Special report: tax time – a workshop on recent research in applied public finance

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Tax Time: A Workshop on Empirical Public Finance[*]

———————————————————*Rapporteuses: Lindsay M. Tedds and Marit Rehavi*[†]

ABSTRACT
In April 2011, a workshop on topics in empirical public finance took place in Cambridge, Ontario. At the workshop, seven empirical research papers on various topics in public finance were presented by prominent academic economists. Each paper was also discussed and critiqued by two peers. This article presents a summary of each paper, along with a summary of the main points raised in the ensuing discussion.

Governments around the world continue to seek practical solutions to a variety of complex policy problems, including poverty, long-term stability of social programs, income redistribution, economic stimulus, and the appropriate mix and levels of taxes. One input to the search for improved policy design is high quality applied research. Academics have long studied these questions in their research, but often in ways more abstract than policy makers find useful. This slows the translation of research insights into progress on the problems our society needs to face.

This has resulted in calls for more "policy relevant" academic research; research which attempts to bridge the gap between basic research and end users by being socially relevant and accessible while remaining scientifically sound. It has also increased the interest in building closer ties between the academic community and policy makers as well as academia and the general public.

Efforts in this direction have been aided by an increasing concentration of empirically-focused researchers within the academic study of public finance in Canada. Moreover, the broader dissemination of micro-data through efforts such as Statistics Canada's Data Liberation Initiative and Research Data Centre program has put increasingly high quality data within reach of today's empirical researchers.

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[*] The workshop was organized by Kevin Milligan, University of British Columbia, and Michael Smart, University of Toronto, and generously sponsored by the School of Public Policy and Governance, University of Toronto, and the Canadian Tax Foundation. It took place on April 18-19, 2011 at Langdon Hall, in Cambridge, Ontario and was attended by a selection of invited academics in public finance and related fields.

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The Tax Time workshop provided an opportunity to showcase cutting edge empirical research in public finance. The workshop also offered an opportunity to build greater ties between the academic community and the Canadian Tax Foundation, which itself promotes objective policy relevant research in Canadian public finance and endeavours to bridge the gap between the academic community and policy makers. Both collectively and individually these works contribute to advancing our knowledge and offer innovative policy options.

This paper provides a summary of the seven research papers presented over the course of the two day workshop. Each paper was also discussed and critiqued by two academic peers and a synopsis of this discussion is included. This abridgement offers an opportunity to disseminate the work presented at the conference more broadly to the audience of the Canadian Tax Journal. The panellist papers (in order of presentation at Tax Time) can be summarized as follows:

- Kevin Milligan asks whether those who retire before the age of full social security benefit are able to avoid economic hardship by exploring their sources and levels of income in the transition period to retirement.
- Sami Bibi, Jean-Yves Duclos, and Abdelkrim Araar explore the implications of income mobility, both across time and across individuals, for progressive income tax systems and consider whether the interactions are welfare enhancing.
- Thomas Lemieux investigates the validity of theories that explain wage inequality and assesses them in light of the large differences in wage inequality growth across countries and across time and the stunning growth in the concentration of income at the top end of the distribution.
- David Albouy studies fiscal equalization payments. He argues that efficiency could be improved by redistributing source-based revenues, in favour of residence-based revenues, more intensely.
- Marit Rehavi reveals how partial reporting of charitable giving by US tax filers has led to inflated estimates of the tax-price elasticity of charitable giving.
- Jean-Francois Wen and Daniel Gordon examine whether the tax and transfer system influences the choice between self-employment and employed labour.
- Ben Dachis, Gilles Duranton, and Matthew A. Turner use the introduction of the Land Transfer Tax in the City of Toronto in 2008 to explore the effect of transfer taxes on real estate prices and transactions in the City of Toronto.

Kevin Milligan[1]—Incomes in the Transition to Retirement: Evidence from Canada

Increasing life expectancies and declining fertility rates are putting enormous pressure on public pension systems across Europe and North America. One policy response has been to raise the age at which retirees qualify for public pension benefits (herein the "retirement age"). The US is phasing in an increase in the regular Social Security retirement age to 67 and Canada is phasing in larger incentives to wait until at least age 65 to claim Canada Pension Plan (CPP) benefits. These include increases in both the penalty for claiming early retirement and in the benefits to delaying retirement beyond age 65. Penalizing individuals who choose to retire early has the

[1] Kevin Milligan, Associate Professor, Department of Economics, University of British Columbia, http://faculty.arts.ubc.ca/kmilligan/.

potential to increase elderly poverty if those who are unable to continue working do not have sufficient outside funds. While some individuals choose to retire early, there are other individuals who are forced into early retirement due to illness, disability, lay off, prolonged unemployment, or forced retirement. The financial capacity of these individuals is a key consideration for policy because past research has found that much of the drop in elderly poverty since the 1970s has been due to increases in the generosity of benefits to low income seniors.[2] However, with the rise in alternative private savings vehicles such as: Registered Retirement Savings Plans (RRSPs), Tax Free Savings Accounts (TSFAs) and private pensions, involuntarily early retirees may have the resources to compensate for reductions in public pension generosity.

Kevin Milligan explores this topic using the Survey of Labour and Income Dynamics (SLID), a Canadian panel survey currently available for the years 1993 to 2008.[3,4] Each panel covers six years and a new panel is started every three years. The SLID is a valuable resource for researchers as it includes detailed information regarding the composition of income by source. Additionally, approximately 75-90% of SLID respondents give consent to use their T1 tax information as the source for their income data. This access to administrative tax and income data does not occur in other surveys. Milligan uses this rich data to "make a novel calculation—determining the contribution of various supplemental income sources to lifting those not working at older ages out of a position of hardship."[5] All analysis described below is limited to retired men between the ages of 55 and 67, where "retired" is defined as individuals with no labour market attachments.

