My Published and Ongoing Research Agenda
(What I Have Spent My Time Thinking About)

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Abstract

In this “research statement”, I describe my published research and ongoing agenda, or what I have spent my time thinking about, over the past thirteen years as an assistant and associate professor of economics. The contents are divided into five brief sub-sections as follows: Energy Booms and Busts - Part I (What I Am Known For), Energy Booms and Busts - Part II (My Work With Others), Economics of Aging and Distributional Issues (My Foundation), Evaluation of Policy and Local as an Approach (My Methods), and The Quality and Quantity of My Research Output, with Tables, Figures, and References appearing at the end.

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1. Energy Booms and Busts - Part I (What I Am Known For)

The economics of energy boom and bust is a primary research interest of mine and is now an established and prominent part of my research program. It has also become what I am most known for and my most cited research. My sole-authored work in this area includes two published academic journal articles in the Journal of Urban Economics and the Canadian Journal of Economics [13, 15], one working paper intended to become a academic journal article [21], one published book chapter [16], and one published research report [14]. The focus for this particular set of papers has been to use local labor market variation across Western Canada, which contains the majority of energy resources for the country, mostly within the province of Alberta.

The origin of this primary research theme can be traced to my time as a graduate student at Syracuse University and the work of one of my graduate labor economics professors, Dan Black (now at the University of Chicago), on the local labor market effects of the coal boom and bust in the Appalachian region of the United States. Upon my arrival to the University of Alberta, which was in the midst of one of its largest energy booms in 2007, I had immediately searched for similar research on Western Canada and was surprised that there had not been much published. I then applied for restricted-access to the data necessary to properly carry out the identification of the effects in this region.

This sole-authored research asks and answers several related research questions within the Western Canadian context. First, what are the gains and losses from energy price booms and busts, in terms of employment and earnings, both inside and outside of the energy extraction sector [13]? The second question was how much of the rise in inequality and the decline in poverty in Western Canada were attributable to its most recent energy boom and, more generally, how was the earnings distribution altered by it [15, 16, 14]? My third question investigates how an energy boom might alter the relative demand for certain tasks and how this demand best matches the composition of available skills [21].

The findings from these three questions are as follows. For the first question [13], the direct impacts of the previous two energy booms led to substantial gains in employment and earnings within the energy extraction industry, while the bust period was one of labor market stagnation. For every ten energy extraction jobs created during a boom period, approximately three construction jobs, two retail jobs, and four and a half service jobs were created. For the second question [15, 16, 14], the gains from an energy boom were shown to be widely distributed across all segments of the distribution, forming a significant U-shaped pattern in the relative magnitudes of its growth in earnings and income. Low income poverty was drastically reduced due to the boom-induced gains in the bottom of distribution, while
relative poverty slightly increased.

For the third and most recent question [21], routine tasks, and to a lesser extent manual tasks, were demanded in an energy boom. Both occupation groups involving routine manual tasks (operators, fabricators and laborers; and production, craft, and repair), as well as one occupational group involving non-routine cognitive tasks (technicians), significantly increased their employment shares during this boom. However, only the routinization of tasks was rewarded in wages during this boom; not manualization. This evidence from a conventional boom illustrates how it can impact labor, beyond the traditional changes in employment and earnings, and it serves as a counterexample to the documented occupational polarization often attributed to technological change.

I foresee at least one more sole-authored work paper that will follow up on the Western Canadian situation, to either revisit one my previously answered questions or to answer a new but related research question. My original work in this area contained two energy booms, in the mid-1970s and early 2000s, and one energy bust, in the 1980s, using Census data. Therefore, a more obvious thing to do would be to use newer Census data covering the more recent boom and bust, in order to gauge the more long-term effects for this resource-based regional economy. The proposed line of research could also help answer whether the subsequent labor market losses from an energy bust outweigh the initial labor market gains from an energy boom. This research would fall under my current funding from the Future Energy Systems research initiative, supported by the Canada First Research Excellence Fund (CFREF), running until 2023 at the University of Alberta.

