POLITICAL ECONOMY

IN THE CAROLINAS

Vol. 1





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Articles in PEC are double blind refereed. Submissions are being accepted through clc.submittable.com.

POLITICAL ECONOMY IN THE CAROLINAS

2018 | Vol. 1

FROM THE EDITOR

Letter from the Editor Roy Cordato | 5

ARTICLES

Intellectual Diversity and Academic Professionalism James R. Otteson | 8

No Free Lunch: How State Map Acts Inadvertently Damage Property Values as They Aim to Lower Road Expenditures

Craig J. Richardson, Russell M. Smith & Joseph Sloop | 20

The Political Economy of Resource Misallocation in the Energy Sector: A Case Study of South Carolina's V. C. Summer Nuclear Project

Jody W. Lipford | 44

The Political Economy of Craft Beer in North Carolina (and Beyond)

Christopher Koopman & Adam C. Smith | 76

NOTES & COMMENTARY

Classical Liberalism's History, Heritage, and Relevancy to Our Times

Richard M. Ebeling | 99

What Are Economic-Impact Studies Really Measuring?

Roy Cordato | 108

State Tax Policy and Growth: A Research Note

Peter M. Frank | 112

BOOK REVIEWS

Bourgeois Equality: How Ideas, Not Capital or Institutions, Enriched the World by Dierdre McCloskey

Michael Munger | 119

The Complacent Class: The Self-Defeating Quest for the American Dream by Tyler Cowen

Robert Whaples | 122

POLITICAL ECONOMY

IN THE CAROLINAS

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FROM THE EDITOR

Dr. Roy Cordato, Editor The John Locke Foundation, Raleigh, NC North Carolina State University

Welcome to the inaugural issue of *Political Economy in the Carolinas* (PEC). This venture is unique. The journal is published by **Classical Liberals in the Carolinas** (CLC), a membership organization made of academics, public policy analysts, and interested business professionals from North and South Carolina that have a special interest in the ideas of classical liberalism and how these ideas can be invoked to analyze and solve problems of public policy facing the two states.

The purpose of this journal is to publish high quality research that explores topics related to, and that advance, CLC's mission. Analysis and research in published papers will take a broad range of approaches which will include comparative empirical analysis with other states in the region or nation, historical perspectives, interpretive or theoretical essays, and philosophical inquiries that highlight classical liberal ideas in the context of contemporary policy analysis.

Furthermore, PEC places no restrictions on approach or disciplinary perspective. Indeed, submissions are welcome from a wide range of disciplines including political science, economics, legal studies, history, and philosophy. Our only requirement is that articles be rigorous, thoroughly researched and speak to the mission of both CLC and the journal. It is also important that published articles are intelligible to a non-specialist but broadly educated and engaged audience that would include academics, public policy and think tank researchers, business people and entrepreneurs, and policy makers.

A few remarks on our journal layout. We have divided the journal into three sections: "Articles," "Notes and Commentary," and "Book Reviews." Papers published in the "Articles" section are fully refereed using a double-blind process. Essays for the "Notes and Commentary" section and the "Book Reviews" are mostly solicited by the editors,

though we are happy to consider unsolicited submissions for these sections.

"Notes and Commentary" will play an important role for PEC. These essays will be shorter, less technical, and therefore easier to digest in a single read than those that might be found in the *Articles* section. Our hope is that this section may bring some readers to PEC that might not otherwise be attracted to an 'academic journal' and ultimately encourage interest in the publication more broadly.

The book review section will be the most 'free-wheeling' in that any book that might be related to classical liberal ideas and of interest to those who are attracted to those ideas are fair game. As evidenced by the two reviews featured in this issue, the books do not have to focus on policy issues in the Carolinas or public policy at all.

Moving on to the content of this issue, I particularly want to call the readers' attention to our lead article ("Intellectual Diversity and Academic Professionalism") by Professor James Otteson, Professor of Political Economy at Wake Forest University. We are especially excited to open the journal with this piece, not just because it speaks to a topic of importance to the Carolinas, but because it makes a broader point that we hope will set the tone for PEC more generally. As Otteson states in the abstract to his paper "I argue that academics should embrace a professional identity that is informed by and dedicated to an open-ended process of inquiry that has characterized our intellectual tradition since the time of ancient Greece, and not by allegiance to particular political positions or outcomes." As the editor, I want this journal to adopt this same identity.

This vision dovetails completely with the classical liberal tradition of scholarship that we want to promote in the pages of PEC. Clearly one of the most important aspects of this tradition has been and continues to be the spirit of open inquiry that it embodies. Professor Richard Ebeling from The Citadel, echoing Professor Otteson's point, states in his opening article to our *Notes and Commentary* section ("Classical Liberalism's History, Heritage and Relevancy to Our Times") that the classical liberal tradition goes back to the Greeks who "spoke of the importance of man's reason and the need for freedom of thought if our minds were to challenge each other's logic and understandings as we groped toward a more complete awareness of the objective world around us."

These two articles by Otteson and Ebeling not only serve to inform the potential reader about the journal's philosophical standards and perspective but should also give guidance to potential authors about the kind of research we are seeking to publish.

But this issue is comprised of much more than these two important contributions. Articles by Craig Richardson and Jody Lipford are great examples of the kind of empirical analysis that the journal seeks to publish, shedding light on regulatory issues in both North and South Carolina, while Koopman and Smith provide an analysis of regulations on the distribution and marketing of craft beer in North Carolina, which have significantly restrained entrepreneurship in this industry.

In closing I want to thank those who have made and are making this journal possible. Special thanks must go to Managing Editor, Dr. Adam C. Smith from Johnson and Wales University. He has enthusiastically performed much of the necessary legwork in getting this project off the ground. He is great to work with and I can't thank him enough. I would also like to thank our editorial board and especially our senior editors, Professor James Otteson, Professor Richard Ebeling, and Professor Andrew Taylor from North Carolina State University. Their expertise and council during the process of getting this first issue published has been extremely helpful.

In addition, no journal like this can become a reality without a team of scholars who are willing to give up their valuable time to act as referees for our submissions. Our referees have come from universities and think tanks in the Carolinas and from institutions outside the region. Our goal as editors is to find referees with the relevant expertise regardless of where they are from. I am grateful to those very qualified scholars who were willing to devote their valuable time to our effort.

Lastly, there are three organizations whose efforts have made this venture possible. First is our publisher, Classical Liberals in the Carolinas and the members of CLC's board of directors listed in the opening inlay. CLC has been supportive and helpful every step of the way. Second is my primary employer, the John Locke Foundation and its president Kory Swanson. The JLF has facilitated my ability to take on the task of editing this journal by allowing me to spend much of my 'office time' working on the project. And lastly, I want to thank the John William Pope Foundation and its President John Hood. It was at John's suggestion that this project was initiated and it was with the support of the Pope Foundation that it developed into the journal you now read.

INTELLECTUAL DIVERSITY AND ACADEMIC PROFESSIONALISM

By: James R. Otteson, Wake Forest University

ABSTRACT

Division and polarization on college and university campuses seems to be increasing, while support for free speech and intellectual diversity seems to be weakening. I suggest that a cause of both might be a lack of consensus about what the purpose of higher education is and what the professional responsibilities of professors are. I argue that academics should embrace a professional identity that is informed by and dedicated to an open-ended process of inquiry that has characterized our intellectual tradition since the time of ancient Greece, and not by allegiance to particular political positions or outcomes.

KEYWORDS:

free speech, intellectual diversity, academic professionalism

I. INTRODUCTION

My topic in this essay¹ is the importance of intellectual diversity on college and university campuses. I suspect, however, that almost all academics already believe in the importance of intellectual diversity on campus. So how might I add to the conversation? I propose to approach the topic somewhat indirectly, by discussing a related notion: academic professionalism.

First, however, some context. I write as a professor. I do not write as a politician, nor as an advocate of my personal political views. I have personal political views, of course, but I believe they should be irrelevant to my professional work as an academic. Indeed, my main thesis is that there is such a thing as a professional academic, and that one central aspect of the crisis we seem to be facing in higher education arises ultimately from a failure to appreciate what it means to be a *professional academic* and a failure to respect what follows from that. I believe that too many academics today have lost sight of the fact that we are professionals and that we should accordingly act professionally.

When internal problems arise in any organization, often they are related to a

^{1.} This essay is based on an invited address I gave to the James G. Martin Center for Academic Renewal on January 26, 2018.

confusion or a disagreement about what the purpose and mission of the organization are, or a failure to embrace them. A successful organization is one that starts with a clear conception of its purpose, and an embracing by all of its members of this purpose and the mission it entails. Given that, perhaps the first question we should address regarding higher education is: what is the purpose of higher education? One often hears that its purpose is the "pursuit of truth," or perhaps the "unfettered pursuit of truth." I agree, but I believe the emphasis should be on the word pursuit rather than on the word truth. About so many things, it is hard to know when, or even whether, we have hit upon truth; and there can be a danger to focusing on truth, because it is when people believe they are already in possession of the truth that they can become inclined to stop searching, inquiring, and examining. I propose, therefore, that we reframe the mission of academia by conceiving of the purpose of higher education as twofold: first, to transmit the central findings and the central elements of the "great conversation" that has characterized our tradition of learning since at least the time of Socrates; and second, to respect and preserve the millennia-long profession of inquiry that has enabled us to reach the astounding intellectual heights we have achieved.

Academia is a profession, like law, medicine, or business. Accordingly, academics ought to have a professional identity and a code of professional ethics that specifies our professional responsibilities. Academics in fact have a dual professional responsibility. The first is to master our fields, including the history and primary achievements of those fields, and, to the best of our abilities, to convey those achievements, including our own contributions to them, to each new generation of students. The second responsibility, however, is to the tradition of inquiry itself, and to stewarding the noble profession of academia. So our obligations are both to substance and to process: what have the greatest in our fields believed, professed, and demonstrated; and what is the process or method they have developed that has proved most successful and is likeliest to lead to yet further achievements of knowledge? It is not that we should not be advocates; what matters here is, rather, the content and purpose of what we should advocate. We should advocate on behalf of a peculiar, and relatively recent, effort to use one particular aspect of our cognitive toolkit to characterize and understand the world.

II. ANCIENT GREEK PHILOSOPHICAL INQUIRY

Let me illustrate by using my own field as an example. My field is philosophy. When and where did philosophy begin? We standardly identify the beginnings of Western philosophy and science with the Ionian city-state of Miletus, which was on the western coast of what is now Turkey, in the sixth century BC. The hallmark of what

these Milesian thinkers did was what we today might call *critical reasoning*: formulating, proposing, and examining hypotheses. The method they began to develop and use is what has enabled the spectacular growth in human knowledge and understanding we have seen in the subsequent two and a half millennia.

The first writings that have content we might now call *philosophical*, or perhaps scientific,² were cosmogonies, or accounts of how our ordered world (or cosmos) came into existence, and cosmologies, or accounts of what the fundamental elements of the universe are. Before the Milesians, there were creation stories that offered metaphysical and poetical accounts of the "birth" of the universe. For example, the Babylonian epic poem Enuma elish, which is thought to date from approximately 1700 BC, describes material elements—fresh water, salt water, clouds—giving birth to the world and to the gods, and then the gods giving rise to human beings. And the Judaic account in Genesis, which was finalized between the sixth and fifth centuries BC but dates perhaps from the twelfth or eleventh century BC, describes a separate and distinct entity, Yahweh, simply willing the world, including human beings, into existence. In these two early accounts we see several characteristic elements that distinguish them from what I am calling philosophical accounts. First, they were anthropomorphic, describing nonhuman processes or events in terms of human processes or events. For example, the elements *gwe birth* to the gods, or the seasons have emotions such as love and hate. Second, they employed inscrutable means to explain events. For example, Yahweh has only to will, and the world comes into being. Third, they were based on mere assertion and aimed at mere acceptance. They typically did not invite debate, testing, or experiment.

By contrast, the Milesians of the sixth century BC proposed hypotheses that were also meant to explain the origin and nature of the universe but that took the extraordinary step of being open to verification or falsification. For example, Thales (c. 624–546 BC) first proposed that the universe was made out of *hydor*, or water, meaning he thought the single fundamental element of everything that exists is water. But Thales's younger associate Anaximander (c. 610–546 BC) thought there were problems with this proposal: water has only one nature, while there seem to be things of different natures in the world; and how could fire, the opposite of water, nevertheless also come from water? So Anaximander offered a proposal of his own—*apeiron*, or the boundless—as the fundamental element, whose open-ended nature was meant to correct the problems he saw with Thales's proposal. But Anaximander's own younger associate Anaximenes (c. 585–528 BC) thought there was a problem with Anaximander's proposal—namely, it was too indefinite to give rise to things with specific natures. So he sought a middle ground

^{2.} The distinction between science and other areas of human inquiry did not come into use until the nineteenth century.

between Thales's too definite water and Anaximander's overly vague boundless; he proposed aer, or air, as the fundamental element, which Anaximenes thought could rarify or condense to create less- and more-solid substances.

This series of alternative positions illustrates what separates nonphilosophical accounts from philosophical—or, as we might put it, nonscientific accounts from scientific. The difference is not in the particular things the Milesians believed, but in their method. That method included, first and foremost, looking for reasons for beliefs, and accepting logical and empirical verification and falsification as criteria for holding or abandoning beliefs. Second, their method was based on an assumption of logos, or reason, as not only the ruling principle of the cosmos but also humanity's chief tool in understanding it.

It is these characteristics that set the Milesians apart from other thinkers and justify our considering them as among the first philosophers or scientists. They are also what help us distinguish between science and pseudoscience today: A set of beliefs that relies on anthropomorphism, metaphor, or uncritical acceptance is, however important or valuable it might otherwise be, probably not a science. On the other hand, a set of beliefs that instead offers reasons for beliefs, seeks literal (not metaphorical) explanations for events, tries to discover causal mechanisms, and can be falsified by logical analysis or by empirically observed data, might be a science and its results might constitute knowledge. The heights to which our knowledge and understanding have reached in the subsequent millennia, which have enabled everything from antibiotics to space travel to the internet, are ultimately owing to this method of open inquiry and rational criticism employed by these ancient Greek thinkers.

III. ACADEMIC INQUIRY

How does this relate to intellectual diversity? My suggestion is that, as professional academics, we should recognize the achievements of this method of learning that has constituted the essence of our profession since its beginnings, and we should respect and protect its tradition. We should respect the norms, the conventions, and the methods that have allowed us to come to tentative understandings of the world that, however through a glass darkly we see, we can dare to hope might ever more closely approximate the truth.

The nature of this method of inquiry implies we can never be assured we have the final word. This is true even in the so-called hard sciences, whose history is full of revolutions and fundamental changes in belief. It is also true in the so-called soft sciences of sociology, psychology, and economics, in which the more we learn, the more we realize there is still so much more we do not know. And it is all the more true in fields such as politics and morality, in which not only is there more variation in sincerely held belief

but in which our biases and tribalisms often color our judgments. I suggest that in our professional capacity as academics, instead of believing we already know all there is to know or all we will need to know, we should repair instead to the tradition of inquiry itself—to draw on and extend its tools, and to apply them to new areas and in new ways to those already covered, as we seek to understand the world and our place in it.

Respecting this tradition of inquiry is, then, an indispensable duty for us as professional academics. We deal in thoughts and ideas, in hypotheses and conjectures, in proposals and arguments, in criticism and counterargument. If a hypothesis or proposal is false or wrongheaded, our fiduciary professional responsibility is hence to demonstrate that by the process of falsification and refutation that is itself the core characteristic of our profession. That is the true lesson from our tradition of higher learning. It is what has separated it from other activities and what separates science from pseudoscience, knowledge from opinion, intellectual progress from dogmatism, and the professional academic from the sophist. Here, as in so much else, Socrates is our intellectual lodestar. As Socrates argued, the goal is not merely to win an argument. That is the goal of the sophist, not the philosopher—that is, of the person who seeks to seem intelligent rather than the person who seeks genuine wisdom. Our goal is to strive to separate what might be true from what might be false so that we can embrace the former and discard the latter.

The moment any of us begins to feel the pull of wanting "our side" to win, however, or of disinclination to hear criticism and weigh it dispassionately, we are hearing the siren song of sophistry. That is the danger that, because we human beings are partial and biased and fallible and tribal, is ever present—and it comes roaring to the fore particularly in politics. Here is a litmus test. If we feel an emotional investment in an idea, if we find ourselves growing angry at others who disagree with us, indeed if we feel emotions arising in any way, beware: our judgment may be clouded, and our rational faculties, which are cool and even boring, may be overwhelmed and crowded out by the hot rush of emotions. It is thrilling to vanquish an enemy, even an intellectual enemy; but that thrill is the result not of impassive investigation but of emotional release. As weak and limited and uncertain as our rational capacities are, our emotional responses are often even less reliable indicators of truth, especially concerning complex reality.

Because politics in particular is so fraught with emotional content and tribal loyalties, it therefore poses a serious risk in the context of higher education. It can cloud our judgment, and it can replace a loyalty to the process of inquiry with a loyalty to one's tribe. We can come to judge arguments, hypotheses, and even people not on the merits of their arguments and evidence, but instead on the extent to which they conform to our prejudices or our group identities. For that reason, it imperils our professional identities as

academics if we allow politics to enter into our scholarship. Our work may have political implications, and in some of our disciplines the study of political processes might inform our work; the danger lies in becoming committed to a specific political outcome rather than to the process of inquiry itself. Of course we might have political allegiances in our capacity as citizens, just as we might rightly have special loyalties as parents or children or siblings or spouses or friends. But as academics, as professionals, and in our professional capacities, our loyalty should be to the process of inquiry itself.

IV. PARTISAN ADVOCACY IN ACADEMIA

What are some practical implications of my argument? In the academy, it means we should have no departments or units or centers or institutes whose primary purpose is to inform, affect, or advocate on behalf of specific public policies. We should have no fixed or official political positions supporting or opposing particular political parties, candidates, or policies; we should take no official institutional stances on contested or controversial political issues; and there should be no claims that are not open to questioning and debate. We can report our findings, especially if we work in fields connected with politics: here is what my research indicates are the likely consequences of imposing tariffs; here is how my research shows these chemicals affect coral reefs; here is my professional judgment of Grover Cleveland's presidency. All that is entirely unobjectionable and indeed greatly valuable. Yet when it comes to taking substantive positions on political issues, we must leave politics to the political process itself. We should render unto Caesar what is Caesar's, and jealously guard what is ours—namely, the tradition of open inquiry that informs our purpose, mission, and activities.

Everything we do, then, should be in the service of this high purpose: everything from the classes we teach to what we publish to what we ask of students. For individual academics, we can have our political obligations—perhaps we are members of a political party, for example, or support particular political advocacy groups or causes—but these must be personal and not professional. Their substance should be strictly irrelevant to what we do as professional academics. So if some of our colleagues want the academy to advocate substantive political positions, we should respond, "No, that is not our job." When our universities are asked to take stances on DACA (Deferred Action for Childhood Arrivals), on raising the minimum wage, on Donald Trump's presidency, on boycotts and divestments: "No, that is not our job." If professors want to advocate positions on issues such as these in the classroom: "No, that is not our job." We do not choose or evaluate our doctors on their political stances, but on their mastery of medicine; we do not choose or evaluate our plumbers on their political stances, but on their mastery of plumbing.

They might have political stances, and their stances might be similar to or different from our own, but either way, that is irrelevant to their professional work. The same is, or should be, true of academics.

This is not a matter of academic freedom: there should be no limits placed on what we may investigate, question, or examine. But our work must be in the service of our profession, must be consistent with the norms of that profession, and must be informed by the mission of that profession. It is therefore not the substance of one's position that might be objectionable; it is, rather, the move from dispassionate inquiry to partisan advocacy that is a departure from, even a betrayal of, higher education's mission. It is a breach of academic professionalism, and it risks endangering the precious tradition of higher learning itself.

V. PARTISAN ADVOCACY AND WAKE FOREST UNIVERSITY

Two concrete examples will illustrate my argument. First, a local political advocacy group described my invitation to the James G. Martin Center for Academic Renewal as the invitation of a "conservative" professor who would come, apparently, to advocate conservatism.³ The fact that I am labeled as a conservative by people who have never read any of my published work or been in any of my classrooms is odd. On what grounds could they possibly characterize my personal political views? Not because of their substance: that group has not engaged my substantive positions. Perhaps it is instead because I have not accepted the growing contemporary expectation of publicly professing specific political positions, which in higher education today predominantly does not consider itself conservative. If I will not publicly and in my professional capacity advocate against political conservatism, then I must be a conservative; and no more thought is required to dismiss me or my work by those for whom advocacy against conservatism is a prime directive. In that case, one does not need to read my books or my published articles, because one already knows all one needs to know.

But the actual position I take is advocacy for the profession of learning. My goal is to respect both aspects of my professional obligations as an academic: I strive to master my discipline and convey its central elements to students without regard for how this might line up with others', or even my own, personal political positions; and I strive to respect the profession of academia by not abiding attempts to bend its great and noble traditions to any partisan ends.

My stance has sometimes made me a target in my career. Here is a second example. In

^{3.} See Killian (2017).

May 2016, Wake Forest University launched a new initiative, the Eudaimonia Institute, whose mission was to create an interdisciplinary intellectual community to investigate the nature of genuine human happiness—or flourishing, what Aristotle's word *eudaimonia* means—and to investigate the public social institutions that seem to support eudaimonic lives. Wake Forest's administration asked me to be the institute's founding executive director, an invitation I happily accepted, since the institute's mission is not only at the core of Wake Forest's "Pro Humanitate" educational mission but also at the heart of my own scholarly work. So far, so good. But then the university decided to accept a donation to the institute from the Charles Koch Foundation.

We had formed a faculty advisory board of over a dozen tenured faculty from different disciplines who would oversee the institute's activities, and we even wrote what we called a "Declaration of Research Independence," which publicly stated our commitment to independent judgment and free inquiry, not subject to limitations or conclusions that donors or others might wish to apply to, or demand from, us. We publicly declared ourselves "nonpartisan and nonideological." We would pursue lines of inquiry and thought that we alone, in our independent professional academic judgment, believed worthy, and our tentative conclusions would be only those we thought our investigations warranted on their merits.

But, for some of my colleagues, taking money from the Koch Foundation was beyond the pale. For the Kochs have political views, and those political views are not shared by many of my colleagues. So when it was announced that Wake Forest had accepted a gift from the Koch Foundation, a petition signed by some 180 of my colleagues (or about one-quarter of Wake Forest's faculty) demanded an investigation into this gift; not one but two ad hoc faculty committees were then convened to investigate how this could have happened and the dangers it might pose; and, after months of meetings and discussions and inquiries, these committees issued long reports condemning the Eudaimonia Institute, Wake Forest University, and me personally.

We were criticized for not making the gift agreement public. But, as a private university, Wake Forest has a longstanding policy not to make any of its gift agreements public; and, of course, the agreement was vetted by deans, the provost, university advancement (the office of fundraising and development), the general counsel of the university, and the university president, and was signed by the president. We were condemned for accepting money from a donor with a publicly stated agenda, though Wake Forest has accepted gifts without incident or complaint from hundreds, perhaps thousands, of other donors who have public agendas.⁶ And then one of my courses,

^{4. &}quot;Pro Humanitate," or "in the service of humankind," is Wake Forest University's motto.

^{5.} See Eudaimonia Institute (2015).

^{6.} It is also the case that Wake Forest thrives in part because of generous gifts from families in the tobacco industry.

which had been approved by standard procedures in the School of Business and overwhelmingly made, by a business-school-wide faculty vote, a new prerequisite for students to major in business (but the course was open to all students), was declared invalid, stripped of its ability to count for credit for any students who did not major in business, and thus removed as a recognized prerequisite. The ad hoc faculty committees demanded rejection of our funding and severing all ties to the "Koch network" (not just the Koch Foundation), and one of the committees went so far as to suggest that all faculty associated with the Eudaimonia Institute be prohibited from speaking, lecturing, or publishing without prior approval from a newly appointed faculty committee. One of the committees also questioned—publicly, and in print—whether I was in fact qualified to hold my academic position at Wake Forest.

In open faculty forums, the Kochs were condemned for having an agenda, for taking the wrong positions on climate change and other substantive issues, for using the concept of well-being as a pleasant-sounding mask to hide their true motive of insinuating free market ideas into the academy, and so on.¹⁰ The Eudaimonia Institute was condemned as a "Trojan horse" that required quarantine, "fencing in," and extraordinary oversight. I was portrayed as a corporate stooge or as trying to dupe my colleagues or students; as somehow having a conflict of interest; and as enforcing, or proposing to enforce, an ideological litmus test.

In the fall of 2016, one of my colleagues, a professor of religion—a person I had never met and had never spoken to—stood up in a public faculty meeting and gave a lengthy speech denouncing the Kochs and questioning my personal integrity. There then ensued months of investigations and committee meetings and letters and op-eds condemning me and us and our efforts.¹¹ Over this time, I had many colleagues contact me privately

^{7.} In one of life's small ironies, my course was subsequently awarded an Aspen Institute 2017 "Ideas Worth Teaching" national award. See Aspen Institute (2017).

^{8. &}quot;Motion 2: To freeze current hiring by the Eudaimonia Institute, and cancel any internal (e.g., Eudaimonia Conference) or external presentations related to the IE [sic], and to restrict publication of material from EI until the [newly proposed] COI [Conflict of Interest] committee is established and the University COI policy can be applied" (Crainshaw et al. 2017, p. 12).

^{9.} In an undated (though received in October 2017) letter to Wake Forest University president Nathan Hatch, the authors claim to have received secondhand confidential personnel information from an unnamed source alleging "irregularities in the hiring and tenure process of Professor Otteson." They go on to state: "Although these facts certainly raised concerns, the Ad Hoc Committee chose to leave these details out of its final report" (p. 6)—though they chose not to leave it out of their letter to the university president, which they then proceeded to publish on Wake Forest University's public Faculty Senate webpage. They later took it down, after I asked them to remove their unsubstantiated "defamatory and potentially libelous" secondhand rumors; but of course by then it had already been made public. See Albrecht et al. (2017).

^{10.} See Barbour et al. (2016).

^{11.} This has now gone on for two years, and counting. In April 2018, a third convened faculty committee—on which the religion professor, among others, served—submitted its own lengthy report recommending the creation of a new faculty committee, made up of fully twelve elected faculty members, whose job would be to review all university centers and institutes, as well as their directors. The report recommended, moreover, that this new committee be granted the power to initiate a full review of any center or institute at any time and for any reason, and that any such review could potentially result in termination of the center or institute, with no provision for appeal or reconsideration. See Raynor et al. (2018). The Faculty Senate approved this committee's recommendations at its April 18, 2018, meeting.

to express both sympathy and support. They have used terms such as "witch hunt" and "McCarthyism" to describe the petitions and ad hoc investigatory committees and white papers and reports; and they have said they were embarrassed by and ashamed of the religion professor's speech attacking me. Yet the majority of the supportive colleagues who contacted me have done so privately, and are hesitant to speak out publicly, out of the reasonable fear that they themselves might become the targets of the next investigation.¹²

VI. THE UNDERMINING OF INTELLECTUAL DIVERSITY

I am of course not alone in facing these kinds of rather ungenerous attacks, and indeed it seems the levels of recrimination and vituperation have been increasing on college campuses around the country. I have dwelled on my own recent experience because I think it is illustrative and, unfortunately, increasingly common. Similar examples at other colleges and universities are abundant and easy to find. I believe that experiences such as this stem at least in part from a failure to understand what colleges and universities are, and what they are not. If we were seminaries, or if we were political parties, then a demand that all of our members profess, or confess, certain substantive commitments or beliefs, or a demand for ideological purity and loyalty, might be entirely appropriate. But we are not a seminary and we are not a political party: we are a university. Academics are not politicians or priests: we are professors.

If there is any place on earth where all positions are, or should be, open to questioning, where we judge arguments on their merits and not on whether they comport with a prior roster of approved commitments, it is a university. If there is any place where we allow and even encourage open inquiry, where we not only allow but encourage exploration of unusual or novel or even controversial hypotheses, and where we allow and encourage challenge from minority viewpoints, it is a university. If there is any place where we engage ideas and not the persons holding them, where we recognize that the ad hominem fallacy is indeed a fallacy, it is, or should be, a university. Socrates said the "unexamined life is not worth living." That expresses the purpose of the academy, and that is its mission.

