

Action Economics? Working with Citizen Groups in Revelstoke, BC to Evaluate the Impact of a Living Wage.

John Janmaat

Department of Economics, Philosophy and Political Science
The University of British Columbia – Okanagan campus
Kelowna, British Columbia, Canada.

john.janmaat@ubc.ca

Lindsay Harris

Community, Culture and Global Studies
The University of British Columbia – Okanagan campus
Kelowna, British Columbia, Canada.

lindsayellenharris@gmail.com

Kenneth Carlaw

Department of Economics, Philosophy and Political Science
The University of British Columbia – Okanagan campus
Kelowna, British Columbia, Canada.

kenneth.carlaw@ubc.ca

Mike Evans

Community, Culture and Global Studies
The University of British Columbia – Okanagan campus
Kelowna, British Columbia, Canada.

mike.evans@ubc.ca

Abstract

Participatory action research has enabled communities to develop knowledge informed solutions to local challenges, challenges often involving difficult trade offs in the face of resource constraints. The challenges are typically defined by the local context, limiting both availability of data and generalizability of insights. We undertook an *action economics* approach with a group of Revelstoke community members to deepen the collective understanding of the impacts that may result from adoption of a living wage policy. An EXCEL™ workbook with macros enabled community members to contemplate possible costs and benefits (by business sector) associated with the implementation of living wages within the community. This tool clearly demonstrated the heterogeneity of business impacts, and allowed participants to track the likely consequences to businesses instituting living wage benefits when and as underlying assumptions about the economic context were varied. Through this collaborative process stakeholders gained direct access to the economic model developed, and the capacity to trace the consequences for specific sectors of varying assumed values of key factors within the model. There are many context sensitive policy challenges that can benefit from an economic perspective, and this sort of action economics can be an effective approach for doing so.

Keywords:

Action research, living wage, community engaged research, poverty reduction, regional economic development

Introduction

Economic policy prescriptions are generally aimed at maximizing some measure of the wellbeing of *Homo economicus*, the consistently rational, narrowly self interested human optimally pursuing her self interest (Jensen 2010). As a mathematically convenient characterization of the human animal, *Homo economicus* sits at the core of most of the theoretical and empirical analysis conducted in economics. The mathematical rigor enabled by *Homo economicus* has led to abundant policy recommendations based on a quantitative comparison of selected measures of costs and benefits. This analytical rigor and the precision implied by quantitative predictions has lent economic analysis a perhaps undeserved status, sometimes leading to policy choices that are contrary to many understandings of the public interest.

The project described herein began when a group of social advocates and business owners concerned with poverty issues in Revelstoke, British Columbia sought our help to address an economic question: what would be the economic impact on the town if a critical mass of employers became living wage certified. Early on, many in the community clearly expected us to give them a number, and we similarly expected to be able to do some modeling and give them a number. However, through the course of working together, it became clear that the question was more complex and that there was no number that would be an appropriate answer. As a result, the work we participated in reflected the local context, and any predictions made have little if any generalizability. However, the methodology we adopted may inform similar efforts at 'action economics' directed towards helping communities address economic challenges they face.

Within Canada, most matters pertaining to working conditions fall under the jurisdiction of provincial governments. All provinces in Canada have implemented minimum wage laws, mandating that with few exceptions, employers must pay at least the minimum hourly wage. The cost of living is typically not constant across a province, with the result that the degree to which the minimum wage can allow a family to be active members of their community, or even meet the basic needs of the family, varies widely. The living wage is an attempt to recognize this disparity by calculating for each community what hourly wage rate for a full time

worker would be sufficient for a representative family to cover the cost of those things needed to be active members of the local community. It is typically, sometimes substantially, larger than the minimum wage. A living wage certified employer is one that voluntarily commits to pay its employees the living wage, and typically also require any subcontractors to pay the living wage to workers contributing services to the contracting firm.

Revelstoke, a small town in the eastern part of British Columbia, has been undergoing a significant economic transformation from a railway and forestry town to a resort community. The mix of employment opportunities and the cost of housing have both substantially changed, triggering concern about the impact on low income members of the community. A coalition of community stakeholders saw living wage certification as a means to help low income community members. However, some employers expressed concern about the impact of living wage certification on their business incomes. Members of the coalition reached out to UBC's Institute for Community Engaged Research for help in assessing the economic impact on Revelstoke of living wage certification. As the project dialog progressed, it became clear that the distribution of impacts across the different business sectors was a central issue holding up continued movement towards living wage certification.

The impact of living wage certification on Revelstoke businesses depends heavily on the local context within which these businesses operate. That context includes, for example, the unique cost structure of businesses in the community, the degree of transience of the pool of potential employees, the loyalty of local consumers and the additional value customers will pay to support a living wage certified business. There is a large margin of error around any estimates of these contextual factors, making any numerical predictions of the impact highly variable. Rather than assert values and thus impacts, we developed a spreadsheet tool that enabled us to work with the community to explore how businesses in different sectors are uniquely impacted by adopting living wage certification, under various (coalition member chosen) assumptions and scenarios. This enabled community members themselves to explore the reasonableness of assumptions and predicted outcomes, and what this meant for the likelihood that businesses would volunteer to become living wage certified.

The remainder of the paper is organized as follows. In the next section we describe engaged research and how

economic methods can be useful in engaged research. We then discuss wage policies, both those imposed by legal means and those adopted voluntarily. Next we describe the town of Revelstoke and how it has evolved over the recent past as it has become a resort community. This sets the stage for describing the spreadsheet tool we developed to help facilitate a deeper conversation about the living wage. This tool was build around the local context, and therefore this section also describes in some detail the data that was available for Revelstoke and how it was used. Finally, we discuss lessons learned from this exercise and how efforts like this can help enhance the quality of local policy choices.

Engaged Research

Academia is not undeserving of the 'Ivory Tower' label, with many academics avoiding the messiness and uncertainty that comes from engaging with communities as partners. This is particularly true for early career researchers, who must 'publish or perish' to satisfy the requirements for tenure and to secure promotion, requirements that often do not leave much time for developing relationships with community partners (Terosky 2018; Lambert-Pennington 2016; Graybeal et al. 2016). Paradigms of engagement have emerged, variously termed action research, participatory research, participatory action research, engaged research, etc. (Oswald 2016; Chevalier and Buckles 2019). The central tenants are that the engaged community members are research partners rather than subjects, that the focus is on solving problems of concern to the community partners, that new knowledge is co-created, and that learning is bi-directional.

While the term participatory action research seems to be intended to capture participatory and action research in one concept, participatory research and action research have distinct roots and objectives (Brown and Tandon 1983). Participatory research emerged from work with oppressed peoples. A central goal is empowering the oppressed to realize their situation and to work towards the restructuring of the system within which they are oppressed. Participatory research therefore pays particular attention to the power dynamics in place, and actively seeks to change these. By contrast, action research has its roots in organizational transformation in more developed countries. It is less engaged with identifying and challenging power structures, directed more

towards enabling positive change within existing structures. We feel the term ‘action economics’ best reflects how our work with Revelstoke interlocutors developed, as we were looking to help a community evaluate a policy within an existing structure.

Economics has largely avoided the engaged research that has emerged in other disciplines (see Pietrykowski 2015). In part, this may be a consequence of the strong quantitative bent of the discipline, particularly the hunt for statistically significant results that are consistent with models based on *Homo economicus*. Emerging insights from both inside and outside the discipline are challenging the assumptions behind *Homo economicus*. We leave it to the reader to consult work by behavior and institutional economists, and by biologists, psychologists, and others concerning human motivations and decision making. Work by Elinor Ostrom (for example 1990; 2010) emphasizes that informal institutions are sometimes able to solve collective action problems, and that how they do so is typically very context specific. Helping communities solve collective action problems requires understanding the local context, an understanding that often best emerges through an engaged dialog with the people who live that context.