2. Energy Booms and Busts - Part II (My Work With Others)

My sole-authored work on the subject of energy booms and busts led to the attention of several other interested researchers working on the subject, which has now produced a handful of successful collaborations with Kevin Milligan from the University of British Columbia [24], Jeremy Weber from the University of Pittsburgh [30, 31], and Tao Song, previously with the University of Alberta and now affiliated with the University of the South [29]. This has led to two published academic journal articles in the Journal of Policy Analysis and Management and the Journal of Economic Surveys [30, 31], one working paper intended to become an academic journal article [24], and one published research report [29]. This research has also received financial support from the National Bureau of Economic Research and the Sloan Foundation [24], my current CFREF funding [24, 31], the Social Sciences and Humanities Research Council (SSHRC) [30], and the Institute for Public Economics [29].
My current research with Kevin Milligan [24] ties the analysis of energy boom and bust together with the recent work of Anne Case and Angus Deaton of Princeton University on deaths of despair. Our research is based on the paired facts that white, lower-educated, males, in middle-age, which we coin as WLEMMAs, have seen broad-based declines in employment and health in recent decades and also happen to live in areas where energy resources are located and comprise the majority of those working in the energy extraction sector. Using instruments based on the timing of extraction and geological variation across the United States, we find that individuals from this group, particularly those aged 45 to 54, have significantly benefited from the recent shale boom, with higher employment and earnings, as well as lower poverty and disability rates. Starkly different effects on mortality are found across ages, with younger ages showing an increase and older ages a decrease in mortality. Kevin and I have already begun to analyze a similar research question for Canada, which will likely become its own follow-up research paper.

At the time that my sole-authored research on energy boom and bust in Western Canada was beginning to get published, Jeremy Weber was publishing similar research using local labor market variation in the US. Once we each became aware of each other’s work, around 2013, we decided that it might be a great idea to start to produce research together. This has led us to two joint publications, with one paper examining the local effects of the intertwining channels of the labor market and public finance stemming from the recent shale boom in the state of Texas [31], and one paper reviewing the literature on the local labor market impacts of natural resources [30], the later of which was supported by a SSHRC Knowledge Synthesis Grant and is starting to become widely-cited. While there were initial plans to do at least one more paper together, those plans were derailed when Jeremy took up a year-long position at the Council of Economic Advisers. Although we continue to remain in touch, it might take a while for us to revisit the intended third paper.

Our first paper together, which was actually our most recently published work [31], examined whether improved local economic conditions led to better student outcomes using the recent Texas boom in shale oil and gas drilling, with its large and localized effects on wages and the tax base. An empirical approach using variation in shale geology across school districts showed that the boom reduced test scores and student attendance, despite tripling the local tax base and creating a revenue windfall. Schools spent additional revenue on capital projects and debt service, rather than on teachers. As the gap between teacher wages and the private sector grew, so did teacher turnover and the percentage of inexperienced teachers, which help explain the decline in student achievement. Changes in the student composition did not account for the achievement decline, but instead helped to moderate it. These findings illustrate the potential value of using revenue growth to retain teachers in times of rising
private sector wages.

In our second paper together, which was actually published first [30], we reviewed the literature linking natural resources to local labor markets by organizing existing studies according to their measurement of resources and the outcomes that they considered. This synthesis provided an accessible guide to a recent booming literature, identified promising avenues for future research, and laid a foundation to further generalize the evidence through an eventual meta-analysis. The premise is that a primary way in which natural resources affect a locality is through the demand for labor, with greater extraction requiring more workers. Shifts in labor demand, measured by the main labor market outcomes of employment and earnings, or more generally through changes in the population and income, may spillover into the non-resource economy. This could lead to greater overall effects or possibly crowd out, alterations to the distribution of income and the poverty rate, or educational outcomes being influences, the last of which we found in our other paper.

3. Economics of Aging and Distributional Issues (My Foundation)

The economics of aging and retirement was my initial research focus and continues to be a strong foundation for my research program. This concentration has led to four published academic journal articles in the Journals of Gerontology [4, 6], the Journal of Economic Inequality [7], and Economics Letters [5], one working paper intended to become an academic journal article [22], one published handbook chapter in the Handbook of the Economics of Population Aging [28], and one published book chapter in Gerontology: Perspectives and Issues [27]. I have also served as an expert witness in the economics of aging to the Senate of Canada (see service statement).