Of course, the difficulty with this conception of a university is that it means there will be disagreement, and people often do not like disagreement. (Socrates was put to death, after all.) There will be diverse and competing ideas about philosophy, history, politics, morality, religion, and culture, and sometimes those ideas will clash. But this is not something to be feared; it is to be celebrated. It does not undermine the mission of a

^{12.} I note also that this controversy has gained Wake Forest national notoriety; see, for example, Riley (2017). I have also been informed that the controversy has cost Wake Forest over \$20 million in lost or rescinded donations from donors concerned over what they perceive is an intolerant atmosphere at the university.

university: it exemplifies it, if our mission is understood as one characterized by inquiry and investigation, rather than as conformity to a specific set of beliefs. Since people are different, they will, if allowed, come to differing conclusions, they will be interested to investigate different questions, they will want to teach and write about different texts and ideas, and they will understand the human condition and the arc of human history differently. Allowing and even encouraging that diversity is not only what generates intellectual vitality and enables a vigorous life of the mind, but it is also the way we respect what it means to be professional academics. It is the way we show respect to one another as colleagues and scholars, as good-faith agents of intellectual inquiry, and as professionals. Our intellectual tradition is capacious and strong enough to encompass a wide range of competing views, and our colleges and universities are, or at least ought to be, robust enough to allow multiple and even conflicting perspectives. And students in our universities are capable of hearing multiple ideas and determining their own paths forward. If professors filter out all but a preferred set of ideas, then not only do they betray their solemn duty as academics, but they encourage those discerning abilities in our students, and our society, to atrophy.

As we continue, then, in these contentious times, to examine the nature and purpose of higher education—and I believe we should continue to do so—it is paramount that we repair to first principles. What are we for? What is our purpose? What is our mission? As I have argued, I believe our purpose is to engage in inquiry, and thus our mission is to accept the professional obligations that entails by resolutely reminding ourselves we do not constitute a political entity. My personal politics do not determine my abilities as a professional academic, and I should not judge others in my profession—neither my colleagues nor my students—on the basis of their personal commitments. That means that the only investigations in which we should engage are into ideas and hypotheses, not into one another's personal politics; the only speculations we should make are about how to understand the world, not about one another's secret motives. And we should not seek to intimidate or persecute people to bring about conformity or silence, but on the contrary inform those who seek to do so that such activity is not compatible with our longstanding, even sacred, institutional mission.

In other words, we should do our rightful work as professional academics. We are contenders in the arena of ideas, and we should leave to other arenas the fights for power, politics, and partisanship. In accepting the life of the gown, we professors have voluntarily entered into the high and noble tradition of open inquiry and thus we have incurred a professional obligation to preserve and protect its mission. Today we find our tradition assailed on many sides, as it has been repeatedly throughout its history, going all the way back to ancient Greece. If it is to endure, we must resist those assaults, and we must begin by not letting our tradition be undermined from within.

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NO FREE LUNCH:

HOW STATE MAP ACTS INADVERTENTLY DAMAGE PROPERTY VALUES AS THEY AIM TO LOWER ROAD EXPENDITURES

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ABSTRACT

Using legislation known as "map acts," a number of states plan for highway construction by announcing without warning that certain properties fall within "designated highway corridors." Map acts save money for the state because they freeze affected property owners' right to upgrade their property for a given length of time, which lowers the state's acquisition costs. Until mid-2016, North Carolina had no legislative deadlines for future road completion, leaving thousands of homeowners in limbo for long lengths of time in dozens of projects around the state. This study uses a natural experiment to measure the effect of legislative uncertainty on property values. Evidence was gathered in Forsyth County, NC, using a dataset of 16,817 homes. Our cross-sectional study compares property values of those homes that lie within a long-delayed road corridor with the values of those directly adjacent to it. The regression results indicate that homes within the Forsyth County road corridor suffer the unintended consequences of map acts, with statistically significant and large drops in their assessed property values. Adjacent homes suffer smaller losses. In total, Forsyth County has lost an estimated \$57 million in assessed property value as a result of this one road corridor, having repercussions on the local tax base. Other factors such as proximity to nearby amenities and state ownership of affected corridor properties were also found to be statistically significant.

KEYWORDS:

local development; planning; property rights, transportation corridors, takings (eminent domain)

I. INTRODUCTION

State governments face an ongoing and expensive task of building new roads and highways. A natural tension exists between lowering state budgetary pressures and maintaining individual property rights. Legislative "map acts" limit or forbid property owners in designated road corridors from improving the value of their land or dwelling,

potentially saving the state millions of dollars when it comes time to build the road. By 2015, thirteen states were using map acts when planning roads (Richardson 2017). A key point is that unlike what happens with eminent domain, property owners who fall under map-act-designated corridors lose a portion of their property rights without compensation since they are typically forbidden to upgrade or develop their property for a stated period of time.

As the power to dictate land-use rights shifts away from private citizens and toward government, states not only lower acquisition costs but also gain more flexibility in time frames and budgeting requirements. However, as the time frame for building the road moves from, say, a year to a decade, uncertainty grows among buyers and sellers of properties in these designated road corridors. Owners of these properties have great difficulty in selling a property that (1) may or may not be bought by the state at some future time and (2) has constraints that make it more akin to a rental since the owner of the rights to property improvement is a third party. As a result, these homeowners have few incentives to maintain their property, and they have great difficulty in adding value since any building permits must go through a lengthy approval process.

We aim to test two hypotheses: First, as a result of changed incentives, homes that lie within a designated road corridor will suffer lower property values relative to similar, unaffected homes outside the road corridor. Note that here we are testing the value of the physical state of the house, using county tax-assessment data from 2013. The county does not measure the market value; nor do we, since there have been few sales over the past ten years because of severely depressed demand. Thus, we are limited to measuring the portion of the losses reflected in the physical shape of the house as noted by an independent tax assessor. As a result, any statistically valid findings from our research reflect the minimum hidden cost of the unbuilt road corridor in terms of lost property value. The true losses would be much larger if, say, these houses were put up for auction since bidders would pay a small fraction of the assessed value, given the restrictions set by the state.

Our second hypothesis concerns the potential spillover effect on homes adjacent to the designated corridor. The potential for noise, pollution, and even a change in the Department of Transportation plans could affect the incentive to both maintain and invest in these homes relative to unaffected homes further away. We use tax-assessment data to test this hypothesis as well.

We chose North Carolina because it had the worst attenuation of property rights through this type of legislation in the entire country until the legislation was overturned in July 2016 by the North Carolina Supreme Court. In the state, highways could be planned with no completion dates and no mandatory budgetary set-asides. Property owners within

designated corridors had by far the longest wait time, three years, to get a response to a building-permit request. In particular, we focus our study on the Winston-Salem northern I-74 beltway project, which has seen the longest delays of all the state's highway projects.

By analyzing what is perhaps the country's most extreme case, we provide a methodology and means of partially assessing hidden costs when future roads are planned, budgeted, and built. The point is that map acts may seem to represent a type of free lunch to some state officials, but this paper indicates that no such free lunch exists, that the costs are real. We find that savings to the state in terms of cheaper acquisition of homes are more than offset by falling real estate values relative to those of nearby properties outside the designated corridors.

Using multivariate regression analysis, we examine the impact on the tax-assessment values for three groups of homes: those within a designated road corridor, those within a parallel band of properties within a quarter mile from the beltway, and those within a second parallel band of homes lying between a quarter and a half mile away. All estimates are relative to homes more than a half mile away. This presents an ideal natural experiment since this map act was applied in a way that was unanticipated by virtually all homeowners in the area when they originally purchased their home.

The paper proceeds as follows: Section 2 examines the pertinent scholarly literature on the subject and also offers a framework and model for understanding the impact of the Map Act both on homes within and alongside a designated road corridor. Section 3 provides background information and an overview of the case study. Specifically, it provides detailed information on North Carolina's Map Act and details on the northern beltway. The hypotheses and research methodology, including an explanation of the GIS techniques utilized to complete our analyses, are discussed in section 4 of the paper. Section 5 includes the findings from the multivariate regression analysis. Finally, section 6 provides a discussion of policy implications for both state and local governments, a summary of the study's main findings, and ideas for future research endeavors.

II. LITERATURE REVIEW

Previous scholarly work by transportation experts tends to emphasize net benefits to the state economy after highways have been completed (Palmquist and Boyle 1982; Guiliano 1988; Weisbrod and Beckwith 1992; Ryan 1999; Weiss 2002). Ryan (1999, 423) noted that though positive, property-value effects tend to "occur close to a facility, within one mile for highways." Since these and other cost-benefit studies generally show positive effects of building roads, it follows that state governments have incentives to make plans to build the roads, as the costs of the plans are small relative to the benefits. Moreover, states have an incentive to maximize the perceived net benefits by freezing the costs of eventual

property acquistion in order to plan even more roads. However, as we suggest in our first hypothesis, a frozen property market creates collateral damage to property owners, and these unmeasured regulatory costs do not appear in traditional economic cost-benefit analyses of building roads.

Moreover, in keeping with our second hypothesis, homeowners (and future buyers) with rational expectations living adjacent to a planned road corridor may take into account the future consequences of potential noise and traffic, and other consequences of an eventually built road. For example, the return on investment will be lower on a home next to a highway than a home next to a beautiful meadow. Lake et al. (1998) found a negative link between environmental conditions (i.e., noise and visual intrusion) and property prices. Wilhelmsson (2000) also specifically demonstrated that road noise negatively impacted property prices.

III. MAP ACTS AND ROAD CORRIDORS

As previously discussed, road corridors are designated spaces where the state plans to build a future road when it comes up with the money or initiative. Using a state roadwaycorridor map, referred to by the state of North Carolina as an "official map," the state essentially places a hold on homeowners' property rights in order to keep an option open to build a road at some future time. The corridor map is defined as "a map, drawing or written description of a planned roadway alignment, with approximations of future right of way boundaries, which is adopted by the Board of Transportation for right of way protection purposes."

The implementation in North Carolina of this type of map began in 1987, when the North Carolina General Assembly passed the North Carolina Map Act with the rationale that it would allow for the North Carolina Department of Transportation (NCDOT) to protect rights of way for "important highway projects." Of the other twelve states with map acts, eleven have statutes that limit permit delays for a decision about acquisition to 365 days or less (Younts 2014). The limit in Tennessee is the shortest, at eighty days.

Prior to July 2016 (when the North Carolina Map Act was overturned), there were twenty-four North Carolina Map Act projects spanning eighteen counties. If homeowners wished to move, they would apply for permission to the state, which evaluated cases based on perceived hardship to the owner. In the case of medical or economic reasons, the state could agree to acquire the property even if the road had not yet been built. The NCDOT notes that "the adoption of such a map places temporary restrictions on private property rights by prohibiting for up to three years the issuance of a building permit or the approval of a subdivision on property within an adopted alignment." The land was

protected from "certain activities," which means people were not allowed to use their property in ways they once did. Homeowners could not build new structures, such as garages, or obtain building permits for any reason unless approved by the state, which had up to three years to make a decision. According to the NCDOT website, people were allowed to make repairs and undertake light renovations that did not require building permits, such as painting or putting in a new sink. Each time a new permit was requested, the homeowner faced another wait of up to three years, leading to only a handful of sales in the planned area since 1987.

Note that the state allowed the property owners to petition for a variance, but "the burden of proof lies with the property owner." This procedure transferred the cost of protecting property rights away from the state and added substantial uncertainty to the present and future use of the property. In general, the NCDOT had three years to respond to any petition for a variance. If the state so decided, the homeowner who was interested in a building permit might be, in some cases, allowed to make "limited improvements" that might otherwise have been prohibited. Homeowners faced a set of options for appeals, which could take years to decide. Younts (2014) noted that "concerns over the indefinite nature of the Map Act were raised by multiple justices during oral argument in late 2013 at the North Carolina Supreme Court."

The NCDOT had up to ten years to evaluate whether the corridor protection was still necessary. Since the corridor protection could be renewed at no cost to the state (barring lawsuits), homeowners could sit in limbo for more than a decade. This is the case with the planned northern beltway in Winston-Salem, NC, which has been called the poster child for delays arising from the North Carolina Map Act (Younts 2014).

A. THE WINSTON-SALEM NORTHERN BELTWAY: A SHORT HISTORY

In 1987, the NCDOT adopted the Winston-Salem Forsyth County Thoroughfare Plan, called "the northern beltway," to enhance connectivity to the region, state, and country. The roads that then served the area, in particular US 421 and US 52, bore far more traffic than they were originally designed for, leading to ongoing traffic jams. The beltway project was to begin at US 158 southwest of Winston-Salem and end at US 311 southeast of the city, with a total length of 34.2 miles (see figure 1).

For homeowners lying in the path of the future beltway, their incentives to invest in their property diminished after learning of the 1987 plan to eventually demolish their homes. By 1997, the NCDOT had designated the majority of the western side of the beltway as a "designated highway corridor" under the Map Act, effectively freezing any development for hundreds of property owners (see figure 1). The eastern side, still part of the 1987 thoroughfare plan, was officially designated a highway corridor in 2008 under

Figure 1. Proposed Northern Beltway in Forsyth County, NC.



Source: Winston-Salem Journal, Jan 2nd, 2017.

the Map Act, as seen in figure 1 as well.

Construction was set to begin in 1999, but environmental lawsuits put the project on hold until 2004. By 2004, state budget shortfalls had further pushed back the project to 2012, and new environmental lawsuits in 2008 led to further delays as well as an estimated doubling of the cost of the project. By 2012, the DOT had acquired about 460 properties under the Map Act, but in 2014 homeowners found that the NCDOT ranked the northern-beltway project 1,389th out of 1,700 road projects according to its needs-based scoring (WS Chamber 2013). However, in late 2015 Governor McCrory announced that the eastern side of the northern-beltway project was one of twenty-one "priority" projects that would be funded through a bond referendum. This would only fund the eastern side of the beltway, however, which has the most commercial traffic. (Young 2015). Property owners on the western side of the beltway would remain in limbo for another year until the 2016 legislative action by the governor that was previously mentioned, but both the 2015 and 2016 events are outside the time frame of this analysis since we use 2014 data.

B. THE TAKINGS DEBATE

The designated beltway corridor near Winston-Salem became the center of a years-long lawsuit brought by affected homeowners against the state of North Carolina that was eventually settled in their favor by the North Carolina Supreme Court in July 2016. Shortly afterward, Governor McCrory revoked the Map Act for all currently planned highway projects (Young 2016). The central debate in the courts was over whether property owners suffered losses, or "takings." Those losses, however, were never directly measured by the courts (as we do in this analysis), which no doubt extended the court battles.

The takings clause of the Fifth Amendment of the US Constitution states, "Nor shall private property be taken for public use, without just compensation." This principle has been a mainstay of English common law since the Magna Carta and was incorporated into the US Constitution by the founding fathers. Eminent domain was put into place to protect private citizens and their property from government seizure without compensation (Paul 1988; Jones 2000; Schubert 2013). Generally, legal scholars agree that this clause refers to "direct expropriations or government-compelled permanent occupations of property" (PAS 2008).

Takings can take a number of forms and have been the subject of many court battles in the United States. In the simplest form, a direct condemnation results in the government taking private property for a public purpose and offering just compensation, often determined by the courts. A friendly taking, a more amicable process, can occur when a property owner agrees to sell the property to a government entity based upon an agreed price (PAS 2008). The courts have also ruled that takings can be temporary or permanent.

What constitutes a public purpose was the subject of a recent Supreme Court case (Kelo v. New London) that explored a local government's use of eminent domain to seize fifteen homes to promote the "public purpose" of a private economic development project. In the end, the Supreme Court ruled in favor of the local government and approved economic development as a viable public purpose (Lopez and Totah 2007). This decision resulted in many state laws that limited local governments' ability to utilize eminent domain for economic development efforts.

Finally, a larger body of legal decisions has focused on inverse condemnations. Under this area of law, takings that are physical, regulatory, or both may occur when the government places burdens on private property, usually through legislative actions. Numerous court cases have explored this form of takings, including Loretto Teleprompter Manhattan CATV Corp. (1982; a physical taking), Lucas v. South Carolina Coastal Council (1992; a regulatory taking), and Dolan v. City of Tigarrd (1994; a regulatory taking) (PAS 2008). According to Schubert (2013), "While every

regulation of property diminishes the owner's freedom in some respect, not every regulation can be deemed a taking."

The North Carolina Supreme Court ruled that the North Carolina Map Act stretched far beyond the bounds of any of the above cases because of the combination of the infinite time horizon of the roadway designation and the lack of compensation for the losses. Epstein uses the idea that property rights are a bundle of sticks and argues that the state must pay for "each stick in the bundle that it takes" and is never allowed to say "it can take one or more sticks for free as long as the original owner keeps some residual sticks" (Epstein 2011, 233). There should be no sticks in the property rights bundle that move between the private and public domain at "legislative whim" (Epstein 1985, 85). The North Carolina Map Act seems to have fallen into this category of taking some "sticks" without compensation. This had the effect of making it difficult, if not impossible, for owners to upgrade or sell their properties, which are some of the prime reasons for owning a home in the first place.

What is also unusual is that this type of taking resulted in no direct benefit to anyone, except to give the state unlimited time and flexibility to decide on when (if ever) a road would be built. This resulted in tremendous uncertainty in the affected housing market. In the next part of the paper, we advance a method to measure how large this deadweight loss was for the affected property owners of Winston-Salem.

IV. MODELING UNCERTAINTY IN REAL ESTATE MARKETS

Despite the overturning of the Map Act in 2017, affected homeowners still faced uncertainty. There is still legal wrangling over what proper compensation from the state of North Carolina should be, and no clear way to measure the complete damage over the years to homeowners who lost their ability to upgrade or sell their properties. To evaluate and measure the approximate deadweight loss to property owners in terms of real estate value, our analysis draws upon the theories of the German economist von Thünen (1826), who may be little known to many readers. His theories of land rents provide a compelling yet simple way to model how externalities affect land prices.¹

Von Thünen was the first to model the relationship between city centers and land prices. He suggested the reader first imagine a flat, featureless plain with no rivers, forests, or mountains and thus stable and equal rents across the land. Then he asked the reader

More on von Thünen's important contributions can be found in the following articles: Daniel Block and E. Melanie DuPuis (2001), "Making
the Country Work for the City: Von Thünen's Ideas in Geography, Agricultural Economics and the Sociology of Agriculture," American
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to imagine a thriving city center. The reduction in transportation costs for merchants engaging in trade and sales would raise rents in the very center, and those rents would diminish in value as the distance from the city center increased.

Using von Thunen's assumptions when modeling the impact of the beltway, we can imagine the theory operating in reverse. As we have seen, an unbuilt beltway curtails the owners' right to upgrade their property and creates disincentives to maintain the property. In addition, adjacent land is also affected, as a function of its distance from the corridor, for reasons discussed earlier. Instead of an inverse-V-shaped increase in wealth around city centers, road corridors create V-shaped depressions in land values. Homeowners most affected are those who lie directly in the beltway's path. Even if only a corner of their property touches the corridor, it creates uncertainty for any future buyer. Figure 2 shows this with the depression of property values, A-B, which represents a cross-sectional slice. We posit the damaging effect of the beltway will lessen at a constant rate as one moves away from the beltway. This is shown by the sloping values between A and B in figure 1. In our study, we posit that property owners up to a quarter mile away could be affected by the spillover effects of some future road, including the uncertainty of moving the road's physical location or the expected potential increase in road noise. After a quarter mile, we hypothesize that property values return eventually to their previous level, shown by the values in the quarter-to-half-mile buffer (and implicitly, beyond) in figure 2.

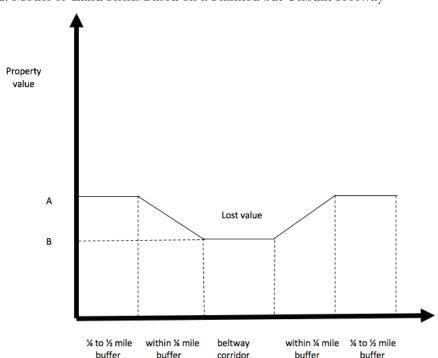


Figure 2. Model of Land Rents Based on a Planned but Unbuilt Freeway

IV. HYPOTHESES AND RESEARCH METHODS

The underlying goal of this research study is to evaluate the impact of North Carolina's Map Act on residential housing values within a planned beltway north of Winston-Salem, NC. The study examines a specific planned transportation facility (the proposed northern beltway) in Forsyth County, NC, that was developed through the use of North Carolina's Map Act (see figure 1). This particular case makes for an excellent case study because it allows one to analyze long-term changes in economic outcomes as a result of changes in property rights relative to outcomes for neighboring properties up to one half mile away that experienced no such changes.

We hypothesize that this market uncertainty and corresponding loss of property rights in a designated road corridor will directly cause two observable effects: First, the existing value of the beltway property will decline over time relative to that of neighboring properties free of the restrictions of the Map Act, as owners lose the incentive (or indeed, ability) to upgrade or maintain their properties. We also posit a second, related hypothesis: spillover effects are negative and higher for residents who live directly adjacent to the road corridors relative to those who live further away. We expect these residents will suffer a loss of property value as well, although less than that for residents directly in the beltway's path. Uncertainty arises for these residents since there is greater risk that the government's plans for the road may change and impact nearby residents not currently impacted by a map act. For example, a planned freeway exit could move to a new location over a given period of planning. In addition, lower values today may come about from an expectation about a highway's future road noise, pollution, and congestion.

Note that depressed property values are important from the perspective of the local county since the depression means less property tax to be collected, even if the road is never built. This loss is not considered a cost from the viewpoint of the state since it does not collect property taxes on the affected properties. This potentially puts the aims of the state and the county at cross-purposes. It must also be noted that the county may decide to support a planned or proposed transportation facility with the knowledge of lost tax revenue in the short term with the expectation of greater revenues in the future as a result of potential development spurred on near the transportation facility.

Our regression model is the following:

RESVALUE =
$$a + \beta 1$$
(BELTWAY) + $\beta 2$ (QURTMILE) + $\sum \beta (X) + \epsilon$. (1)

The primary focus is to assess the impact on residential housing values (RESVALUE) as a result of living directly in the planned beltway's path (BELTWAY) or within a quarter mile (QURTMILE). This model also allows us to estimate the impact of an array of

Table 1. Description, type, rationale, and hypotheses of independent variables regressed on assessed residential value

VARIABLE NAME	DESCRIPTION	TYPE	DESCRIPTION	HYPOTHESIZED VALUE (+ OR -)
BELTWAY	Indicates whether a residence lies at least partially inside the designated corridor	Dummy	Tests for depreciation of property values as a result of being in pathway of designated unbuilt corridor	(-)
QURTMILE	Indicates whether the residence was in a quarter-mile buffer adjacent to the designated corridor	Dummy	Tests for spillover effect of unbuilt designated highway on adjacent homes	(-)
DOTHOME	Indicates the home is owned by the NCDOT	Dummy	Tests for difference of assessed property value from state acquisitions of property	(-)
BRICK	Indicates whether the residence has a brick exterior	Dummy	A measure of quality of the home	(+)
AGE	Age of the home in years, as of 2015	Continuous	A measure of depreciation of the home, yearly	(-)
SQUAREFT	Square footage of the residence	Continuous	A measure of value of the home, using space	(+)
SCHOOLDIST (1000s ft)	Distance to the nearest school, in thousands of feet	Continuous	A measure of market value of nearby amenity: school	(-)
GROCDIST (1000s ft)	Distance to the nearest grocery store, in thousands of feet	Continuous	A measure of market value of nearby amenity: grocery store	(-)
PARKDIST (1000s ft)	Distance to the nearest public park, in thousands of feet	Continuous	A measure of market value of nearby amenity: public park	(-)

other independent variables (X) including state-government ownership, size of dwelling, housing quality, and distance to nearby amenities such as schools and parks. The constant is a, and ε is an independent and identically distributed error term.

Using the dataset of 16,817 homes in Forsyth County, we employ ordinary least squares (OLS) regression analysis using Microsoft Excel. Data for RESVALUE came from the 2013 tax-assessment value for the residence, which was separated from the value of the land itself. Table 1 lists all the independent variables, their descriptions, and their hypothesized impact on RESVALUE. Including the value of the land, especially in homes with a lot of acreage, would somewhat muddy the results because open land experiences fewer (if any) upgrades as well as little, if any, depreciation. Thus, the use of residential value as a dependent variable is intended to more directly measure the consequences of the Map Act's impact on housing values within the proposed beltway.

For those within-beltway homes, as we have seen, it was very difficult to obtain building permits for upgrades and additions. This deterred or even prevented homeowners from making typical improvements such as upgrading kitchens, basements, or attics, or adding a garage or outbuilding. In addition, the Map Act created disincentives for home maintenance, which should also have lowered the appraised value over time, as homeowners delayed incurring the cost of activities such as painting or re-siding the exterior, repairing roofs, and repaying driveways since those costs would not be recovered through either a sale or an NCDOT acquisition.

Ideally, one would like to know the market value of homes inside the beltway versus outside of it. Unfortunately, this is impossible since the market for homes within the beltway has more or less shut down because of a lack of interested buyers over the past decade. Thus the dependent variable RESVALUE, using tax-assessment values, captures the best guess at the market value if there were a functioning real estate market within the beltway.

Using the same measure for houses outside the beltway gives a better comparison of changes in property values for both areas over the twenty-five-year period since the Winston-Salem beltway plan was announced by the NCDOT. In other words, RESVALUE measures the overall difference in incentives to both maintain and upgrade property within designated corridors as compared to property outside the corridor. For this reason, we do not control for independent variables that might be subject to deferred maintenance, such as the age of roofs. Doing so would potentially undercut the RESVALUE's estimate of the total drop in property values due to the different incentives caused by a property lying within the corridor.

According to the Forsyth County tax assessors' office, assessments do not downgrade home prices for being in designated highway corridors, even if there are great difficulties in making sales. Homes are simply assessed using comparable listings in nearby areas, making it possible to make objective comparisons based solely on the physical attributes of the property.

The variable BELTWAY captures the impact on residential housing values within the planned beltway. Based on our earlier hypothesis, the predicted sign for BELTWAY is negative. The spillover effects on properties adjacent to the planned corridor (within a quarter mile) are captured by the QURTMILE dummy variable, which is expected to be negative but smaller than the BELTWAY variable. Both variables' estimated coefficients should be interpreted as relative to the reference group of homes that lies in a band between a quarter and a half mile away.

Because we are looking at overall values of homes along a thirty-four-mile span, we are primarily interested in the potentially large-scale effect of proximity to the planned beltway. There may be other, small-scale effects, in that a poorly maintained home may negatively impact a nearby home's property values for reasons unrelated to the beltway. However, the area of the county that the beltway traverses is largely rural, so negative neighborhood effects should be slight and uncorrelated with each other. In addition, the quarter-mile-buffer dummy variable is used as a way to present a better overall picture than using a continuous variable, such as tenths of a mile from the beltway. In the latter case, precision would be gained but scope in the larger context would be lost. We also test for any systematic differences in property values between privately owned properties and those owned by the NCDOT. Our hypothesis is that property that is not privately owned will not be maintained as well; hence the expected sign on the DOTHOME dummy variable is negative.

One possibility that arises is that perhaps the homes within the beltway were cheaper to begin with, since the state would want to minimize acquisition costs in building a beltway. We acknowledge that this is a shortcoming of our study since data are not available pre-1987 and so we cannot make a before-and-after comparison. However, since all of the comparison properties are within a half mile of the planned highway corridor, we think it is a reasonable assumption that the properties have roughly similar distributions of assessed prices and characteristics. Thus, a cross-sectional analysis is the next best way to measure statistically significant differences caused by the imposition of the planned corridor, if time series is not available.

Note that from the day in 1987 that property owners received word of an impending highway and potential razing of their homes, there was far less rationale to invest in home improvements such as a new roof, a garage, or an upgraded kitchen. It would not be until ten years later that, in 1997, homes on the western side of the beltway were officially restricted from making such investments under the North Carolina Map Act

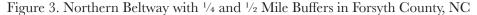
(and not until 2008 for homes on the eastern side of the planned beltway). Throughout the decades, very few homes were bought and sold on either part of the beltway. There is a strong argument to be made that rational and forward-thinking decision-makers would have made very different investments in property improvements even before the restrictions were made official.

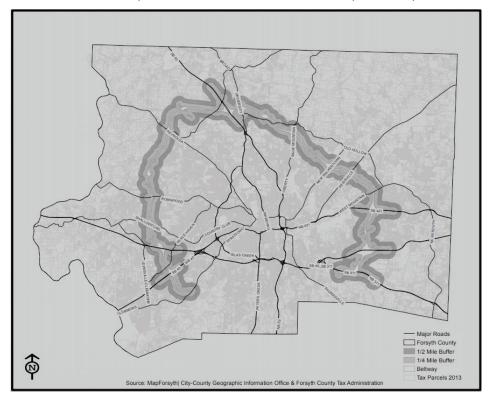
A. DATA METHODS: THE DESIGNATED CORRIDOR

Data on 2,270 properties falling within the I-74 beltway were obtained from the North Carolina Department of Transportation (NCDOT). On our request, the Forsyth County Tax Mapping Division mapped the I-74 beltway data collected by the NCDOT using the software ArcGIS 10.3, creating a snapshot of the tax parcels as of January 1, 2013.