The challenge of engaging with communities for economists can be illustrated using a statistical workhorse commonly employed by economists, the linear regression model. A number of well known relationships that define this model are:

$Y = X\beta + \epsilon$ $\hat{\beta} = (X'X)^{-1}X'Y$ $\hat{Y} = X\hat{\beta}$ $\hat{\epsilon} = Y - \hat{Y}$	$\hat{\sigma}^2 = \frac{\hat{\epsilon}'\hat{\epsilon}}{n - k}$ $\hat{\Sigma} = \hat{\sigma}^2(X'X)^{-1}$ $R^2 = 1 - \frac{\hat{\epsilon}'\hat{\epsilon}}{(Y - \bar{Y})'(Y - \bar{Y})}$
---	--

One general fact of this model, and all statistical analyses, is that increasing the sample size generally increases the precision of the estimates; $\hat{\sigma}^2$ typically decreases as n increases. Consequently, if n is small, forecasts, \hat{Y}

will not be very precise, and statistical confidence in the validity of any recommendations made will be weak.¹

However, decisions still need to be made.

As a corollary, a large sample can provide precise estimates of $\hat{\beta}$ while only explaining a small share of the variation in the data; a small R^2 . We then have confidence in our prediction of how the average individual will respond. However, the small R^2 implies that for many specific individuals, the estimate of \hat{Y}_i can be very different from the observed Y_i , and predictions may be similarly flawed. Individuals are not the average, but rather are departures from the average, a consequence of unobserved factors that are part of the individual's own context. Engaging with individuals or communities can reveal important contextual information relevant to individual i 's situation, and more meaningful recommendations can then be made that reflect i 's unique situation. Through such an engagement, the interlocutors may be expressing 'citizen preferences', where they evaluate potential policies in the context of the community they know, using information about that community they have as a consequence of their membership (Lewinsohn-Zamir 1998; Howley et al. 2010; Brennan 2012). Engaging with a small group of concerned citizens in Revelstoke is a small n situation, and through the engagement we learned about the local context and the local information needs that we could help contribute to.

Analysis of Wage Policies

Minimum Wage

Minimum wage laws are well established in many developed economies as a policy aimed at reducing poverty.

A minimum wage is a legislated wage rate floor. The argument for minimum wage laws is that those who are employed should be able to achieve some basic standard of living using the wages they earn. Simple classroom analyses typically conclude that setting a wage floor above the market clearing wage will lead to unemployment.

¹ It should be noted that statistical confidence and analytical precision do not necessarily translate into accuracy in prediction.

If true, then minimum wage laws may be counterproductive, increasing unemployment, likely among the least employable, and thereby not addressing poverty. There has been an abundance of empirical investigations into the validity of the simple analysis, with each such study describing how the studies to date are inconclusive (for an example of the debate see Allegretto et al. 2017; Neumark and Wascher 2017).

The research into the employment effects of minimum wage laws only partly addresses the policy objective, poverty reduction. Whether or not minimum wage laws reduce poverty depends on, among other things, the composition of the household within which the wage earner lives. Green (2014) interprets the body of evidence as demonstrating that whatever employment effect there is, largely impacts teens, most of whom live in a household with other income sources. This interpretation is supported in part by Rybczynski and Sen (2018) with Canadian data. Rybczynski and Sen's work also suggests that increasing minimum wages may reduce employment for recent immigrants, with Dickens et al (2015) finding that UK increases in the minimum wage lead to employment reductions among part-time females, and Lordan and Neumark (2018) finding that minimum wage increases encourage automation of low skill jobs, with older, female and black workers bearing a larger share of the effect.

Living Wage

It is fair to say that in most contexts the minimum wage is motivated by the desire to ensure some standard of living, but beyond vague terms like "basic" the nature of that standard and its calculation are absent, and the living wage movement has emerged directly in response to the inadequacy of the minimum wage to provide sufficient purchasing power for low-income families (Evans 2017). The living wage movement is an attempt to recognise individuals' desires to function in and feel a part of community and society through productively supporting themselves and contributing to that community and society by earning a wage that supports their capacity to effectively participate. Recognition of these individual desires is found in the writings on wages and distributional justice of such authors as Adam Smith, John Rawls, Amartya Sen and more recently Green (2014). The basic view is that people require a basic level of income which enables them to maintain the respect of

others in society. Green and others (e.g. Carr et al. 2016; Nussbaum, 2011) have also pointed out that self respect is an important 'capacity' that an individual needs to function in society. A key feature of these views is found in Thurow's (1971) idea that a contextually fair income distribution within a society constitutes a pure public good. All members of a society experience the benefits of this public good but there is a gap between the social and private return of supplying this public good, providing an impetus for redistributive intervention.

There are two important ways that the living wage movement seeks to increase the wage earned by low wage employees. One approach is to put pressure on political entities that set minimum wages to raise those wages to a living wage level. In the United States, where local governments can pass wage ordinances, the living wage has been achieved in some communities through legislation. Another approach is offering employers the opportunity to become living wage certified. Certification bodies will have calculated living wages that reflect local contexts, with a target consumption bundle for a representative household normally forming the basis of the calculation. What is included and excluded from the bundle is somewhat subjective and therefore sometimes contentious (Brennan 2012). The conditions for certification typically require that all employees receive in aggregate – net of expected gratuities, the value of benefits, etc. – the living wage calculated for their particular situation. These conditions also commonly require that contracted services be from firms that also commit to paying the living wage to those employed in providing the contracted service.

Within Canada, minimum wages are set at the provincial level, and as a consequence of economic and geographic variation across provinces, the level of the minimum wage is at best weakly related to the cost of living and being active participants in any specific community. The British Columbia office of the Canadian Centre for Policy Alternatives developed a methodology for calculating a living wage (Ivanova and Weiler 2015; Ivanova and Saugstad 2019), initially focussed on Vancouver and Victoria, BC (Richards et al. 2008). The required wage is calculated by determining the financial needs of a reference family with two full time working parents and two children, age 4 and 7. This financial need is net of government transfers. The calculation is based on an average household consumption bundle which includes needs like adequate housing,

transportation and telecommunication, but does not include amounts for savings, holidaying, etc.. For Revelstoke in 2015, the living wage was calculated as \$18.87 per hour at the time this research was undertaken (Zacharias and Lenzi 2015).

Becoming living wage certified requires the employer to determine how much their employees are earning, both as wages and as non-wage benefits, and then increase that to meet the living wage calculated for their community for those employees earning less than the living wage (First Call: BC Child and Youth Advocacy Coalition 2013). There is no question that paying a living wage will increase hourly labour costs for firms with employees who would otherwise be paid less. Convincing employers and local government to become living wage certified then hinges on convincing decision makers that there are benefits which more than offset the additional wage costs. Some suggested benefits include reduced turnover and thereby training costs, increased labour productivity, the ability to increase gross revenue by charging higher prices on account of being able to display a living wage certificate, and recycling the additional wages paid through increased economic activity in the local community (a 'multiplier' effect). The research to date suggests that these benefits do occur, but whether or not they offset the higher wage cost isn't typically empirically evaluated (and perhaps in some cases not fully evaluable using standard marginal rate of return analysis).

Impact and Assessment of Living Wage Initiatives

There have been a number of studies that have attempted to measure the effect of living wage policies on employment and poverty rates. Neumark (2002) provided one of the first comprehensive empirical analysis of these effects, finding that living wage policies increased the wages of those with work, while reducing some employment. Overall, the net impact was positive for the poor. The statistical methodology of this work was challenged by Brenner et al (2005), finding that the results are not robust, with much of the result driven by conditions in just one case - Los Angeles. Adams and Neumark (2005) updated Neumark (2002), responding to the criticisms with a larger dataset and improved methodology. They are able to verify many of their earlier results. In an empirical survey of 31 of the 120 communities in the United States that had adopted living wage

legislation as of 2002, Buss and Romeo (2006) observed that several cities experienced a positive labour market impact and a decline in unemployment following the introduction of a living wage ordinance, while just two cities experienced “unfavorable” increases in unemployment. They conclude there is little evidence that living wage policies create significant employment losses. Neumark et al (2012) analyze wage, employment and poverty rate impacts for a set of US cities that have implemented living wage policies. They find that wages for those employed rise, but unemployment is also increased, and the inflow of support funds from senior government is reduced. On balance, they find that living wage policies have reduced the poverty rate, but at the same time moved some people to a more serious poverty state. Lester (2011) compares cities in California with and without living wage policies, and finds no evidence of negative effects on employment or the number of establishments. Clain (2008) finds that living wage policies reduce poverty rates while minimum wage laws do not. She speculates that the difference occurs because living wages are often implemented through local government procurement policies, making the living wage a transfer from taxpayers to employees. In later work, Clain (2012) shows that a community’s decision to implement a living wage policy may be driven by local economic conditions, potentially endogenizing efforts to measure the economic effects of such policies. This is clearly the case for Revelstoke, where interest in a living wage is a consequence of the local economic conditions. Luce (2014) notes that while there are few negative effects and demonstrable positive effects from living wage laws, the scope of coverage touches only a small fraction of low-wage workers. She observes that for many living wage proponents, the benefit of living wage campaigns lies in the use of the living wage as a stepping stone for other poverty reduction initiatives, such as building coalitions, influencing public debate on wages and strengthening union organizing and bargaining power. This too is relevant to the case in Revelstoke, where the living wage is considered as one possible tool in a broader poverty reduction strategy.

