback and finally to strong safety before he left the team after a couple of years. Kevin and I would sometimes hang out and eat way too many buffalo chicken wings with celery sticks and blue cheese dressing, then feel sick afterwards for overeating. Kevin told me that he hated getting hit and thus ended his football career. I have no idea what happened to him after that. The other friend was Kenny Danforth, who played football for four years at Clemson starting as a strong safety. Kenny was always getting himself in a jam and would reach out to me for assistance as an economics graduate student. I had little to offer, but Kenny thought I was better than nothing.

Somehow or another, word got to Coach Joe White, who was formerly a football coach at Virginia Tech and then ran Academic Advising for Clemson in the Athletics Department, that I was a friend to football players. My penalty was to teach *Labor Economics* that summer, which is how I ended up heading that class! It wasn’t all bad. Coach White made sure I got amazing tickets to the basketball games that spring, sometimes I even sat right behind the visiting coaches. The rationale for *Labor Economics* was that many of the athletes, who had already taken the introductory economics courses, might find it more interesting than say *Environmental Economics* or *Industrial Organization*. Had I been thinking through the situation, I should have proposed a new course in sports economics which was not offered at the time. I wish I had.

Still, I did consider my audience. Given the makeup of the students, I pivoted midway through the class towards topics in labor economics with a sports angle that included performance-based contracts. This pivot saved both me and the students, as I did not particularly like labor

economics any more than they did; with the change in focus, they opened up and became very talkative in class. I also tried to reteach basic introductory microeconomics to them. Few of the students wanted to be there, but the athletics department had a hall monitor to ensure everyone made it to class. Thus, we always had full attendance, but no one complained if I ended class early.

There were several memorable teaching moments for me in that class. My favorite one involved two students, James Coley and James Lott, who were active discussants in class and seemed somewhat interested in what I was attempting to teach. One day after class, they approached me and offered to go clean my car, an Audi 5000 S, for what I considered to be a good price. I quickly said yes with the caveat that they return it soon after it was cleaned. I spent that afternoon working on my dissertation and when it came time for a dinner break, it hit me that Coley and Lott had yet to return my car. I guess I wasn't that worried. I didn't think they would run off with it, that wouldn't have been good for their grade. But I was curious. It wasn't until around noon the next day that they finally showed up. I will never forget their response of my question of why they were so late returning my car; it was legendary. First, they noted that the interior and exterior had been cleaned to perfection. They reminded me that I had instructed them to return the car soon after it was cleaned, which they promised they had done. They added that I did not tell them *when* to clean the car, rather to return it as soon as that task was completed. So, they took a road-trip to Atlanta and stayed overnight! Coley and Lott threw out concepts they had learned in my class such as monitoring, shirking, incentives, and contracts, which, they said, informed their behavior. Lesson learned.

As soon as I finished my dissertation at the end of August 1987, I headed to Washington, D.C. for my job at the S.E.C. Like when I left ULM for Clemson, there was no gap period other than a weekend to pack, drive, and then unpack. I was finishing at Clemson, packing my office on a late Friday afternoon before heading to my apartment to pack everything there and hit the road on Saturday morning, when Professor Maloney walked into my office and handed me a bunch of boxes. They contained my first computer, a PC Limited 286, which cost roughly \$3,000 (or nearly \$8,000 in today's dollars). PC Limited was the brainchild of Michael Dell, who founded the company in 1984 at the age of 19 while in his dorm room at the University of Texas. Dell changed the name of PC Limited to Dell Computer in 1988. I used this computer for the next four years. Afterwards, Lisa Meulbroek, a Ph.D. student at M.I.T., used it for her dissertation in finance.

Reflections On My Time at Clemson

In the end, I spent five incredible years in Clemson and loved virtually every day there, but I never looked back after leaving. Clemson was not at the top of my list for graduate school since I wasn't planning to attend graduate school in the first place. Rather, my initial reason for going to college was simply a steppingstone to law school. Indeed, while I liked economics immensely in college, I didn't see a career path in the field, or at least one I could enjoy and succeed—but I fancied I could become a superb lawyer. In the end, I never made it to law school.