B. CREATING BUFFER ZONES USING GIS ANALYSIS

The next step was to create two comparison zones on both sides of the planned beltway, using the software program ArcGIS. First, ArcGIS 10.3 was utilized to create two parallel bands of property that followed the corridor on each side—hereafter called "buffers"—for a distance of up to one quarter mile away and between one quarter mile and one half mile away. This was done to aid in our understanding of the impact of the proposed



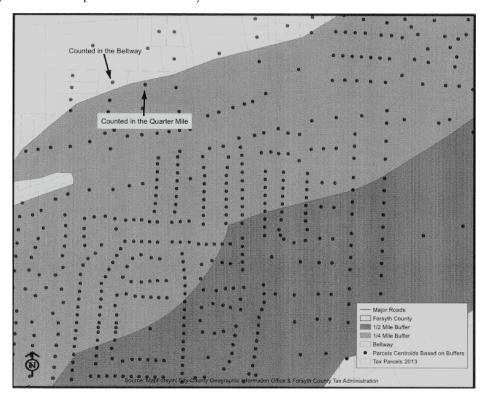


transportation facility on residential property values at different distances from the proposed highway. Figure 3 shows this map of the planned beltway with the added buffers.

C. CREATING CENTROIDS TO IDENTIFY PROPERTY LOCATION

Properties do not always clearly lie either in the beltway or in one of the buffers; occasionally there is overlap between one section to the other. As a result, ArcGIS was used to place properties within a designated zone (i.e., beltway, quarter-mile buffer, or quarter- to half-mile buffer). This was accomplished through creating centroids for all of the tax parcels included in the 2013 Forsyth County tax-parcel dataset. A centroid is identified through an algorithm in GIS that finds the center of a parcel of land of any shape. This method quickly determines which parcels lie within which area versus the alternative of making a judgment call on what is considered inside or outside of a particular buffer (see figure 4). Note that properties with a centroid that fell in the quarter- or half-mile buffer but still had a portion in the beltway were automatically assigned beltway status, as seen in figure 4. This is because the property is considered a beltway property by the state of North Carolina.

Figure 4. Close up of Centroid Analysis and Buffer Zones.



Note: Properties with a centroid that fell in the ½ or ½ mile buffer but still had a portion in the beltway were automatically assigned beltway status, as seen in the figure. This is because the property is considered a beltway property by the state of North Carolina.

The creation of centroids allowed the placing of parcels in a particular area. Variables that referenced these locations were created for each property so regression analysis could be performed. The resulting data were then exported into an Excel spreadsheet. Note in some cases the GIS analysis placed a designated beltway property in the quarter-mile buffer. This was because the property overlapped the two regions and the centroid calculated as outside the designated highway corridor. However, from the perspective of the local marketplace, even a property that has just a small section lying in the corridor is considered tainted by the local real estate market and highly avoided by buyers. Therefore, all 2,270 properties in the designated corridor were designated as beltway properties regardless of whether the GIS centroid analysis put it in one of the two buffer zones. The GIS analysis put such properties in a buffer zone in fewer than 1 percent of the cases.

D. DELETION OF NONRESIDENCE PROPERTIES

Once exported to Excel, the dataset from the county tax records now contained 23,372 properties. This included all properties in the planned beltway (2,270 properties) plus properties from the two parallel buffers, lying up to a quarter mile away and between a quarter and a half mile away.

For the purpose of our analysis, we only included properties that had physical residences on them, as these would be more likely than open land to suffer depreciation from market uncertainty. Deleting cases with no homes on the property yielded a complete dataset of 16,817 observations comprised of 1,164 beltway properties and an additional 15,653 buffer properties. Within the buffer area, properties were placed in either the quarter-mile buffer (7,323 properties, or 43.6 percent of the total) or the quarter- to half-mile buffer (8,328 properties, or 49.5 percent of the total). These buffers served to be useful controls to measure the values of neighboring properties against the values of those properties lying directly in the beltway's path. Additional property-specific information from county tax records was also included to create measures of house quality and location.

V. RESULTS

A. IMPACT OF DESIGNATED HIGHWAY CORRIDOR ON HOUSING VALUES IN FORSYTH COUNTY

Table 2 first shows the difference in average RESVALUE by location: within the beltway, within the quarter-mile buffer, and within the quarter- to half-mile buffer. We can see significant differences in assessed values between those homes lying directly in the planned beltway's path (\$91,268) versus those up to a quarter mile away (\$103,162) versus those between a quarter and a half mile away (\$113,631). It seems highly unlikely that

Table 2. Forsyth County, NC: average value of residential property (less land)

LOCATION	MEAN	STANDARD DEVIATION	NUMBER OF CASES
In beltway	\$91,198	\$47,822.81	1,164
Up to 1/4 mile away	\$103,162	\$54,914.64	7,325
Between 1/4 and 1/2 mile away	\$113,631	\$71,376.86	8,328
Entire county	\$106,621	\$94,917.00	111,001

Note: An ANOVA test was performed on the three zones (beltway, 1/4 mile buffer and 1/4- to 1/2-mile buffer. The null hypothesis that all means were equal was strongly rejected at the 99% degree of confidence. Post hoc t-tests indicated zones were statistically different from each other. Lastly, a z-test indicated the beltway sample was statistically different from the entire county population, at 99% confidence. See text for more details.

a planned beltway could consistently connect properties that were significantly cheaper than other properties literally in sight of them in many instances. This is good initial evidence of systematic differences in property values caused by the highway corridor.

To investigate further, we performed an ANOVA test to test for the null hypothesis that the means of the assessed residence values across all three zones (beltway, quarter-mile buffer, quarter-to-half-mile buffer) were not statistically significantly different from each other. The null test was strongly rejected at the 99 percent level of confidence, with the calculated F-value of 103.7 far exceeding the critical F-value of 3.84. Two post hoc t-tests were then performed that assumed equal variances but unequal sample sizes. The first two-tailed t-test had as its null hypothesis that there was no difference in means of assessed residence values between the half-mile buffer and the quarter-mile buffer. This too was strongly rejected, with a t-statistic of 10.18 versus a critical t-value of ± 1.96 . Following that, a two-tailed t-test was performed that had as its null hypothesis that there was no difference in means between the beltway properties and the properties in the quarter-mile buffer. This also was strongly rejected with a t-statistic of 7.02 versus the

critical t-value of +/-1.96. Lastly, a z-test was used to test whether the sample of assessed residence values of the 1,164 beltway homes differed significantly from all 111,001 homes in Forsyth County. Using a two-tailed z-test, the calculated z-value was -54.34, with a critical z-value of +/-1.96. This also strongly rejected, at the 99 percent level of confidence, the null hypothesis that the beltway sample was random and representative of the county population.

Having established that these groups were statistically significantly different with regard

Table 3. Means and standard deviations of variables

DEPENDENT VARIABLE	MEAN	ST. DEV.	TOTAL
Residential value (\$)	107,518	63,563	n/a
INDEPENDENT DUMMY VARIABLES			
Beltway property	0.069	0.254	1,160
1/4 to 1/2 mile band	0.436	0.496	7,332
1/2 mile buffer (ref. group)	0.495	0.500	8,324
NCDOT-owned	0.010	0.101	168
Brick exterior	0.380	0.485	6,390
CONTINUOUS VARIABLES			
Age of house	32.9	37.4	n/a
Square footage of house	1,695.1	930.2	n/a
Dist. to nearest school (1000s of ft)	6.1	2.79	n/a
Dist. to nearest grocery (1000s of ft)	7.22	3.13	n/a
Dist. to nearest park (1000s of ft)	7.68	2.89	n/a

Total observations: 16,817

to assessed residence value, regression analysis then provides a more sophisticated way to control for differences in household quality. Thus, these results should be seen as a better determination of differences between the beltway and the buffer areas than simple averages. Table 3 shows the means and standard deviations of all variables used in the regression.

Table 4 presents the regression results. As seen in table 4, the independent variable BELTWAY measures the direct impact of homes lying within the proposed highway beltway. The coefficient estimate was -11,798, indicating the difference in assessed value between these homes and those in the reference group. (The reference group was those homes that lay in a band alongside the beltway between a quarter and a half mile

Table 4. Regression results. Dependent variable: assessed residence value

VARIABLE	DESCRIPTION	COEFFICIENT	T-STATISTIC
INTERCEPT	Intercept	57,611.90	30.54
BELTWAY	Betway property	11,789.36	-6.80
QURTMILE	1/4 to 1/2 mile band	-5,931.10	-7.17
DOTHOME	NCDOT-owned home	8,371.01	2.00
BRICK	Brick exterior	27,524.67	33.28
AGE	Age of house as of 2015	-315.11	-29.64
SQUAREFT	Square footage of home	32.34	75.05
SCHOOLDIST (1000s ft)	Dist. to nearest school	-434.85	-3.05
GROCDIST (1000s ft)	Dist. to nearest grocery	-417.70	-3.21
PARKDIST (1000s ft)	Dist. to nearest park	517.81	3.71

Adjusted R-squared = 0.356

Number of observations = 16.817

F-statistic = 1,034.7

Note: All coefficients were significant at the 99% degree of confidence except for NC-DOT, which was significant at the 95% degree of confidence.

away.) The result was overwhelmingly statistically significant, at greater than 99 percent confidence. An interpretation of this value is that this is direct evidence that the planned but unbuilt northern beltway has resulted in these homes getting fewer upgrades and maintenance than homes outside of the beltway, holding other factors constant.

The implicit cost of living near the unbuilt beltway was measured for homes directly adjacent to the beltway's planned path and up to a quarter mile away using the variable QURTMILE. In this band of property, the estimated coefficient was -5,931 relative to the outermost band of property, which could be seen as an implicit price or penalty. Since the North Carolina DOT has shifted beltway plans over the years, this could reflect the implicit price of the uncertainty of living close to the beltway as well as the expected externality of road noise and pollution as a result of the close proximity, which results in less homeowner investment. This finding was also overwhelmingly statistically significant with greater than 99 percent confidence.

The independent dummy variable DOTHOME indicated whether the NCDOT owned the residence within the beltway. (No homes in the dataset outside the beltway were owned by the NCDOT.) The coefficient estimate for DOTHOME was 8,371, indicating these homes' higher appraised value versus non-DOT-owned homes in the proposed beltway. A measure of the full impact of having a NCDOT-owned beltway

home (relative to the reference group) is the sum of the coefficients of BELTWAY and DOTHOME. This is -3,471, meaning \$3,471 less than the reference group of homes in the quarter- to half-mile band alongside the beltway.

The higher value of NCDOT-owned beltway homes relative to other beltway homes merits more consideration. It is consistent with the hypothesis that the NCDOT has been more interested in acquiring new sources of revenue rather than in minimizing the longterm costs to the local residents of building a new road. A reason for the state to acquire higher-valued homes first is that they can earn more rental income. Note the importance of this finding: if the state government were interested in minimizing costs to taxpayers and Forsyth County of building the road, they would acquire the least expensive homes first and the most expensive homes last, particularly since many homes are being razed and properties left empty. This way, the loss of property taxes to Forsyth County would be minimized since the state does not pay property taxes once it acquires homes. This finding indicates that the goals of the state and the county may be in conflict, or at least not congruent. The t-statistic for DOTHOME was 2.00, which indicates 95 percent confidence in this finding.

Homes with a brick exterior were measured with the dummy variable BRICK. The regression estimated an increase of \$27,524 in assessed value versus homes with wood, stucco, or vinyl exteriors, at a 99 percent level of confidence. BRICK could also be capturing other, unmeasured quality variables correlated with brick exteriors, such as paved driveways, upgraded kitchens, and so forth. The age of the house (AGE) is a measure of ongoing depreciation of a physical asset not subject to the owner's control (as a roof or other maintenance item might be), and the coefficient and the negative sign are consistent with our hypothesis. They indicate that the assessed value of the house dropped by \$315 per year since it was built. The variable measuring square footage of the house (SQURFT) had a positive sign, indicating that controlling for the other independent variables, each square foot of the house contributed an additional \$32 to the assessed value. This had the highest t-statistic, at 75.05, clearly exceeding the 99 percent confidence level.

Three other continuous variables measured distance to nearby amenities that might be important to homeowners: schools, grocery stores, and parks. All the estimated coefficients were significant at the 99 percent confidence level. The estimated coefficient for SCHOOLDIST means that for every thousand feet between the nearest school and the residence, the property value dropped by \$435, indicating proximity to schools plays a role in property values. The estimated coefficient for GROCDIST also showed a similar impact, with a fall in housing values of \$418 for every thousand feet from a residence to the nearest grocery store. Finally, the estimated coefficient for PARKDIST went the other direction; it

indicated that for every thousand feet from the nearest public park, property values went up by \$518, on average. This was contrary to our initial prediction, as we thought of parks as amenities valued by homeowners. However, upon further reflection, rural public parks may be hosts to crimes and loitering or may simply have that image among homeowners. This is speculation on our part and verifying it would require further research.

Several methods were used to test for multicollinearity in the results. The variance inflation factor (VIF) was calculated from our results as (1-R2) = (1-0.356) = 1.55. A good rule of thumb is that if the VIF is greater than 10, then multicollinearity is likely to be high (Kutner et al. 2004). Clearly, our results are well below that threshold. In addition, the estimated coefficients were stable when taking out some independent variables and leaving in others in multiple regression runs. The variables were also all statistically significant, another sign that multicollinearity problems are not occurring and that the independent variables each have a role to play in explaining RESVALUE.

B. USING THE REGRESSION RESULTS TO IMPUTE COUNTY-WIDE LOSSES IN PROPERTY VALUE

As we have seen in the regression results from the BELTWAY coefficient, homes in the beltway have a value that averages around \$11,798 less than that for homes a half mile away or more. This is equivalent to the distance A in figure 2, which showed the depression in land values. To calculate the total amount of the lost property value, we simply multiply this average loss by the number of homes in the beltway. As seen in table 4, the net difference is nearly \$14 million. In addition, there is the loss that was predicted in figure 2 as (A-B)/2, the average loss from being near the beltway—that is, in the quarter-mile buffer. The coefficient estimate from the quarter-mile buffer QURTMILE (-5,931) is a good approximation of (A-B)/2 since it measures the average change in property value versus the reference group, the quarter- to half-mile buffer. Our regression results confirm that damage to neighboring property values is less than damage to beltway property values since the former properties do not lie directly within the designated corridor and therefore are allowed to obtain building permits. However, the damage from uncertainty and ever-changing beltway plans may have resulted in lower property values in this (quarter-mile) buffer. Table 4 indicates that the net loss here is \$43.4 million, for a total imputed loss to the county's property value of \$57.2 million. Annual lost property taxes for the Forsyth County because of the unfinished beltway total \$417,967 because of the estimated depressed market value. This naturally has consequences for the budget of the county, which must make up for budget shortfalls by either raising taxes or cutting benefits. Moreover, there are spillover effects on local businesses that serve households. And with homes rapidly depreciating over time, owners may see little need to repair

homes that are unsalable and may be bought by the DOT at some future date.

VI. DISCUSSION AND CONCLUSION

This study has explored the relationship between residential home values and proximity to a DOT-planned highway with an uncertain time frame for completion. Specifically, it has examined the North Carolina Map Act, which was designed to save taxpayers money by freezing property values within a proposed transportation corridor. Our study has found significant losses not measured by the DOT in a designated highway corridor north of Winston-Salem, NC. This includes \$57 million of property-value erosion for homeowners living in or near the decades-old unbuilt road corridor. The local county also lost nearly \$418,000 in annual property tax revenue in 2013, according to our study's calculations.

The results of this study show large and statistically significant differences in average assessed values between those homes lying directly in the planned beltway's path (\$91,268) versus those up to a quarter mile away (\$103,162) versus those between a quarter and a half mile away (\$113,631), as seen in table 2. Additionally, a more sophisticated regression analysis determined that residential dwellings with similar characteristics within the beltway corridor were valued almost \$12,000 less than those in the comparison buffer (a half mile away or more). Homes adjacent to the beltway corridor (located in the quarterto half-mile buffer) were valued almost \$6,000 less than those in the comparison buffer. The overall fit of the regression analysis, measured using an F-statistic, showed greater than 99.9 percent confidence in the overall explanatory power of the regression model. This is the first direct evidence that the proposed road corridor has resulted in these homes getting fewer upgrades and less maintenance than homes outside of the beltway, holding other factors constant, as shown by statistically significantly lower assessed values. Additionally, this study has sought to determine the overall impact of the planned transportation facility, proposed through the use of the North Carolina Map Act, on local government finances. This study estimates that Forsyth County lost close to \$57 million in property value as a result of the planned beltway.

Several key policy considerations can be gleaned from this report. First, the impact of the North Carolina Map Act on the finances of the state government was negligible, since property taxes are not a source of revenue for the state. However, local governments are severely impacted by this process of protecting transportation corridors, as a result of the decrease in property tax revenues. In North Carolina, more than a quarter of local government income is collected from property taxes (Malm and Kant 2013). Another policy implication of this research concerns the spillover effects related to the

maintenance and upkeep of properties affected by the planned transportation facility. If property owners either are forbidden to make improvements to their property or opt to not make improvements out of uncertainty, either scenario will potentially lead to more zoning- and code-related issues for local government officials. Local governments, usually municipal or county planning offices, are also often impacted by a moving target whereby the roadway corridor moves over time and who is impacted by the Map Act designation can change. In general, map acts can cause great consternation and lead to mistrust between residents and the local government.

It would be wise to explore the pre- and post-construction impacts related to transportation projects. As previously discussed, a research limitation of this study is the lack of assessed property tax values for residential properties in the corridor prior to the North Carolina Map Act designation for the planned roadway facility. As a result, it is difficult to assess the total impact of the designation on residential property values. Similarly, since the project is still under construction, it is unclear what the financial impacts of the project will be on property within the corridor if the road is ever completed. After construction, the community could see a rapid rise in property values along the corridor as a result of the new facility and improved access to the community. This in turn may spur a variety of economic development projects including new homes, businesses, and industries. Until that actually happens, though, uncertainty from the unbuilt roads creates deadweight losses for thousands of homeowers for years.

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THE POLITICAL ECONOMY OF RESOURCE MISALLOCATION IN THE ENERGY SECTOR:

A CASE STUDY OF SOUTH CAROLINA'S V. C. SUMMER NUCLEAR PROJECT

By: Jody W. Lipford*, Presbyterian College

ABSTRACT

At the dawn of the twenty-first century, federal- and state-government policy makers attempted to bring about a "nuclear renaissance" that would provide abundant, clean, carbon dioxide—free electricity for decades. Nonetheless, these policies—and in some cases the reversals of these policies—brought incentives that combined with inadequate and asymmetric information in the private sector and changes in relative prices in energy markets to misallocate over \$9 billion of resources in South Carolina, when two of the state's largest electric utilities, South Carolina Electric & Gas and Santee Cooper, halted construction of two nuclear reactors at the V. C. Summer nuclear site, nearly a decade after their initial application to the Nuclear Regulatory Commission. This case study provides insight into the scale of resource misallocation that can occur when government influences private sector decisions and may be of interest to policy makers, business leaders, investors, consumers, and the general public.

KEYWORDS:

regulation, electric utilities, energy policy, asymmetric information

I. INTRODUCTION

On July 31, 2017, South Carolina utility giants South Carolina Electric and Gas (SCE&G) and Santee Cooper terminated construction of two nuclear reactors at the V. C. Summer nuclear plant northwest of Columbia, South Carolina. The decision came nearly a decade after the utilities submitted their original application to the Nuclear

^{*} This research was conducted while I was visiting scholar at the Center for Study of Free Enterprise at Western Carolina University in the spring of 2018. I thank the editors of this journal, two anonymous referees, Angela Dills, Dan Foster, Edward Lopez, Robert Martin, Sean Mulholland, Audrey Rexford, Norman Scarborough, Jerry Slice, and Bruce Yandle for help and comments on earlier drafts. I express a special thanks to my father-in-law, William Waltz, a retired nuclear engineer, who explained to me not only the rudiments of nuclear power but also his experiences with the Department of Energy bureaucracy. Any remaining errors are my responsibility.

Regulatory Commission (NRC) for licenses to build the reactors, adding to the one reactor in operation there since 1983. It came over four years after construction began. It came after spending over \$9 billion on the project, a figure greater than 4 percent of the state's total output in 2017. Perhaps most striking, the decision came only fourteen months after SCANA (the holding company for SCE&G)¹ CEO Kevin Marsh declared in a company press release that completion of the project was "imperative to bring clean, safe, and reliable electricity to meet the long-term energy needs of South Carolina" (SCANA 2016).

How did these companies embark on the path of additional nuclear power and then decide to stop midstream, resulting in what one state representative called "the largest economic failure in state history" (Benson 2018)? Once the companies had already invested billions of dollars and many years on this project, what led them to halt construction and give up on their aspirations for additional nuclear power? As with any decision of this magnitude, the factors of influence were many and complex. The invisible hand of the market was at play, but so too was the visible hand of government.

Many supporters of nuclear power, in and outside of government, believed the twenty-first century would usher in a "nuclear renaissance." To achieve that end, government at both the federal and state levels enacted legislation to subsidize nuclear power and shift investment risk from stock- and bondholders to consumers. Regulations to reduce carbon dioxide emissions played a central role as well. All the while, unexpected cost overruns and construction delays, combined with changes in relative energy prices, worked to undermine the economic viability of this project. In the end, government policies favorable to the nuclear industry, policies that had seemed so certain even a few years earlier, became increasingly uncertain. As SCE&G put it in its July 31, 2017, press release, "It would not be in the best interest of its customers and other stakeholders to continue construction of the project" (SCANA 2017c).

In this paper, I tell the story of the nuclear renaissance that many expected and that, in the end, was not to be. Central to the story are the decisions SCE&G and Santee Cooper made in response to the political incentives and constraints they faced. Certainly, changes in energy markets and information asymmetries played major and consequential roles in this economic debacle. Nonetheless, I build the case that powerful governmental legislation and regulation played the decisive role in this colossal economic failure in the Palmetto State. The South Carolina nuclear story is important in its own right, but its implications extend far beyond a single state or project. Government policies of all stripes and in all places can result in major resource misallocations that have far-reaching

^{1.} South Carolina Electric & Gas is investor-owned and the primary subsidiary of the holding company SCANA. "SCANA" is not an acronym but is taken from the letters in "South Carolina." Santee Cooper is state owned and legally known as the South Carolina Public Service Authority.

economic effects.

In the second section of this paper, I highlight briefly how government policies can lead to resource misallocation. I then turn in section III to the history, organization, and market position of SCE&G and Santee Cooper. The acclaimed nuclear renaissance and the federal- and state-government policies intended to bring it about comprise section IV. In the fifth section, I examine how SCE&G and Santee Cooper responded to the policies they faced from the federal and state governments that incentivized the choice to build the reactors. In the sixth section, I trace the information problems, changing energy markets, and policy reversals that doomed the V. C. Summer reactors. The seventh section examines the aftermath of the decision for the utilities' customers and investors and draws inferences on what the future may hold for the financially distressed utilities. The eighth section draws implications from South Carolina's nuclear experience that may be of interest to policy makers at the federal and state levels, managers in the electric-utility industry, and concerned consumers, investors, and citizens.

II. POLITICAL DECISION-MAKING AND RESOURCE ALLOCATION

Writing in 1776, Scottish economist Adam Smith, in his passage on the "invisible hand," advanced the idea that private decision-makers put their resources to their most highly valued and profitable uses, and that in doing so, they promote not only their interests but also the welfare of society at large. In this same passage, Smith also warns against the dangers of politicians who would have the "folly and presumption" to direct resources to uses they deem most appropriate (Smith [1776] 1976).

A long tradition in the economics discipline has taken issue with Smith, arguing that market failure is commonplace and warrants government intervention to correct. Economists in other traditions, particularly those who identify with public choice, have countered that market failures are neither frequent nor severe and that the purported benefits of government intervention must be balanced against the hazards of government failure.

The likelihood of government failure follows directly from the numerous and inherent flaws that plague political decision-making. To begin, government policy makers are not all-knowing, benevolent, objective social planners. Their knowledge about the resources they direct, and the potential consequences of this direction, is limited. Further, affected industries and other interest groups seek to use the political sector to channel resources in directions that benefit them. Campaign contributions and lobbying expenditures are at the heart of a practice commonly known to political economists as rent-seeking. Interest groups may be especially effective if they can cloak their private gains with a public interest argument (Yandle 1983). All the while, citizens and taxpayers are often rationally

ignorant of the decisions being made in their national and state capitals and the effects these decisions will have on them.

Short time horizons compound these problems. Politicians can downplay the possible long-run consequences of their decisions when their primary concern is re-election in the next electoral cycle. Further, legislators and regulators are involved in making decisions that affect others and that may have little or no impact on themselves. At other times, their decisions allow some actors in the private sector to shift the risk of their actions onto others. Either way, severing the risk of a decision from the responsibility for it brings moral hazard—a recipe for adverse consequences and outcomes.

In the South Carolina V. C. Summer nuclear debacle, this flawed government decision-making process had a powerful influence on the subsequent decisions SCE&G and Santee Cooper made, and the consequences for the Palmetto State were severe. Market forces and information asymmetries in the private sector mattered too, but government failure instigated and sustained the entire matter.

III. SCE&G AND SANTEE COOPER: A BRIEF OVERVIEW

Before examining the nuclear renaissance and the policies that promoted it, I provide a brief overview of the history, organization, and market position of South Carolina utilities SCE&G and Santee Cooper.

A. HISTORY

SCE&G is a regulated, investor-owned public utility and principal subsidiary of SCANA, a holding company formed in 1984 for electric and gas utilities operating in the Carolinas and Georgia. The history of state-owned Santee Cooper dates to the election of Franklin D. Roosevelt, a president who pursued vast expansion of federal power, including government-owned utilities.² In 1934, the South Carolina governor signed legislation to create the state-chartered South Carolina Public Service Authority (SCPSA), and in 1935, Roosevelt approved the project and Works Progress Administration funds for it. Of particular note, in 1973 the state Supreme Court changed the SCPSA Act to allow the utility to enter contracts and co-own production plants with private utilities, permitting Santee Cooper to take one-third ownership in SCE&G's V. C. Summer Nuclear Plant, Reactor One (Edgar 1984).

^{2.} For a full discussion of the history of Santee Cooper, see Edgar (1984) and Strong (2017).

B. ORGANIZATION

The primary difference between these utilities is ownership, investor versus state. Whereas SCE&G is obligated to its stockholders, Santee Cooper emphasizes its customer focus. To raise rates, SCE&G must appeal to the South Carolina Public Service Commission (SCPSC). Santee Cooper, on the other hand, has a twelve-member, governor-appointed, senate-approved board of directors with sole authority over rate increases (Santee Cooper n.d.b). South Carolina uses Santee Cooper, a state-owned enterprise, for economic development, a goal clearly specified in its mission statement (Santee Cooper 2016, p. 4).

Economists have long recognized that regulated utilities have an incentive to overinvest in capital if the regulated rate of return exceeds the marginal cost of capital (Averch and Johnson 1962). This overinvestment may take many forms, such as capital-intensive pollution-abatement techniques, unneeded generating capacity, or excessive upgrades for safety and reliability (Douglas, Garrett, and Rhine 2009). The capital intensity of nuclear reactors presents electric utilities with yet another option to increase capital and the return earned from it.

Of particular importance to this study, Shleifer and Vishny (1994) point out that when it comes to government regulation, the difference between private and state firms may not be as great as some assume. They write that "there is no magic line that separates firms from politicians" (p. 998) and that the "fact that a firm is private does not mean that it is free from political influence" (p. 1002).

C. MARKET POSITION

SCE&G and Santee Cooper are major players in the South Carolina utility landscape. As shown in table 1, these utilities rank in the top three in the state in terms of share of customers, sales, and revenues.

The decisions of these utilities regarding production and rates affect the majority of South Carolinians. As major providers, both utilities believed it was in their best interest to meet future electricity demand through the V. C. Summer additions.