In contrast to living wage ordinances in the USA, in Canada and the UK, living wage certification is voluntary. Understanding why employers might choose to become living wage certified is therefore complementary to the impacts on employees of living wage certification. The voluntary nature of certification and the relatively small share of firms participating has meant that employer/employee surveys play an important part in assessing the

impacts of living wage certification. Parker et al (2015) interview owners of three living wage certified firms in New Zealand. Owners were driven more by personal ethics than any expected business benefits. Interviewees did recognize enhanced employee moral, reduced turnover, etc. as well as reputational benefits leading to additional sales/contracts. Luck (2016) also observed that value congruence was the main driver for both Vancity Credit Union and the City of New Westminster in their living wage transitions. Contracting firms were supportive of this transition when they understood that Vancity expected to pay more for their services. Linneker and Wills (2016) surveyed such contracting employers. Client demands were primarily responsible for employers making a living wage transition. Where increased costs could be passed on to clients, employment effects were minimal. When costs had to be absorbed, profits fell together with reductions in employment hours. The higher wages were used to recruit more skilled workers. While full time workers benefit, hour reductions offset the higher wage for some workers, limiting the impact on in-work poverty. Stansfield (2017) surveyed LW firms in NZ, also finding that participation is heavily driven by values, with expected benefits not decisive. Employers noted an impact on the firm wage profile, reducing incentives for employees further up the wage scale. Consistent with an efficiency wage (Stiglitz 1976), paying wages above the market clearing or entry wage is important for incenting worker effort. Werner and Lim (2017) interviewed employers and surveyed employees in three small and medium sized LW enterprises. Employers noticed some benefits, but also saw the LW as undermining performance based pay. Swaffield et al (2018) surveyed employees in three LW firms. Most employees were part of households with other income sources, limiting the poverty reduction effects. Single person households and single parent households were the most likely to be earning low wages and poor, and materially deprived. Provided hours didn't decrease, these were the households that benefited most. Johnson et al. (2019) notes that firms voluntarily choosing to become LW certified are typically firms with few employees below the LW threshold. The LW initiative has made little inroads into retail and hospitality, which rely on low wages as their competitive advantage. This last finding is of particular importance to our research presented here. As a resort community, retail and hospitality make up a large part of the local economy of Revelstoke, with chains, franchises, and electronic commerce providing competition that limits the flexibility many employers

have to become living wage certified.

Cost/Benefits for Employers

Until relatively recently, much of the research on employee turnover has started with the assumption that turnover is costly and should be reduced. Rare early work, such as Woods and Macaulay (1989), collected information from a small number of firms in high turnover industries and argued that this high turnover was costly to the firms. Recently, more attention has been paid to the costs to the organization of employee turnover. A review by Shaw (2011) concludes that overall, turnover is costly to firms. Some of the recent research is particularly relevant to Revelstoke. Hinkin and Tracey (2000) examine costs for four hotels, finding that turnover costs are as much as thirty percent of the annual wage for front line staff, and that around two thirds of this is hidden lower productivity as recent hires learn how to work in their new position (see also Davidson et al, 2010). Kacmar et al (2006) show that for a sample of 262 Burger King™ restaurants, increased worker and manager turnover both contribute to increased food waste and increased wait times, with longer wait times resulting in lower sales. Ton and Huckman (2008) find that in retail, stores that have highly structured procedures suffer little from high turnover rates, while more flexible organizations where employee knowledge is important suffer greater losses. Overall the turnover research suggests that firms which can highly structure the tasks workers perform are not seriously impacted by high turnover, while those where task complexity and/or social capital requirements are high find turnover costly. Benefits of living wage certification that relate to turnover will therefore be organization specific. In tandem with turnover, reducing employee theft can also reduce employer cost. There is considerable research relating wages and employee behavior. Tucker (1989) finds that lower income and marginal employees may see theft as a justifiable response to their working conditions and pay rate. Greenberg (1990) showed that pay reductions correlate with increased theft, but that clear communication about the reasons for the pay reduction reduced theft rates. Chen and Sandino (2012) find that convenience stores paying relatively higher wages experience lower theft, and that this effect contributes to strengthening norms of behavior within the organization. While the relationship between theft and a living wage has not been studied for firms implementing a living wage, Fernandez et al (2014) found that living wage

communities have lower rates of property crime.

To what extent the 'living wage certified' brand has value has received little attention. However, certifications for environmental performance and social responsibility have existed for quite some time and received some attention. Examining the Energy Star rating for refrigerators, Houde (2014) finds that many consumers who are not fully informed about the appliance energy cost are willing to pay significantly more for appliances with an Energy Star rating. Similarly, for eco-certified buildings, Fuerst and McAllister (2011) measure a significant premium in both rental rates and property sales prices. As shown by Schnietz and Epstein (2005), a reputation for social and environmental responsibility can protect a firm's share value from a perceived increase in the risk of regulations. These and similar results suggest that consumers use certification and reputation as an indicator of a firm's performance around things that consumers care about. To the extent that consumers care about the wages earned by those employed by the businesses those consumers purchase from, living wage certified firms may see increased sales or a willingness of consumers to pay a higher price.

Broader socio-economic impacts

Beyond the question of impacts to firms and sectors are the questions about the broader economic impacts and benefits of a living wage program, such as changes to the rate of spending leakage to nearby communities, overall growth in the local economy, or changes to the community's sense of resiliency or connectivity. Large scale analyses have been conducted, such as the KPMG (2015) economy wide assessment of the effect of moving to the living wage. The range of possible outcomes was substantial, and hinged on the choice of assumptions about productivity impacts. Local economic impacts would be subject to even more assumptions. Multipliers and spillovers, as ways of thinking about what a living wage initiative might generate in terms of net social benefit, are not easily measured or in some cases may be unmeasurable in economic cost-benefits terms (Serrato and Wingender 2016; Crompton et al. 2016). Although a direct quantification of multipliers and spillovers may not be possible, the ability to approximate the expected costs for firms provides a means of benchmarking, and thus generating dialogue among stakeholders about possible offsetting benefits. At the very

least such business cost analysis gives an indication of how large the economic multipliers and spillovers (such as improved labour retention and productivity, re-spending multipliers or increased community volunteerism) and the social multipliers and spillovers (such as poverty and crime reduction or increased tourism) that might result from living wages have to be at the broader social level to justify their implementation.

Revelstoke

Revelstoke is a small city in the south eastern interior of British Columbia with a population of 6,719 (Statistics Canada 2016), built on lands used by the Secwépemc and Sinixt peoples (Ignace and Ignace 2017). Revelstoke began as an important service hub for the Canadian Pacific railway (City of Revelstoke 2015). Local mining and forestry activities added to the local economy. In the 1970's, construction of dams that were part of the Columbia River Treaty supported the local economy. The city population reached a peak of more than 8,000 people in the 1980's. However, when the infrastructure projects were completed, and modern technology reduced the need for train crews, jobs and city population began to decline. Efforts to offset this decline brought the community together to find new economic drivers. The latest and most successful has been the Revelstoke Mountain Resort development. The resort, and designation of Revelstoke as a resort community, have contributed to a resurgence of economic growth and reversed the population decline. However, it has also brought rapidly increasing housing costs; housing prices increasing by 33% between 2006 and 2011, and average rental prices for a two-bedroom apartment increasing by 64% over the same period (Zacharias 2012). The cost increases are challenge for those with limited means.