Surprisingly, Milligan finds few common characteristics among early retirees: "demographic, health, and job characteristics are not as predictive as one might expect in determining who will retire early,"[6] suggesting that unobserved factors appear to dominate the early retirement decision. As one might expect, "the age of public pension entitlement has a dramatic and large impact on individual incomes for those at the bottom of the income distribution."[7] While non-workers in the 90th percentile of the income distribution have fairly stable incomes well above the poverty line, those in the bottom 10th percentile have incomes under $1,000 a year until the age of 61. Income increases noticeably at age 61 and then jumps again at age 65. Milligan finds that government transfers are still an important source of income for early retirees. Twenty percent of "retirees" under the age of 60 still receive CPP benefits and a similar percentage of those aged 55 receive social assistance. In addition, many of the early retirees studied have private resources. Half of those with zero earnings at age 55 have non-labour private income with most of this income coming from private pensions and investment income. This share rises steadily to almost 80% by age 67.

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[2] Kevin Milligan, "The Evolution of Elderly Poverty in Canada" (November 2008), 34 *Canadian Public Policy* S79-S94.

[3] Kevin Milligan, *Incomes in the Transition to Retirement: Evidence from Canada*, Working Paper (Vancouver: University of British Columbia, 2011). Available at www.nber.org/programs/ag/rrc/NB10-09%20Milligan%20FINAL.pdf

[4] While the cross-sectional SLID files can be accessed through the DLI initiative, the panel data can only be accessed through Statistics Canada Research Data Centres.

[5] Supra footnote 4, at page 3.

[6] Ibid, at page 3.

[7] Ibid, at page 28.

Even with all of these supplemental supports, approximately one-third of men retired at age 55 live in families falling below the Low Income Cut Off (herein referred to as LICO).[8] As expected, the percentage of men in families falling below the LICO declines as the men age into public retirement benefits and bottoms out at 6% for men aged 64 (those eligible for full benefits).

It is important to note that assets which could support consumption while awaiting eligibility for full old age benefits are not counted in these income measures. Therefore, those with seemingly low incomes may have sufficient wealth to support consumption. For example, individuals could spend down accumulated RRSP savings or home equity or rely on loans and gifts from family members. To better understand the potential financial vulnerability of these families, Milligan estimates their likely incomes (net of family obligations) in the absence of government pension support. Milligan finds that over 20% of non-working men aged 55-64 have sufficient incomes from sources other than public pensions to put them over the LICO threshold. Over 60% of the remaining men have spouses with positive income and that income is sufficient to lift almost 40% of the remaining men out of poverty. In addition, over half have non-spouse family income and 15% have income either from their own or family member's RRSP withdrawals. In total, Milligan finds that three-quarters of men who appeared to be below the LICO threshold without public pension income had other sources of income sufficient to lift their families above LICO. The actual number may even be higher as these figures do not include sources of income not available through the SLID such as proceeds from the sale of financial or housing assets, gifts, equity loans, etc. Milligan concludes:

> "that a majority of men who look as though they may suffer from very low incomes when looking at their own income courses actually do much better when other alternative courses of funds are considered. However, this majority is slim, leaving a large minority of men who may suffer at ages leading up to full public pension entitlement."[9]

Ross Finnie[10] and Michael R. Veall[11] provided brief comments on Milligan's paper. Much of the discussion centered on how to define retirement and the implications of that definition for assessments of financial capacity. It was agreed that the absence of any paid labour is a conservative definition of retirement and risks confounding the effects of involuntary unemployment and early retirement. It was noted that retirement means different things to different people: some people work, some people do not, some rely on different income sources at different times in the retirement cycle. This complicates inferring retirement from administrative data on earnings. If unemployment, unlike retirement, is unplanned then those who are unemployed may be in more financially precarious positions than voluntary early retirees. If this is the case then the understatement of financial resources Milligan documents could be even larger than he finds.

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[8] Families are deemed to fall below the LICO when their share of income spent on food, shelter and clothing is 20 percentage points or more above the average similarly sized Canadian family in their region of the country.
[9] Ibid, at page 36.
[10] Ross Finnie, Associate Professor, Graduate School of Public and International Affairs, University of Ottawa, http://aix1.uottawa.ca/~rfinnie/index.html
[11] Michael R. Veall, Professor, Department of Economics, McMaster University, http://www.economics.mcmaster.ca/faculty/veall

The difficulties in measuring the nature of labour force attachment raises the issue of whether researchers should focus on retirement or focus instead on the financial circumstances of individuals between the ages of 55-64. However, with the current policy focus on retirement ages, Milligan's work is central to understanding the implications of raising retirement ages. His analysis shows that individuals have a complex patchwork of income sources and access to government support that mitigates the effect of rising retirement ages. However, if individuals are simply replacing retirement benefits with other sources of government support, moves toward raising the age of benefit qualification may not save the government as much money as expected.

Sami Bibi[12], Jean-Yves Duclos[13], and Abdelkrim Araar[14]—Mobility, Taxation, and Welfare

Income mobility, the movement of individuals (or their offspring) across income groups through time is often seen as a desirable feature of economies. The presence of income mobility suggests that poverty is not an end-state and that distinctions between temporary and lifetime shocks are important. However, income mobility is not limited to upward movements in the income distribution. Some individuals will end up in a lower income group than where they or their parents started. Thus, income mobility implies risk both within and between periods. If individuals are risk averse, as is commonly assumed, then mobility could have social welfare costs in addition to its more commonly highlighted benefits.

It is from this perspective that Sami Bibi, Jean-Yves Duclos, and Abdelrim Araar approach income mobility.[15] They explore how mobility interacts with progressive income tax systems and ask whether such systems are welfare enhancing for risk averse agents. Income mobility reduces inequality over time while a progressive tax code reduces inequality across people at a given point in time. Whereas previous research focused solely on the dynamics across individuals, Bibi et al. examine the welfare impact of income dynamics across *both* time and individuals. Their approach follows the spirit of "mobility as equalizer" of incomes where inequality in permanent incomes is compared to the average inequality of periodic income. In this framework, "the lower the level of inequality in permanent incomes, the higher is income mobility deemed to be."[16] The authors extend this traditional view of mobility to capture the cost of the variability in the distribution of periodic incomes, a cost of income mobility typically overlooked. This combined framework allows the authors to explore the tradeoffs between mobility as equalizer and disequalizer across time. As the authors note, their framework makes it

[12] Sami Bibi, Associate Member, Centre Interuniversitaire Sue le Risque, les Politique economiques, et l'emploi (CIRPEE), Pavillon de Seve, University of Lavel, http://www.erf.org.eg/cms.php?id=erf_affiliates_research_fellows_details&affiliates_id=9

[13] Jean-Yves Duclos, Professor, Department of Economics and CIRPEE, University of Laval, www.ecn.ulaval.ca/~**jyves/**

[14] Abdelkrim Araar, Associate Member, Centre Interuniversitaire Sue le Risque, les Politique economiques, et l'emploi (CIRPEE), Pavillon de Seve, University of Lavel.