IV. THE NUCLEAR RENAISSANCE THAT WAS TO BE

The twenty-first century heralded a revival in the long-moribund US nuclear industry.³

^{3.} The Three Mile Island accident in 1979, combined with high construction and regulatory-compliance costs and public concerns about safety, brought construction of new nuclear plants to a virtual standstill with no new construction started since 1977. Today, the United States has ninety-nine reactors producing about 20 percent of the country's electricity. The reactors are old, most built from 1967 to 1990 (World Nuclear Association 2018). The Tennessee Valley Authority completed the country's last reactor in 1996, but it had been ordered a full twenty-six years earlier (Parker and Holt 2007).

Table 1. South Carolina's Major Electricity Providers, 2016

COMPANY	OWNERSHIP	CUSTOMERS	SALES (MWhs)	REVENUES (\$000s)	CUSTOMER SHARE	SALES SHARE	REVENUE SHARE
SANTEE COOPER	State-owned	950,508	24,622,370	2,527,902	36.9	31.0	32.6
DUKE	Investor-owned	740,385	28,014,190	2,241,671	28.8	35.3	28.9
SCE&G	Investor-owned	705,025	22,524,213	2,531,516	27.4	28.4	32.6

Note: Figures are for residential, commercial, industrial, and transportation users. Santee Cooper totals include 20 electric cooperatives. Duke totals include Duke Energy Carolina, LLC and Duke Energy Progress.

Source: Energy Information Administration at https://eia.gov/electricity/sales_revenue_price/ (table 10).

VOL. 1

Government policy makers saw nuclear power as an important means to meet future electricity demand from a carbon dioxide—free source. The nuclear renaissance appeared to be coming to fruition in the first decade of the twenty-first century, when electric utilities announced applications with the NRC for twenty-eight Combined Construction and Operation Licenses (COLs) from 2007 to 2009 (Holt 2014).

Realization of the nuclear renaissance would require heavy government intervention. Studies by the Congressional Research Service (Parker and Holt 2007) and the Congressional Budget Office (CBO) (2008) show unequivocally that nuclear power is not competitive financially with advanced or even conventional coal- and natural gas—fired plants. Private utilities, if uninfluenced by government policy, would not choose to build nuclear reactors.

Nonetheless, the federal and state governments stood ready to provide legislative and regulatory incentives that altered private decision-making. The above-cited studies show with equal clarity that with sufficient subsidies to nuclear power, or with sufficiently high taxes on carbon dioxide emissions, nuclear power could be competitive with coal and natural gas. The federal and state governments provided these incentives through the federal government's Energy Policy Act of 2005 and Clean Power Plan of 2015 and South Carolina's Base Load Review Act of 2007.

A. THE ENERGY POLICY ACT OF 2005

The Energy Policy Act of 2005 was the single-most-important piece of legislation that launched the nuclear renaissance, and an understanding of its political background and basic provisions is essential to understand how SCE&G and Santee Cooper chose the nuclear path.

1. POLITICAL BACKGROUND

Passed by strong majorities in the House and Senate,⁴ the Energy Policy Act of 2005 purported to secure the country's energy future while protecting the environment and promoting economic growth. President George W. Bush praised the act as "an energy strategy for the 21st century," and went on to proclaim the vital role nuclear power would play in the new national energy strategy, given its capacity to "generate massive amounts of electricity without emitting an ounce of air pollution or greenhouse gases." He added that nuclear plants are "safer than ever" and that America would "start building nuclear power plants again by the end of this decade" (Bush 2008).

Beneath this veneer of public interest, the act provided taxpayer-funded incentives for renewable energy, fossil fuels, and nuclear power (Ballotopedia; Energy Policy Act of

^{4.} The final bill passed the House by a 275-156 margin and the Senate by 74-26 margin.

2005; Nuclear Energy Institute 2016; Grunwald and Eilperin 2005). Criticism arose from across the political spectrum. From the right, Myron Ebell of the Competitive Enterprise Institute said that the act provided some "pork" for every sector of the energy industry (Grunwald and Eilperin 2005). From the left, California House representative Nancy Pelosi complained that the act "catered to corporate special interests at the expense of the public" (Ballotpedia n.d.). As documented by Pick (2008), the major players in the energy industry spend millions of dollars on campaign contributions and lobbying expenditures every year in an effort to gain political benefits. Of these major players, the Washington Post considered the nuclear industry the "biggest winner" from the 2005 Energy Policy Act, and an analysis of the benefits the act provides to the industry supports this conclusion (Grunwald and Eilperin 2005).

2. PROVISIONS FOR THE NUCLEAR INDUSTRY

Tax credits are a key incentive in the 2005 Energy Policy Act. At 1.8 cents per kilowatt-hour (kWh) for eight years for new, advanced reactors, the magnitude of the subsidy is striking. Parker and Holt (2007) estimate annualized costs for an advanced nuclear plant at 5.6 cents per kWh, and the CBO (2008) reports an average wholesale price of nuclear power at 5.0 cents per kWh. Utilities face two constraints to qualify for these credits. First, the act sets a 6,000 megawatt (MW) global cap.⁵ Second, the reactors have to produce electricity by December 31, 2020.⁶ One question is how the tax credits would benefit nonprofit municipal and state-owned utilities. Bills introduced in 2017 would allow nonprofit utilities to transfer the credit to their for-profit partners and extend the deadline for project completion beyond December 31, 2020 (World Nuclear Association 2018). As of this writing, these bills have not passed either chamber.⁷

Federal loan guarantees provided another subsidy to nuclear power plants deemed "critically important" by the Nuclear Energy Institute.⁸ As Parker and Holt (2007) explain, "Wall Street continues to view new commercial reactors as financially risky [so] the availability of federal loan guarantees could be a key element in attracting funding for such projects and reducing financing costs" (p. 12). In effect, private investors will not finance nuclear reactors unless financing risk is shifted from them to taxpayers, who become contingently liable. The guarantees apply up to 80 percent of construction costs, with the Department of Energy (DOE) liable if the borrower cannot repay the loan. Lacking budgetary appropriations to fund defaulted loans, borrowers are charged an

^{5.} If total applications exceeded the 6,000 MW cap, the tax credits would be allocated proportionately.

^{6.} Given the long lead times in nuclear construction, utilities also had to apply for a COL by the end of 2008 and begin construction by 2014.

^{7.} A proposal to extend the production tax-credit deadline was included in the House version of the 2017 Tax Cuts and Jobs Act, but this proposal was not included in the final version of the bill. See Hallerman (2017).

^{8.} Loan guarantees were available for all emissions-reducing energy sources.

"estimated subsidy cost" to fund potential defaults (Parker and Holt 2007; World Nuclear Association 2017). 9

B. THE CLEAN POWER PLAN OF 2015

A decade later, the Clean Power Plan (CPP) formed the centerpiece of the Obama administration's climate and regulatory policy for electric utilities. An examination of the politics behind and provisions of the CPP provides useful insight into another important factor that drove utilities to pursue nuclear power.

1. POLITICAL BACKGROUND

If President Bush was reluctant to use federal policy to reduce carbon dioxide emissions, then-candidate and soon-to-be president Obama was not. In a January 2008 interview with the San Francisco Chronicle, Obama stated clearly that "if somebody wants to build a coal-fired plant, they can. It's just that it will bankrupt them because they're going to be charged a huge sum for all the greenhouse gas that's being emitted" (Trinko 2012). Once in office, President Obama followed through with the Environmental Protection Agency's (EPA) CPP.¹⁰ Announced with great fanfare, the Obama White House celebrated the "first-ever national standards to limit carbon pollution from power plants" that are "the largest source of carbon emissions in the United States" (White House 2015).

Of course, an anti-coal and anti-carbon dioxide stance does not necessarily translate into a pro-nuclear stance. But, by Obama's second term, his administration saw nuclear power as a viable option in an overall strategy to reduce carbon dioxide emissions. In 2012, then assistant secretary for nuclear energy Peter Lyons expressed concern over the retirement of aging nuclear plants and the effect their shutdown would have on carbon dioxide emissions (Krancer 2014). In a similar tone, then DOE secretary Steven Chu, in remarks at Georgia's Vogtle nuclear site, said that "nuclear energy is a critical part of President Obama's 'all of the above' energy strategy" and "a vital part of our energy mix" (Chu 2012).

The implications for nuclear power were clear. Although nuclear power supplies only a fifth of the country's total electricity, it accounts for 63 percent of carbon dioxide—free

^{9.} In addition, the act provides cash payments to utilities that encounter regulatory delays caused by the NRC (Parker and Holt 2007).

10. Whereas Obama originally planned a cap-and-trade system to reduce carbon dioxide emissions, when it became clear that plan would

never pass the Senate, Obama turned to the EPA and regulation. See Martinson (2012) for details. In June 2014, the Supreme Court ruled in its Utility Air Regulatory Group v. EPA decision that the EPA could regulate greenhouse gas emissions from stationary sources, when it already regulated other emissions from the same sources. This ruling followed the Supreme Court's 2007 decision in Massachusetts v. EPA that the EPA had authority under the Clean Air Act to regulate greenhouse gas emissions from vehicles. The Obama EPA extended the regulation of greenhouse gases to stationary sources that were required to obtain permits for construction and operation. See Barnes (2014) for details.

electricity, and the retirement of aging nuclear reactors could diminish this total (World Nuclear Association 2018). If the Obama administration was serious about reducing carbon dioxide emissions, nuclear power would have an important role to play. After decades of assertions that adding to the nation's nuclear capacity was off the table, the future of nuclear power once again looked bright.

Nevertheless, as US energy policy became increasingly partisan, the bright future for nuclear power dimmed. The stakes were high, especially for the coal industry (Adelman and Spence 2017). Led by senators from coal-producing states, the Senate passed a resolution to stop the CPP, and the House followed suit (Davenport 2015). Environmentalists, on the other hand, strongly supported the CPP. As shown in the following sections, the future of the CPP remains unclear, but it has set expectations for carbon dioxide emissions in the electric-utility industry and has already influenced the decisions utilities have made about fuel choice.

B. PROVISIONS FOR CARBON DIOXIDE-EMISSIONS REDUCTIONS

The final rules, announced in August 2015, were ambitious as they aimed to "reduce carbon emissions by 32 percent from 2005 levels by 2030." The announcement listed numerous benefits for public health and employment and even promised Americans lower energy bills (White House 2015). ¹¹

Each state would have an EPA-determined carbon dioxide—reduction goal and be responsible for a plan to reach that goal.¹² Final carbon dioxide—reduction targets varied across states, with the largest percentage reduction required of South Dakota at 48 percent and the smallest percentage reduction required of Connecticut at 7 percent.¹³ Although Adelman and Spence (2017) caution that the magnitude of emissions reductions does not necessarily correlate with the costs of compliance, and that the EPA attempted to equalize costs across states and regions, the costs of compliance (as well as benefits of emissions reductions) did differ across states and regions.

C. BASE LOAD REVIEW ACT OF 2007

The federal government was not alone in providing incentives for the construction of nuclear reactors. In 2007, the South Carolina General Assembly passed the Base Load Review Act (BLRA), which enabled utilities to charge current customers for the construction of the nuclear reactors. After the decision to halt construction, one state

^{11.} Of note, the announcement of lower energy bills contrasts with the promise of higher electric rates in the San Francisco Chronicle interview.

^{12.} For a list of states and their carbon dioxide-reduction targets, see Ramseur and McCarthy (2016).

^{13.} Alaska, Hawaii, and Vermont are exempt either because they are too isolated or because they have no fossil fuel plants that qualify.

senator called this act "the initial catalyst for this debacle" (Wilks 2017a). As with the Energy Policy Act and the CPP, a closer look at the BLRA sheds light on the South Carolina utilities' decision to pursue nuclear power.

1. POLITICAL BACKGROUND

SCANA has considerable influence in the South Carolina General Assembly. It has been a heavy contributor to state (and federal) campaigns (Bailey 2017). At the state level, SCANA "typically gave individual legislators \$500 to \$1,000" and spends about "\$200,000 a year to lobby the General Assembly, with a crew of eight lobbyists to monitor legislation and advance its message." These contributions and lobbyists provide access to and build relationships with legislators. SCANA acknowledges that "geography and policy focus," along with leadership roles, determine funding (Moore 2017b).

SCANA marketed the BLRA as a way to reduce customers' overall costs since advance payment would reduce financing costs by billions of dollars (Wilks 2017a; Wilks and Cope 2017). The combination of statehouse influence and a purported public interest clearly worked. The BLRA passed the state House by a 104–6 vote, and twenty-five of forty-six senators sponsored the legislation (Scoppe 2017). Governor Mark Sanford had reservations about the costs the bill would impose on consumers and wanted to veto it, but facing veto-proof majorities in both houses, he allowed the bill to become law without his signature (Wilks and Cope 2017).

Rational ignorance abounded. Lawmakers believed in South Carolina's past success with nuclear power and saw South Carolina as a leader in the incipient nuclear renaissance. Further, their focus was on other matters, such as Transportation Department reform (Wilks and Cope 2017). South Carolina Small Business Chamber of Commerce president Frank Knapp commented poignantly that "the bill was novel, complex and written in a language mostly understood by the energy industry" (Knapp 2016). Even environmentalists were blindsided; the 2007 chair of the South Carolina Sierra Club admitted he was completely unaware of the bill until after its passage. As for the public, readers of the State newspaper were greeted with headlines about the Virginia Tech shooter and a Supreme Court ruling on abortion on the day after the bill's passage (Wilks and Cope 2017).

2. PROVISIONS FOR SOUTH CAROLINA UTILITIES

As Enformable Nuclear News puts it, the BLRA "allows utilities to charge ratepayers for certain costs while the project is under construction, as opposed to the utilities using their own resources or loans to pay for construction costs and recovering fees from consumers only after the facility is producing power." Opponents of the BLRA recognize that "it shifts the risk for the project onto consumers, who are forced to pay for a facility

even if it never is put into operation" (Enformable Nuclear News 2015). In effect, the BLRA injected moral hazard into the project as SCE&G was able to charge captured consumers with SCPSC-approved rate increases for construction of the reactors. If the project was completed on time and on budget, customers and the utilities would benefit. If not, however, customers would face increasing charges, delayed production, and, in the worst case, paying for reactors that would never be finished—all with little to no recourse. For customers of a regulated monopoly, competition offers no way out, and political and legal recourse are fraught with uncertainty.¹⁴

V. SOUTH CAROLINA ELECTRIC & GAS, SANTEE COOPER, AND THE NUCLEAR RENAISSANCE

Against this backdrop of regulatory carrot and stick, SCE&G and Santee Cooper decided in 2008 to expand generating capacity by building two additional nuclear reactors at the V. C. Summer site in Jenkinsville, South Carolina, the site of their joint-owned single reactor that had come online in 1983. SCE&G was the majority partner with a 55 percent stake; Santee Cooper was the minority partner with a 45 percent interest. Despite differences between investor- and state-ownership, both utilities responded to federal subsidies for construction of the reactors and to political objectives to reduce carbon dioxide emissions. Of particular import, SCE&G also responded to the game-changing Base Load Review Act.

A. RESPONSE TO THE ENERGY POLICY ACT OF 2005

SCE&G and Santee Cooper took the requisite steps to qualify for federal production tax credits by applying for their COL by the end of 2008 and by beginning construction by 2014. The total value of the production tax credits was estimated at \$2.2 billion. They also applied for federal loan guarantees in 2009 and were on the accepted short list at the time they terminated the project (World Nuclear Association 2018).

B. RESPONSE TO THE CLEAN POWER PLAN OF 2015

The clear signal from the federal government was that electric utilities were to play a major role in the political objective to reduce carbon dioxide emissions. Under the CPP, the EPA specified four means for states to achieve their carbon dioxide—reduction targets: making existing coal plants more efficient, using existing natural gas plants more effectively, increasing end-use energy efficiency, and increasing renewable and nuclear

^{14.} Bursey (2017) notes that customers were charged for Unit 1 of the V. C. Summer plant only after it began production.

^{15.} This figure, cited in Wren (April 27, 2017) and elsewhere, is reached if the two reactors each generate 1,117,000 kWh of electricity earning \$0.018 per kWh for eight years and operate at 78 percent capacity.

sources (Natural Resources Defense Council 2014).

As shown in table 2, the initial standards for South Carolina were stringent, requiring a 51 percent reduction in carbon dioxide emissions. ¹⁶ Both state officials and the utilities expressed serious concerns about these standards, highlighting not only the detrimental effects these standards would have on economic development but also the utilities' prior efforts to reduce carbon dioxide emissions (Wise 2014). According to the president and CEO of The Electric Cooperatives of South Carolina, the state's consumers could expect rate increases of 15 to 25 percent (Couick 2014).

Table 2. EPA-Mandated Carbon Dioxide-Reduction Goals for South Carolina

	2012 EMISSIONS (lbs./MWh)	2030 GOAL (lbs./MWh)	% REDUCTION
INITIAL	1,587	772	-51
FINAL	1,791	1,156	-35

Source: Ramseur and McCarthy (2016) at https://fas.org/sgp/crs/misc/R44145.pdf.

Of particular concern to state and utility officials, the initial standards did not allow South Carolina to count reduced carbon dioxide emissions from the nuclear plants then under construction toward the carbon dioxide—reduction target (Santee Cooper. n.d.a). Facing pressure from states constructing nuclear power plants, the EPA changed this rule to allow carbon dioxide reductions from these plants in process, reducing the mandate to a more achievable 35 percent (Environment & Energy News 2016).

SCE&G and Santee Cooper had, of course, already embarked on the path of carbon dioxide reduction through nuclear power before the EPA handed down its mandates. Santee Cooper said plainly that its decision to join SCE&G to build the nuclear reactors was based on anticipated demand growth and "proposed legislation and regulations that were putting more emphasis on carbon restrictions." In addition, the utility cites candidate Obama's opposition to coal-fired plants. As early as 2007, Santee Cooper set a goal of increasing power generation from carbon dioxide—free sources, of which "nuclear power is the only reliable base load resource that is virtually emissions free" (Santee Cooper. n.d.c).

^{16.} Only Washington State and Arizona had larger reduction mandates at 72 percent and 52 percent, respectively.

Along with expanding their nuclear capacity, the utilities were reducing their carbon dioxide emissions by shutting down coal-fired plants. Both utilities pointed explicitly to environmental pressures and their anticipated nuclear capacity as reasons for shutting down the coal-fired facilities (Tomlinson 2009; Fretwell 2009; Wise 2012b; Wise 2012a; SCE&G Newsroom 2013; Wren 2017a).¹⁷

C. RESPONSE TO THE BASE LOAD REVIEW ACT OF 2007

SCE&G made aggressive use of the BLRA, raising rates nine times under its authority. According to the South Carolina Office of Regulatory Staff (SCORS), rate hikes based on the BLRA raised the monthly bill for the average residential consumer, using 1,000 kWh of electricity per month, about \$27, or just under 24 percent, and accounted for over 18 percent of the total bill. Cumulative rate increases reached nearly \$1.9 billion through 2017, and if continued, would reach over \$2.3 billion by the end of 2018 (Fretwell 2017c; Aiken 2017).

Santee Cooper raised rates five times; however, as a state-owned utility, it does not have to appeal to the SCPSC to raise rates. Its rate increases are approved by its board and neither subject to review nor directly traceable to construction of the V. C. Summer reactors. On its website, Santee Cooper reports rate increases of 4.3 percent for the nuclear project (see Santee Cooper. n.d.c). ¹⁸

D. INCENTIVES AND DECISION-MAKING

Strong federal and state governmental support to bring about a nuclear renaissance incentivized SCE&G and Santee Cooper to pursue nuclear power. Tax credits and loan guarantees subsidized nuclear power, while ensuing regulations made coal a risky, perhaps prohibitive fuel source. The ability to charge consumers in advance of production shifted risk from holders of equity and debt to customers, creating an immense moral-hazard problem. These combined factors led SCE&G and Santee Cooper to choose nuclear power, a decision that ultimately proved to lack viability—economically or politically—for themselves and their stakeholders.

^{17.} Concern over emissions of sulfur dioxide, nitrogen oxide, and mercury also played a role in the decisions to close the coal-fired units. See Cary (2014) for details.

^{18.} According to the Fitch Full Rating Report, December 5, 2017, the utility's retail base-rate adjustments (exclusive of changes in fuel costs or wholesale rates) were 3.4 percent in 2009, 3.5 percent in 2012 and 2013, 5.34 percent in 2016, and 2.09 percent in 2017. Rates did not increase in other years. Canceled rate increases for 2018 and 2019 were 3.7 percent for each year. The author notes the apparent discrepancy over the amount of the rate increase between Santee Cooper and Fitch.

VI. THE NUCLEAR LANDSCAPE CHANGES: INFORMATION PROBLEMS, ENERGY PRICES, AND POLITICAL UNCERTAINTY

The prospects for nuclear power that had looked so promising a decade earlier were, by 2017, dim at best. Unanticipated cost overruns and construction delays, falling prices of natural gas, and a sea change in political priorities brought about by the unexpected win of presidential candidate Donald Trump undermined the future of nuclear power. These factors culminated in the announcement by SCE&G and Santee Cooper that they were abandoning the partially constructed 19 nuclear reactors at the V. C. Summer site. In the words of South Carolina Sierra Club attorney Bob Guild the announcement marked "the absolute confirmation of the failure of the nuclear renaissance" (Bland 2018).

A. INFORMATION PROBLEMS

When SCE&G and Santee Cooper contracted to build Units 2 and 3, the cost estimate was \$9.8 billion,²⁰ with earliest estimated completion dates of 2016 for Unit 2 and 2017 for Unit 3 (World Nuclear Association 2018; Nuclear Street News 2015). From the outset, cost overruns and construction delays plagued the project. When the utilities finally disbanded the project, estimated total costs reached approximately \$14 billion, possibly as high as \$25 billion, with projected completion set back to 2022 for Unit 2 and 2024 for Unit 3, well beyond the December 31, 2020, deadline to qualify for production tax credits (World Nuclear Association 2018; Henry 2017; Moore 2017a; SCANA 2017a). Clearly, SCE&G and Santee Cooper based their decisions on grossly inaccurate information.

Perhaps they should have known. Although cost and schedule uncertainty may be reasonable for construction projects of this magnitude, the history of nuclear power plant construction points in a singular direction: projects are not finished on budget or on time (Romm 2016). As Rangel and Leveque (2013) put it, "Nuclear seems doomed to a cost escalation curse" (p. 14). Boccard (2014) points out that even coming to terms with the relevant costs may be problematic. There are development costs, construction and engineering costs, and, for projects of long duration, financing costs. Capital costs, however, are most important and determine competitiveness (Boccard 2014; Rangel and Leveque 2013).²¹

Of particular relevance to this study, Rangel and Leveque (2013) report that MIT and the University of Chicago revised their 2003 cost estimates for the Westinghouse AP1000

^{19.} The reactors were 64.1 percent complete overall. This figure includes engineering at 96 percent complete, procurement at 88.2 percent complete, construction at 34.3 percent complete, and start-up activities at 8.6 percent complete. See V. C. Summer Expansion Project 64.1 Percent Complete, May 8, 2017.

^{20.} This figure includes engineering, procurement, and construction (EPC) costs, plus an inflation allowance, costs for site preparation, contingencies, and financing costs (World Nuclear Association 2018). In "The Nuclear Story and Facts," Santee Cooper lists EPC and financing costs at \$6.5 billion originally and \$11.4 billion projected when the decision was made to stop construction.

^{21.} High construction costs are driven by safety concerns in the wake of nuclear accidents (Boccard 2014) and a minimal learning curve since so few reactors are built (Lovering, Yip, and Nordhaus 2016).

reactors in 2009 and 2010, respectively. In a particularly scathing review of SCE&G and Santee Cooper's decision to build the reactors, Cooper (2017) notes that Westinghouse promoted the AP1000 reactors precisely because they would avoid the cost overruns and construction delays that had plagued past reactors. Nonetheless, this reactor model was "new, untested" and underwent numerous revisions after construction began. As Cooper put it, nuclear construction history "repeated itself" (p. 9).

Plainly put, SCE&G and Santee Cooper did not have full information when they decided to build the reactors. Further, information asymmetries between the utilities and their primary contractor, Westinghouse, plagued the project. Eventually, the utilities hired the Bechtel Corporation, a construction and engineering firm, as a consultant to assess the status of the project, providing information that could and should have been forthcoming from Westinghouse. In the words of Santee Cooper CEO Lonnie Cooper, "We were definitely misled" (Brown 2017).

B. FALLING NATURAL GAS PRICES

Perhaps promises about the AP1000 reactors convinced SCE&G and Santee Cooper they could avoid the cost overruns and construction delays that had proved systemic in prior nuclear construction. Be that as it may, another factor undermined the economic viability of nuclear power: falling natural gas prices.²²

Fracking and horizontal drilling have brought about what one author calls "the biggest story in the U.S. energy sector." As the technology has advanced, extracting natural gas from shale rock has become feasible economically, and as natural gas production has increased, ²³ prices have fallen (Boersma and Johnson 2012; Lu, Salovaara, and McElroy 2012). Further, analysts expect natural gas prices to stay low, relegating coal to a minor player in the country's energy future (Boersma and Johnson 2012; Clemente 2017; Storrow 2017; and Light 2017). As an added benefit, natural gas produces electricity with far less carbon dioxide emissions than coal (Lu, Salovaara, and McElroy 2012). ²⁴

Figure 1 shows spot and four-month futures prices for natural gas from January 2000

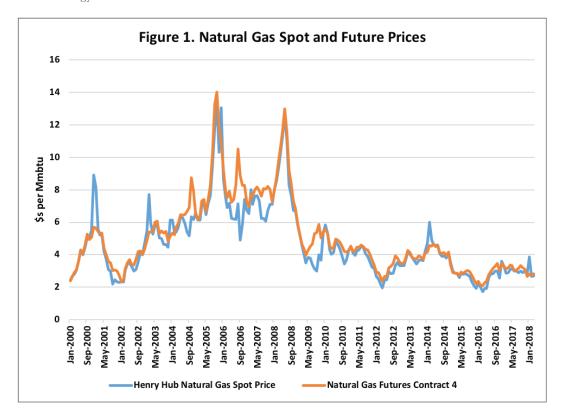
^{22.} As an interesting historical aside, because of federal regulations that hindered interstate markets for natural gas, thereby creating shortages, Congress passed the Powerplant and Industrial Fuel Use Act of 1978, which restricted the use of natural gas for electricity production. Ironically, in light of today's environmental concerns, the act encouraged the use of coal for electricity production. Congress repealed the act in 1987. See Bryce (2012) for details.

^{23.} The Energy Information Administration reports that from 2007 to 2016, total (gross) production of natural gas increased over 34 percent, and natural gas production from shale rock increased a jaw-dropping 725 percent. See Energy Information Administration. n.d. Natural Gas Gross Withdrawals and Production.

^{24.} Natural gas is superior to other fossil fuels in terms of carbon dioxide emissions. Pounds of carbon dioxide emitted per million British thermal units (Btu) of energy are as follows: coal (anthracite) is 228.6; coal (bituminous) is 205.7; coal (lignite) is 215.4; coal (subbituminous) is 214.3; diesel fuel and heating oil are 161.3; gasoline (no ethanol) is 157.2; propane is 139.0; and natural gas is 117.0. See the Energy Information Administration. n.d. Frequently Asked Questions: How Much Carbon Dioxide Is Produced When Different Fossil Fuels Are Burned?

to March 2018. Leading up to the time of the decision to build the reactors, natural gas spot and futures prices were high and volatile. Both prices spiked in June 2008, just one month after the utilities signed the engineering, procurement, and construction contract with Westinghouse and three months after applying for the COL from the NRC. By the time construction began on Unit 2 in March 2013, spot and futures prices had fallen almost 70 percent. With natural gas prices continuing to fall and predicted to stay low, nuclear power was no longer competitive, if it ever was. In its July 31, 2017, report to investors, Santee Cooper highlighted high spot and future natural gas prices as reasons for its initial decision to go the nuclear route (Santee Cooper 2017). Technological change undid this rationale.

Source: Energy Information Administration.



C. CHANGING POLITICAL PRIORITIES

The battle over the CPP began immediately after the EPA issued its final state targets. Twenty-seven states and a host of electric utilities, coal-mining companies, and other industry associations, including the US Chamber of Commerce, filed suit to stay the EPA ruling, raising questions of EPA authority and federalism. On the other side of the aisle, eighteen states, numerous metropolitan areas, and a number of environmental and public health organizations, along with solar and wind industry associations and other interests defended the CPP and the EPA's authority to regulate carbon dioxide emissions. ²⁵ In February 2016, the US Supreme Court issued a stay of the CPP until legal challenges are resolved (Adler 2016). The US Court of Appeals in the District of Columbia heard arguments in September 2016 and issued orders of abeyance in April and August of 2017 (Gilmer 2017; Bebon 2017).