Within Revelstoke, there have been a number of poverty reduction efforts over the last two decades. In anticipation of some of the challenges of becoming a resort community, an affordable housing strategy was developed in 2006, building on previous housing affordability studies dating back to 1995 (Zacharias 2006). The Revelstoke Social Development Coordinator and the Revelstoke Community Social Development Committee, with support from the Columbia Basin Trust, developed a poverty reduction strategy for the city in 2012. The

Community Social Development Committee consists of community social sector professionals, business representatives, community members, and a City Council representative (Town of Revelstoke 2013). This led to the creation of the Revelstoke Poverty Reduction Working Group, a multi-sector coalition of community stakeholders which drove the interest in a living wage policy for the community. Focussing on a living wage highlights the cost of living in Revelstoke, the growing economic insecurity of some members of the community, and the resultant inability of these people to actively participate in the community (Zacharias 2006; Zacharias 2012).

The Revelstoke Credit Union (RCU) initiated a push towards formal living wage certification for Revelstoke businesses in 2014. In consultation with the VanCity Credit Union and Living Wage for Families BC (LWFBC), RCU cooperated with the Social Development Coordinator to calculate a living wage rate for the community. In January 2015, *A Living Wage for Revelstoke and Area* was published, documenting the calculated living wage rate of \$18.87 for Revelstoke (Zacharias and Lenzi 2015). When it became clear that LWFBC certification required that employees of contractors also receive living wages, the RCU backed off on supporting this initiative (Revelstoke Credit Union 2015).

Expanding the Living Wage Conversation in Revelstoke

Engagement

After the move towards LW certification by the RCU stalled, stakeholders were left to find an alternative approach to investigating the potential role of a living wage in Revelstoke, which led to engagement with the Institute for Community Engaged Research (ICER) at UBC's Okanagan campus. The poverty reduction working group was taken by surprise by events, and a new informal coalition of stakeholders emerged through the resulting dialogue. In particular there was a focussed effort to include voices from the local business community. To this end Community Futures Development Corporation (CFDC) of Revelstoke joined the conversation, and brokered some formative meetings with ICER. Initially, Evans, an economic anthropologist and then Director of

ICER, was approached for help. On the basis of the initial conversations economists Janmaat and Carlaw were added to the dialogue. Subsequently Harris, an interdisciplinary PhD student with a strong interest in community engaged economically oriented research, was recruited to support the developing research. As appropriate to a community engaged research approach, the priorities of the research team shifted with the emerging consensus with and among community interlocutors – this moved our research approach towards the “action” end of the participatory research spectrum.

As a result of initial conversations with this new informal coalition of stakeholders, the UBC research team undertook initial research around the LW related issues elsewhere; from this work we developed materials for a community workshop to discuss key issues and establish a “made in Revelstoke” way forward for the research. Workshop participants were recruited by Community Futures and the Revelstoke Social Development coordinator. The range of participants continued to be multi-sectoral, but also reflected an active concern to engage the local business community. Of the 15 Revelstoke participants in the first workshop 3 were small business owners, 3 were part of the RCU, and 4 were from local economic development organisations.

We approached our first workshop with community stakeholders expecting to develop a simulation study, as has been done for other communities considering a living wage (e.g. Neumark, Thompson, Brindisi, Koyle, & Reck, 2013; Pollin & Brenner, 2000; Pollin & Wicks-Lim, 2006, 2009). Such simulations invariably require assumptions to be made about numerous important variables, and we expected a dialog with the group to help us bracket those assumptions. What became clear during the meeting was that the group was interested in a wide range of impacts, impacts which were far outside the scope of any model that could be developed. As we had already ruled out approaches such as a regional computable general equilibrium (CGE) model (Partridge and Rickman, 2010), on account of data limitations, at this point we could have said that there was nothing we could contribute and moved on to other projects. However, as the decision to adopt a living wage policy has efficiency and distributional impacts, we felt that there was a role for the insights that economics could provide. Bringing these insights into the discussion required engagement with the group of stakeholders more as partners than

outside experts, something similar to the 'action research' approach.

Participatory action research (Whyte 1989) explicitly integrates researchers and those who are the subjects of the research together as partners in the research endeavour. The research questions are the product of this interaction, as are the methods chosen. In our case, the initial research question was *what is the impact of living wage certification on the Revelstoke economy?* Engagement with the community stakeholders led to a new question, namely *how can the economics of living wage certification be represented within a conversation about broader impacts of the policy?* It became apparent that some members of the group were looking for a clear answer that they could base their policy decision on. Given the paucity of data to underpin a detailed model, and the range of impacts that people felt should be considered, it was concluded that it would be more responsible to work with the community to think through the possible impacts of a living wage policy, rather than offer an answer in which we ourselves could have little confidence.

When we began our engagement with our community partners, it was apparent that the paramount issue was the impact that living wage certification would have on the viability of several Revelstoke businesses. Given that the previous efforts by the poverty reduction working group to have the local Credit Union certify had just recently floundered this is not surprising. Our collective efforts therefore focussed on understanding the issues that the business community felt were not appreciated by those pushing for living wage certification. This led to the development of tool described below. The tool enabled us to engage our partners and other community members in a more detailed conversation about business impacts.

During the conversations we offered potential costs and benefits of living wage certification. Benefits included reduced turnover and related training costs, increased output from workers putting in more effort, increased loyalty translating into lower theft, the ability to charge a higher price, etc. These categories of effects resonated with the partners. In addition to the obvious cost of a higher wage bill, we also suggested that providing a higher wage to the lowest paid workers could mean that workers further up the wage scale need to be paid more to maintain the incentives within the firm to avoid wage compression – an efficiency wage

argument (Leibenstein 1957). While this was acknowledged as possible, it was not something that generated much discussion. This may be a consequence that most of the businesses in Revelstoke that were participating in the conversation were small, with limited use of wage differentials to encourage effort.

Exploring Living Wage Impacts with a Model

Differences between firms in different sectors was highlighted by the working group as important. We developed a model that disaggregated the impacts paying a living wage might have in a way that allowed us to explore with our partners the size of the impacts necessary to retain firm profits within a number of sectors.

Firm profit is disaggregated as

$$\pi = pq - L^{LW}w - LC^{-LW} - C^{-L}$$

where revenue is pq , price times quantity, and costs are disaggregated as wages paid to those eligible for a living wage increment, $L^{LW}w$, where w is the wage paid to this group of workers, total labour costs for the remaining labour employed by the firm, LC^{-LW} , and other costs net of labour costs, C^{-L} . This disaggregation is a consequence of the data we have available, revenue and costs shares without prices, to parameterize the model, and the living wage impacts that were highlighted in the discussions we had with our partners.

We explored the impacts of living wage certification by including a number of scaling factors. With the scaling factors, the model becomes

$$\pi = (\delta^p p)(\delta^q q) - L^{LW}(w + \Delta w) - LC^{-LW} - \delta^{FC} \delta^F C^{-L} - \delta^q \delta^{VC} (1 - \delta^F) C^{-L}$$

In detail

Term	Effects
$\delta^p \approx 1$	Scalar for revenue, captures degree to which certification allows a higher price to be charged.
$\delta^q \approx 1$	Scalar for revenue and variable cost, captures any increase in output, and adjusts variable cost to reflect cost of producing this extra output.

$\Delta w \geq 0$	Increase in wage required to bring L^{LW} workers up to the living wage level.
$0 \leq \delta^F \leq 1$	Share of costs net of labour, C^{-L} , that are fixed.
$\delta^{FC} \approx 1$	Scalar for fixed costs, capturing impacts such as reduced training costs from reduced turnover that are unrelated to the level of output.
$\delta^{VC} \approx 1$	Scalar for variable costs, capturing impacts such as greater care by workers resulting in less waste per unit of output produced.

The division of non-labour cost as fixed and variable is specified by choosing δ^F , a characteristic of the firm. The amount that the wage must be increased for those being paid below the living wage threshold is Δw . The terms δ^p , δ^q , δ^{FC} and δ^{VC} are scaling terms that capture the possible impacts of becoming living wage certified. For a firm that is not living wage certified, $\Delta w = 0$ and the four scaling terms are equal to 1. If the firm chooses to become living wage certified, it faces a cost of $L^{LW} \Delta w > 0$, which can be offset by changes in the four scaling terms.