My interest in the economics of aging began during my doctoral studies at Syracuse, which was funded in part by a research assistantship in the Center for Policy Research with Tim Smeeding (now at the University of Wisconsin - Madison), who subsequently became my adviser and co-author on many of these publications, and a dissertation fellowship from the Center for Retirement Research at Boston College. These collaborations with Tim included an early publication on the importance of home ownership among older adults [4], an investigation of how the retirement-consumption puzzle changes when the definition of consumption is broadened to include consumption flows [5], the identification of elder poverty rates when defined by income, consumption, or both [6], and an assessment of how public policy interacts with retirement and financial security [27]. A subsequent paper with Jonathan Fisher [7] was the distributional successor to the retirement-consumption work.
My final collaboration with my adviser was published as a handbook chapter in 2016 [28], describing the relationship between poverty and aging in terms of its measurement and trends, as well as its alleviation, with particular attention to the most vulnerable individuals at each end of the age distribution. It highlighted a significant reduction in poverty among the elderly and a gradual increase in poverty among children and working age individuals, both in the United States and across the greater developed world, over the past 50 years. Two important secular changes were also detected: a college spike and a retirement dip in poverty across the age distribution. I have since been working on a sole-authored follow-up [22] to that handbook chapter, which identifies the exact timing of the emergence, expansion, and endurance of that college-aged spike in poverty for the United States. This research is intended for the Journal of the Economics of Ageing, which is a relatively new outlet to emerge as competition with the more established Journals of Gerontology.

The twin distributional concerns of inequality and poverty have also been a commonly recurring theme in my research, mostly due to my own interest, but also partly due to the influence of my adviser. This could already be seen in my previously described sole-authored research on the economics of energy boom and bust [15, 16, 14] and immediately above for the economics of aging and retirement [6, 7]. However, there are also some papers, which are unrelated to energy or aging, that solely focus on the measurement of inequality and poverty. One of these papers examined the ranking of inequality and poverty measures and showed how the precision of these estimates matters for their relative rankings [11], with another paper investigating the interaction of inequality and civic engagement [23], both of which were again co-authored with Tim Smeeding. There is also a distribution paper in the works on the boom in cocoa prices in Ghana with a graduate student [1]. The last subject most directly related to distributional concerns is my work on the minimum wage [8, 10, 17, 19, 26], which will be described in the next sub-section.

4. Evaluation of Policy and Local as an Approach (My Methods)

The policy relevance of my research stems from my doctoral training in the Department of Economics at Syracuse University, which is uniquely embedded within the Maxwell School of Citizenship and Public Affairs. My research evaluating public policy has covered several topics, such as energy transitions and the environment [2, 18], family time [33], minimum wages [8, 10, 17, 19, 26], and opioid use [3, 24]. This research has taken the form of four working papers intended to become journal articles [2, 3, 8, 24], one published trade journal article [18], one published book chapter [33], two published research reports [19, 26], and two published op-eds [10, 17]. These contributions are meant to inform policy at all levels
of government, as well as engage in a wider dialogue taking place both inside and outside of academia, with proximity to the provincial government as an asset (see service statement).

My first major foray into the direct evaluation of a policy began in 2015, a full eight years after my graduation from the Maxwell School, when the Government of Alberta set forth a policy of increasing their minimum wage by 47 percent over four annual increases to reach the level of $15 by 2018. This began as a talk given to the Economics Society of Northern Alberta in that year, followed by an op-ed in 2016 [17], a full research report on the policy released in 2017 [19], a co-authored op-ed in the national newspaper in 2018 [10], an appointment as Chair of the Minimum Wage Expert Panel in 2019, which led to a forthcoming report from the panel in 2020 [26], which partly relies on the analysis of a working paper co-authored with fellow University of Alberta professor Sebastian Fossati to be released in 2020 [8]. This line of research first forecasted employment changes based on previous estimates apriori, and then produced its own employment change estimates a posteriori, once the data became available. Our evidence shows that, employers complied with the policy, with workers incrementally moving up the wage distribution, but some young and non-urban workers lost employment.

My second major foray into policy evaluation began in 2017, with the publication of my trade journal article on defining energy jobs as “green” or “brown” [18] and my application to what would become five years of research funding for Future Energy Systems from CFREF. Any energy transition that may take place from non-renewable to renewable sources will likely be tied to environmental policies, such as the Canada Wide Standards for Particulate Matter and Ozone to improve air and water quality. In work with fellow University of Alberta professor Dana Andersen, we investigated how this policy, the largest of its kind enacted in Canada, impacted local labor market outcomes, as well local air quality [2]. We exploited features of the policy that generate variation in regulatory stringency, both over time and across geographical regions. As expected, we found that an increase in the stringency of regulations reduces both Ozone and Particulate Matter pollution concentrations, whereas a decrease in the stringency increases pollution concentrations, though to a lesser extent. We found that the increase in the stringency of regulations significantly reduces hourly and weekly earnings, but does not significantly affect employment or usual hours worked.