The path forward is clouded by the Trump administration's opposition to the CPP. Following through on campaign promises to undo President Obama's clean-air regulations and restore jobs in the coal industry, President Trump signed the Promoting Energy Independence and Economic Growth executive order in March 2017, directing the EPA to relax rules on carbon dioxide emissions. Although the revision process could be long and the legal challenges many, the executive order was an important first step in reducing the urgency faced by the electric-utility industry to reduce carbon dioxide emissions (Davenport and Rubin 2017). In June 2017, President Trump continued the political shift by announcing that the United States would withdraw from the Paris Climate Agreement. As with the EPA's plans to revise the CPP, the process could take years, but the shift in political priorities is clear (Shear 2017).

By October 2017, the process was underway, when EPA administrator Scott Pruitt issued a document stating that the agency would repeal the CPP in favor of new, less stringent rules to reduce carbon dioxide emissions. A move to replace the CPP in lieu of outright repeal may be necessary to avoid litigation because the EPA took responsibility to regulate carbon dioxide emissions in 2009. New standards, whatever they are, will be demonstrably lower (World Nuclear Association 2018; Eilperin 2017; Friedman 2017; Bravender 2017).²⁶ Accordingly, a number of Democrat-leaning states and environmental groups have pledged to challenge the EPA ruling in the courts (Swartz and Klump 2017; Monsivais 2017).

The weakening or replacement of the CPP undermines a key impetus for nuclear power, because electricity produced from nuclear power would no longer be useful to meet the scuttled CPP targets (Swartz and Klump 2017).²⁷

^{25.} For details on the relevant interest groups filing suit for or against the CPP, see the E&E News n.d. Power Plan Hub: Your Guide to the Clean Power Plan in the Courts and Union of Concerned Scientists n.d. Who's Fighting the Clean Power Plan and EPA Action on Climate Change?

^{26.} Despite the change in political priorities, in January 2018, the Federal Energy Regulatory Commission (FERC) rejected unanimously a proposal by DOE secretary Rick Perry to subsidize electricity producers that can maintain a ninety-day supply of fuel on site to ensure grid reliability. Coal and nuclear generators would have been the beneficiaries. Of interest, Trump appointed four of the five FERC commissioners. See Mufson (2018) and St. John (2018).

^{27.} Georgia Power, however, continues construction of two reactors at its Vogtle facility, believing government will likely price carbon dioxide in the future (Swartz and Klump 2017).

D. REACHING THE FINAL DECISION

The culmination of information problems, lower natural gas prices, and reduced political pressure to curb carbon dioxide emissions all played a role in the companies' decision to abandon construction of the nuclear reactors at the V. C. Summer site. In its July 31, 2017, board presentation, Santee Cooper stated that "under current reasonable assumptions, the projected costs of power resulting from completing Summer 2 & 3 or completing Summer 2 only are projected to be significantly higher than a natural gas alternative" (p. 15). The utility also noted the "complete political reversal on carbon regulation trends" and explained that the combination of low natural gas prices and a lack of (or weaker) regulation of carbon dioxide emissions rendered nuclear power uncompetitive (Santee Cooper 2017, n.d.c). The proximate cause, however, was financial, as both utilities made clear. High and uncertain costs, along with the uncertainty of production tax credits, drove the decision. Nuclear power was, in the words of SCANA's July 31, 2017, announcement, "prohibitively expensive" (SCANA 2017c).

Before the final decision, SCANA exercised a fixed-cost option in its EPC contract with Westinghouse, as amended in October 2015, to cap costs and protect the companies' interests. The option, approved by Santee Cooper and the SCPSC, set the price at just under \$7.7 billion for SCE&G's share of the project.²⁹ The fixed-price option forced Westinghouse's hand. Unable to finish the project at the option price, Westinghouse rejected the contract and declared bankruptcy in March 2017.

After a four-month evaluation, Santee Cooper determined that termination of the entire project was the only fiscally responsible choice. SCE&G followed Santee Cooper's lead, calling abandonment of the project the "only remaining prudent course of action" (World Nuclear Association 2018; Santee Cooper n.d.c; SCANA 2017c, 2017a).

VII. CURRENT AND FUTURE CONSEQUENCES AND OPTIONS

Nine years after the initial application with the NRC and contract with Westinghouse, four years after construction began, and over \$9 billion later, SCE&G and Santee Cooper finalized their decision to cease construction on V. C. Summer Units 2 and 3 that were over budget, much-delayed, and only partially complete (World Nuclear Association 2018; Associated Press 2017; Nuclear Street News 2017). The announcements and press releases did not, however, explain the consequences for stakeholders or project a path forward. In this section, I examine the consequences for the utilities' customers and investors, as well as the possible futures of these South Carolina utilities.

^{28.} See Wren (April 27, 2017) and Follett (2017) for details.

^{29.} The contract price was set at \$6.827 billion. Other cost increases, including \$505 million directly related to the fixed-price option, brought the total to \$7.679 billion. See SCANA 2016. Press Release (May 26).

A. FOR CUSTOMERS

The stark reality for SCE&G and Santee Cooper customers is that the reactors will never produce the first kilowatt of electricity. In defending the decision to abandon the project, SCE&G CFO Jimmy Addison said, "We are confident we're making a prudent decision that is in the best interest of our customers." Nonetheless, for customers, Addison's claim rings hollow. In documents released in March 2018, the SCORS showed that SCE&G had paid dividends of \$2,552.0 million to shareholders from 2009 to 2017, with \$529.2 million derived from revenues collected under the BLRA. In 2017, the year the project was canceled, \$120.4 million of \$350 million paid in dividends came from BLRA revenues, the highest share of any year (SCORS 2018; Moore 2018c). As one state senator put it, "Stockholders have been making out like bandits while the people who are supposed to be protected, the ratepayers, were suffering" (Fretwell 2017a).

Santee Cooper has collected \$540 million from its customers and estimated rate increases of an additional 41 percent by 2030 to complete the project. Santee Cooper CEO Lonnie Carter said, "We simply cannot ask our customers to pay for a project that has become uneconomical" (Mufson 2017; SCANA 2017a). Cooper (2017) agrees with these assessments, estimating that abandonment may save ratepayers up to \$10 billion.

Nonetheless, a multibillion-dollar problem remains: the utilities have not collected enough through rate hikes to cover the costs already incurred. SCE&G lists its abandonment cost at \$4.9 billion, and Santee Cooper lists its costs at \$4.7 billion for construction and interest paid (SCANA 2017a; Santee Cooper. n.d.c).

In its analyst conference call of July 31, 2017, SCE&G made it clear that it intends to "proceed with the appropriate filing with the Public Service Commission of South Carolina to seek recovery of project costs under the abandonment provisions of the Base Load Review Act" (p. 4). The utility is clearly within its rights and quotes from the Abandonment Provision of the BLRA in its analyst conference call: "Where a plant is abandoned after a base load review order approving rate recovery has been issued, the capital costs and AFUDC [Allowance for Funds Used During Construction] related to the plant shall nonetheless be recoverable under this article provided that the utility shall bear the burden of proving by a preponderance of the evidence that the decision to abandon construction of the plant was prudent" (p. 6).

Although Santee Cooper is not subject to the BLRA, it too will turn to its customers to recoup its costs. To ease the burden, SCE&G plans to amortize the cost over sixty years. Santee Cooper's debt is structured over forty years (SCANA 2017a; Wilks 2017b). Settlement payments from Toshiba, the parent company of Westinghouse, of \$2.168 billion can be used to mitigate the impact, but ratepayers still face the likelihood of paying for nonproducing reactors for decades to come.

The question of prudence may be significant. The aforementioned Bechtel report, completed in February 2016, cited a host of significant problems, ranging from flawed design and construction to poor management and oversight. High worker turnover and low morale compounded the engineering and management problems. Further, the report noted that difficulties should have been anticipated, given that decades had passed since a nuclear power plant had been constructed in the United States and that the AP1000 reactors had never been built. SCE&G opposed the release of the report, and only the governor's threat to remove the Santee Cooper board forced the reluctant utilities to release the report to the governor's office (Fretwell and Wilks 2017; Nuclear Street News 2017; Lovegrove and Brown 2018). Should SCE&G's actions be found to lack prudence, rate increases under the BLRA could be jeopardized.

Santee Cooper says it saw problems as early as 2013 and sought to address them but Westinghouse was not forthcoming with pertinent cost and scheduling information (Brown 2017; Santee Cooper n.d.c.). Tensions also ran high between Santee Cooper and SCE&G. As early as May 2014, Santee Cooper expressed concern that the project needed independent management, and in November 2016, the junior partner expressed a lack of confidence in its senior partner's ability to manage the project. Santee Cooper even anticipated the Westinghouse bankruptcy (Fretwell 2017b).

Realizing the role played by the BLRA in customers' rate hikes, the General Assembly wasted little time introducing legislation to prevent future use of the act (Wilks 2017a). In September 2017, state attorney general Alan Wilson added his weight to the move to protect ratepayers when he issued an opinion that the BLRA was unconstitutional (Wilson 2017). In June 2018, the South Carolina General Assembly passed a bill (H. 4375) to cut SCE&G's rates by 15 percent, lowering the average residential customer's charge for the abandoned nuclear reactors from \$27 per month to about \$5 per month until the SCPSC makes a final decision on rates at the end of the year. Because an 18 percent cut would be necessary to eliminate the entire charge for the abandoned reactors, Governor Henry McMaster vetoed the bill. Both houses of the state legislature voted to override the veto with overwhelming majorities. As expected, SCE&G filed suit immediately in the US District Court in Columbia to stop the rate cut, arguing revenues collected under the BLRA are legal and that the bill (H. 4375) is unconstitutional because the utility had no opportunity to defend itself in a court of law (Wilks 2018f; Wilks 2018g; Scoppe 2018; Downey 2018).

Should the court uphold the bill, consumers would benefit, but the consequences for SCE&G could be devastating financially. Further, the legislation risks compromising the credibility, rule of law, and environment of regulatory stability that South Carolina

^{30.} The bill passed by a vote of 109-4 in the House and 32-2 in the Senate. The votes to override were 110-1 in the House and 39-0 in the Senate.

promotes to attract business. Reversal of the BLRA would set a dangerous precedent, no matter how much political support such a move has (South Carolina Policy Council 2017; Wilks 2018c).

B. FOR INVESTORS

The fallout from the abandoned nuclear project has not been favorable to investors, as an analysis of equity and debt markets shows. In particular, the markets show high sensitivity to legislative and regulatory uncertainty. The response of the stock market to SCANA's woes has been decidedly negative. Since January 3, 2017, SCANA's stock price has fallen from \$73.25 per share to about half this value, although the stock price has held steady in the wake of the passage of H. 4375.

Analyses by rating services provide additional insight. After the July 31, 2017, announcement, Fitch and Moody's downgraded SCANA and SCE&G debt, citing fears that the BLRA might not be upheld, given the "political and regulatory backlash" (Fitch Ratings 2017a; Fitch Ratings 2017b; Moody's 2017b; Street Insider 2018). Standard & Poor's (S&P) downgraded Santee Cooper debt as well, and S&P and Moody's expressed concern over Santee Cooper's heavy debt, possible limits on the utility's ability to raise future rates, and Toshiba's ability to meet its obligations³¹ (Moody's 2017a; Standard & Poors 2017; Sigo 2018). The rating agencies continue to keep a close watch on the utilities and relevant political events.

C. FOR THE UTILITIES

The same cloud of political and regulatory uncertainty hangs over the utilities and their futures. For SCANA, a merger with Virginia-based Dominion Energy is possible. For Santee Cooper, privatization is on the table. But, as the ensuing analysis shows, neither outcome is certain.

As movement to repeal the BLRA gained momentum in the South Carolina House, SCE&G attempted to counter the shifting political winds. On November 16, 2017, the utility offered a 3.5 percent, five-year rate reduction for consumers (\$5 per month for the average residential consumer), valued at \$450 million, and lower stockholder earnings over fifty years, valued at \$2.9 billion. The SCPSC rejected this proposal (SCANA 2017b).

In a following step, SCE&G argued that if the SCPSC forced the utility to lower customer rates, it "would have no choice [but] to declare bankruptcy." As long as the utility can continue to collect \$37 million per month for the unfinished reactors, the reactors can remain on the company's balance sheet as assets. If the SCPSC denies

^{31.} On September 27, 2017, SCE&G announced that it and Santee Cooper had monetized the Toshiba settlement payment for \$1.997 billion (approximately 92 percent of value) with Citibank. See SCANA 2017. Press Release (September 27).

these revenues, SCE&G may face liquidity problems, further ratings downgrades, and threatened access to credit markets (Rogers 2017; Moore 2017c; Lapson 2017).

On January 3, 2018, Dominion Energy of Virginia and SCANA announced a \$7.9 billion merger (Wilks 2018a).³² Adding in the value of SCANA's assumed debt, the total deal is valued at \$14.6 billion. In its press release, Dominion emphasized the benefits to customers: a \$1.3 billion cash payment to SCE&G customers, averaging \$1,000 per residential customer; a 5 percent rate reduction, averaging \$7 per customer, per month; a \$1.7 billion write-off of the reactors that would not be funded from customers; and the elimination of collections under the BLRA after twenty years, instead of the SCE&G-proposed fifty to sixty years (Dominion Energy 2018). Dominion CEO Tom Farrell noted the offer was "far more than SCANA can bring to the table on its own" (Wilks, 2018e). SCE&G estimated the value of future revenue collections to pay for the reactors over these twenty years at \$3.8 billion, a figure that includes a 10.3 percent return for shareholders (Moore 2018d).

Whatever the merits of the proposed merger, controversy over the BLRA again raised its head. An audit by the SCORS determined that repealing the law would not result in bankruptcy (Moore 2018a; Miller 2018). Utilizing this report, Governor Henry McMaster informed the General Assembly that he wanted a bill that ensured SCE&G customers would pay no additional funds for the V. C. Summer reactors. As discussed earlier, the South Carolina General Assembly passed legislation that cuts significantly revenues SCE&G can collect under the BLRA. However, the Dominion offer is contingent upon receipt of the aforementioned revenues, so if this legislation is upheld by the courts, Dominion may withdraw its merger offer (Moore 2018b; Wilks 2018b; Walton 2018; Wilks 2018f; Wilks 2018g).

The state Senate voted unanimously on February 15, 2018, to delay any decision on the proposed Dominion-SCANA merger till December 2018 to give the legislators and the SCORS time to evaluate past rate hikes and the merger proposal. SCPSC approval is on hold. Dominion's offer expires in April 2019, though the company has expressed desire to close the deal sooner (Wilks 2018h).³³

The future of Santee Cooper is also problematic. Governor McMaster and some members of the General Assembly favor selling the state utility giant to pay off the utility's debt and raise revenues to refund ratepayers.³⁴ Although the spirit to sell may be strong,

^{32.} The offered value of SCANA stock, \$55.35 per share, exceeded the January 2 value of \$38.87 per share. SCANA shareholders would receive 0.669 shares of Dominion Energy stock per share of SCANA stock. The deal would require approval of SCANA shareholders, the Federal Trade Commission, the Department of Justice, the NRC, the FERC, and the SCPSC.

^{33.} Dominion has lobbied state legislators and conducted a public relations and media blitz to gain support for the proposed merger. See Brown (2018) and Demarest (2018).

the flesh may be weak. A first and obvious problem is determining Santee Cooper's worth. Unlike with SCANA, there is no equity-market valuation for Santee Cooper. As a result, the governor and General Assembly are using appraisals to assess value; however, they have been at odds even over which appraisal firm to hire. The legislature is also split. Some favor privatization philosophically, seeing government-owned utilities as a relic of Depression-era policies whose time has passed. Others fear that privatization may lead to job losses, higher utility rates, or a shift in corporate focus outside of South Carolina (Wilks, November 27, 2017; Shain, December 18, 2017).

Two other considerations make a sale difficult. As has been noted, the state uses Santee Cooper for economic development, a function that would be lost with privatization. Second, debt covenants would require the purchaser to redeem the utility's tax-exempt bonds, posing a significant financial obstacle to sale (Sigo 2018).³⁵

VIII. IMPLICATIONS AND CONCLUSIONS

When SCE&G and Santee Cooper announced the termination of Units 2 and 3 at the V. C. Summer nuclear site on July 31, 2017, they unleased an economic fallout unprecedented in the modern economic history of the Palmetto State. The words "fiasco" and "debacle" have flowed from many lips and heralded the news in eyepopping headlines. Many fingers have pointed at many individuals, as many want to hold someone—anyone—accountable, and others seek to deflect blame. The question in the minds of so many is this: how could this have been averted? Perhaps the first point to make is that it should have been averted. Scarcity, resource allocation, and opportunity cost are at the heart of economics, and the failed V. C. Summer project is an example of a colossal misallocation of scarce resources that had alternative uses. For all stakeholders—from ratepaying customers to investors—an investigation into the causes is warranted.

A theme throughout this paper is that government policies gave strong, decisive incentives in favor of the construction of the nuclear reactors. Interest group influence pervaded legislation at the federal and state levels, as the nuclear industry sought and received subsidies in the Energy Policy Act and insulation from the risks of their decisions in the Base Load Review Act. Legislators, with time horizons only to the next election, wanted campaign contributions and industry support. They had little incentive to think

^{34.} Multiple utilities have expressed interest, including Florida's NextEra Energy, North Carolina's Duke Energy, Georgia's Southern Company, Virginia's Dominion Energy, and a joint interest between in-state Pacolet Milliken and Twenty First Century Utilities of Washington, DC (Wilks, November 27, 2017; Shain, December 18, 2017).

^{35.} In the meantime, Santee Cooper will pay \$19 million per year to preserve the V. C. Summer site and its equipment, keeping open the option to sell them in the future. See Wilks (February 21, 2018).

through the consequences of the legislation they passed and were largely exempt from them. The purported environmental benefits of the CPP provided a public interest justification for nuclear power, and all the while, the vast majority of citizens remained rationally ignorant. As time passed, policy reversal wreaked havoc on the nuclear decision, as the Trump administration undid the CPP.³⁶

Despite government's central role in this economic debacle, inadequate and asymmetric information in the private sector played a role too. Westinghouse knew more about its reactors, the construction costs, and the project delays than did SCE&G and Santee Cooper and was not forthcoming in what it knew. In turn, SCE&G and Santee Cooper knew more about the construction costs and project delays than did their ratepayers, their investors, the SCPSC, the state legislature, and the citizens of the state. A central question to put to Westinghouse, SCE&G, and Santee Cooper may be a modification of Howard Baker's famous line in the Watergate investigation: what did the companies know, and when did they know it? Federal and state authorities are taking the question seriously, with grand jury and law enforcement investigations into whether SCANA misrepresented or withheld information (Monk, Fretwell, and Wilks, September 21, 2017; Downey, September 26, 2017).

The collapse in natural gas prices also suggests the utilities could have realized sooner that nuclear power was becoming less competitive once again and pulled the plug on the project before spending additional funds. Markets are dynamic, and well-functioning market economies are littered with failed ideas, outputs, and firms, as creative destruction clears the way for newer and better ideas, outputs, and firms. The fracking revolution has rendered nuclear power economically unviable, at least in the absence of large subsidies or high carbon dioxide taxes. Further, sunk costs should not determine current decisions.

The turn of the century brought hope for a national revival of nuclear power. South Carolina utility giants South Carolina Electric & Gas and Santee Cooper followed the lead set by the policies and tenor of the times, joining forces to embark on an ambitious project to add two nuclear reactors to their V. C. Summer site. In the end, the utilities abandoned the project after misallocating billions of dollars of resources. The prospects for additional nuclear reactors in the United States are dim.³⁷

I have argued that government policy played a pivotal role in this economic waste. Environmentalists may counter that climate change is real and that government

^{36.} As an aside, Austrian economists point out (rightly in the author's view) the possibility that monetary policy can misalign the output firms produce with the output consumers want, leading to "malinvestment" that requires painful capital liquidation and recession to correct. The upshot of this paper's analysis is that time-inconsistent legislative and regulatory policies can yield similar outcomes.

intervention is necessary, since markets do not account for the social costs inherent in production. Perhaps so. Nonetheless, government policy makers are hardly omniscient, and picking winners is rarely, if ever, successful.³⁸ Economists have long observed that rising incomes are an effective way to deal with many environmental problems, and the movement to carbon dioxide—free and renewable energy reflects, in part, the priorities that rising incomes bring. In addition, profit incentives led to technological innovations that enable abundant and relatively cheap natural gas with about half the carbon dioxide emissions of coal. Many environmentalists fear these measures will be too little, too late, or both to stop detrimental changes to the Earth's climate. Be that as it may, South Carolina's foray into nuclear power shows that in today's political and financial environment, nuclear power is not an option. Wasting resources is not good for the economy—or for the environment. The nuclear renaissance may not be dead, but it is badly wounded. Any attempts to revive it should give due consideration to the South Carolina experience.

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- 37. Despite the rash of COL applications submitted from 2007 to 2009, Georgia Power's Vogtle reactors are the only ones currently under construction in the United States. Like the V. C. Summer reactors, these are over budget (by approximately \$9 billion) and behind schedule (by five years). Georgia Power, a subsidiary of Southern Company, does have some advantages over SCE&G in that its stake (45 percent) is smaller, its loan guarantees (\$8.3 billion) have been approved, and its customer base (approximately 2.5 million) is larger. Georgia's Nuclear Energy Financing Act of 2009, like South Carolina's BLRA, allows Georgia Power to collect revenues from current customers to pay for the project, but unlike South Carolina's BLRA, it has the support of the state attorney general. Georgia Power also hopes production tax credits for nuclear construction will be extended. See Grantham (2017), Plummer (August 31, 2017), Plummer (December 21, 2017), and Merchant and Pyper (2017) for details.
- 38. Proponents of a carbon dioxide tax may argue that such policies do not strictly pick winners or losers, but merely set a price on carbon dioxide and then allow the market to operate. Carbon dioxide taxes do, however, provide advantages to low-carbon dioxide energy producers as compared to high-carbon dioxide energy producers. Further, the point about policy makers lacking omniscience still stands: how much should the tax be to account for social costs?

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THE POLITICAL ECONOMY OF CRAFT BEER IN NORTH CAROLINA (AND BEYOND)

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ABSTRACT

This paper pulls together several recent threads of policy analysis on the craft-beer industry, with specific reference to the ongoing political conflicts in North Carolina between brewers and distributors. Drawing upon previous research, we explore the political-economy questions pertinent to the discussion on how regulation impacts the craft-brewing industry. Specifically, we explore (1) how the three-tier system sets up wholesalers as monopoly enforcers of alcohol distribution, (2) how this arrangement has impacted the emergence of the craft-beer industry, (3) what arguments are used to justify the status quo, and (4) why, in short, rent seeking is not a necessary ingredient of craft brewing. We conclude by providing recommendations for policy makers looking to remove barriers to entry in this market.

KEYWORDS:

craft beer, three tier system, rent seeking, local entrepreneurship

I. INTRODUCTION

Craft brewing has emerged as the fastest-growing segment of the beer industry in the past three decades. In 1995, there were 977 breweries operating in the United States. By 2015, the number had increased to 4,269, accounting for 12.2 percent of overall beer sales. Despite some turbulence in the mid-1990s, in part due to distribution problems (see Tremblay et al. 2005, p. 130), craft beer has represented a leading growth sector of the overall alcohol market. Observing the exponential growth of craft brewing, Caroll and Swaminathan (2000, p. 716) noted, "Considering that in 1983 only 43 brewing firms operated in the United States, the milestone reflects a remarkable period of industrial renewal."

This growth has changed alcohol consumption patterns in many states and localities across the United States. Commenting on the change in consumer tastes that has accompanied this trend toward craft beer, Williams (2017, p. 2) explains, "American tastes

in beer are changing. Consumers want increased choice in beer styles, moving away from American light lager which has dominated the market for generations." By surveying craft-beer production in Charlotte, North Carolina, Williams illustrates this trend on a local level, reporting, "In 2015, Fortune Magazine described Charlotte as the 'Newest Hub for Craft Beer', arguing it holds the title of the South's most important beer city" (p. 4). While Charlotte has over three dozen breweries, it is still just a part of the larger North Carolina craft-beer scene, which is a \$1 billion industry with 190 breweries in production (Morrill 2017b).¹

This decades-in-the-making disruption of the beer industry has been met with an accompanying entanglement with political interests (Wagner 2016), mostly in the form of regulation and taxation via the three-tier system (see, e.g., Koopman and Mitchell 2014). As we explain in greater detail below, the three-tier system separates beer suppliers and beer consumers with a middle, wholesaler tier responsible for alcohol distribution to varying capacities depending on state law. While this regulatory structure has its detractors (Verive n.d.), it is regularly and widely justified as both assisting small brewers gain market share and playing a vital role in consumer protection (Kent 2014). Enforcement of these laws is typically carried out at the wholesaler tier, which is also responsible for tax collection. Williams (2017, p. 1) notes that in 2015, "There were also more than 7000 beer [wholesaler] distributors across the nation; generating more than 48.5 billion in tax revenue."

This political entanglement, with tax collection and regulatory control through the wholesaler tier, has become the accepted standard for alcohol distribution in the United States. The state of North Carolina is noted for its relatively modest regulatory interference in the brewing industry, at least for the region. It is one of few states, for example, that allow breweries to distribute their own beer on-site. By way of comparison, South Carolina does not allow self-distribution and "has 22 breweries and 14 brewpubs across the state. North Carolina has more than 120 breweries and brewpubs and allows brewers to self-distribute up to 25,000 barrels annually" (Kiss 2015). Proponents of the three-tier system claim this arrangement is responsible for its status as "best beer state south of the Mason Dixon line" (Kent 2014).

While it is true that North Carolina is one of the states more favorable to alcohol distribution in the South, regulatory hurdles at the wholesale level create barriers for entrepreneurs by increasing the cost of distribution with little evidence of consumer benefits. Malone and Chambers (2017), for example, find that each step of the alcohol supply chain is subject to more than twenty thousand regulations, with most of these

As Williams (2017, p. 3) explains, three breweries in particular responsible for the current boom in Charlotte are Olde Mecklenburg Brewery (OMB), NoDa Brewing Company (NoDa), and Birdsong Brewery.

affecting the brewer level directly (Malone and Chambers 2017). These laws—in particular, those mandating the three-tier distribution system—create vertical restraints that limit a brewer's ability to distribute products directly to retailers and consumers. Furthermore, as Linnekin (2016, p. 31) documents, regulatory authorities often act without appreciating the craft that craft brewing entails (Linnekin 2016). Yet as Tamayo (2009 p. 2226) effectively summarizes, "The three-tier system is deeply embedded and appears to be accepted at all levels of the industry."

It was the original Adam Smith who noted, "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices" (Smith 1776). While such collusion undertaken today would be a violation of antitrust laws, laws mandating a distribution system have the same effect: the three-tier system creates a protected class of wholesalers and established brewers who stand to benefit from these laws at the expense of both their competition and consumers. As Tamayo (2009, p. 2203) observes in the context of North Carolina beer law, "Independent of any nobler intent the wholesalers might have, there is some economic motive on the part of wholesalers to protect against brewers circumventing the wholesale tier."

Much of this profit goes to sustain the system via political entrepreneurship in the form of lobbyists and campaign finance. The National Beer Wholesalers Association, for instance, is the third-largest political action committee in the country, giving away more than \$4 million in the 2016 election cycle alone (Center for Responsive Politics 2018; White 2011). North Carolina has its own set of political entrepreneurs acting on behalf of both wholesalers and brewers. The North Carolina Beer and Wine Wholesalers Association was founded in 1936 on behalf of beer and wine distributors in North Carolina. The group spent nearly \$1.5 million on political influence in the last four years (Morrill 2017b).

Despite its widespread acceptance, it's not clear that the core restrictions of the three-tier system improve consumer welfare or achieve even the more modest goal of greater product variety. To better understand the political economy of craft brewing, we draw upon the regulatory landscape in North Carolina as a case study. We begin with a brief history and explanation of the three-tier system along with a discussion of the emergence of craft beer as an alternative to so-called macrobreweries such as AB InBev and SabMiller. We then turn to the primary justifications for the three-tier system, and explain why this system has remained in place so long. In particular, we evaluate the set of competing claims made about the three-tier system by building upon previous research on craft brewing, vertical restrictions, and mandated three-tier distribution systems. We explain how these restraints are unlikely to accomplish the stated goal of increasing

distribution at the local level. We also examine the rent-seeking aspects of these laws in creating protected incumbents that continue to gain from the status quo arrangement at the expense of new entrants and competition. We conclude with recommendations for policy makers interested in ending regulatory barriers that thwart the greater growth potential of craft brewing in North Carolina and beyond.