Using this framework, we developed a spreadsheet tool using Microsoft Excel™ that enables users to experiment with different values for all six of these variables, and thereby explore both the possible costs and the possible compensating benefits that might occur to offset those costs.

Calibrating the Model

The model described above was constructed so that we could use the data available to facilitate a discussion of living wage certification impacts. One source of data was a labour market survey conducted in Revelstoke (GRP Educational Services and JL Insights 2015). Employers who participated in the survey self selected from among a list of sectors, and reported the number of employees within each of a set of wage ranges. Figure 1 shows the number of workers by wage category, divided into 14 of 15 self reported sectors for firms that participated in the labour market survey. Firms self reporting as in the agriculture sector, accounting for a total of five employees, were dropped as wages were not reported.

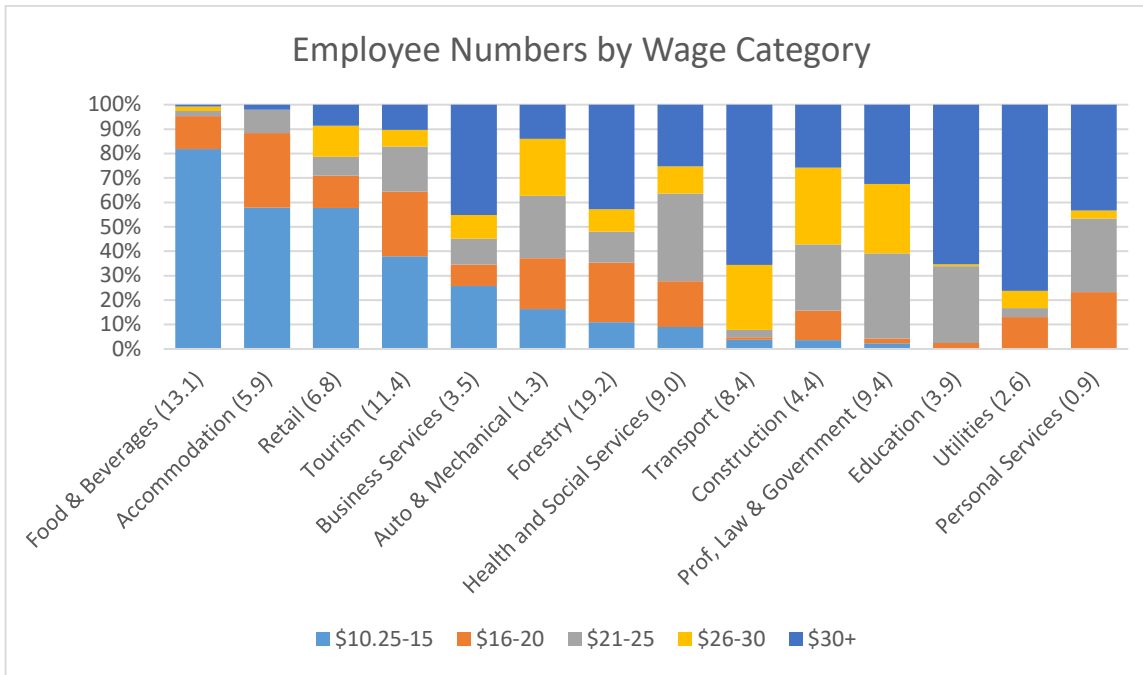


Figure 1: Distribution of wages by labour market survey employment sector. Percentage of total reported employees in parentheses.

The vulnerability of firm returns in the Food & Beverages, Accommodation, and Retail sectors to increases in labour costs is clear from the figure, and was clearly understood by business owner members of the working group.

The labour market survey did not ask for firm revenues and costs, and the response rate to a follow up survey was too low to be useful. Therefore, we turned to Statistics Canada data (Statistics Canada 2013). The first step was mapping the sectors used in the Revelstoke survey onto Statistics Canada industry data. Table 1 reports the mapping.

Table 1. Mappings from labour market survey employment sectors to Industry Canada NAICS sectors.

Labour Market Survey Sector	NAICS Code	NAICS Sector Label
Forestry	113	Forestry and Logging
Food & Beverages	722	Food Services and Drinking Places
Tourism	71	Arts, Entertainment and Recreation
Prof, Law & Government	54	Professional, Scientific and Technical Services
Health and Social Services	62	Health Care and Social Assistance
Transport	48-49	Transportation and Warehousing
Retail	44-45	Retail Trade
Accommodation	721	Accommodation Services
Construction	23	Construction
Education	61	Educational Services
Business Services	561	Administrative and Support Services
Utilities	22	Utilities
Auto & Mechanical	811	Repair and Maintenance
Personal Services	812	Personal and Laundry Services

Figure 2 shows the revenue breakdown between labour related expenses, non-labour related expenses, and the residual after expenses, based on Statistics Canada data (Statistics Canada 2013) for British Columbia. For confidentiality reasons, the data for British Columbia is restricted to firms with sales under \$5 million, as the number of firms with greater sales in many sectors is very small. For the sectors most relevant for our analysis, this limitation in the data is not seen to impact the model's relevance.

The original data provided total expenses in a range of categories as a share of revenue. It did not provide total share accounted for by wages and salaries. We approximated this share by combining the revenue share for wages and benefits in the cost of goods sold category with the revenue share for labour and commissions in the operating expenses category. This data provided the values for labour and non-labour costs in the model system for each sector, values for $(L^{LW}w + LC^{-LW})$ and C^{-L} . The labour market survey results were used to determine the division of the labour cost between that which would see an increase for living wage certification, $L^{LW}w$, and that not directly affected by certification, LC^{-LW} .

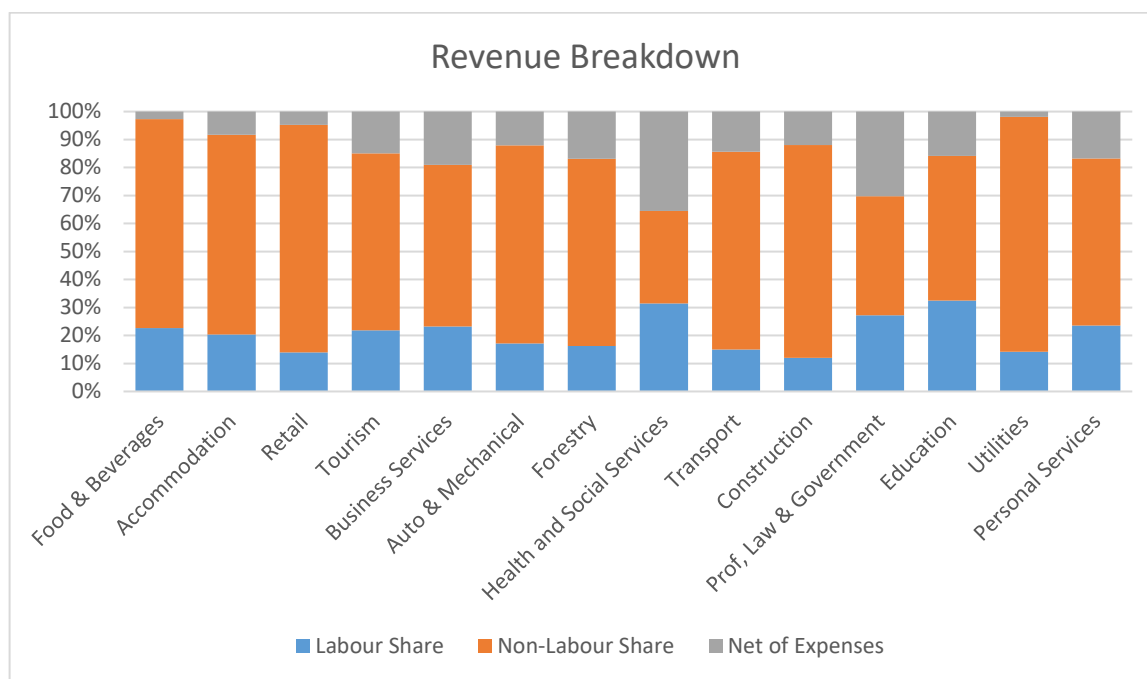


Figure 2. Revenue breakdown by labour market survey employment sectors using mapping from NAICS sectors.