[15] Sami Bibi, Jean-Yves Duclos, and Abdelrim Araar, *Mobility, Taxation, and Welfare*, Working Paper (Montreal: University of Laval, 2011). Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1867026

[16] Ibid, at page 4.

possible to "assess the tax system's impact on social welfare in a temporal setting"[17] where tax progressivity improves both aspects of mobility.

Bibi et al. use the SLID to measure the social welfare effects of mobility and progressive taxation. They use six years of data, running from 1996 or 2001, to construct measures of pre- and post tax-and transfer income. The authors estimate that the overall cost of mobility in pre-tax income ranges from 2.09-10.84% of average pre-tax income. However, the tax system significantly reduces this risk, more than halving the variability cost of mobility. The decrease in variability also implies that mobility contributes much less to the equalization effect of permanent post-tax incomes than of pre-tax incomes. The benefits from mobility on the equalization of permanent pre-tax welfare ranges from 1.8-10.84% of mean pre-tax income and from 1.02-3.77% of mean post-tax income. That is, mobility increases equality in both distributions of income, but more so in the absence of taxes and transfers. The authors conclude by stating "the results show that Canada's tax and transfer system enhances considerably the redistributive effects of mobility while also lowering the cost of income variability."[18] That is, the net effects of both mobility and taxation on social welfare are usually positive.

This paper was discussed by Jim Davies[19] and Tammy Schirle.[20] Both noted the important implications of this paper for policy and the innovation of allowing mobility to both positively and negatively affect welfare. The traditional view of mobility is that permanent income is a good measure of welfare. However, by reducing income to permanent income one ignores the costly uncertainty generated by fluctuating income. Bibi et al.'s approach makes it clear that mobility has two effects on social welfare: the social welfare cost of income risk and the social welfare benefit due to inequality is less for permanent income than periodic income. In this case, whether or not mobility is beneficial is theoretically ambiguous as is the effect of tax progressivity.

Bibi et al.'s decision to treat all income variability as costly uninsured risk was a focus of discussion. Some income fluctuations are predictable and self-insurance (through precautionary savings), formal insurance markets and capital markets enable individuals to partially smooth their consumption. As the proportion of risk covered by actuarially fair insurance increases, the welfare cost of income variability falls. In future work, one might want to decompose the income variability people face. For example, it was noted that one might dislike income fluctuations, but be happy with an income that is steadily increasing over the life-cycle. The audience extended this train of thought to separating variability and permanent income shocks. That is, small year to year fluctuations may be less of a concern than the risk of permanent income falls such as those that may accompany a layoff and forced career change late in life. Incorporating temporary and permanent shocks into the analysis would require extending the data beyond the 6 year panel available in this work and could be a rich area for future work.

[17] Ibid, at page 4.
[18] Ibid, at page 20.
[19] Jim Davies, Professor, Department of Economics, University of Western Ontario, http://economics.uwo.ca/faculty/davies/.
[20] Tammy Schirle, Associate Professor, Department of Economics, Wilfred Laurier University, http://www.wlu.ca/homepage.php?grp_id=1805&f_id=31

Thomas Lemieux[21]—Wage Inequality: A Comparative Perspective

Inequality was also the theme of the workshop's keynote address delivered by Thomas Lemieux. He gave an overview of his recent work on wage inequality and discussed past explanations of inequality's abilities to explain recent changes in inequality. Wage inequality increased in most industrialised countries over the last two to three decades. There are, however, major differences across countries in both the timing and magnitude of the growth in inequality. The explanations offered for these changes include: technological progress and the computer revolution (skill biased technical change (SBTC)), labour market institutions and social norms, and changes in the relative supply of highly educated workers. Tax policy may also explain some of the growth in inequality. Unfortunately, there remains little agreement on the relative contributions of these factors. Lemieux assessed the ability of each of these potential mechanisms to explain the large differences in inequality growth across countries and time, and the growing concentration of income at the top end of the distribution.

Lemieux began by reviewing the four "facts" about wage inequality established Freeman and Katz's[22] seminal study:

- *Fact 1*: Dramatic increase in wage inequality at all points of the wage distribution for both men and women.
- *Fact 2*: Large increase in age and, especially, education wage differentials.
- *Fact 3*: Wage dispersion increases "within" demographic and skill groups.
- *Fact 4*: Real wages of less skilled/paid declined since average wages were stagnant and inequality increased.

Freeman and Katz documented that the increase in wage inequality began in the 1980s, following on the coat tails of large falls in wage inequality in the 1970s. They concluded that changes in labour *demand* were behind the growth in inequality and that these changes were mitigated by *supply* factors and *institutions*.

They dub their theory the S-D-I explanation for changes in the pattern of wage inequality. The theory works as follows. Demand is the driving force behind wage inequality growth. Supply factors, particularly the slowdown in the relative growth of highly educated workers in the 1980s which followed after the entry of the baby boomers into the work force in the 1970s, partially mitigated the growth of inequality. Wage inequality rose more slowly in most non-US countries because supply factors increased faster due to educational catch-up. Institutions further mitigated the growth of inequality, particularly in those countries were wages are set by factors other than just supply and demand restricting the wage structure's ability to shift in response to supply and demand shocks.[23] For example, many of the countries which experienced no or low growth in wage inequality were highly unionized countries, and countries with minimum wage laws and wage councils.