Looking back, I have a few regrets. One was not taking classes from two of the heavyweights in the Department, Bruce Yandle and Bob Tollison. As mentioned previously, Professor Yandle was

Executive Director at the Federal Trade Commission when I started at Clemson; he was one of the professors I didn't meet upon my first visit there, and he taught *Environmental Economics* after returning. Professor Yandle was a successful businessperson who eventually decided to go for his Ph.D. He is still going strong as a practicing economist well into his 90s. I always viewed Professor Yandle as the godfather of the Department of Economics, as everyone paid him the upmost respect. He was friendly to me in the hallway, inquired about my research, and always genuinely seemed to care. Professor Tollison arrived after I had started in the Ph.D. Program and he had prior stints at Cornell, Texas A&M, Virginia Tech, and the Federal Trade Commission. At the time, he was one of the most prolific researchers in public choice economics. Regrettably, I never had the privilege of taking Professor Tollison's class. Nonetheless, I did get to see him in action a little and I was always in awe of him whenever he gave seminars, as well as when he raised questions to other seminar speakers in the Department Seminar Series

Another regret was simply not taking extra classes. In hindsight, I focused too much on achieving As in the required classes. I wish I had taken classes outside of economics as well, for instance, in the math department and the statistics department. But as we know from economics, everything has a cost and even though the tuition would have been minimal, the opportunity cost would not have been.

When one thinks of the top-tier economics departments, Clemson does not immediately come to mind. However, for me, it was an incredible fit and I benefitted greatly from the choice. What I realized then, and appreciate even more today, is the proximity that Clemson Economics had at the time to the top-tier departments, in particular Chicago and UCLA, and to a lesser extent Rochester and Virginia. As mentioned previously, Hugh Macaulay was a Ph.D. student under George Stigler at Columbia before he became a predominant figure in developing the tradition of Chicago Price Theory and won the Nobel Prize. There were many highly prestigious connections like that at Clemson. Bobby McCormick spent his time as an Assistant Professor at Rochester during an era when it was one of the premier research economics and business schools in the country, and he brought that influence to Clemson. That also included Matt Lindsay, who was tenured at the prestigious Department of Economics at UCLA, and of course Dan Benjamin who was one of the favorite students of Armen Alchian at UCLA. And there were many more Clemson professors closely connected to the premier schools. With all of that in mind, I ended up with this wonderful portfolio of classes and professors who came from many of the great economics departments around the country.¹⁶

¹⁶ Sadly, more than half of the professors I have named in this commentary have passed in recent years, and thus I wrote this commentary as a reminder of their memory. Thankfully, the Economics Department continues to be strong and vibrant, albeit with many more faculty members, and as when I was there, with strong connections to The University of Chicago and similar top-tiered universities. One of the current faculty members, Professor Curtis Simon, joined the economics faculty in 1985 as he was just completing his Ph.D. in Economics. I recall how the senior faculty members were delighted about Simon joining the faculty and making sure that he succeeded. At the time, I understood the mentoring of students, but I also quickly developed an appreciation of how valuable the mentoring of rookie faculty members is as well, and it certainly paid off in the case of Professor Simon.

A huge benefit of the program was the camaraderie among the students in both the M.A. and Ph.D. Programs. To this day, I am still in touch with a handful of my former colleagues, two more frequently. Robert Clement was in the M.A. Program and taught for a semester when I was in the Ph.D. Program; we spent a great deal of time together. My best memories were of going to Mac's Drive-In in Pendleton, where I always had the cheeseburger plate (and still do!). After a successful consulting career at Accenture, Robert was fortunate enough to retire at a youthful age to focus on his golf game. The other colleague is Cyndi Cooksey, who was in the M.A. Program contemporaneous with Robert Clement and who took *Financial Economics* from Professor McCormick the same year I did. Cyndi's M.A. thesis focused on analyzing the brand name of Procter & Gamble, and thus we talked frequently given the overlap in our research agendas. After graduation, Cyndi moved back to Atlanta where she worked in her family's business. After more than 20 years of no contact, we connected via a capital campaign committee meeting at Clemson. Then, nearly 10 years ago, Cyndi started work in my family office, Grand Teton Holdings, Inc, as Managing Director, where she oversees the finance and operations functions.

My wife, Janet and I have 21-year-old twins, Max and Mia. Even from a young age, Max always planned on attending Clemson for his undergraduate studies and never once wavered in his commitment. On the other hand, his twin sister, Mia, liked Clemson while growing up, but was more open to other universities. Janet and I assumed it would be low probability that she would attend Clemson, and we certainly didn't want to push her. Mia visited sixteen universities in the Northeast, Southeast, California, and Illinois to help make her college choice. Mia liked most of the schools she visited, but decided Clemson was the best choice for her and never looked back. They, like me, are Clemson Tigers, and like me, forged their own paths at Clemson of which I am simply a spectator. They will graduate in the spring of 2024. I could not be prouder.