Using the Model

The industry cost share data does not clearly separate costs into fixed and variable, nor does it split variable costs into labour and non-labour costs. The first step in applying the model described above is choosing the share of the non-labour costs that are fixed, the value of δ^F . Users of the spreadsheet tool could choose five percentage values between 0 and 100%. A screen shot of the spreadsheet tool is shown in Figure 3.

To enable an exploration of how large the benefits needed to be to offset the increased labour costs, we began

by calculating the increased labour cost for each sector. This was accomplished by assuming that all employees in the \$10.25 - \$15.00 wage category were raised to a wage of \$18.00 per hour. As the wage required for living wage certification is inclusive of benefits, the increase in wage required for certification need not be the amount necessary to raise wages to \$18.00 per hour. In the interactive spreadsheet we developed, users have five options between \$2.69 (half of the midpoint of the lowest interval) and \$7.75 that can be chosen for Δw , the hourly wage increment required for living wage certification.

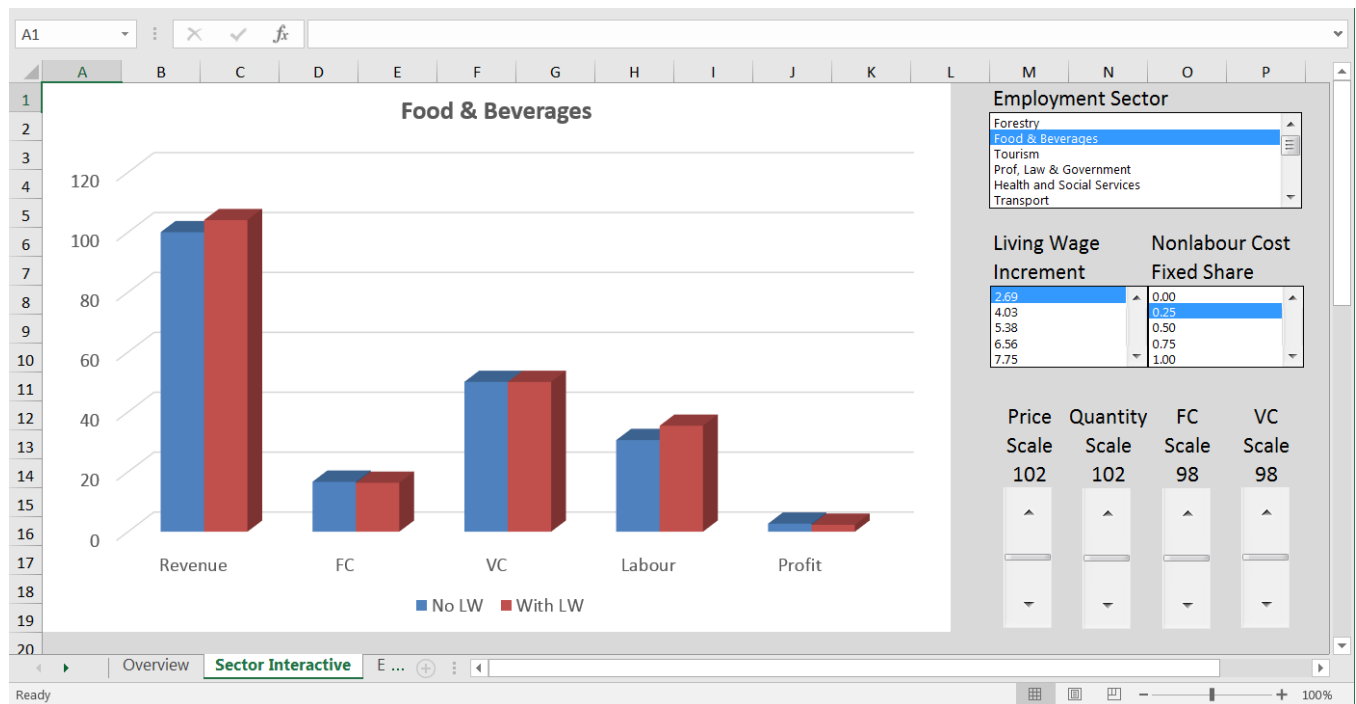


Figure 3. Screen shot of spreadsheet tool used to demonstrate effect of living wage on profits when various assumptions about living wage impacts are examined.

The four scaling factors, δ^p , δ^q , δ^{FC} and δ^{VC} , are controlled by the four sliders in the bottom right of the screen shown in Figure 3. The user can slide these away from 100% to experiment with changes that might follow from moving to living wage certification.

The specifics of the screen shot provide a useful illustration of how this interactive tool enables exploration of the total impact that living wage certification may have. In the figure, representative average data for the Food & Beverage sector was chosen. Fixed costs were specified as accounting for 25% of the non-labour costs. The wage increment required to bring all employees paid less than the living wage up to the living wage is chosen at

\$2.69. This wage increment, scaled to reflect the share of employees that need to be paid this extra amount, is shown as the increase in labour costs. With no further adjustments, revenue and the non-labour fixed and variable costs would be unchanged, and profit would be negative.

In the screen shot example, living wage certification enables the firm to increase the price it charges by 2%, and the higher paid workers are more productive, increasing output by 2% as well. Paying the higher wage is also taken in the example to reduce fixed costs and variable costs by 2%. Fixed costs may be reduced through lower turnover, and therefore lower recruitment and training costs. Variable costs may be reduced if workers are more careful with their tasks, reducing waste. In the screen shot, the fixed cost bar is lower for the living wage situation. However, the variable cost bar is barely changed, on account of the offsetting effect on variable costs of the increased output. The bottom line, the impact on profit, is a restoration to about the same level as when the firm was not living wage certified.

By developing this simple interactive model, we were able to deepen mutual understanding among community members in the ongoing discussion of the impacts that living wage certification could have on Revelstoke businesses. Business owners could see the size of the benefits necessary to restore profitability should they choose to certify. Members of the working group without business experience could see the vulnerability that businesses in some sectors were likely facing, and how without offsetting gains, becoming living wage certified could render the business unviable. That this mutual understanding was initially absent was evidenced both by the original questions which brought us into the conversation, and the initial engagement we had with the Revelstoke poverty reduction working group. The interactive spreadsheet we developed enabled community members to themselves explore the impacts of different assumptions about business structure and living wage certification impacts. The conclusions that were drawn by the community therefore reflect their own assumptions, rather than the assumptions made by external researchers brought in to provide a number. At the second workshop, we used the tool to help facilitate a discussion of the impacts of a living wage on different parts of the Revelstoke community. At this second workshop 19 Revelstoke stakeholders participated: 5 were

small business owners, 4 worked with RCU, 6 came from local economic development organisations, and 4 were from the social development sector. Participants at this workshop reported that this discussion helped those who were not business owners to better understand the challenges that business owners would face if they voluntarily increased the wages they pay, and helped business owners to have their concerns more clearly presented to those without experience or an understanding of the business situation.

Discussion

Many economic analyses end up finding a trade off between model-specified efficiency and broader equity highlighting the fact that redistribution policies frequently come with costs. However, the fact that redistribution has costs does not justify wholesale dismissal of redistribution policy. Model-specified efficiency does not fully articulate general principles of social justice or equity or even socio-economic improvement (Lipsey and Lancaster (1956)). Therefore the right choice from a social standpoint may not be the model-specified efficient choice. Understanding what the cost of policy action is, is important in deciding how much justice we can afford.

Analyzing redistribution policies at sufficiently large scale jurisdictions can sometimes justify focussing on average impacts. Research such as Neumark et al. (2013) and KPMG (2015) that examine the overall impacts of a living wage ordinance on poverty rates seem appropriate when considering a city like New York, or likewise seem appropriate when estimating the impact on economic activity and government revenues for the entire UK economy. However, when dealing with smaller communities, such as we have done with the city of Revelstoke, it must be recognized that localized averages are made up of a small number of people or businesses. Those people know their situation best, and have the best information to provide for analysing policies like a living wage. They are also the ones who would be bearing risks associated with adopting such a policy.