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[21] Thomas Lemieux, Professor, Department of Economics, University of British Columbia, http://faculty.arts.ubc.ca/tlemieux/hmpglemi.htm

[22] Richard B. Freeman and Lawrence F. Katz (eds.), *Differences and Changes in Wage Structures* (Chicago : University of Chicago Press, 1995).

[23] Institutions can also contribute to some of the growth in wage inequality as occurred in the US and the UK.

Lemieux asks, what has happened to inequality in the 16 years since Freeman and Katz? Does the S-D-I explanation for wage inequality fit recent developments? What role do taxes play in explaining wage inequality? Lemieux notes that there have been two major developments since the S-D-I explanation was formed. First, since the 1990s, changes in wages have been U-shaped. That is, wages at the top and bottom kept growing relative to the middle of the wage distribution. This fact is often referred to as "wage polarization" in the literature.[24] This U-shape can also be seen in the increasing returns to education at the post-graduate level but stable returns to education at lower levels. This effect is more pronounced for younger workers suggesting that there is a strong demand for young post-secondary educated workers, despite the increasing supply of such workers.

How do the candidate explanations for these overall changes in wage inequality fit the recent developments in inequality? Even a more nuanced version of the SBTC theory has difficulty reconciling the fact that many of the jobs at the bottom end of the wage distribution are in personal services. As discussed in more depth below, executive pay has increased significantly since the 1990s with at least some of this increase usually attributed to performance pay. Finally, the process of globalization and the associated practice of outsourcing may explain some of the decline in wages in the middle of the income distribution. Overall, each of these phenomena shed some light on recent changes in wage inequality, but do not provide any unifying explanation.

Lemieux argues that the 'I' part of the S-D-I explanation is the most important for explaining the inequality phenomenon from a comparative perspective. For men, unionization was concentrated in the middle of the wage distribution so the decline in unionization has had a large impact on this part of the wage distribution, which could contribute to the u-shaped pattern documented above. In addition, minimum wages were largely stable in the 1990s after experiencing declines in the 1980s which could also contribute to some of the gains at the lower end of the wage scale.

Institutional structures, broadly defined, may also be at play in the striking changes in relative income among the highest earners. In English speaking countries starting around 1990 the wage growth in the top part of the distribution has been driven by those in the very highest set of wage earners, notably the top 0.1% of wage earners. A similar trend is not observed in continental European countries. The growing concentration of income at the very top end of the income distribution is, to many, staggering. The top 0.1% of the wage distribution is mostly comprised of individuals with executive positions, such as CEOs, who command large remuneration packages. Four possible explanations for the increase in their pay are: (1) the field for managerial skills is becoming more competitive;[25] (2) increasing use of performance-based compensation such as stock options, which require executives to bare more risk; (3) executives' influence over their own pay packages through direct involvement in their company's compensation committee or by controlling the composition of these committees; and (4) tax policy. Top marginal tax rates have declined substantially since the 1970s in the affected countries. This decline may explain

[24] David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, "The Polarization of the U.S. Labor Market" (2006), vol. 96, no. 2 *American Economic Review*, 189–94.
[25] Xavier Gabaix and Augustin Landier, "Why has CEO Pay Increased so Much?" (2008) vol. 123, no. 1, *Quarterly Journal of Economics*, 49-100.

shifts toward labour income (from capital earnings and non-taxed benefits) for top income holders.

Lemieux wraps up his discussion of wage inequality by focusing more on the implications of the concentration of income at the top of the distribution. First, this higher concentration of income at the top means an even higher concentration of taxes paid by top earners because of progressive taxes and third party reporting of labour income (to the tax authority). It may be that the growing inequality was one of the reasons why government tax revenues increased so much over the 1990s and early 2000s. In particular, we observe that personal income tax revenue grew much faster than personal incomes because of the combination of higher inequality and progressivity. That said, it is hard to predict what will happen to incomes at the very top end, but this should be an important factor to consider in predictions of future tax revenues and budget deficits.

David Albouy[26]—Evaluating the Efficiency of Equity and Federal Fiscal Equalization

Section 36(2) of the Canadian Constitution states that the Government of Canada is "committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation."[27] That is, there is a desire to equalize the fiscal capacities of sub-national governments so they can offer their citizens comparable levels of goods and services. This principal is embodied in Canada's Equalization Program, a transfer program addressing fiscal disparities among the provinces. One of the main challenges in designing equalization programs is balancing reductions in inequality with a desire for efficient allocations of human and physical capital and local public goods. The greater the transfers to lower-performing regions, the greater the worry that there will be inefficient migration incentives. David Albouy begins his analysis by deriving a theoretical model of non-distortionary federal transfers. He then compares Canada's current equalization payments to an efficient benchmark[28] and quantifies the effects of any deviations from non-distortionary transfer payments.

The fiscal capacities of sub-national governments vary due to local tax bases. It is useful to break taxes into two categories: those that are source-based (fall on fixed immobile attributes such as natural resources or land) and those that are "residence based" (levied on the incomes of those residing within a jurisdiction.). Categorizing taxes in this way emphasizes the mobility of the taxed item. For example, consider Alberta, a province naturally endowed with oil which therefore has a wealthy and relatively immobile tax base. The generally accepted principal is that equalization over source-based taxes is both economically efficient and equitable. With respect to residence-based taxes, migration can lead to "fiscal externalities" where a migrant imposes a cost on the region they leave in the form of a higher tax price as the tax base contracts and a benefit on the region they enter in the form of a lower tax price as the tax base expands. These external costs and benefits are not accounted for the individual's migration decisions, resulting in

[26] David Albouy, Assistant Professor, Department of Economics, University of Michigan, http://www-personal.umich.edu/~albouy/.
[27] *Constitution Act*, *1982* being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11.
[28] David Albouy, *Evaluating the Efficiency and Equity of Federal Fiscal Equalization*, Working Paper (Cambridge: National Bureau of Economic Research, 2010). Available at www-personal.umich.edu/~albouy/Equalization/equalization.pdf

inefficiencies. This reasoning is the basis for the belief that "it is efficient for the federal government to equalize differences in residence-based tax capacities when tax payment increase with income."[29]