Important policy decisions cannot be based upon measurement that is not grounded in sound theory, nor can these policy decisions be based on theoretical predictions that are not established as empirical fact. Therefore, good empirical research must begin with an important research question, based upon a solid foundation in economic theory. This research then needs to utilize the best means of identification possible, in order to produce the closest estimation to the true impact and be reliable for any public policy judgment. For this
purpose, I typically use local geographical variation to measure local labor market effects as my approach, in order to study the supply and demand of labor, changes to employment and earnings, the creation and destruction of jobs, indirect spillovers into other industries, and changes to the wage structure and its relation to inequality and poverty. Most all of my energy papers described earlier take this local approach [13, 14, 15, 16, 24, 29, 30, 31], given that an energy boom or bust can be described as a type of local labor demand shock.

Two other of my non-energy papers also take this local approach, with their own shocks to local labor demand in Canada and the US respectively, to ask whether newly-constructed casinos are good at local job creation inside and outside of gambling [12] and how have gender gaps in wages and employment been altered by the Great Recession [25]? For the first question, we found that a new casino generated gains in employment and earnings, not only in the local gambling industry, but also in the related hospitality industry as well. For every gambling job created, roughly one to two additional hospitality jobs were created [12]. For the second question, recessions can close gender gaps in employment and wages, if the labor demand of men is negatively impacted more than women. During the Great Recession, the hourly wage gap was differentially reduced by seven to ten percentage points in states with a higher concentration of employment in male-dominant and cyclical industries, whereas the employment gap was differentially reduced by five to seven percentage points [25].

In order to use innovative empirical techniques, the quantity and quality of the available data need to be exceptionally good, which is fortunately the typical case for a well-established discipline like labor economics. I have used several different data sources on North America to produce my estimates, including the Canadian Labour Force Survey (LFS) [2, 3, 8, 10, 17, 19, 20, 26, 32], the Canadian Census of Population [12, 13, 14, 15, 16, 21, 29], the US Consumer Expenditure Survey (CEX) [4, 5, 6, 7], the US Current Population Survey (CPS) [22, 25, 28], and the American Community Survey (ACS) [24]. Other sources that I have used for my research include the cross-national Luxembourg Income Study (LIS) [11] and Organisation for Economic Co-operation and Development (OECD) [28], as well as data on countries such as China [9] and Ghana [1]. Roughly half of my research output has focused on Canada (16 of the 33 references), with one third on the United States (11 of 33), and approximately one fifth cross-national or based outside of North America (6 of 33).

5. The Quality and Quantity of My Research Output

My research agenda has been fruitful, having produced twenty-six publications [4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33] and seven working
papers [1, 2, 3, 8, 21, 22, 24] over my thirteen years as an assistant and associate professor.
I have also raised over $350,000 of funding for this research, from several respected sources, notably the Canada First Research Excellence Fund (CFREF), the Social Sciences and Humanities Research Council (SSHRC), and the Worldwide Universities Network (WUN), the details of which can be seen on my curriculum vitae.

According to Google Scholar, these publications and working papers have been cited 772 times, with 438 cites (56 percent) over the past five years, as shown in Table 1. Many of these citations are for my sole-authored work, particularly my Journal of Urban Economics (JUE12) [13], which is also my most cited paper, or for my co-authored work with Jeremy Weber, which appeared in the Journal of Economic Surveys (JES18) [30].

The h-index shows that 12 articles have been cited at least 12 times, and the i10-index indicates that 15 articles have at least 10 citations. These indices further indicate that, during my thirteen years as a professor, I have produced at least one noteworthy article per year. My annual citations are also on a sharp upward trend, as shown in Figure 1. Total citation counts from other sources range from around 160 to over 320, with h-indices ranging from 7 to 9 and i10-indices from 5 to 7.

Almost all of my research is available on the Research Papers in Economics (RePEc) network, a widely-accepted source of exposure for our discipline. Based on my RePEc publication record, I have ranked as high as the top 6th percentile of all economists when evaluated over the past 10 years (April 2017) and the top 14th percentile of all economists over all years (April 2017). When limited to Canadian economists, I have ranked as high as the 72nd over the past 10 years (February 2018) and as high as 235th over all years (April 2017).

My research output comes in several different forms, including twelve articles in academic journals [4, 5, 6, 7, 9, 11, 12, 13, 15, 25, 30, 31], one book [32], one handbook chapter [28], three chapters in other books [16, 27, 33], one article in an industry journal [18], four research reports [19, 23, 26, 29], and four op-eds [10, 14, 17, 20]. This differentiation of outlets allows for my research to reach the widest possible audience.