II. THE HISTORY AND MARKET STRUCTURE OF THE THREE-TIER SYSTEM

While Prohibition ended nearly a century ago—later for North Carolina, where Prohibition was in effect until 1935²—it still defines the present institutional arrangements between different parts of the alcohol supply chain (see also Tamayo 2009). As Tamayo (2009, p. 2205) explains:

The source of the three-tier system is Section 2 of the Twenty-first Amendment, which states that '[t]he transportation or importation into any State, Territory, or possession of the United States for delivery or use therein of intoxicating liquors, in violation of the laws thereof, is hereby prohibited.' Courts have interpreted this section to grant states broad authority to regulate alcohol within their borders. With the repeal of the Eighteenth Amendment of the Constitution—ending Prohibition—in 1933, the power to regulate the production, distribution, and sale of alcohol was explicitly returned to the states.³

These regulatory restrictions emerged swiftly in the post-Prohibition era and have laid the foundation for state-level regulation on alcohol over the past eighty-four years.

These laws were put in place to prevent the so-called tied-house problem, which occurs when a supplier controls distribution of product to the consumer in a way that excludes other suppliers. As Gohmann (2016 p. 5) explains: "In the early 1900s, the national breweries were competing with local breweries. Since most beer was sold in kegs and served in saloons, the local breweries started their own saloons, and only their beer would be sold in these saloons. These were called tied houses."

Suppliers distributing to remote locations exercised exclusive control over distribution in these markets to cover their operating costs. That is, "large brewers, who had invested substantial capital in technology to allow them to reach distant markets, especially needed security due to their massive capital expenditures" (Tamayo 2009, p. 2207). In addition, the temperance movement led to higher licensing fees and regulatory barriers at the retail

^{2.} North Carolina voters rejected ratifying the Twenty-First Amendment in 1933. However, in 1935, the General Assembly began passing bills that would allow individual counties to vote on allowing liquor sales within their boundaries. See, e.g., Pasquotank Act 1935. For a more detailed discussion of North Carolina's history with alcohol prohibition, see Steelman 2010.

^{3.} See U.S. Const. amend. XVIII, sec. 2. ("The transportation or importation into any State, Territory, or possession of the United States for delivery or use therein of intoxicating liquors, in violation of the laws thereof, is hereby prohibited.")

level. By increasing the costs of creating and maintaining a distribution network, gaining entry into the brewing market became difficult for all but the largest suppliers (Tamayo 2009, p. 2208).

Accordingly, these public policies were written with a specific focus on preventing direct interaction between those who manufacture alcohol and those who consume it. By inserting a middle tier, occupied by wholesaler distributors, the system was designed to ensure competition among alcohol suppliers. As Gohmann (2016, p. 5) explains, "The main law from the national breweries' perspective was the three-tier system, which required breweries to sell beers to distributors who would then sell to retailers. This eliminated the tied houses and resulted in the demise of many of the local breweries from the 1940s through the 1970s."

The three-tier system was adopted by nearly every state following the repeal of Prohibition.⁴ In its simplest form, as the figure below shows, the three-tier system dictates that brewers (manufacturers) can only sell to wholesalers (distributors, shippers, etc.). Wholesalers can only sell to retailers (grocery stores, bars, restaurants, liquor stores). Retailers are then allowed to sell to consumers.

In an effort to keep greater distance between suppliers and consumers, many states have included additional restrictions on vertical integration. For example, in most states

Figure 1. The Three-Tier System of Alcohol Distribution



^{4.} In fact, it was not until 1978 that President Carter amended the law such that individuals could even brew alcohol for private use (see Williams 2017, p. 2).

the law also dictates how brewers may interact with wholesalers, and on what terms a supplier may choose to work with a competing distributor.

Burgdorf (2016a, p. 1) provides a useful breakdown of the major restrictions on alcohol distribution generated by the three-tier system. These are (1) prohibitions on brewers acting as wholesalers (divestment); (2) beer franchise laws, which restrict when a brewer can end a contract with a wholesaler; and (3) mandated exclusive wholesale territories via contracts with brewers. These restrictions constrain beer production at the local level as they limit how parties may contract with one another.

North Carolina includes a number of contract restrictions, including (1) state-enforced exclusive territories for wholesalers. Further, (2) contracts can be terminated only upon showing good cause⁵ and only after ninety days' written notice;⁶ upon written notice, the wholesaler must be given forty-five days to resolve any issues. Tamayo (2010, p. 2205) notes, "North Carolina is among the thirty-four states allowing self-distribution, and permits brewers to also act as wholesalers if they manufacture fewer than 25,000 barrels per year" (Whitman 2003, p. 4) In addition, brewers are allowed a limited financial interest in wholesalers,⁷ a provision that is more inclusive than in many other states. North Carolina has in fact allowed some degree of retail sales by brewers since 1985:⁸

- 1985: Permitted retail sales at a brewery of up to two thousand barrels, with no self-distribution.
- 1991: Permitted retail sales of ten thousand barrels at a brewery. Still no self- distribution rights.
- 1993: Self-distribution, with on-site sales and distribution capped at a combined total of ten thousand barrels.
- 2003: Cap for on-site sales and self-distribution raised to twenty-five thousand barrels.

Williams (2017, p. 3) explains how enforcement of these laws is carried out in practice: "The state set into place the Alcohol Boards of Control (ABC) structure, giving local jurisdictions control over the production, distribution and sale of alcohol across N.C. County ABC Boards are local independent political subdivisions of the State Boards,

^{5.} N.C. Gen. Stat. § 18B-1305)(a). ("Good cause for altering or terminating a franchise agreement, or failing to renew or causing a wholesaler to resign from such an agreement, exists when the wholesaler fails to comply with provisions of the agreement which are reasonable, material, not unconscionable, and which are not discriminatory when compared with the provisions imposed, by their terms or in the manner of enforcement, on other similarly situated wholesaler by the supplier. The meaning of good cause set out in this section may not be modified or superseded by provisions in a written franchise agreement prepared by a supplier if those provisions purport to define good cause in a manner different than specified in this section. In any dispute over alteration, termination, failure to renew or causing a wholesaler to resign from a franchise agreement, the burden is on the supplier to establish that good cause exists for the action.")

^{6.} N.C. Gen. Stat. § 18B-1305)(b).

^{7.} N.C. Gen. Stat. § 18B-1119.

^{8.} As we discuss below, it is no coincidence that the first craft brewer in North Carolina opened in 1986 "when Uli Bennewitz, after lobbying the state law makers to make brewpubs legal, opened the Weeping Radish Brewpub in eastern North Carolina" (see Tamayo 2009, p. 2215).

operating as separate entities, establishing their own policies and procedures. They retain authority to set policy and adopt rules in conformity with ABC laws and N.C. ABC commission rules."

Under the ABC system, North Carolina statutorily mandated exclusive territories for a limited number of licensed wholesalers. The primary justification over the past thirty-five years has been twofold. First, it increases the ease of collecting taxes on the distribution and sale of beer. Second, this arrangement ensures that wholesalers secure returns on investment. The taxes generated by the three-tier system are primarily collected by wholesalers as administered by the ABC system. North Carolina has one of the highest excise-tax rates in the country at \$19.13 per barrel. Wholesalers serve as tax collectors for state government and in this way provide a valuable public service. The latter justification calls to mind the dilemma that arose with tied houses. Suppose, for example, a wholesaler invested in advertisements and promotional material for a new local beer. If any other wholesaler could benefit from distributing the product without needing to share in the expenses of advertising, what incentive would the original wholesaler have to invest in building awareness of the new beer?

Exclusive territories are designed to reduce exposure and competition among wholesalers. By reducing competition, economic theory would suggest that the incentives facing a wholesaler become different in a way that can prove beneficial to the consumer. Klein and Murphy (1988, p. 273) provide the seminal argument for the use of exclusive territories: "When the manufacturer cannot contractually specify the supply of desired services, and services are subject to free riding, each dealer can increase its short-run profit by shirking on the supply of services. Exclusive territories may appear to provide a solution to this problem."

In the context of beer distribution, this would imply that offering wholesalers exclusive territories in distributing local craft brands ensures that product quality is maintained. For example, utilizing a wholesaler for a specific geographical area creates an incentive for the wholesaler to invest resources in advertisement and distribution by ensuring that other wholesalers will not free-ride off of the original wholesaler's efforts.

Hence there are reasons why producers and wholesalers would voluntarily enter into contractual arrangements that include provisions such as exclusive territories. As Whitman explains, these agreements "can help mitigate some of the incentive problems that arise from the lack of vertical integration" by providing a means for wholesalers to internalize the benefits on improving product quality and awareness (Whitman 2003,

^{9.} N.C. Gen. Stat. § 18B-102.

^{10.} We thank an anonymous reviewer for this reference and clarity on the distinction between exclusive territories and broader exclusive-dealing arrangements.

p. 23). Furthermore, as Tamayo (2010, p. 2217) notes: "For many years, starting shortly after Repeal, the biggest brewers had significant power over wholesalers through the threat of termination, and they used this power to pressure smaller wholesalers into dropping competing brands. This trend continued well into the late twentieth-century, with large brewers offering financial incentives to get the loyalty and exclusivity of their distributors." Accordingly, wholesalers with a greater bargaining advantage could potentially benefit consumers by increasing the available choices.

Mandating exclusive territories through the three-tier system, however, presents a much different situation. In a survey of the empirical literature on laws that limit or constrain relationships, LaFontaine and Slade (2008) found "when restraints are mandated by the government, they systematically reduce consumer welfare or at least do not improve it" (Lafontaine and Slade 2008). Where these agreements make most sense, they will be entered into by brewers and wholesalers voluntarily. Involuntary arrangements, on the other hand, provide dubious benefits to both parties. Brewers locked into contracts with a specific wholesaler without nearby competitors can no longer incentivize product quality. Even wholesalers may find themselves in a "transitional-gains trap" in which future profits from attaining a geographic monopoly are capitalized into the cost of acquiring the wholesale license (see Tullock 1975).

Moreover, these restrictions give the wholesalers outsized influence over the market performance of any particular product by creating a situation in which the wholesaler can dictate terms of performance to brewers, who are left with little recourse. Steve Hindy, founder of Brooklyn Brewery, has provided a first-hand account of how this affects brewers' abilities to grow and distribute their beer (Hindy 2014):

I once tried to terminate a contract with an underperforming distributor in New York for not only selling my products outside of his territory, but selling out-of-date beer. I thought it would be straightforward, since my contract said I could leave "with or without cause."

But the distributor took us to court, saying the state's franchise law, which sets a high standard for showing cause, trumped whatever my contract said. Two State Supreme Court rulings upheld my position, but, fearing a further appeal, I settled out of court. I was freed from the contract, but the legal fees and settlement cost Brooklyn Brewery more than \$300,000.

Stories like this abound: My fellow craft brewers at Dogfish Head, in Delaware, faced a half-decade-long, six-figure legal dispute with a distributor just to terminate their contract.

This example of stifling of creative entrepreneurship illustrates how existing alcoholregulation laws can come between brewers and retailers in a way that does not clearly benefit consumers.

In many respects, these laws may have outlasted their own intentions, as Tamayo (2010, p. 2213-14) explains:

These laws were intended to protect what were then small, family-owned distributors against breweries that held significant market share and thus wielded significant bargaining power.... Today bargaining power is shifting, yet franchise laws remain in place without a change in explanation. The rationale for franchise protection laws was based on the premise that wholesalers were small and suppliers were large; however, the introduction of craft brewing in the late 1970s shook up the industry and has thrown the foundation for the franchise laws into question.

III. THE RISE OF CRAFT BEER AND REGULATION OF CONSUMER CHOICE

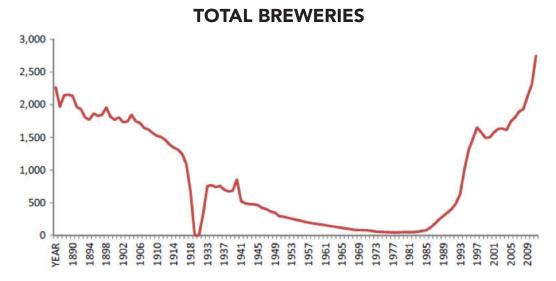
To be sure, the emergence of the craft-beer industry was never anticipated by those responsible for creating the three-tier system. Williams (2016, p. 8) provides context for why this market disruption is economically significant:

The volume share for craft brewers in the U.S.A. in 2015 was 12.2%, rising more than 12.8% per annum. This demonstrates a stark contrast to an otherwise stagnant U.S. beer market, where craft beer represents the only domestic beer growth arena. The growth in the craft beer market has taken place against a backdrop of declining beer sales across the U.S.A., both in volume and dollar amounts.

American consumers are showing greater preference for wine and spirits, with a corresponding decline in beer consumption (*Economist 2017*). Nevertheless, craft beer has increased in market share in the alcohol industry even as more traditional brands face stagnant sales. This distinction in consumer tastes between macro- and microbrewing is worth exploring in greater detail.

Carroll and Swaminathan (2000, p. 718) find that "in the American beer industry the combined market share held by the four largest firms rises from under 10% in 1910 to over 80% in the 1990s." As Tremblay et al. (2005, p. 317) explain, "New technologies that led to greater plant automation, increased speed of canning and bottling lines, and lower transportation costs gave large scale brewers a cost advantage." The authors estimate "that the macro sector of the U.S. brewing industry was oligopolistic by about 1970" (p. 313). This is evident from figure 2, which shows over a century of changes in the brewing market (reproduced from Gohmann 2016).

Figure 2. Decline and Rise of Breweries in the United States



Data Source: Beer Institute (2013).

Most of the market is consolidated into three major brewers: Anheuser-Busch, Coors, and Miller. Elzinga et al. (2015, p. 244), for example, report that "ABI [Anheuser-Busch InBev] and MillerCoors combined had a share of the market (SOM) of beer sales in the United States of 73% in 2013." The authors attribute this concentration to the fact that "brewers who produced large quantities of beer were able to take advantage of economies of scale. The scale and marketing advantages of the larger macros led to the ultimate demise of most of the smaller regional breweries of traditional lager beer." ¹¹

Despite this trend to greater market concentration, as Tremblay et al. (2005, p. 320) explain in detail, "the exit of most regional mass-producers created local niche markets that were soon served by specialty brewers. These local specialty brewers offered high-priced, craft-brewed beer to appeal to more affluent consumers who wanted something different from the nearly homogeneous American lager produced by the remaining macro brewers."

According to Tamayo (2010, p. 2215), "Craft brewing arose out of a developing niche of beer drinkers in the 1960s who wanted more beer variety and fuller flavor in comparison to the largely uniform offerings from the major domestic brewers." For a country built upon a German-inspired taste for light lager, expanding these drinking horizons was no small feat. It required the work of what would ultimately become thousands of brewers creating new tastes through experimentation and local entrepreneurship. Caroll and Swaminathan (2000, p. 716) summarized this movement

^{11.} Tremblay et al. (2005, p. 318) estimated the minimum efficient scale of macro beer production at "over 23 million barrels by 2001."

as follows: "Nearly every one of the breweries founded in the last 20 years is associated in some way with the self-labeled 'microbrewery' movement, a group of brewers and consumers concerned with craftsmanship and taste in brewing beer. Collectively, these breweries have introduced and reintroduced to the American market a wide variety of new malt beverage products. Individually, the breweries tend to be small and specialized in their product offerings and target markets." The microbrewery movement shares a passion for craft, and as Tremblay et al. (2005, p. 308) explain, "all brewers with microbrewery origins have come to be called specialty or craft brewers."

This emphasis on craft and local flavors impacts everything from production to marketing to distribution. For the most part, craft brewing is about self-distribution and independence from larger companies and organizations as a means of differentiating a craft brewer from macrobreweries. Elzinga et al. (2015, p. 242) write, "In contrast to the more commodity-like lager beer produced by the macrobrewers in the United States, the output of the craft segment more closely resembles the product differentiation and fragmentation in the wine industry."

Not all craft brewers self-distribute. Tamayo (2010, p. 2233) explains, "While some chafe at allowing distributors to receive some of the benefits of that value, others find the benefits of using a distributor—a lack of cost difference and, more importantly the ability to focus on brewing free from distraction—to be worthwhile enough to enter into a distributorship agreement." In addition, many large breweries have acquired craft breweries to maintain their market share through the "contract" brewing method (Kell 2016). This is when brewers allow another company to assist directly in production. In reporting on examples of contract brewing, the *Wall Street Journal* noted (Maloney 2017):

Shipments are still rising for many of those craft brewers that sold themselves to industry heavyweights, including Lagunitas, which was bought by Heineken in May; Goose Island, owned by AB InBev since 2011; and Ballast Point, which was purchased by Constellation Brands Inc. for \$1 billion in 2015. Those brands benefit from their parent companies' distribution networks, capital and marketing.

Contract brewing involves more than simple profit sharing, however, as production is often carried out by the acquiring company. As Tremblay et al. (2005, p. 310) explain, "Brewers such as Pabst are called 'contract' or 'virtual' brewers, since they are entirely marketing entities that do not produce their own beer." Put another way, generating greater distribution in beer markets can impact production in a way that undermines the sensibilities of craft brewers. This has created resentment toward those craft brewers who choose to partner with macrobrewers (Barbash and Andrews 2017). This matter of distribution continues to drive political conflicts in the alcohol sector, which we illustrate

IV. REGULATORY CONTROL OF BEER DISTRIBUTION IN NORTH CAROLINA

Craft brewing has disrupted the beer market in North Carolina by providing greater variety to consumers while challenging the distribution channels of the three-tier system, which favor larger brewers. Tamayo (2010) references this issue in describing how craft-beer production started in the state. He writes:

In North Carolina, the first craft brewery entered the market in 1986, when Uli Bennewitz, after lobbying the state law makers to make brewpubs legal, opened the Weeping Radish Brewpub in eastern North Carolina.... Many of these early craft breweries were initially unable to tap into the distribution networks owned by larger brewers, and these breweries, like Weeping Radish and Red Oak, chose to start as brewpubs where they could both sell their beer on the premises and reap the markups that would otherwise go to retailers and distributors. (p. 2216)

Tension over distribution also played a significant role in the now-thriving Charlotte beer market. Williams (2017, p. 3) provides context for the Charlotte beer scene and its largest brewer, Olde Mecklenburg Brewer (OMB), explaining, "OMB paved the way for a second wave of craft brewing in Charlotte; quickly growing to be the largest of the Charlotte breweries." This growth inevitably brushed up against the restrictions of the three-tier system, however, and resulted in OMB removing its operations in the Research Triangle region to avoid going over the twenty-five-thousand-barrel cap, which would have forced it to work with a wholesaler to continue distributing above that limit (Thomas 2016). The brewery cited control of brand quality as the primary reason for this decision because under franchise laws it would have been forced to cede distribution of its products and have limited ability to maintain quality control if services were found wanting (ibid.).

To combat this political arrangement between wholesalers and North Carolina lawmakers, the owners of the two largest craft breweries in the state, Olde Mecklenburg Brewery and nearby NoDa Brewing Co., helped found a lobbying organization of their own called Craft Freedom (Thomas 2018). This group was created to raise awareness of the barrel cap in North Carolina through campaign-style tactics aimed at the county level, utilizing "strategists, pollsters, grassroots organizers and even campaign buttons" (Morrill 2016). This approach differs from the more traditional lobbying strategies employed by wholesalers, which apply political pressure to legislators directly.

A proposed legislative initiative in 2017 would have increased distribution to two hundred thousand barrels a year (Morrill 2016). Proponents cited the previous "Pop the Cap" legislation in 2005, which allowed brewers to produce above the previous alcoholby-volume limit set at 6.0 percent and has since been cited as a key turning point for craftbeer production in the state. Other states have experienced similar growth in craft-beer sales as self-distribution has expanded (Duncan 2015). Nevertheless, wholesalers were able to block attempts to increase barrel limits after the Alcohol Beverage Control Committee amended the overarching bill (Dieterle 2017; Thomas 2017b; Trump 2017).

In response, the owners of both NoDa Brewing Co. and Olde Mecklenburg Brewery filed a lawsuit claiming that the system is stifling competition and therefore unconstitutional (Thomas 2017a). The owners cite, for example, a "franchise agreement between Anheuser-Busch LLC and R. A. Jeffreys, a Raleigh-based wholesale distributor ... [that] requires Jeffreys to give Anheuser-Busch 'priority over all other products'" (Morrill 2017c) as evidence of the obstacles the three-tier system places before small brewers attempting to gain market presence, "thereby harming consumers by artificially inflating prices and reducing consumer choice" (Morrill 2017a).

While the lawsuit continues to move forward despite recent efforts to dismiss it (Thomas 2018), it remains to be seen whether these legislative efforts or judicial challenges will change the three-tier system in North Carolina. They have certainly succeeded in bringing greater awareness to the matter and to the arguments made by proponents of the system to which we now turn. The prevailing narrative on craft-beer distribution and the arguments used in favor of the status quo are succinctly made in promotional media produced by the National Beer Wholesalers Association (NBWABeer 2014). We offer them as the arguments most favorable to controlling alcohol distribution at the state and local levels. We follow them with our own analysis.

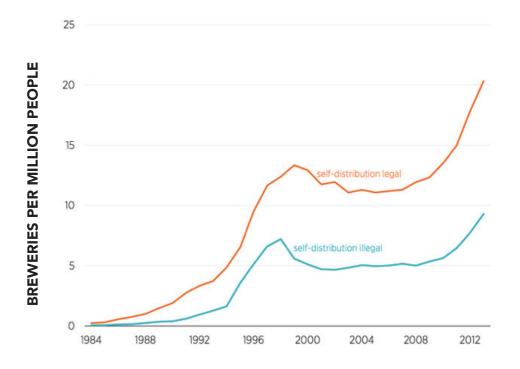
Proposition 1: The wholesaler acts as an independent distributor, thereby limiting market access for larger brewers in a way that allows for greater brand variety to the consumer.

In an op-ed response to another letter in the Charlotte Observer, the executive director of the North Carolina Beer & Wine Wholesalers Association made the following claim: "Thanks to the three-tier system which includes independent wholesalers, U.S. consumers enjoy great choice and an abundance of selection. The existence of a strong, independent middle tier has helped facilitate the explosion of craft distilleries, wineries and breweries." This argument is also referenced by Tamayo (2010, p. 2227), who notes that "many are for the three-tier system as they believe the independence of a middle tier allows for craft brewers to enter distribution channels." Because distributors play a vital role in promoting brand variety, it is argued that independent distribution is requisite for a competitive market. Wholesalers have labeled efforts by those who would disrupt this model as motivated solely to "squeeze out competition" (Kent 2017).

Regardless, the proposition that wholesaler control of the supply chain increases variety for consumers is dubious for two reasons. First, the vast regulatory environment created by the three-tier system in and of itself encourages consolidation of the beer market. Regulatory compliance is a significant cost factor in producing and distributing alcohol. State laws are inconsistent to the point that it's "almost like selling in fifty different countries" (Morrison 2013). Larger firms benefit from being able to spread this cost of compliance across a greater revenue, output, and employee base (Crain and Crain 2010). Three-tier regulations would therefore prima facie seem to favor larger brewers over smaller brewers less capable of absorbing these costs.

Second, and more importantly, the three-tier system provides wholesalers with enormous bargaining power by being able to (1) control distribution of the product over a large territorial domain, (2) help structure contracts so that they specifically favor wholesalers, and (3) influence state governments directly through their role as part of the larger fiscal apparatus. Taken together, these factors manifest significant influence

Figure 3. Breweries per million people in states with and without self-distribution



Source: Alcohol and Tobacco Tax and Trade Bureau and author's research of the legal histories of each state.¹²

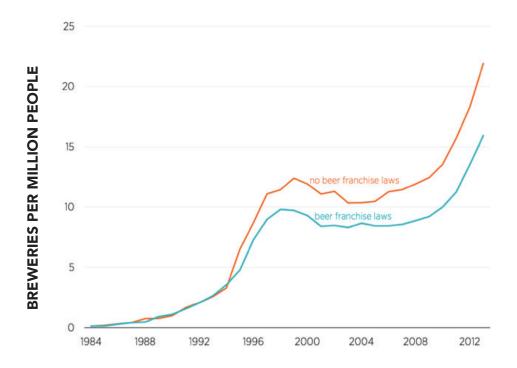
^{12.} These figures are used with permission from Burgdorf (2016b).

on the growth of craft-beer production. Burgdorf (2016a, p. 14) finds that "states that did not restrict breweries from acting as wholesalers across the entire sample time from 1984-2013 have had 6.80 to 8.832 more breweries per million [state residents] than other states." Figure 3 demonstrates the difference in growth trajectories between states that allow self-distribution and those that do not.

He further finds that states without beer-franchise laws averaged 21.91 breweries per million people, far more than the 15.94 breweries per million people in states with franchise laws.

Burgdorf finds overall that restrictions on self-distribution reduce the number of

Figure 4. Breweries per million people in states with and without beer franchise laws.



Source: Alcohol and Tobacco Tax and Trade Bureau and author's research of the legal histories of each state.¹²

breweries by half in a state-by-state comparison; franchise laws reduce the number of breweries by about a quarter (Burgdorf 2016b). Despite what wholesalers claim, the greater the presence of the three-tier system and corresponding franchise laws within a particular state, the less variety there is as measured by number of in-state and local breweries.

Proposition 2: Independent distributors typically act within and are an important part of the local economy.

Distributors have a regional focus in their mandate. As we noted above, geographic monopolies granted by states typically offer distributors semi-autonomous control over certain territories that allow for the adequate scale and the accompanying return on investment needed to maintain the three-tier system. Though this creates a number of jobs at the wholesaler level, the benefits to the local economy should be measured ultimately by their value added to the production process. Job creation taken alone is an arbitrary measure of economic impact that at best proxies the real value of labor to the local economy (see Roy Cordato's note in this issue).

Jobs that are of greatest benefit to the local economy are those that provide the most valuable service to the consumer at lowest cost. If jobs are being created through government decision, it is unclear whether this labor could be put to better use elsewhere in the local economy. To illustrate this point, consider the screenshot below, taken from a promotional video provided by the North Carolina Wholesalers Association. The graphic is meant to show how mandating distribution at the wholesaler level helps brewers by eliminating the need to perform these job roles themselves. The creation of jobs for wholesalers is then presented as a good thing for the local economy.

Ultimately, the determining factor for value added to the local economy should be in



Source: National Beer Wholesalers Association. "NBWA/WBAE Three-Tier System Education Video." YouTube, YouTube, 27 Sept. 2014, www.youtube.com/watch?v=tqaFin7FhUo.

how the jobs add value to the production process. The three-tier system does not create

jobs, per se, but simply ensures that these jobs will be performed by wholesalers rather than local breweries. Instead of labeling these jobs as a net addition to a local economy, they are best understood as a transfer of resources to wholesalers that would have gone to workers employed directly by brewers. In other words, mandating and creating jobs at one tier within the distribution network is coming at the opportunity cost of productivity and jobs at another tier.

Moreover, the research by Burgdorf cited above shows that self-distribution restrictions not only lead to a significant reduction in the entry rate of breweries, but also have a negative effect on the production rates of craft brewers; he finds that production volume by craft brewers is 152 to 182 percent higher in states with no distribution restrictions (Burgdorf 2016b, p. 2). In this way, the three-tier system limits the growth potential of craft brewers by reducing the volume at which they can scale their enterprise. The ultimate result is a less productive, smaller industry at the local level with this production carried out on a massive scale by a small number of national firms.

Proposition 3: Resistance to the three-tier system by craft brewers reflects their own attempts to monopolize distribution at local retail outlets.

In an op-ed targeted at the Asheville area, the executive director of the North Carolina Beer & Wine Wholesalers Association further disputed the motivations behind craft-brewer efforts, claiming it was "to award themselves a special privilege that would put all other breweries and distributors at a disadvantage in a highly-competitive marketplace. With all this competition, it's no wonder two of the original Charlotte brewers now want to change the rules that helped make them successful in order to stack the deck in their favor." The underlying idea behind this argument is that these breweries would "squeeze out competition" at local retail outlets by self-distributing at greater scale than smaller brewers could afford (Kent 2017).

This argument is consistent with the idea that distributors play an indispensable role in driving product variety. But as we explained above, local breweries are most successful when they are able to compete with macrobreweries at point of sale. As Gohmann (2016, p. 3) explains, craft breweries "compete for shelf space that beer distributors want for their larger national accounts. If distributors and national breweries are able to limit the number of breweries in a state, it will lead to less competition and greater profits." In other words, the competitive pressures macrobrewers exert through three-tier distributional channels are most responsible for this perception of scarcity at the retail level.