Albouy, however, shows that the argument for equalizing residence-based tax capacities does not then extend to fiscal transfer differences across regions as it ignores the reason income disparities exist. In particular, he highlights the importance of distinguishing income disparities across regions that arise because workers are more skilled from those that are driven by cost-of-living and amenity value (e.g. beautiful mountains or a temperate climate). In the latter case, "identical individuals pay more in federal taxes in high-wage areas than in low-wage areas, without receiving greater benefits."[30] The existing model based on fiscal externalities only equates nominal incomes. For example, individuals working in Toronto receive a higher wage, ceteris paribus, than individuals working in Waterloo due to cost-of-living differentials. While nominal income levels in Toronto are higher, real income levels are not. Workers in Vancouver, in contrast, are paid low-wages compared to workers in Toronto, ceteris paribus, due to the climate-related benefits of living in Vancouver. Albouy indicates that one needs to distinguish the Torontos from the Vancouvers; that there is a "need to disentangle how regional income differences are due to the composition of the labour force or from the region itself."[31]

To this end, Albouy develops a theoretical model of fiscal equalization payments that incorporates this income disparity complexity. Ideally federal transfers go to regions where wages are low due to productive factors but in the process do not offset place-based wage differentials or location factors. That is, it is fine to transfer money to offset low incomes associated with low education levels but not to encourage people to stay in an undesirable location. Efficiency arises when measurable net fiscal benefits (federal transfers less federal tax burden plus source-based tax revenue) internalize any net positive externalities that may differ across regions. Equity arises when transfers are targeted to low-income areas due to less skilled workers rather than areas with low incomes arising from amenities or cost-of-living.

Using this model, Albouy evaluates Canada's equalization program. He begins by calculating the net fiscal benefit from equalization. To this end he combines data on federal transfers to provinces in 2001 including: payments under the Equalization Program ($14.2B), the Canadian Health and Social Transfer ($34.9B), and other federal transfers ($3.5B) with data on provinces' source-based tax revenues. The final step is to determine difference is federal taxes *accounting for differences in labour force characteristics*. To this end, Albouy uses data on wage earners in the 2001 Canadian Census to estimate inter-provincial wage differences controlling for observed characteristics.

As noted previously, Albouy is interested in disentangling differences due to the composition of the labour force from the region itself. To estimate the composition effects, he estimates the effects of regional differences in education rates, experience, industry, occupation, immigration, language, and ethnicity. He finds that location effects vary considerably, with the territories offering a 12.7% wage premium while Ontario and BC only offer 6% and 5.3% wage premiums,

[29] Ibid, at page 2.
[30] Ibid.
[31] Ibid, at page 3.

respectively. Alberta and Quebec provide a small wage penalty whereas the remaining provinces offer significant wage penalties of between 11.2% in Manitoba up to 20.9% in PEI. In contrast, he finds that composition effects are extremely small in all provinces. This suggests that workers are not sorting across provinces by skill level. For example, in Alberta and BC, workers are better educated but this effect is offset by other factors such as industry, occupation, and the ethnic makeup of workers in the province. The exact opposite effect is observed in the Atlantic and Prairie provinces. In sum, Albouy concludes that wage differences across provinces are driven entirely by location effects and not composition effects yielding support for Albouy's concern about the current structure of fiscal transfers. He also finds that these results are not driven by selective migration.

Using the above calculations, Albouy is able to construct measures of the average location benefits of each province between 1999 and 2003. During this period, Ontario, Alberta and BC were net contributors to federal transfers, Quebec was nearly neutral, and the remaining provinces were net recipients, with the territories receiving the highest transfers. Unsurprisingly, residents in the three provinces that are net contributors to equalization also pay more in federal taxes relative to the average Canadian. Albouy also finds that resource rich provinces consistently collect over $2,000 more per capita in source-based revenue than the national average. Combining the aforementioned figures to generate the net fiscal benefit to each province one finds that Atlantic Canada, the Prairie Provinces, and the territories benefit from the equalization process. British Columbia, Ontario, and Quebec (the relatively high wage provinces) are clearly disadvantaged through the process. This implies that individuals moving to a province with a higher wage level are met with a drop in net fiscal benefits. As Albouy notes, "the apparent inefficiency may be justified if fiscal benefit differences redistribute resources more equitably or correct for externalities."[32]

Under principles of equity, one would expect that transfers would favour jurisdictions with populations of low earning potential. In examining the Canadian system, Albouy finds that there is no relationship between average predicted income and net fiscal benefits. This implies that federal transfers actually appear regressive and accounting for cost of living differences only exacerbates this. In terms of externalities, this arises from the spill over effects a migrant's additional spending on local goods has on the existing population. As noted by Albouy, "efficient government transfers are supposed to subsidize location in provinces where this externality is strongest."[33] Albouy instead finds the exact opposite in Canada, suggesting that federal transfers may induce individuals to move to areas where the externality is lower than average. Albouy also considers whether or not transfers stabilize differences over the long term, thereby creating a positive externality, or whether externalities are derived from populating remote areas but he finds no supporting evidence. He concludes that "there is no compelling evidence of externalities from migration strong enough to merit the large fiscal benefit differences."[34]
Albouy concludes that Canada's federal transfers are inefficient and subsidize individuals residing in less productive provinces and provinces with less desirable amenities. The transfers are also inequitable in terms of equalizing differences in labour market endowments. While

[32] Ibid, at page 18.
[33] Ibid, at page 20.
[34] Ibid, at page 22.

Albouy does not design a better way to target these federal transfers, he does suggest that efficiency could be improved by redistributing source-based revenues more intensely.

Christine Neil[35] and John Burbidge[36] each provided brief comments on the paper. Much of the discussion centered on the degree to which Canada fits the underlying assumptions of the model (for example, whether Canada's migration rates come close enough to perfect mobility and the importance of migration costs) and whether alternate unmodeled desires may rationalize the current transfer system. Equalization was offered in the constitution to entice jurisdictions into a federation. What was efficient in 1867 may not still be efficient in 2011. Participants wondered if the transfers would have been "optimal" under Albouy's criteria when they were first designed. Political economy considerations (particularly unequal representation in Parliament) were also noted as a potential explanation for the current pattern of transfers.