Privacy obligations, both on the part of national statistical agencies and as part of ethical research practices effectively precludes using detailed business information for a town the size of Revelstoke. Within some sectors, there are only one or two firms. Facilitating a conversation that illustrates general tendencies for provincial or

national averages will provide a general reflection of the situation faced by local businesses without providing specifics about the individual businesses. To approach an analysis of the particular local, small scale context requires alternatives that can generate information using local knowledge.

We have labelled our efforts to work within the town of Revelstoke as Action Economics. It is economics, as it seeks to illuminate the trade offs that Revelstoke faces in deciding whether or not to become a living wage certified community. Many policy decisions are made at the local level, policies which have real, local economic impacts. Those impacts are often highly context specific, rendering general results derived from theory or those estimated with large data samples of questionable relevance. When we use econometric models to identify influences that are common across a population of individuals or communities, we push the idiosyncratic differences between these entities into the error term, using a characterization of the error terms to define the confidence we have in our result. When we are dealing with one community, their specific situation is defined by their idiosyncratic difference from the population as a whole. Policy decisions still involve tradeoffs, but those tradeoffs need to be understood within the precise context of the community, rather than assuming away the variation, or averaging out the idiosyncratic characteristics that make the community unique.

The action dimension of this research reflects the fact that the research question and approach were developed as a result of our interaction with the Revelstoke poverty reduction working group and other community members of the coalition. We approached the project with some ideas about how to proceed. However, rather than pushing forward with our ideas, and depending on (demanding) that the community partners collect and provide what we needed to proceed as planned, we adapted our approach to better match with how the community understood the issues and challenges involved. This allowed us to incorporate community stakeholders' local knowledge, expertise and experience and enabled diverse community members to participate in the iterative formulation of the analysis tool which in turn enabled increased understanding of the problem and of each other. Consequently, our result is an approach to helping small communities work through a discussion of a living wage policies, with Revelstoke as an example, rather than a necessarily simple model of the

Revelstoke economy that provides an incomplete assessment of the impacts of the policy.

One well recognized issue with providing policy advice is the need to communicate uncertainty (Patt 2009; Manski 2019; Van Der Bles et al. 2019). Researchers may be tempted to portray an unjustifiable degree of certitude, as a way of increasing influence. Policy makers may not know what to do with uncertainty, preferring a single number to base their decision on. Taken together, these influences can lead to inappropriate decisions. When the size of the population that would be affected by a policy is small, the degree of uncertainty becomes large. The policy discourse often revolves around different perspectives on the important but unknown variables. The initial interaction with the poverty reduction working group suggested that they were looking for an outside entity with an aura of expertise to resolve their uncertainty. We were not in a position to resolve the uncertainty. However, working with the community, we were able to focus the conversation more clearly on some of the issues where uncertainty mattered, and to give the community a way to talk about the implications of different assumptions about these areas of uncertainty.

Small policies – such as policies adopted by small communities or projects undertaken by small local groups – are common. There will seldom be the resources or time to collect data and/or construct models that can provide an accurate answer that definitively addresses a policy question in such contexts. However, resources are being used in these policy choices. In the classroom we attempt to teach our students to ‘think like economists’, appreciating that there are trade offs when decisions are made, and that the best choices balance costs and benefits. Outside the classroom we sometimes succumb to the temptation to rely on rules of thumb, such as markets are always the most efficient way to allocate resources. There may be value in engaging with communities in an active way, participating in a collaborative framing of the decision problem and an exploration of those costs and benefits. Our regression error terms by construction have a mean of zero. However, each data point represents a person/group/community that is unique for a reason. A participatory action economics research methodology would engage with this uniqueness, working with the people involved to understand and as appropriate change their situation.

References

- Adams, S., and D. Neumark. 2005. "Living wage effects: New and improved evidence." *Economic Development Quarterly* 19(1):80–102.
- Allegretto, S., A. Dube, M. Reich, and B. Zipperer. 2017. "Credible Research Designs for Minimum Wage Studies." *ILR Review* 70(3):559–592.
- Van Der Bles, A. M., S. Van Der Linden, A. L. J. Freeman, J. Mitchell, A. B. Galvao, L. Zaval, and D. J. Spiegelhalter. 2019. "Communicating uncertainty about facts, numbers and science." *Royal Society Open Science* 6(5).
- Brennan, J. 2012. *Enhancing Democratic Citizenship, Deepening Distributive Justice The Living Wage Movement*.
- Brenner, M. D., J. Wicks-Lim, and R. Pollin. 2005. *Measuring the Impact of Living Wage Laws: A Critical Appraisal of David Neumark's How Living Wage Laws Affect Low-Wage Workers and Low-Income Families*. PERI Working Paper. Elsevier BV.
- Brown, L. D., and R. Tandon. 1983. "Ideology and Political Economy in Inquiry: Action Research and Participatory Research." *The Journal of Applied Behavioral Science* 19(3):277–294.
- Buss, J. A., and A. Romeo. 2006. "The changing employment situation in some cities with living wage ordinances." *Review of Social Economy*.
- Carr, S. C., J. Parker, J. Arrowsmith, and P. A. Watters. 2016. "The living wage: Theoretical integration and an applied research agenda." *International Labour Review* 155(1):1–24.
- Chen, C. X., and T. Sandino. 2012. "Can Wages Buy Honesty? The Relationship Between Relative Wages and Employee Theft." *Journal of Accounting Research* 50(4):967–1000.
- Chevalier, J. M., and D. J. Buckles. 2019. *Participatory Action Research*. Second edition. | Abingdon, Oxon ; New York, NY : Routledge, 2019.: Routledge.

- City of Revelstoke. 2015. *Revelstoke Community Profile*.
- Clain, S. H. 2008. "How living wage legislation affects U.S. poverty rates." *Journal of Labor Research* 29(3):205–218.
- . 2012. "Explaining the Passage of Living Wage Legislation in the U.S." *Atlantic Economic Journal* 40(3):315–327.
- Crompton, J. L., J. Y. Jeong, and R. M. Dudensing. 2016. "Sources of Variation in Economic Impact Multipliers." *Journal of Travel Research* 55(8):1051–1064.
- Davidson, M. C. G., N. Timo, and Y. Wang. 2010. "How much does labour turnover cost?: A case study of Australian four- and five-star hotels." *International Journal of Contemporary Hospitality Management* 22(4):451–466.
- Dickens, R., R. Riley, and D. Wilkinson. 2015. "A Re-examination of the Impact of the UK National Minimum Wage on Employment." *Economica* 82(328):841–864.
- Evans, B. 2017. "Alternatives to the Low Waged Economy: Living Wage Movements in Canada and the United States." *Alternate Routes* 28.
- Fernandez, J., T. Holman, and J. V. Pepper. 2014. "The Impact of Living-Wage Ordinances on Urban Crime." *Industrial Relations: A Journal of Economy and Society* 53(3):478–500.
- First Call: BC Child and Youth Advocacy Coalition. 2013. *A guide to becoming a Living Wage Employer*.
- Fuerst, F., and P. McAllister. 2011. "Green Noise or Green Value? Measuring the Effects of Environmental Certification on Office Values." *Real Estate Economics* 39(1):45–69.
- Graybeal, L., D. Burriss, and A. Hawkins. 2016. "Designing and Documenting Community Engagement for Tenure and Promotion." *Gulf South Summit on Service-Learning*.
- Green, D. A. 2014. "What is a minimum wage for? Empirical results and theories of justice." *Canadian Public*

Policy 40(4):293–314.

Greenberg, J. 1990. "Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts."

Journal of Applied Psychology 75(5):561–568.

GRP Educational Services and JL Insights. 2015. *Revelstoke Labour Market Survey*.

Hinkin, T. R., and J. B. Tracey. 2000. "The Cost of Turnover." *Cornell Hotel and Restaurant Administration*

Quarterly 41(3):14–21.

Houde, S. 2014. *How Consumers Respond to Environmental Certification and the Value of Energy Information*.

Cambridge, MA.

Howley, P., S. Hynes, and C. O'Donoghue. 2010. "The citizen versus consumer distinction: An exploration of

individuals' preferences in Contingent Valuation studies." *Ecological Economics* 69(7):1524–1531.