Moreover, if vertically integrated brewers meant the monopolization of distribution and harm to the overall beer market, we would expect to find monopolized markets—that is, greater concentration at the retail level—where self-distribution is allowed. In

other words, greater ability to self-distribute should increase market power according to arguments provided by wholesalers. However, as we noted above, states in which self-distribution is allowed have both more brewers and more-productive brewers. Tremblay et al. (2005, p. 322) note, "Even when regional concentration is high, however, competition remains stiff since entry barriers are low, the macro brewers remain potential competitors, and import brands are close substitutes."

Furthermore, while tap space is constrained in a practical sense, there are no state laws mandating the number of taps a retailer can utilize. Retailers are therefore free to increase the number of taps available to keep pace with the variety of beers they wish to provide on an ongoing basis. Many drinking establishments have profited from (and helped sustain) the increase in craft-beer sales by providing larger numbers of taps. Even traditional bars have installed more taps. Far from the dire situation painted by proponents of the three-tier system, greater self-distribution does not appear to drive out competition at the retail level and may in fact increase product variety by allowing more brewers to compete at point of sale.

National beer producers and wholesalers, on the other hand, have a common economic interest in limiting retail distribution. By limiting the number of taps, for example, greater market power is created for larger companies like Anheuser-Busch InBev. Driving out competitors at point of sale brings hefty returns. Distributors benefit as well in that they are now providing a more valued service to larger beer accounts and in turn driving the market conditions necessary to maintain the three-tier system.

Proposition 4: Deregulation ultimately creates behaviors in opposition to the public interest.

A final claim that in some ways could outweigh the others combined concerns the matter of public interest. As Tamayo (2010, p. 2219) observes, "The new temperance movement is based on public health advocacy rather than morality, and it seeks to identify and reduce the economic costs associated with alcohol consumption." Cook (2007), for example, associates alcohol consumption with lost productivity, disability, early death, crime, family neglect, and personality deterioration, among other effects. Cesur and Kelly (2014) use these factors to demonstrate a negative correlation between alcohol consumption and economic growth. Perhaps it is necessary to have government-mandated independent distribution to facilitate orderly consumption of alcohol. For

^{13.} Cooper et al. (2005, p. 631) comment more technically on the quality of arguments used against vertical integration: "The theory shows that vertical practices potentially can harm competition. This finding is fragile, however, as anticompetitive equilibria emerge only under specific—and difficult to verify—assumptions about (among other things) costs, demand, the nature of input contracts, conditions of entry, the slope of reaction functions, and the information available to firms." In other words, to advocate 'divestment' as a means of encouraging competition is circumspect without significant empirical evidence of monopolization of beer markets under self-distribution.

example, Chaloupka, Grossman, and Saffer (2002, p. 29) find "increases in the full price of alcohol—whether they result from increases in monetary price, reduced availability, or increases in the expected legal costs of drinking and driving (i.e., more severe drunk-driving laws)—can reduce drinking and driving and its consequences among all age groups."

Even if alcohol consumption has harmful effects, however, it is unclear that the core restrictions of the three-tier system (e.g., state-enforced franchise agreements, limits on self-distribution) are responsible for improving public-health outcomes. According to Ruhm et al. (2011), higher tax rates have a negligible effect on beer consumption. Furthermore, Malone and Lusk (2016, p. 325) find no relationship between state excise taxes and number of breweries of any kind, micro or macro. Moreover, as Gohmann (2016, p. 2) notes, "The nine states with the fewest breweries per population are all in the South. Yet in terms of beer consumption per capita, two of these states—South Carolina and Louisiana are in the top 13." This could reflect the fact that alcohol consumption has changed dramatically since the creation of the three-tier system. As Tamayo (2009, p. 2212) explains, "Although bars have replaced saloons, much more alcohol is sold off-premises today than was sold off-premises during the pre-Prohibition era." If alcohol consumption is taking place more frequently off-premises, then regulation at point of sale becomes less effective at curtailing drunken behavior.¹⁴

These laws also add to an intensifying problem that may be counterproductive to an effective, functioning market: regulatory accumulation (Koopman and Mitchell 2014). While many of these regulations are not insurmountable on their own, when taken together they represent formidable barriers to new brewers. Figure 5, which depicts the barriers to creating a craft brewery in North Carolina, puts into perspective the argument that the state is best in the region at regulatory interference.

V. EXPANDING OPPORTUNITY AND COMPETITION IN CRAFT BREWING

Mandating the three-tier system was done in the name of achieving a number of laudable public policy goals; however, as we outlined above, this system has become captured by the special interest groups that most benefit from these arrangements (Guze 2016)—namely, distributors, large brewers, and state governments. As Whitman notes: "The adoption of the policies that simultaneously concentrate market power, impede quality improvements, and impair efficient distribution can be justified only on the grounds of political expediency rather than on a careful consideration of the merits" (Whitman 2003, p. 40).

To summarize our argument, any attempt to monopolize distribution, be it at the

^{14.} This also calls into question comparisons to UK beer markets where 85% of consumption takes place on-premises (see Slade 1998).

Figure 5. Barriers to Starting a Craft Brewery in North Carolina

O	O	•	
FEDERAL	Brewer's Notice facilit	gister ties with e FDA Obtain required formula approvals from the TBA	Obtain approval of labels from the TBA Adhere to mandated trade practices
STATE	Obtain all required state licenses	Pay state taxes and fees	Obtain required Formula & Label Approvals for each prdouct
BARRIERS	File an application and statement of intent Provide lease, deed, or rental agreement for location Submit detailed diagram of facility Submit fingerprints Undergo a background investigation Undergo facility inspections Local government given opportunity to object to license Comply with wholesaler agreement restrictions No self-distribution if brewing >25,000 barrels No sales outside territory Restrictions on increasing prices or canceling agreements	Pay state licensing costs and fees Pay state taxes Pay the state excise tax of 61.71 cents Adhere to other NC limitations Mandatory inspections Label and packaging requirements	File approval form Submit lables Submit sample of product in marketable container Submit copy of TTB approval form Pay required analysis fee Comply with required record keeping Maintain required sales tickets Comply with keg purchase - transport permitting requirements
LOCAL	Regulations or taxes on alcoholic beverages	Regulations on the time of sale	Comply with zoning restrictions

supplier, wholesaler, or retail level, will generate rent-seeking activity and should be avoided. But rent seeking need not be a primary ingredient of the brewing industry. Without completely discarding regulation in brewing altogether, policy makers can improve the regulatory climate by avoiding constraints that have led to unintended, counterproductive consequences. The evidence presented above would indicate that limitations on self-distribution stifle opportunities for new-business growth and for development at the local level.

Accordingly, the three-tier system needs to adjust to developments in the brewing market, instead of being maintained in a way that creates obstacles to entrepreneurship without clear corresponding public benefits of equal magnitude. As Tamayo (2009, p. 2218) imparts, "Legislators should give themselves some latitude in adjusting the laws to track the changing conditions in the alcohol beverage industry." For policy makers in North Carolina, who have "explicitly professed an interest in promoting the growth of the craft brew industry" (Tamayo 2009, p. 2200), the continued growth of the brewing market across the country, along with the role local breweries are having in that growth, should provide strong incentive for getting these arrangements right; brewers have shown a willingness to move and grow their businesses in more hospitable regulatory climates. ¹⁵ North Carolina can either become a home for the future of this industry or watch craft brewers move beyond the Carolinas.

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^{15.} One of the more interesting findings from the empirical literature is that the location of craft brewing is associated with higher income

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NOTES AND COMMENTARY

CLASSICAL LIBERALISM'S HISTORY, HERITAGE, AND RELEVANCY TO OUR TIMES

By Richard M. Ebeling, The Citadel

ABSTRACT

Classical liberalism has been the most revolutionary set of political and economic ideas in world history in terms of the advancement of human freedom and prosperity. An appreciation of why and how, unfortunately, is sorely lacking in the minds of too many people both in the United States, including the Carolinas, and around the world. Understanding a little bit of the history and significance of classical liberalism can make us better appreciate its continuing value in advancing public policies that foster freedom, prosperity, and peace.

I. THE ANCIENT DREAM OF UNFULFILLED FREEDOM

Since ancient times, there have been thinkers who dreamed of a world with greater freedom for all. But for most of human history this remained only a dream. The ancient Greeks spoke of the importance of reason and the need for freedom of thought if we were to challenge each other's logic and understandings as we groped toward a more complete awareness of the objective world around us.

The Romans argued about a higher, more general law to live under, if only people would come together to reason and agree about what could be a just "natural order" in society, given human nature. Jews and Christians appealed to a higher law concerning right and justice that is above the power of earthly kings and princes, and to which all are subservient and responsible since it was given to them by the creator of all things (Muir 1940, pp. 26–52; Rougier 1971, pp. 1–55).

But for all of human history, people lived under the earthly powers of conquerors and kings who claimed divine right to rule over them. They were objects to be used and abused for the ends of those who held the swords over their heads. Their lives were to serve and be sacrificed for something that was said to be greater than and above them. Their lives were not their own. They belonged to another. They were slaves, regardless of the names and phrases used to describe and defend a master-servant relationship. Society was a world of the unfree.

Then this began to change, first in people's minds, then in their actions, and finally in the political and economic institutions within which they lived and worked.

II. CLASSICAL LIBERALISM AND NATURAL RIGHTS

While it is today often ridiculed or discounted by philosophers who find it easier to speak about ethical nihilism and political relativism, the modern world of freedom had its origin in the conception of natural rights: rights that reside in people by their nature as human beings and logically precede governments and any man-made laws that may or may not respect and enforce these rights (Smith 2013).¹

Political philosophers such as John Locke articulated natural rights in the 1600s. "Though the earth and all inferior creatures be common to all men, yet every man has a 'property' in his own 'person," insisted Locke. "This nobody has any right to but himself. The 'labor' of his body and the 'work' of his hands, we may say, are properly his."

While all people have a natural right to protect their lives and peacefully produced or non-aggressively acquired property, they form political associations among themselves to better protect their rights. After all, a man might not be strong enough to protect himself from aggressors; and he cannot always be trusted when in the passion of the moment he uses defensive force against another that might not be proportional to the offense against him (Locke 1824, chap. 5).

Here in a nutshell is the origin of the ideas that germinated for nearly another century and then inspired the Founding Fathers in the words of the Declaration of Independence in 1776, when (in their words) they spoke of self-evident truths that all men are created equal with certain unalienable rights, among which are life, liberty, and the pursuit of happiness, and for the preservation of which men form governments among themselves.

While every American schoolchild knows—or used to know—by heart those stirring words in the Declaration of Independence, what most Americans know less well is the remainder of the text of that document. Here the Founding Fathers enumerated their grievances against the British Crown: taxation without representation; restrictions on the development of trade and industry within the British colonies and regulations on foreign commerce; a swarm of government bureaucrats intruding into the personal and daily affairs of the colonists; violations of basic civil liberties.

What aroused their anger and resentment is that a large majority of these American colonists considered themselves British by birth or ancestry. And here were the British king and Parliament denying or infringing upon what they considered their birthright: the customary and hard-won "rights of an Englishman," gained over several centuries of successful opposition against arbitrary monarchical power.

Freedom is the common intellectual inheritance left to us by the great thinkers of the West. But it is nonetheless the case that much that we consider and call individual rights

^{1.} George H. Smith, The System of Liberty: Themes in the History of Classical Liberalism (New York: Cambridge University Press, 2013).

and liberty had their impetus in Great Britain, in the writings of the political philosophers such as John Locke and David Hume, legal scholars such as William Blackstone and Edward Coke, and moral philosophers and political economists such as Adam Smith. What their combined writings and those of many others gave the West and the world over the last three or four centuries is the philosophy of political and economic liberalism.

A. THE LIBERAL CRUSADE AGAINST SLAVERY

What were the vision and agenda of eighteenth- and nineteenth-century liberalism? They may be understood under five headings (cf. Muir 1934, pp. 213–25).

First was the idea that individuals possessed a right to own themselves. The great British liberal crusade in the second half of the eighteenth century and into the early decades of the nineteenth century was for the abolition of slavery. The words of the British poet William Cowper in 1785 became the rallying cry of the antislavery movement: "We have no slaves at home—Then why abroad? Slaves cannot breathe in England; if their lungs receive our air, that moment they are free. They touch our country, and their shackles fall."

The British Slave Trade Act of 1807 banned the slave trade, and British warships patrolled the West Coast of Africa to interdict slave ships heading for the Americas. This culminated in the Slavery Abolition Act of 1833, which formally abolished slavery throughout the British Empire 180 years ago, on August 1, 1834 (Judson 1900, p. 215).

The British example heralded the legal end to slavery by the close of the nineteenth century through most of the world touched by the Western nations. The end to slavery here in the United States took the form of a tragic and costly civil war that left a scar on the country. The unimaginable dream of a handful of people over thousands of years of human history finally became the reality for all under the inspiration and efforts of the nineteenth-century liberal advocates of individual freedom.

B. THE LIBERAL CRUSADE FOR CIVIL LIBERTIES

The second great classical liberal crusade was for the recognition of and legal respect for civil liberties. Since Magna Carta in 1215, Englishmen had fought for monarchical recognition of and respect for certain essential rights, including no unwarranted or arbitrary arrest and imprisonment. These came to include freedom of thought and religion, freedom of speech and the press, and freedom of association. Above it all was the wider idea of the rule of law: that justice was to be equal and impartial, and that all were answerable and accountable before the law, even those representing and enforcing the law in the name of the king (Dicey [1885] 2014, pp. 114, 132; Ebeling 2004, pp. 8-15).

In the United States, many of these civil liberties were incorporated into the

Constitution in the first ten amendments, which specified that there are some human freedoms so fundamental and essential to a free and good society that no government should presume to abridge or deny them.

C. THE LIBERAL CRUSADE FOR ECONOMIC FREEDOM

The third great classical liberal crusade was for freedom of enterprise and free trade. Throughout the seventeenth and eighteenth centuries, governments in Europe regulated and planned all the economic activities of their subjects and citizens as far as the arms of their political agents could reach.

Adam Smith and his Scottish and English allies demolished the assumptions and logic of mercantilism, as the system of government planning was then called. They demonstrated that government planners and regulators have neither the wisdom, nor knowledge, nor the ability to direct the complex, interdependent activities of humanity.

Furthermore, Adam Smith and his economist colleagues argued that social order was possible without political design. Indeed, "as if guided by an invisible hand," when people are left free to direct their own affairs within an institutional setting of individual liberty, private property, voluntary exchange, and unrestricted competition, a "system of natural liberty" spontaneously forms that generates more wealth and coordinated activity than any governmental guiding hand could ever provide.

Such economic liberty, which made Great Britain and then the United States the industrial powerhouses of the world by the end of the nineteenth century, was rapidly doing the same, though at different rates, in other parts of Europe, and then, slowly, in other parts of the world as well. Population sizes in the West grew far above anything known or imagined in the past, yet increased production and rising productivity were giving those tens of millions of more people an increasing standard of living and quality of life.

D. THE LIBERAL CRUSADE FOR POLITICAL FREEDOM

The fourth classical liberal crusade was for greater political liberty. The liberals asked: if liberty meant that people were to be self-governing, should that not also mean that they participate in the governing of the society in which they live, in the form of an enlarged voting franchise through which the governed selected those who held political office on their behalf?

Liberals condemned the corrupt and manipulated electoral process in Great Britain that gave office in Parliament to handpicked voices defending the narrow interests of the landed aristocracy at the expense of many others in society. So as the nineteenth and early twentieth centuries progressed, the right to vote moved more and more in the direction of universal suffrage.

It is not that liberals were unconcerned about the potential abuses from democratic majorities. In fact, John Stuart Mill, in his Considerations on Representative Government (1861), proposed that all those who received any form of financial subsidy or support from the government should be denied the voting franchise for as long as they were dependent in such a manner upon the taxpayers. There was too much of a possible conflict of interest when those who received such redistributive benefits could vote to pick the pockets of their fellow citizens. Alas, his wise advice was never followed (Mill [1859] 1977, chap. VIII).

E. THE LIBERAL CRUSADE FOR INTERNATIONAL PEACE

Finally, the fifth of the liberal crusades of the nineteenth century was for, if not the abolition of war, then at least the reduction in the frequency of international conflicts among nations and the severity of damage that came with military combat. In fact, during the century that separated the defeat of Napoleon in 1815 and the commencement of the First World War in 1914, wars at least among the European powers were infrequent, relatively short in duration, and limited in their physical destruction and taking of human life.

The classical liberals argued that war was counterproductive to the interests of all nations and peoples. It prevented and disrupted the natural benefits that can and did improve the conditions of all people through peaceful production and trade based on an international division of labor, in which all gained from the specializations of others in industry, agriculture, and the arts (Silberner [1946] 1972).

Because of the classical liberal spirit of the time, there were some successful attempts to arrange formal rules of war among governments under which the lives and property of innocent noncombatants would be respected even by conquering armies. Treaties detailed how prisoners of war were to be humanely treated and cared for, and banished certain forms of warfare deemed immoral and ungentlemanly (Ebeling 1995, pp. 47–68).

It would, of course, be an exaggeration and an absurdity to claim that nineteenthcentury liberalism fully triumphed in its ideals or its goals of political and economic reform. However, if there is any meaning to the notion of a prevailing spirit of the age that sets the tone and direction of a period of history, then it cannot be denied that classical liberalism was the predominate ideal in the early and middle decades of the nineteenth century and that it changed the world in a truly transformative way. Whatever (properly understood) political, economic, and personal liberty we still possess today is due to that earlier, classical liberal epoch of human history.

III. AMERICA THE BEACON OF INDIVIDUAL LIBERTY

In the new nation of the United States of America, there was a written constitution that in principle and practice recognized the rights of individuals to their life, liberty, and honestly acquired property. Only in America could individuals say and do virtually anything they wanted, as long as it was peaceful and not an infringement on other citizens' similar individual rights. Only in America was trade across this new and growing country free from government regulations and controls and oppressive taxes, so people could live, work, and invest wherever they wanted, for any purpose that took their fancy or offered them profit.

Michel Chevalier was a Frenchman who, like Alexis de Tocqueville, visited America in the 1830s, then returned to France and wrote a book about his impressions in Society, Manners and Politics of the United States (1839). Chevalier explained to his French readers:

The American is a model of industry.... The manners and customs are altogether those of a working, busy society. At the age of fifteen years, a man is engaged in business; at twenty-one he is established, he has his farm, his workshop, his counting-room, or his office, in a word his employment, whatever it may be. He now also takes a wife, and at twenty-two is the father of a family, and consequently has a powerful stimulus to excite him to industry. A man who has no profession, and, which is the same thing, who is not married, enjoys little consideration; he, who is an active and useful member of society, who contributes his share to augment the national wealth and increase the numbers of the population, he only is looked upon with respect and favor. The American is educated with the idea that he will have some particular occupation, that he is to be a farmer, artisan, manufacturer, merchant, speculator, lawyer, physician, or minister, perhaps all in succession, and that, if he is active and intelligent, he will make his fortune. He has no conception of living without a profession, even when his family is rich, for he sees nobody about him not engaged in business. The man of leisure is a variety of the human species, of which the Yankee does not suspect the existence, and he knows that if rich today, his father may be ruined tomorrow. Besides, the father himself is engaged in business, according to custom, and does not think of dispossessing himself of his fortune; if the son wishes to have one at present, let him make it himself! (Chevalier 1839, pp. 383–84)

Chevalier also emphasized the competitive spirit of the American: "An American's business is always to be on edge lest his neighbor get there before him. If a hundred Americans were about to go before a firing squad, they would start fighting for the privilege of going first, so used are they to competition" (quoted in Rappard 1955, p. 59).

It may seem to many a cliché, but in those decades of the nineteenth and early twentieth centuries when few migration restrictions barred the door, America stood out

as a beacon of hope and promise. Here a man could have his second chance. He could leave behind the political tyranny, religious oppression, and economic privileges of the old country to have a new start for himself and his family. Between 1840 and 1914, nearly 60 million people left the Old World to make their new beginnings in other parts of the world, and almost 35 million of them came to America. Many of us are the lucky descendants of those earlier generations of people who came to breathe free in the United States (Palmer and Colton 1995, pp. 592–95).

IV. MODERN CHALLENGES TO CLASSICAL LIBERALISM

The twentieth century saw a turn away from the classical liberal idea and ideal that inspired those crusades for human freedom, prosperity, and a more humane civil society. In its place arose nationalism, socialism, and the interventionist—welfare state. They together represent a movement back to political and economic collectivism under which the individual is viewed as subservient to the interests of a wider community that the government is to define, impose, and implement. The upshot is the reduction and loss of degrees of individual freedom in various corners and aspects of everyday life.

The worst and the most brutal of the communist, nationalist, and racialist forms of twentieth-century collectivism—Soviet socialism, Italian fascism, German national socialism (Nazism)—have disappeared from the face of the world. But in the form of the interventionist—welfare state, it is still presumed that it is necessary and essential for the government to micromanage much of what goes on in the market arena of producing and consuming, and buying and selling. It is also asserted that the government must paternalistically control, influence, prohibit, or foster various forms of personal and social actions and activities, with various regulatory and redistributive policy tools at its disposal.

One of the most recently revived forms of these ideas in the United States is the rise of economic nationalism and the belief that government must influence where and in what sector investment is undertaken within or outside of America. It is the stated policy of the current administration in Washington, DC.

V. CLASSICAL LIBERALISM'S DEFENSE OF ECONOMIC FREEDOM

The underlying principle behind economic nationalism was challenged by a prominent nineteenth-century South Carolinian, Thomas Cooper (1759–1839). He was president of South Carolina College (later the University of South Carolina) and a professor of chemistry and political economy. His 1830 book Lectures on the Elements of Political Economy became one of the most widely used economics textbooks in the United States. He said:

The whole use of foreign trade is to import commodities that are wanted, at less cost, than they are produced at home. This is the very basis and essential character of it. Hence, the principle of restrictions and prohibitory imposts [tariffs], forbidding an article into being introduced from abroad because it can be had cheaper from abroad—goes to the utter annihilation of all foreign commerce....

The restrictive system tells us in fact, that we shall greatly profit by being confined as prisoners within our own houses, without intercourse out of doors; that is it our duty to let our domestic neighbor grow rich on our credulity, and persuade us to buy from him an inferior article, at a higher price....

For [this] principle being adopted, where is it to stop? To talk after this, of our being the most enlightened nation upon earth, is a satire upon ourselves more bitter than our own enemies have it in their power to utter. To be governed by such ignorance, is indeed a national disgrace....

Political Economy ... has taught us, that human improvement, and national prosperity, are not promoted in any particular nation, by depressing every other, but by aiding, encouraging and promoting the welfare of every nation around us. That we are all in our turn customers to each other, and that no man or nation can become wealthy by impoverishing his customers. The richer other nations are, the more they are enabled to purchase, the cheaper they can afford to sell, the more improved they become in all the arts of living, in all intellectual acquirement, in everything desirable for other nations to imitate or improve upon. That if other nations become powerful by our assistance, we also of necessity become wealthy and powerful by our intercourse with them; and that peace and good neighborhood are the means of mutual happiness among nations as among individuals....

The true principles of Political Economy ... teach us also, that men should be permitted, without interference of government, to produce whatever they find it in their interest to produce; that they should not be prevented from producing some articles, or bribed to produce others. That they should be left unmolested to judge of and pursue their own interest; to exchange what they have produced when, where and with whom and in what manner they find most profitable and convenient; and not be compelled by theoretical statesmen to buy dear and sell cheap; or to give more, or get less, than they might if left to themselves, without government interference or control.

That no favored or privileged class should be fattened by monopolies or protections to which the rest of the community is forced to contribute. Such are the leading maxims by means of which Political Economy teaches how to obtain the greatest sum of useful commodities at the least expense of labor. These are indeed maxims directly opposed to the common practice of governments, who think they can never govern too much; and who

are the willing dupes of artful and interested men, who seek to prey upon the vitals of the community. (Cooper [1830] 1971, chaps. 1, 18)

These free market, free trade, classical liberal principles expressed by Thomas Cooper are as valid today as when presented in the pages of his book almost 190 years ago. These principles are what the pages of this new journal, Political Economy of the Carolinas, will be devoted to and focused upon: the application and refinement of the social and economic principles of classical liberalism to the contemporary issues and problems confronting the people of North and South Carolina today.

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NOTES AND COMMENTARY

WHAT ARE ECONOMIC-IMPACT STUDIES REALLY MEASURING?

By Roy Cordato, John Locke Foundation

How should we interpret economic-impact studies? What meaningful information, if any, do they provide a public or governing body trying to evaluate either the costs or benefits of a proposed spending project or the value of past projects? I will argue that such studies, which typically are taken to imply that the direct and indirect spending flows that emanate from the projects being considered represent an economic benefit to a community or region, instead should be viewed as a measurement of costs. In particular, I will argue that what is being measured is the extent to which a project—for example, a convention center, a road, a university, or an industry like renewable energy—is commanding the use of scarce resources that would have alternative uses. As such, the economic impact of a given project is not something we should seek to maximize but instead minimize.

I. THE PROCESS (WITH AN EXAMPLE)

Typically, economic-impact studies invoke an "off the shelf" model that has been developed by a private company and then subscribed to by consulting firms that, in turn, use the model in their consulting work with private interests. These interests—which could be industries, universities, individual companies, or government agencies—employ these consultants to show, using these models, how important their activities or investments are to the economy of a particular locality or region. This is usually done to convince state legislators or local governments to provide funding for the interest's projects or for projects that will provide secondary benefits to the interest.

A typical example (Tveidt 2017) of such a study was recently published by the University of North Carolina–Asheville. The study was produced by a consulting firm called SYNEVA Economics, which used a well-known and standard economic-impact model called IMPLAN (Impact Analysis for Planning). SYNEVA points out that "the overriding objective" of IMPLAN, and presumably its own study, is to "measure the full economic impact to a local economy as the result of a specific economic activity." For SYNEVA, the economic activity in question relates to money appropriated by the state

 $^{1. \ \} Another very standard \ model \ is \ produced \ by \ Regional \ Economic \ Models \ Inc. \ and \ is \ known \ as \ the \ REMI \ model.$

of North Carolina for use by the University of North Carolina–Asheville (UNCA) and spent by the university. It examines the economic impact of this spending on the Asheville Standard Metropolitan Statistical Area which includes Buncombe, Madison, Haywood, and Henderson Counties.

SYNEVA concludes that state government spending on UNCA has annual regional economic impacts that include, among others, an additional \$450 million in GDP, \$164.4 million in local income, and 3,911 jobs. These impacts are generated by spending that flows from state taxpayers through the university and into the community. The study includes expenditures made by campus operations and construction, alumni who live in the area, students and visitors, and new residents attracted by the university. As the spending flows outward from the university, it generates what economic-impact studies call "direct, indirect, and induced effects," which, in turn, generate a multiplier effect. As a result of this multiplier effect, the original dollar appropriated by the state ends up generating an economic impact that is a multiple of that dollar. In this case, SYNEVA and UNCA claim the multiplier is eleven. That is, every dollar the state spends on UNCA yields a return of \$11 in economic impacts region-wide.

II. "THE FULL ECONOMIC IMPACT"? NOT QUITE²

While, as SYNEVA Economics notes, the point of IMPLAN (and, I would add, all of the other standard models being used to measure economic impact) is to estimate the "full economic impact" of the economic activities in question, it in fact does not. Furthermore, if it did, the numbers regarding GDP, employment, wages, and so on would not only be smaller but could actually be negative, a result ruled out using current methodologies.

Looking at the UNCA/SYNEVA study through the lenses of economics, one notices a glaring omission. It is an omission that stems from an unstated, but obvious, assumption: none of the resources being consumed in the spending flows have opportunity costs. In other words, the implicit assumption is that the land, labor, and capital being claimed by the \$450 million in annual economic impact would be unemployed had it not been for the initial state spending. The jobs supposedly created are all going to people who would otherwise be unemployed; there would be no other demand for the business services that are consumed; the capital equipment, land, and natural resources being employed have no other uses in the local market.