Marit Rehavi[37]—Partial Reporting: An Example from Charitable Giving

Individual charitable contributions form a significant portion of many households' expenditures. In Canada, 85% of Canadian families donate money to charities totalling $8.9 billion.[38] In the US, 89% of American families donate to charities for an amount totalling $250 billion.[39] Most tax systems recognize these contributions through either a tax deduction or credit in part as a way to encourage and reward generosity. In order to determine the efficacy of this special tax treatment, there is a great deal of interest in measuring the tax-price elasticity of charitable giving: the responsiveness of giving to changes in the tax price. Much of the existing knowledge regarding the tax price elasticity of charitable giving is from the US where a tax deduction is available for those who choose to itemize their deductions and existing elasticity estimates are based on administrative tax return data for these itemizers.

While several of the preceding papers highlighted the benefits of augmenting survey data with administrative tax and income data (e.g. SLID), Rehavi shows that the use of such data is not potentially without costs. [40] Rehavi observes that tax returns are strategic documents, filled out to minimize tax liability within the confines of the law. The strategic component of reporting could bias tax-price elasticities calculated from tax return data. In the US, a tax filer can either chose the standard deduction or to selectively declare itemized deductions. The choice is based on which route will results in the greatest tax savings. In addition, and the point of interest for

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[35] Christine Neil, Assistant Professor, Department of Economics, Wilfred Laurier University, http://www.wlu.ca/page.php?grp_id=1418&f_id=31&p=5425

[36] John Burbidge, Professor, Department of Economics, University of Waterloo, http://economics.uwaterloo.ca/fac-Burbidge.html

[37] M. Marit Rehavi, Assistant Professor, Department of Economics, University of British Columbia, http://faculty.arts.ubc.ca/mrehavi/index.htm.

[38] Michael Hall, David Lasby, Glenn Gumulka, and Catherine Tryon. *Caring Canadians, Involved Canadians: Highlights from the 2004 Canada Survey of Giving, Volunteering and Participating. Statistics Canada*. (Ottawa: Statistics Canada, 2006). Available at http://www.givingandvolunteering.ca/files/giving/en/csgvp_highlights_2004_en.pdf

[39] Feminda Handy, & Eliakim Katz, Donating behaviour: If time is money, which to give? A preliminary analysis," (2008) vol. 35, no. 4, *Journal of Economic Studies*, 323-332.

[40] M. Marit Rehavi, *Partial Reporting: An Example from Charitable Giving*, Working Paper (Vancouver: University of British Columbia, 2011). Available at http://www.bus.umich.edu/ConferenceFiles/MTAXI/rehavi_partial_reporting.pdf

Rehavi, once the decision is made to itemize, the tax filer then needs to choose which deductions to claim. This second choice is subject to the compliance costs of itemizing which include compiling the documentation and determining which items are eligible. These compliance costs will be weighed against the tax benefits of reporting the donation. , implying that the reporting of charitable contributions will be dependent on the tax filer's marginal tax rate. If this phenomenon exists, then any tax-price elasticities estimated from tax return data will be a composite of the responsiveness of charitable donations to the marginal tax rate and the responsiveness of reporting to the marginal tax rate. The key empirical question is whether reporting effect is a large part of tax-price elasticities in practice.

In order to answer this question Rehavi turns to the Panel Study of Income Dynamics (PSID) for the years 2000-2006. Beginning in 2000, the PSID contains information on the amount of giving that families claimed on their tax returns as well as responses to a detailed survey about their charitable donations. This makes it possible to directly estimate how donation reporting varies with marginal tax rates (both across families and within families over time) and the effect on tax-price elasticity estimates.

Rehavi shows that charitable contributions are indeed underreported by tax filers who itemize on their tax returns: a full 60% of these individuals report no charitable giving on their tax returns but report positive charitable donations in the PSID survey. On average, $330 of donations per itemizing family are not reported to the IRS. In addition, Rehavi demonstrates that the gap between the survey and tax-return measures of charitable contributions systematically vary with the tax rate. These differences suggest that as much as a third of the tax-price elasticity of charitable giving estimated from administrative tax data may be endogenous reporting.

The policy implications of this work are twofold. First, changes in the tax price of charitable giving will not only influence the number and amount of charitable contributions but also the amount of charitable contributions reported on tax returns. Second, the influence of the tax price of charitable giving on actual donations is not as strong as initially thought, with many tax filers giving to charity without directly benefiting from the preferential tax treatment. As Rehavi notes, some of these unreported gifts may be ineligible for favourable tax treatment by the IRS. However, even if all of the reporting effect were the shifting of charitable donations to charities eligible for preferential tax treatment, it would be shifting donations among charities rather than generating extra charitable dollars. The social welfare implications of such shifting depend on one's beliefs about the relative social benefit of donations to charities that are registered with the Internal Revenue Service.

The discussants for this paper were Alan MacNaughton[41] and Dwayne Benjamin[42]. The paper confirms a well-known fact, that compliance costs matter with respect to reporting behaviour, and demonstrates how these costs specifically influence the reporting of charitable donations on tax returns. While Canada's tax preferences for charitable giving differ in structure from those in

[41] Alan MacNaughton, KPMG Professor of Accounting, School of Accounting and Finance, University of Waterloo, http://artsonline.uwaterloo.ca/safprofile/view_profile.php?id=32
[42] Dwayne Benjamin, Professor, Department of Economics, University of Toronto, http://homes.chass.utoronto.ca/~benjamin/

the United States, the ability to carry donations forward to maximize the amount of donations at the higher margin make strategic filing decisions a concern here as well.