Given that academic journal articles are most reflective of our standards for high-quality, rigorous, and unbiased research, the quality-adjusted quantity of this particular output is of utmost importance. The calculations shown in Table 2 are based on summations of each of these articles multiplied the impact factor of its journal, using three different factors. Isolating my twelve academic articles and adjusting them for the quality of the journals they are published in, the quality-adjusted count is, on average, double the initial count of twelve articles, now ranging between twenty-two and twenty-eight.

I also currently have seven working papers [1, 2, 3, 8, 21, 22, 24], either under review or in
preparation, with six intended to become future academic journal articles. These too have been examined using a quality-adjusted count in the same manner in Table 2, in order to provide an indication of the implied quality of my published output over the next few years. Of course, given the nature of the review process, not all of these articles will be published in their targeted journals. Lastly, there are an additional fifteen publications, beyond the published and intended to be published journal articles, that also need consideration.
# Tables

Table 1: Total Citation Counts of Publications and Working Papers

<table>
<thead>
<tr>
<th>(as of May 2020)</th>
<th>Google Scholar</th>
<th>Research Gate</th>
<th>Mendeley Scopus</th>
<th>RePEc Citec</th>
<th>ISI Web of Knowledge</th>
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</thead>
<tbody>
<tr>
<td>Citations</td>
<td>772</td>
<td>438</td>
<td>326</td>
<td>273</td>
<td>219</td>
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<tr>
<td>h-index</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>i10-index</td>
<td>15</td>
<td>11</td>
<td>(7)</td>
<td>(5)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

Notes: The citation counts for my publications and working papers are summarized through the total number of citations, the h-index, and the i10-index. These statistics are provided by several different sources: Google Scholar, Research Gate, Mendeley Scopus, RePEc Citec, and the ISI Web of Knowledge JCR. The h-index is the \( h \) number of works that each have at least \( h \) citations. The i10-index is the number of publications with at least 10 citations. Parentheses indicate numbers that were calculated by the author.
Table 2: Quality-Adjusted Counts of Academic Journal Articles

<table>
<thead>
<tr>
<th>(as of May 2020)</th>
<th>Article Count</th>
<th>ISI Web of Knowledge</th>
<th>JCR Impact Factor</th>
<th>Scopus Cite Score</th>
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<tr>
<td>Journal of Policy Analysis and Management</td>
<td>1 x</td>
<td>4.712</td>
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<tr>
<td>Journal of Economic Inequality</td>
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<td>1.891</td>
<td>1.333</td>
<td>1.85</td>
</tr>
<tr>
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<td>0.876</td>
<td>1.10</td>
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</tr>
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<td>Applied Economics Letters</td>
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<td>0.591</td>
<td>0.77</td>
</tr>
<tr>
<td>Comparative Economic Studies</td>
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<td>.</td>
<td>.</td>
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<tr>
<td>Sum of Number of Articles Published x Score</td>
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<td>22.03</td>
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<tr>
<td>(American Economic Review)</td>
<td>(1) x</td>
<td>(7.048)</td>
<td>(4.097)</td>
<td>(5.46)</td>
</tr>
<tr>
<td>(American Economic Review: Insights)</td>
<td>(1) x</td>
<td>(.)</td>
<td>(.)</td>
<td>(.)</td>
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<td>(Energy Policy)</td>
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<td>(4.175)</td>
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<tr>
<td>(Journal of the Economics of Ageing)</td>
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<td>(.)</td>
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<tr>
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<td>(1.85)</td>
</tr>
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<td>(+ 18.95)</td>
<td>(+ 16.24)</td>
<td>(+ 18.39)</td>
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</table>

Notes: Statistics are presented for the journals which I have published in, been accepted to, or have expectations of being accepted to by the end of 2020. These statistics are based on the May 2020 Impact Factor and 5-year Impact from the Journal Citation Reports of the ISI Web of Knowledge, as well as the May 2020 CiteScore from the Journal Analyzer of Scopus. Parentheses indicate an association with articles that are under review and are not yet accepted or published.
Figures

Figure 1: Per-Year Citation Trends of Publications and Working Papers

Notes: Vertical lines indicate the year of hire as an assistant professor (2007) and the year of promotion to associate professor with tenure (2014).
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Marchand, J., Mettler, S., Smeeding, T., Stonecash, J. 2006. Inequality and Civic Engagement. Maxwell Poll on Civic Engagement and Inequality, Campbell Public Affairs Institute, 4-17.