Ignace, M., and R. Ignace. 2017. *Secwépmc people, land, and laws*. McGill-Queen's University Press.

Ivanova, I., and L. Saugstad. 2019. *Working for a Living Wage: Making Paid Work Meet Basic Family Needs in*

Metro Vancouver. Vancouver.

Ivanova, I., and M. Weiler. 2015. *Working for a Living Wage 2015: Calculation Guide*.

Jensen, M. 2010. *Moral markets: The critical role of values in the economy*.

Johnson, M., A. Koukiadaki, and D. Grimshaw. 2019. "The Living Wage in the UK: testing the limits of soft

regulation?" *Transfer: European Review of Labour and Research* 25(3):319–333.

KPMG. 2015. *The Living Wage: an economic impact assessment*.

Lambert-Pennington, K. 2016. "Promoting Engaged Scholars: Matching Tenure Policy and Scholarly Practice"

27(2):7–18.

Leibenstein, H. 1957. "Economic backwardness and economic growth."

- Lester, T. W. 2011. "The Impact of Living Wage Laws on Urban Economic Development Patterns and the Local Business Climate: Evidence From California Cities." *Economic Development Quarterly* 25(3):237–254.
- Lewinsohn-Zamir, D. 1998. "Consumer Preferences, Citizen Preferences, and the Provision of Public Goods." *The Yale Law Journal* 108(2):377.
- Linneker, B., and J. Wills. 2016. "The London living wage and in-work poverty reduction: Impacts on employers and workers." *Environment and Planning C: Government and Policy* 34(5):759–776.
- Lordan, G., and D. Neumark. 2018. "People versus machines: The impact of minimum wages on automatable jobs." *Labour Economics* 52:40–53.
- Luce, S. 2014. "Living Wages, Minimum Wages, and Low-Wage Workers." In *What Works for Workers?: Public Policies and Innovative Strategies for Low-Wage Workers*, ed. S. Luce, J. Luff, J. A. McCartin, and R. Milkman. New York: Russel Sage Foundation.
- Luck, S. M. 2016. "How Poor Is Poor Enough? Measuring the Effectiveness of Living Wage Policy Implementation by Sonja Marie Luck." Simon Fraser University.
- Manski, C. F. 2019. "Communicating uncertainty in policy analysis." *Proceedings of the National Academy of Sciences of the United States of America* 116(16):7634–7641.
- Michele Kacmar, K., M. C. Andrews, D. L. Van Rooy, R. Chris Steilberg, and S. Cerrone. 2006. "Sure Everyone Can Be Replaced ... But At What Cost? Turnover As A Predictor Of Unit-Level Performance." *Academy of Management Journal* 49(1):133–144.
- Neumark, D. 2002. *How living wage laws affect low-wage workers and low-income families*. San Francisco, California.
- Neumark, D., M. Thompson, F. Brindisi, L. Koyle, and C. Reck. 2013. "Simulating the Economic Impacts of Living Wage Mandates Using New Public and Administrative Data." *Economic Development Quarterly* 27(4):271–

- Neumark, D., M. Thompson, and L. Koyle. 2012. "The effects of living wage laws on low-wage workers and low-income families: What do we know now?" *IZA Journal of Labor Policy* 1(1):11.
- Neumark, D., and W. Wascher. 2017. "Reply to 'Credible Research Designs for Minimum Wage Studies.'" *ILR Review* 70(3):593–609.
- Nussbaum, M. 2011. *Creating capabilities*.
- Ostrom, E. 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.
- . 2010. "Beyond markets and states: Polycentric governance of complex economic systems." *American Economic Review* 100(3):641–672.
- Oswald, K. 2016. *Interrogating an Engaged Excellence Approach to Research*.
- Parker, J., L. Eastgate, J. Arrowsmith, and S. Carr. 2015. "The Logic of 'Going Living Wage': A firm-level analysis." In . Australian and New Zealand Academy of Management.
- Partridge, M. D., and D. S. Rickman. 2010. "Computable General Equilibrium (CGE) Modelling for Regional Economic Development Analysis." *Regional Studies* 44(10):1311–1328.
- Patt, A. 2009. "Communicating uncertainty to policy makers." In , 231–251.
- Pietrykowski, B. 2015. "Participatory Economic Research: Benefits and Challenges of Incorporating Participatory Research into Social Economics." *Review of Social Economy* 73(3):242–262.
- Pollin, R., and M. Brenner. 2000. *Economic Analysis of Santa Monica Living Wage Proposal*.
- Pollin, R., and J. Wicks-Lim. 2006. *Economic Analysis of the Arizona Minimum Wage Proposal*.
- . 2009. *An Economic Analysis of the Nashville Living Wage Proposals*.

- Revelstoke Credit Union. 2015. *Press Release from Revelstoke Credit Union, Roberta Bobicki, CEO*. Revelstoke, British Columbia.
- Richards, T., M. Cohen, S. Klein, and D. Littman. 2008. *Working for a Living Wage: Making Paid Work Meet Basic Family Needs in Vancouver and Victoria*. Vancouver, British Columbia.
- Rybczynski, K., and A. Sen. 2018. "Employment Effects of the Minimum Wage: Panel Data Evidence from Canadian Provinces." *Contemporary Economic Policy* 36(1):116–135.
- Schnietz, K. E., and M. J. Epstein. 2005. "Exploring the Financial Value of a Reputation for Corporate Social Responsibility During a Crisis." *Corporate Reputation Review* 7(4):327–345.
- Serrato, J. C. S., and P. Wingender. 2016. "Estimating Local Fiscal Multipliers." *NBER Working Paper Series*.
- Shaw, J. D. 2011. "Turnover rates and organizational performance." *Organizational Psychology Review* 1(3):187–213.
- Stansfield, J. 2017. *A Living Wage at Work: Experiences of Employers and Employees in the Accredited Employer Program of the Living Wage Campaign Workplaces*.
- Statistics Canada. 2013. *Financial Performance Data - Industries and Business - Industry Canada*.
- . 2016. "CANSIM Table 36-10-0402-01." www.statscan.gc.ca.
- Stiglitz, J. E. 1976. "The Efficiency Wage Hypothesis, Surplus Labour, and the Distribution of Income in L.D.C.s." *Oxford Economic Papers* 28(2):185–207.
- Swaffield, J., C. Snell, B. Tunstall, and J. Bradshaw. 2018. "An Evaluation of the Living Wage: Identifying Pathways out of In-Work Poverty." *Social Policy and Society* 17(3):379–392.
- Terosky, A. L. 2018. "Reciprocity and Scholarly Connections: Faculty Perspectives About the Role of Community Engaged Work in Their Career Vitality." *Journal of Higher Education Outreach and Engagement* 22(3):135–160.

- Thurow, L. C. 1971. "The Income Distribution as a Pure Public Good." *The Quarterly Journal of Economics* 85(2):327.
- Ton, Z., and R. S. Huckman. 2008. "Managing the Impact of Employee Turnover on Performance: The Role of Process Conformance." *Organization Science* 19(1):56–68.
- Town of Revelstoke. 2013. "Revelstoke Community Social Development | Supporting Social Action & Planning in Revelstoke." <https://www.revelstokesocialdevelopment.org/>.
- Tucker, J. 1989. "Employee theft as social control*." *Deviant Behavior* 10(4):319–334.
- Werner, A., and M. Lim. 2017. "A new living contract: cases in the implementation of the Living Wage by British SME retailers." *Employee Relations* 39(6):850–862.
- Whyte, W. F. 1989. "Advancing scientific knowledge through participatory action research." *Sociological Forum* 4(3):367–385.
- Woods, R. H., and J. F. Macaulay. 1989. "R for Turnover." *Cornell Hotel and Restaurant Administration Quarterly* 30(1):78–90.
- Zacharias, J. 2006. *Revelstoke Affordable Housing Strategy and Policy Options*. Revelstoke, British Columbia.
- . 2012. *Revelstoke Community Poverty Reduction Strategy: Final Report*. Revelstoke, British Columbia.
- Zacharias, J., and M. Lenzi. 2015. *A Living Wage for Revelstoke and Area*. Revelstoke, British Columbia.