Most of the discussants' concerns revolved around the quality and reliability of the PSID survey data. First, the limited number of questions on the PSID survey regarding donation behaviour may be concerning since it has been shown that fewer questions regarding spending decisions results in and underestimation of said consumption.[43] Although it is not clear that the under-reporting induced by this survey design would co-vary with families' marginal tax rates. Second, there was a large discussion about the potential inclusion of donations ineligible for tax deductions in the PSID measures of charitable donations. Third, the PSID survey is a recall survey and there is a concern regarding the ability of the respondent to accurately remember their donations well after the fact and without requiring the respondent to consult their records. To the extent that these biases covary with families' marginal tax rates over time, they could bias the estimates of the share of the tax-price elasticity that is due to partial reporting.

Jean-Francois Wen[44] and Daniel V. Gordon[45]—An Empirical Model of Tax Convexity and Self-Employment

Governments across Canada promote entrepreneurship as a key to job creation, innovation, and economic growth. Reductions in personal income tax rates are often presented as a policy lever that encourages entrepreneurship. High personal income taxes, it is argued, distort the risk-to-reward ratio. However, it is not high income tax rates themselves that distort the risk-to-reward ratio, but rather the rising progressivity of the tax rate schedule. Since the reward from successful entrepreneurial activities is high income returns, the more progressive a tax system, the more entrepreneurial success is penalized. More importantly, a progressive tax system that excludes the ability to average incomes across years penalizes individuals with highly volatile annual incomes, like many entrepreneurs. For example, an individual earning $60,000 in year one and $0 in year two will pay $12,193 in total income taxes (using tax information from 2011). On the other hand, an individual earning $30,000 in both years will only pay $7,956 in total income taxes. t Wen and Gordon call this phenomenon tax convexity, also known as the success tax.[46]

Using self-employment as a proxy for entrepreneurship, Jean-Francois Wen and Daniel Gordon empirically test whether the tax and transfer system influences the choice between self-employment and employed labour. Their measure of tax convexity is defined as "the expected value of the tax liability of an entrepreneur facing a distribution of possible returns and compares this burden with the same individual's predicted tax liability."[47] An individual will be deterred from self-employment if the expected tax liability exceeds the predicted liability. This occurs if

[43] Martin Browning, Thomas Crossley and G Weber, "Asking Consumption Questions in General Purpose Surveys," (2003) vol 113, no. 491, *The Economic Journal*, F540-F567.
[44] Jean-Francois Wen, Professor, Department of Economics, University of Calgary, http://econ.ucalgary.ca/profiles/jean-francois-wen.
[45] Daniel V. Gordon Professor, Department of Economics, University of Calgary, http://econ.ucalgary.ca/profiles/daniel-gordon.
[46] Jean-Francois Wen and Daniel V. Gordon, *An Empirical Model of Tax Convexity and Self-employment*, Working Paper (Calgary: University of Calgary, 2010). Available at http://econ.ucalgary.ca/sites/econ.ucalgary.ca/files/publications/JFSelfemployment_model6.pdf
[47] Ibid, at page 3.

the tax system penalizes success more than it offsets failure. They also go beyond just examining marginal income tax rates and thresholds but also incorporate payroll taxes, tax credits and their claw backs, loss offset provisions, and other tax and transfer considerations in to their analysis.

To calculate the effect of tax convexity on self-employment, Wen and Gordon use SLID data, discussed previously, from 1999-2005. Conducting this analysis using Canadian data as opposed to US data is informative for several reasons. First, in Canada a personal dividend tax credit exists that partially offsets corporate taxes meaning that "the personal and corporate income tax systems are integrated for incorporated businesses earning up to $500,000 (in 1999)."[48] Second, tax rates are applied to the individual and are not based on household income. Third, the proceeds from the sale of small business shares are subject to a lifetime capital gains exemption, provided specific criteria are met. Fourth, statutory personal income tax rates began to be fully indexed in 2000, whereas previously they were only indexed to inflation increases above 3%. These differences suggest that results from Canada may differ from those obtained using US data. In addition, the data cover a major period of tax reform in Canada. In 2001, the rates for the first two statutory tax brackets were reduced, the surtax was eliminated, the capital gains inclusion rate was dropped to 50%, and the corporate tax rate was cut from 28% to 21% for small business income between $200,000 and $300,000. These combined reforms were designed in part to promote entrepreneurship and may do so by decreasing tax convexity.

On average, the self-employed have both lower earnings and greater variance in their earnings: an observation that is consistent with self-employment being more risky. The self-employed also have higher levels of investment and capital income, are older, more likely to be married, and less likely to work in white color jobs.

Wen and Gordon categorize complexity into two types: upside convexity and downside convexity. Upside tax convexity is when tax rates increase with income as discussed above. Similarly, downside convexity is when tax rates decrease as income decreases. Decomposing convexity in this manner allows for asymmetric responses with the overall effect of tax progressivity on self-employment being the sum of these two effects. Using an expected earnings equation the authors predict earnings and total income for individuals under self-employment and paid employment. The residuals from the earnings equation are then used to calculate the variance of earnings in self-employment for both the self-employed and employed. This earnings variance is used to establish the predicted high income state and predicted low income state. The authors then calculated the expected tax liabilities in these two income states to obtain measures of the upside and downside tax convexity of the tax regime.

Wen and Gordon then examine how these factors (upside tax convexity, downside tax convexity, and net-of-tax income differences) influence the probability that an individual will be self-employed, ceteris paribus. They find that upside tax convexity is indeed negatively related to the self-employment rate while downside tax convexity is positively related to it. Wen and Gordon find that upside tax convexity has a much larger influence on the self-employment rate than downside convexity, suggesting that tax progressivity indeed influences the decision to become self-employed. This result calls into question the hypothesis that high taxes encourage self-employment due to the opportunity to evade taxes that results from the lack of third-party

[48] Ibid, at page 4.

reporting. Net-of-tax income differences are also important with the probability of becoming self-employed increasing in the difference between self-employment and employment.

Wen and Gordon conclude by examining the effects of the 2001 tax policy changes on the self-employment rate. Overall, they find that the 2001 tax reforms would increase the self-employment rate by 1.1% for white collar self-employed and 0.6% for blue collar. Which of these tax reforms, however, drive this result? To this end, they decompose the major changes in personal income tax rates to examine the likely effect of each on the self-employment rate. They find that most of this change in entrepreneurship is driven by the reduction of the middle tax bracket.