But UNCA spending uses resources in the Asheville economy that would be used for other productive purposes if they were not being diverted because of increased demand

^{2.} For a more expansive discussion of the opportunity-cost question as it relates to economic-impact studies, see Cordato (2017). Also see Tuerck, Murphy, and Bachman (2013) for a discussion of a specific application of the problem in a peer review of an economic-impact study by Lawrence and Pereria (2013) looking at the impact of the renewable-energy industry in North Carolina.

generated by that spending. These alternative uses would have had their own impacts on employment, income, and additional output. These costs relate to economic activities that do not occur because they are pre-empted by UNCA's expenditures. This is the nature of all opportunity costs: they are unseen but nonetheless real and therefore part of the economic impact. They are never accounted for in this or other economic-impact studies. If they were, they would enter the calculations with a negative sign, thereby reducing the reported impacts. If these opportunity costs were large enough, the changes in output, jobs, income, and so on could be negative. At the very least, because opportunity costs are not considered, all of these studies overstate the economic impact that they claim to be measuring in total.

I want to also note that the SYNEVA study focuses strictly on the impacts of state spending on UNCA in the Asheville area. This means the subsidy money is not being reallocated only from other uses in the Asheville area. But most studies do not have such a narrow focus and are not looking at a situation in which the subsidies come largely from outside the geographical area under study. An important set of opportunity costs not being focused on here relate to alternative allocations of subsidy money on the part of the state, either within the state budget or in lower taxes. The effects of alternative allocations of state resources should typically also be part of impact studies.

III. ARE ECONOMIC-IMPACT STUDIES MEASURING ANYTHING USEFUL?

Because they ignore the impact on businesses, industries, and workers that will be bearing the burden of the opportunity costs associated with the spending flows being analyzed, it is clear that these studies are not assessing the economic impacts as completely as they claim. Furthermore, without an assessment of the unseen opportunity costs, it cannot even be known whether the monetary value associated with the impact of a particular project, government subsidy, or industry is positive or negative. Under existing methodologies, in which only positive numbers are fed into the models, the possibility that a project may, for example, actually cost jobs or on net reduce GDP is not even considered.

The question arises, are economic-impact studies measuring anything useful? I believe the answer is yes. But what they are actually measuring is quite different from what the special interests and consulting firms that generate these studies suggest. What they are in fact measuring is social costs, not social benefits. As argued above, every dollar spent as a result of the direct, indirect, and induced effects represents a transfer of scarce resources from other uses. This means the dollar value of the reported economic impacts—for example, the \$450 million reported by the SYNEVA study—is an expression of the extent to which the project being evaluated is diverting resources away from other uses in other

parts of the economy. I should make clear that such studies are not measuring the value of the forgone output. They are, however, measuring the dollar value of the resources being consumed by direct, indirect, and induced effects of the project during the time frame under consideration by the studies.

This has an important implication for how we should interpret the multiplier in these studies. From the perspective of increasing economic efficiency, the goal should be to have as small an economic impact as possible—that is, to minimize, not maximize, the extent to which a project draws resources from other uses. And smaller multipliers are more desirable than larger ones. The smaller the multiplier, the fewer—and more importantly, less valuable and therefore less scarce—the resources being consumed by the evaluated project. Economic efficiency and what is typically measured as economic impact move in opposite directions.

In conclusion, the lenses through which policy makers have viewed the results of economic-impact studies have been distorted to the point that the messages the studies convey are exactly the opposite of the studies' true meaning. If such studies are to be used at all in evaluating the effects of government spending projects on the economy, they should be viewed as reporting how economically burdensome the projects are. Such studies do not present estimates of economic benefits but economic costs.

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NOTES AND COMMENTARY

STATE TAX POLICY AND GROWTH: A RESEARCH NOTE

By Peter M. Frank, Wingate University

I. INTRODUCTION

Coming out of the Great Recession, many state governments experienced significant budgetary problems. In almost every state, the financial position mirrored somewhat the federal government's large budget shortfalls that led to unsustainable deficits. Unlike the federal government, most state governments cannot borrow or create new money at a seemingly unending pace. Thus, sometimes major tax and spending policy changes became inevitable for state governments. Since many state policy changes were implemented in the past three to four years, evidence has been mounting as to both the positive and negative effects of tax-policy changes on economic growth at the state level. Ideally, there would be a simple story to tell with forty or more sample cases in which state lawmakers negotiated various policy changes and economists evaluated the results; yet all public policy analysis examining the various levers state governments use to manipulate revenue outcomes is highly complex.

Throughout the United States, tax policy varies considerably from states with progressive income tax rates that mimic the federal statute's rate structure to states without income tax altogether. States have some federally imposed limitations, yet for the most part their revenue-generating policies are independent of both other states' and the tax policy established in Washington. While this creates ample opportunities for studying varying policy regimes, it also results in the difficult task of identifying the optimal strategies for state fiscal health.

State tax-policy changes are targeted at changing the incentives for doing business in a state, and thus generating economic growth, or targeted at addressing continued budgetary problems. Often, these objectives go hand in hand, as states mainly change tax policy to enhance growth with the further objective of then creating a more stable fiscal outlook. The distinction is far from trivial, though, as recent research demonstrates, in that how a state approaches both tax and spending changes is a key driver of economic outcomes. Evidence discussed below establishes a distinction between two states, Kansas and North Carolina, which indicates that when tax cuts are balanced with responsible fiscal changes in spending economic growth ensues.

II. RESEARCH ON STATE TAX POLICY

Tax policy, both in intention and desired outcomes, results in competing goals, and legislatures consist of policy makers that have strong biases toward one goal versus another. Think tanks and other organizations also get caught up in analyzing the impact of tax policy based on their perception of the most important goal. Yet these goals will always be in tension. There will always be trade-offs faced by policy makers in maximizing tax revenue versus improving equity, or easing collection versus increasing economic efficiency. Understanding these trade-offs is an important part of analyzing the effectiveness of any changes in policy. Any research on state tax policy must consider the competing goals. The five most important criteria to balance when comparing the costs and benefits of a state tax plan are economic efficiency, equity, transparency, collectability, and revenue production (Millsap and Gonzalez 2016).

What complicates this research is the increasing complexity, in most cases, of the state tax structures, and the varying categories of taxes states use to generate revenue. Economists focus on income, property, and consumption taxes, but there are myriad ways taxes are structured (Millsap and Gonzalez 2016).

Sifting through the varying goals of tax policy and reconciling those with outcomes poses a challenge for researchers and can result in contradictory conclusions in studying a given policy change. The economic theory of tax changes is an essential part of understanding the impact of such changes. With tax changes, individuals are faced with both a substitution effect and an income effect. The substitution effect faced by the state workforce concerns the choice to work more (or less) because of the lower (or higher) income tax imposed on the worker. Individuals will trade leisure for more work if the cost to working more (i.e., the marginal tax) is lower. Also, an income effect changes individual workers' demand for goods by changing their income (i.e., a lower tax rate results in higher real income). The often difficult question is to what extent the substitution effect and the income effect interact. Does the worker decide to work more or consume more (and have time to consume more) when a state lowers the overall tax burden for the individual? Some argue that these effects are small and thus that tax cuts do not have the intended impact on growth (McArdle 2017), while others claim the impact is complicated because tax cuts tend to be at least partly self-financing (i.e., the substitution effect has a more significant impact than the income effect) (Mankiw and Weinzierl 2006).

Much of the recent research on the use of state tax cuts examines the impact on economic growth when making changes to the state income tax. The question not often asked is, what are the primary intended outcomes of a tax-policy change? Most public statements by policy makers show they are seeking to close budget shortfalls or spur economic growth. What is often preventing these outcomes from being realized is the

failure to consider all of the costs of any policy change. In reality, tax policy is just one piece, and possibly a small piece, affecting a state's overall fiscal health. When examining the costs and benefits of tax policy, it is misguided to neglect the other policies that potentially impact economic growth such as education policy and transfer programs.

Conflicting research demonstrates the difficulty in isolating the effects of tax changes. In certain cases, research advocates an increase in tax rates because of the short-term consequences of increasing rates rather than cutting spending (Bivens 2017). On the other hand, research also indicates that states that enacted tax cuts experienced significant growth and outperformed states with the highest overall tax burden (Williams and Young 2017). The key in analyzing these contradictory accounts is attempting to understand both the intended outcomes and the vast differences in state tax regimes. Personal income tax (PIT) change along with commercial income tax (CIT) change often garners the most-significant attention. Yet states have a broad range of taxation options for generating revenue, and it remains very difficult to isolate the effect of certain policy changes while holding other changes constant. Since some states have no income tax on individuals, when comparing these states with those that cut PIT researchers must control for the direct and indirect effects of other policies.

Another example of this challenge is found in research that analyzes the overall climate for doing business in a state. Policy makers point to business climate as a key metric for economic growth, and CIT rates are one piece influencing whether start-ups or expansion of existing firms, help grow a state's economy. The Tax Foundation has created an extensive index for assessing the business tax climate in all fifty states. The focus of this index is not only to examine the rates of CIT, but also to understand the overall structure of state tax systems. For example, states without a PIT would expect to have a higher tax rate on businesses or possibly a higher property tax rate to make up the necessary revenue. A state that has a higher income tax rate (either individual or corporate) would be expected to allow for a lower property tax (other things equal). Regardless of the equity considerations concerning types of taxes (income, property, or sales), states should maintain a tax system that balances the overall streams of revenue generation. Florida, for example, ranks very high (meaning the best climate for working and doing business) because the state legislature is able to maintain a zero tax on individual income and very modest rates on businesses and personal property. Connecticut, on the other hand, while praised by some researchers as a model for states facing budget deficits, ranks very low (forty-third out of fifty) because of its high PIT and the second-highest property tax rate in the nation (Walczak, Drenkard, and Henchman 2017).

A vital aspect of tax-policy change is examining whether tax cuts are financed by deficit spending or offset by changes in overall spending. Economic intuition indicates

that in the short run, income tax cuts will reduce revenue and thus necessitate a change in spending or a change in how spending is financed. Two key questions arise: (1) Will the revenue shortfall occur temporarily and be offset by a change in growth? (2) What will determine whether tax cuts will impact growth at all? These are important, and slightly different, questions economists ask before weighing the evidence as to when and how tax-policy changes (notably increases or decreases in income tax) lead to economic growth and fiscal health. Again, recent research at the state level indicates that tax cuts financed by spending cuts, in the short run, are more likely to result in economic growth. For tax policy to have a positive effect on growth, it should create an incentive to save and invest, have only a small (positive) income effect, reduce distortions (across sectors, and across different types of income and types of consumption), and increase the budget deficit minimally (Gale and Samwick 2014). Such cuts do not automatically lead to growth, though. As with fiscal decisions that accompany a tax cut, the industrial mix of a state's economy is also a contributing factor. In a review of research from the 1990s, of six states that cut taxes three had faster output growth, and several tax-cutting sates in the 2000s had similar growth rates to the overall US economy (Gale, Krupkin, and Rueben 2015).

Much research addresses some outcomes of tax-policy changes, yet often the broader goals of tax cuts are ignored (by both policy makers and researchers). Plenty of critics provide evidence that tax cuts at the state level fail to translate into growth (Leachman and Mazerov 2015), yet evidence ranking each state based on the overall tax regime demonstrates that economic and fiscal health are tightly linked with overall tax policy (Laffer, Moore, and Williams 2017). Examining these rankings connects lower income tax states to greater overall economic health, particularly in terms of income growth and economic opportunities for residents.

III. EVIDENCE FROM TWO STATE TAX REGIMES

Kansas has faced ongoing challenges with the budget deficit since cutting taxes in 2012 (effective January 2013). Governor Sam Brownback pushed for the tax cuts, hoping they would provide a "shot of adrenaline into the heart of the Kansas economy" and stagnant growth would cease. However, the tax cuts turned out to precede a sluggish economy with continued fiscal instability for the state government. As a result, the Kansas legislature reversed the tax cuts in June 2017. On the other hand, the North Carolina economy is thriving after its 2013 tax-policy reforms (effective January 2014) and the state continues to cut taxes yearly. Nevertheless, North Carolina's success has received little acknowledgement from critics of tax-cut policies while the Kansas case has been analyzed meticulously. This contrast poses a challenge in trying to identify why tax cuts hurt the

Kansas economy and provided a boost for North Carolina.

Both Kansas and North Carolina were inspired by Arthur Laffer's theory that tax cuts boost economic growth (Beachum 2017). In 2012, before the tax cuts, Kansas had a top marginal PIT rate of 6.45 percent, a top marginal CIT rate of 7 percent, and an unemployment rate of 6.1 percent (Williams and Wilterdink 2017). Before enacting tax cuts, North Carolina had three tax brackets for PIT at 6 percent, 7 percent, and 7.75 percent, and a CIT rate at 6.90 percent.

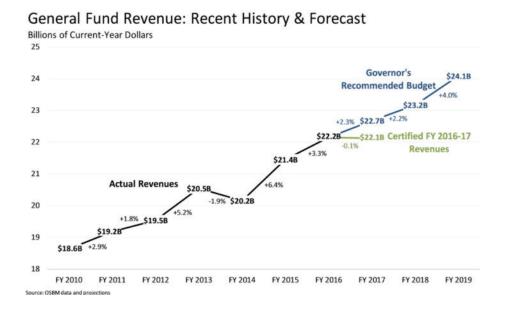
The first difference between the two tax reforms is the broad legislative approach. In Kansas, the reform included a reduction of the top marginal PIT rate to 4.9 percent (-24 percent), a reduction of the middle-bracket rate from 6.25 percent to 4.9 percent (-22 percent), and a reduction of the low-income PIT rate from 3.5 percent to 3.0 percent (-14 percent), with an exemption for pass-through businesses (Williams and Wilterdink 2017). In North Carolina, the tax reform introduced a flat-tax system by reducing PIT rates to 5.8 percent (-3.3 percent, -17 percent, and -25 percent per bracket respectively), and it reduced the CIT rate from 6.90 percent to 6 percent (-19 percent). Additionally, the North Carolina reform expanded the CIT tax base by letting credits expire, while also expanding the sales-tax base. The North Carolina policy also eliminated more than half of the tax expenditures by broadening the PIT base ("North Carolina Illustrated: A Visual Guide to Tax Reform" 2015).

Both Kansas and North Carolina used a long-term phase-in to continue reducing rates throughout the years following the original tax cuts, though Kansas reversed them in 2017. Currently, the CIT rate in North Carolina is a flat 3 percent (lowest among the forty-four states that levy a CIT), and in Kansas the rate is 4 percent for companies with income under \$50,000 and 7 percent for income greater than \$50,000. According to the Center on Budget and Policy Priorities, when fully implemented the tax cuts cost Kansas State \$460 million (7.3 percent of the 2017 fiscal year revenue) and North Carolina State \$1.3 billion (5.9 percent of the 2017 fiscal year revenue) (Leachman and Mazerov 2015). Also, five of eleven states that phased in tax cuts, including North Carolina, produced multiyear expenditure estimates covering the full duration of the phase-in (Figueroa, Leachman, and Mazarov 2017). Kansas is among the states that did not produce such estimates, which caused structural problems for the state budget. Moreover, North Carolina was more prepared for the potential revenue fluctuations because the state had rainy day funds, while Kansas created such funds only in 2016 (Pew Charitable Trusts 2017). North Carolina was more strategic in preparing for the impact of the tax reform, by also making modest changes in other tax policy such as expanding sales tax collections.

The graphic below demonstrates North Carolina's revenue history. Revenues to the North Carolina State coffers increased after 2010 before decreasing in 2014 (tax cuts

became effective in 2014). However, revenues began to rise again in late 2014. North Carolina has experienced relatively stable total revenue collections over the years since 2010.

On the other hand, Kansas tax revenues have dropped since the tax cuts and have been slower to bounce back. After a slight increase in 2013, PIT revenue dropped significantly in 2014 and has remained much lower than it was prior to the tax cuts. The CIT did not have the same drop-off in 2013, yet it did fall in 2016, which further hindered the state budget during the most recently completed fiscal year. The two states' tax and revenue paths further illustrate the divergent impact of tax cuts depending on the policy implementation and the various other, simultaneous legislative decisions. In North Carolina, the income tax cuts were quickly countered by changes in revenue sources and potential incentive changes that led to an increase in revenue to the state (only after a very short-lived decrease in tax receipts).



IV. CONCLUSION

As indicated above, most of the commentary on tax policy at the state level (and often at all levels of government) rarely focuses on the broad goals for tax collection and subsequent spending. It is often assumed that the goal for state legislators is to maximize tax revenue and then allocate spending according to the demands for public goods within a particular state. There will always be more demands on a state budget than funds available. Even in times of surplus, a state will typically pay down debt or find a neglected

budget category to increase spending. A closer analysis of overall state spending, and the broad goals of state fiscal policy, is a crucial component of any tax policy regime especially considering the monopoly power states have on the provision of public goods.

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BOOK REVIEW

BOURGEOIS EQUALITY:

HOW IDEAS, NOT CAPITAL OR INSTITUTIONS, ENRICHED THE WORLD.

Deirdre McCloskey. Chicago: University of Chicago Press. 2016. Pp. xlii + 787. \$32.12, hardcover.

Review by Michael Munger, Duke University

Those who engage in commerce have attracted the nearly universal contempt of intellectuals. One famous example is Sinclair Lewis's acidic send-up of the commercial world in Babbitt (1922). Babbitt's friend Paul hates his life:

"Talk about morals all you want to, old thing, but believe me, if it hadn't been for you and an occasional evening playing the violin to Terrill O'Farrell's 'cello, and three or four darling girls that let me forget this beastly joke they call 'respectable life,' I'd 've killed myself years ago.

"And business! The roofing business! Roofs for cowsheds! Oh, I don't mean I haven't had a lot of fun out of the Game; out of putting it over on the labor unions, and seeing a big check coming in, and the business increasing. But what's the use of it? You know, my business isn't distributing roofing—it's principally keeping my competitors from distributing roofing. Same with you. All we do is cut each other's throats and make the public pay for it!"

[Babbitt:] "Look here now, Paul! You're pretty darn near talking socialism!"

"Oh yes, of course I don't really exactly mean that—I s'pose. Course—competition—brings out the best—survival of the fittest—but—[most business people] hate the whole peppy, boosting, go-ahead game, and they're bored by their wives and think their families are fools—at least when they come to forty or forty-five they're bored—and they hate business, and... Why do you suppose there's so many 'mysterious' suicides?"

For the truly insipid, the commercial enterprise may be diverting enough. But for anyone with a lyrical soul, commerce is numbing, even depraved.

Deirdre McCloskey has offered, in the first two books of a trilogy, Bourgeois Virtues (2007) and Bourgeois Dignity (2011), a spirited and detailed defense of the ethics of capitalistic acts between consenting adults. I loved the first book, in particular, because

it squarely and consciously takes on the problem of virtue. Marx riffed on Aristotle, who came to Catholicism and the West largely through the pen of Aquinas, and while Marx's other stabs at argument have largely withered—outside of university English departments—the virtue-ethics condemnation of capitalism has largely survived and has rarely been seriously challenged. McCloskey recognizes the importance of not just the scientific and material, but the rhetorical conception of commerce. She argues persuasively that materialist conceptions of markets and commerce are not only impoverished, but ferociously misleading. Bravo.

In this third volume, much as Marx did in volume III of Das Kapital, McCloskey must try to nail down all the claims that until now have always been proved only by forward reference ("As I will show..."). Bourgeois Equality was, for me, less persuasive and in some ways less interesting than the previous two books.

But that may be because of my own biases, which I should confess. As a student of Barry Weingast and Douglass North, I start with institutions as the primary explanation of persistence and change in history, and consider transaction costs the answer to almost any question worth asking. This is one of the views McCloskey derides. Further, I am a fan of Hemingway, not Faulkner. McCloskey will rarely say in 50 words what can be said in 500. Though her writing is felicitous, it can also be self-indulgent, with just a bit too much delight in the exactly right phrase.

So, recognizing that my issues with the book may come from my own limitations rather than those of the book, I will nonetheless say what those issues are. The quarrel between North and McCloskey is complex, but it could (simplistically) be summarized in terms of the requirements of market participants' understanding and awareness. Compared to McCloskey, North hewed much more closely to the line taken by Hume and Hayek that conventions and institutions are emergent rather than designed. What this means is that in societies with "good" institutions, the result might be prosperity and peace, but those who enjoyed those benefits probably did not understand the mechanisms that produced them.

This can be frustrating for someone who wants to make things better, of course. North, after winning the Nobel Prize, famously was interviewed by analysts from developing nations asking for advice. "What do we need to do to prosper?" North's answer was, "The first thing you'll need is a different history." If that's true, then not only do people not understand economic success, but they also can't even mimic it by adopting the formal rules of nations that have already succeeded. The rules that matter are the informal rules, the "laws" (in Hayek's terms) that govern social interaction. And informal rules by their nature cannot be adopted and may not even be directly observable.

Ideas are different. McCloskey wants the primary explanation for development and

"the Great Enrichment" to be a set of ideas. Ideas by their nature must be visible, even luminous, and must be consciously held, if perhaps not fully understood, by citizens of societies to have much effect. The idea that McCloskey identifies is useful enough: equality—in application of the laws, of liberty, and of essential dignity in the esteem of others. Everyone can have, and should want to have, a go. McCloskey (p. xxxi) quotes Adam Smith in this regard: "Allowing every man to pursue his own interest his own way, upon the liberal plan of equality, liberty, and justice."

I would prefer to call that "permissionless innovation," a set of institutions that fail to prevent, and can be prevented from preventing, attempts at having a go. That doesn't require that anyone understand the ideas; it only requires that institutions prevent interference. The name matters, because people have to accept institutions as good and worth preserving, but there need be little correspondence between doing and knowing why we do. To be fair, McCloskey is careful to point this out in chapter 38, "The Causes Were Local, Temporary, and Unpredictable." That is surely right, and I think this chapter and the section it kicks off are the strongest in the book. But I ultimately do not find the either/or debate between institutions and ideas very persuasive.

Overall, however, the book is quite persuasive: betterment depends on liberty. But—contra McCloskey-- it may not depend on the idea of liberty being understood and internalized. The key, as McCloskey rightly notes, is that the new rules changed the presumptive balance of power, or "shifted the burden of proof ... from those who advocated creation to those who opposed destruction. Ideas and rhetoric in northwestern Europe had begun to change in favor of creative destruction" (p. 471). If McCloskey is right, and institutions spring from ideas and need persuasive rhetoric to buttress the positions of their defenders, then ideas may really be as important as she says. I wish I shared her optimism about either the ability of mass publics to understand ideas or the willingness of opponents to concede their own claims when confronted with good rhetoric.

BOOK REVIEW

THE COMPLACENT CLASS:

THE SELF-DEFEATING QUEST FOR THE AMERICAN DREAM.

Tyler Cowen. New York: St. Martin's Press, 2017. Pp. ix + 241. \$28.99, hardcover.

Review by Robert Whaples, Wake Forest University

Tyler Cowen is a remarkable thinker, one of the leading public intellectuals and social observers of our day. If you follow his blog, Marginal Revolution, you may suspect, as I do, that there are actually half a dozen or so men named Tyler Cowen. How else could he (they?) read so much and have so many interesting things to say on so many different subjects?

Fittingly, the subject of The Complacent Class is very broad: how economic, technological, social, cultural, and political factors have thrown Americans into a rut, a rut we do not seem to want to climb out of. We have, Cowen argues, become too risk averse and too set in our ways. We have lost much of our dynamism. There are growing problems all about us, and we have lost our sense of an urgent need to fix them.

Cowen argues that complacency dominates society from top to bottom and is evident in many facets of our lives. One aspect is mobility. Young people are much less likely to get driver's licenses than a generation ago. We no longer move very often: interstate mobility has fallen by 51 percent since 1948–71, intercounty mobility by 31 percent, and within-county mobility by 38 percent. In particular, moving to seek new job opportunities is down. We used to move to opportunity. Now we—especially people with low incomes—do not do so very much. Economic studies show that moving to opportunity has huge payoffs, but we are increasingly stuck in place. Part of the reason for this is state-specific occupational licenses. A bigger reason is that zoning laws make it too expensive for people to move to productive areas where wages are high. (In the 1950s, rent for the average New York apartment was about 11 percent of the median national salary; today the figure is an unbelievable 84 percent.) On top of this, we just do not seem to want to get up and go, to leave our familiar but suboptimal turf.

Another facet of complacency is the reemergence of segregation. The new segregation is increasingly along income lines, and the most segregated places tend to be booming metropolises. In the top ten are Austin, Columbus, Dallas, Houston, Los Angeles, San

Francisco, San Jose, Washington, and two major metro areas in the Carolinas: Charlotte and Raleigh. Higher-income people like to live in more expensive neighborhoods, among people like themselves, and insulated from social problems. This may be good for them on an individual level, but it harms society as a whole. It is largely enforced by building codes that keep the poor away from good schools, good role models, and good connections.

Perhaps the deepest manifestation of this complacency is our response to the Great Stagnation (the title of Cowen's previous book): the drop in American economic growth and deceleration of technological progress in recent decades. We have done little to overcome this. The fraction of the workforce engaged in research and development has fallen, with R&D intensity peaking in the 1960s. We have allowed monopoly power to rise in many industries, choking off competition and innovation. Business-startup rates are sagging, and the aging of our corporations has sapped their dynamism. The numbers are not pretty, and Cowen supplies many numbers. Conventionally measured standards of living are not rising much. Instead, education quality and levels are stagnant, suicide rates are up, and life expectancy has stopped climbing. Other symptoms include our lack of will to take on big projects as the nation did in the middle of the twentieth century—such as building the interstate highway system, defeating communism, and sending a man to the moon—and to take on more mundane problems such as the reduction in auto- and air-travel speeds. (I was reading the very section on this topic in an airport when a delay alert came to passengers on my flight. The electrons announcing the delay moved quickly to our cellphones, but we were stuck for hours.)

A note of optimism is in Cowen's discussion of how matching technologies (for example, Facebook, eBay, Spotify, and Yelp) have improved our lives. For example, more than a third of couples who married between 2005 and 2012 met online. Better matching is "a bit like fixing a traffic jam" (p. 116). But this is a double-edged sword because only those who are good at using information, infovores like Cowen himself, can actually benefit from it. I found this to be the least convincing part of the book. Are we to believe such matching technologies have really made marriage and other personal relationships work better than such relationships once did? If so, why is the fraction of the population married at every age declining so rapidly and why has the percentage of people who say that their marriage is very happy fallen since the 1970s? Why are people's social lives such a mess? It may be that these new technologies and the cultural drift they spawn only encourage people to become pickier; there is always something a little better out there they can find, and it is getting easier and easier to look. This might be fine when it comes to finding just the right restaurant, but it is a recipe for disaster when it comes to marriage. Perhaps it is easier to build a good marriage the old-fashioned way: by changing yourself, adjusting to the needs and personality of your spouse, truly caring about him or

her, and trying to make yourself a better person. Caring is an act of the will—a choice—and we have been replacing such choices with choice menus from websites. The matching technologies Cowen celebrates seem to only exacerbate the modern problem of focusing on ourselves too much.

Cowen closes on a cautionary note. The American political system is deeply dysfunctional. We used to riot when change was needed. Now we legalize marijuana. The federal budget is a mess: deficit are chronic, and about 80 percent of the budget is "locked in" to spending determined by programs (such as Social Security) we set up long ago. Congress has power but refuses to use it, pushing solutions into the future. The problem is cultural. We can (and do) now "sit at home for a week, read the internet, watch Netflix streaming, and have groceries delivered to [our] door, all in lieu of striving for greatness" (p. 170) while we have fallen, as Alexis de Tocqueville warned, "into a complete and brutish indifference about the future" (p. 168). By ignoring our problems and failing to make the hard choices to fix them, we let them build up; eventually an explosion will come, warns Cowen.

I am less pessimistic about economic stagnation than Cowen and see many routes by which rapid growth is possible and even probable—cutting counterproductive regulations, for example. Even if economic growth continues at lower levels, our material consumption will vastly exceed our needs. However, I am more pessimistic than Cowen about the fruits of our new technologies. With our material needs met, many will turn, continuing the modern trend, toward increasingly superficial wants such as the glorious dining experiences Cowen often extols, bondage dating (see p. 106), or even the mad quest of "strivers" to be "better" than everyone else in the world. This will be our failure to reach for greatness, for greatness comes from virtuous behavior and focusing on eternity.

POLITICAL ECONOMY IN THE CAROLINAS

Political Economy in the Carolinas is a fully refereed interdisciplinary journal broadly focused on government and public policy in North and South Carolina. It is affiliated with Classical Liberals in the Carolinas, a scholarly organization of academics, policy analysts, and business leaders meant to foster research and discussion of classical liberal ideas in formulating public policy in the two states. The analysis and research in published papers can take a broad range of approaches. The editors encourage comparative empirical analysis with other states in the region or nation, historical perspectives, interpretive or theoretical essays, and philosophical essays that might highlight classical liberal ideas in the context of contemporary policy analysis.

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