The authors acknowledge that the effects of these tax changes on the self-employment rate are very modest, likely owing to the fact that seemingly large cuts to the rates translate into small increases in take home income. However they note that another reason for the small changes is the offsetting effect of these tax reforms on upside tax convexity, downside tax convexity, and net-of-tax income differences. For example, cuts to the second tax bracket reduce upside tax convexity (increasing self-employment), but reduce self-employment through net-of-tax income changes. This occurs because the rate cuts favour employment because the income from employment is higher.

The policy consequences of these findings are significant and provide fresh insights into how the design of tax policy influences self-employment. The main message is that designing tax reforms to increase self-employment is extremely difficult due to the counteracting effects. The most successful policy is likely to be one that cuts tax rates on self-employment income but not wage income. Participants noted that this could be affected by returning to an income averaging system, similar to that which was in place in Canada between 1971 and 1987 and which currently exists for farm income, but limited to self-employment income. It was noted that income averaging is less administratively difficult than it was in past due to computing technology and advances in tax software. That said, RRSP deductions do provide a weak substitution for income averaging, mostly due to the contribution limits which could be raised for the self-employed to better mimic the effects of strict income averaging.

Herb Schuetze[49] and Gustavo Bobonis[50] provided further commentary on this paper. Their comments reinforced the importance of this paper: that examining policies that target self-employment is important because labour market policies, such as tax reform, are usually developed with wage employees in mind. This is unfortunate as these policies can and often do have perverse effects on the self-employed, a point made clear when one examines the income tax system. That is, the self-employed need to be considered even outside of policy focused on encouraging entrepreneurship. Participants also reinforced the importance of conducting empirical work in this area in Canada. Most of the existing research uses US data which has a very different system of taxes and transfers. Examining Canada can help us particularly understand the role the social safety net has on the self-employment rate, an important factor

[49] Herb Schuetze, Associate Professor, Department of Economics, University of Victoria, http://web.uvic.ca/econ/people/faculty_directory/schuetze.php.
[50] Gustavo Boboni, Associate Professor, Department of Economics, University of Toronto, http://homes.chass.utoronto.ca/~bobonis/

since most will fail at their endeavours in the first five years. The paper also makes an important contribution by developing a much improved measure of tax convexity.

The discussants also made several suggestions for enriching the paper. First, they raised the issue of tax evasion (either through tax non-compliance or income splitting) and the role it may play in both the decision to be self-employed and the empirical results. Second, the discussants encouraged the authors to exploit the panel nature of the SLID to examine transitions into and out of self-employment. In addition, there is room to further exploit the 2001 tax changes. The discussants suggested that it would be beneficial to directly examine the detailed response of self-employment rates to the 2001 policy changes and compare them to the specific countervailing effects predicted by the empirical exercise. Finally, it was suggested that capital requirements, capital constraints, and entrepreneurial ability are important complements to entrepreneurial activities and that it would therefore be beneficial to incorporate them into the analysis.

Ben Dachis[51], Gilles Duranton[52], and Matthew A. Turner[53]—The Effects of Land Transfer Taxes on Real Estate Markets: Evidence from a Natural Experiment in Toronto

Most jurisdictions impose a tax on real estate transactions as a revenue generating device. These taxes, known as either land, property, deed, or real estate transfer taxes (hereinafter transfer taxes) are generally imposed on real estate transactions and must be paid upon the registration of the transfer of property title. The amount of taxes owing at the time of transfer is usually based on a flat or sliding percentage of the amount the buyer paid for the property. Because these taxes increase the cost of real estate transactions, it is generally acknowledged that they act as a disincentive to buying real estate and may be passed through to sellers in the form of lower prices. However, little is actually known about the magnitude of these effects. Obtaining this information is important because many jurisdictions offer some form of relief to buyers that meet certain characteristics, such as first-time home buyers, and the 2009 US Housing Stimulus Bill provided partial relief to all homebuyers, albeit temporarily on the assumption that these forms of tax relief reduce the disincentive to buy.

Unlike in the US, municipalities in Canada do not impose their own transfer taxes unless they have been explicitly granted the authority to do so by the provincial government. The exceptions are municipalities in Nova Scotia who have the authority to enact deed transfer taxes (Nova Scotia does not have a provincial transfer tax) and the City of Toronto which in 2007 was granted special authority to impose municipal transfer taxes.

The City of Toronto instituted a transfer tax which came into effect on January 1, 2008. The tax follows a progressive tax regime based on the purchase price of the property: the first $55,000 in value is taxed at a rate of 0.5%, the value between $55,000 and $400,000 is taxed at a rate of 1.0%, and the remainder is taxed at a rate of 2.0%. As in most jurisdictions, first-time

[51] Ben Dachis, Policy Analyst, C.D. Howe Institute.
[52] Gilles Duranton, Professor, Department of Economics, University of Toronto, http://individual.utoronto.ca/gilles/default.html.
[53] Matthew A. Turner, Professor, Department of Economics, University of Toronto, http://homes.chass.utoronto.ca/~mturner/.

homebuyers are eligible for tax relief through a maximum rebate of $3,725. The City of Toronto Land Transfer Tax (LTT) is in addition to the provincial transfer tax.

Ben Dachis, Gilles Duranton, and Matthew Turner use the introduction of the Toronto LTT to explore the effect of transfer taxes on real estate prices and transactions in the City of Toronto.[54] They obtain data on single-family homes sold in the Greater Toronto area between January 2006 and August 2008 from the Multiple Listing Service (MLS). The MLS data includes information on the sale price, sales date, closing date, various house characteristics, and the property's postal code. They use the property's postal code and GIS software to determine the municipality in which the property is located and thus identify properties subject to the Toronto LTT.

They obtain data for sales in the City of Toronto as well as surrounding jurisdictions (Mississauga, Brampton, Vaughn, Richmond Hill, Markham, and Pickering) so they can compare changes before and after the imposition of the transfer tax in the City of Toronto to those in nearby jurisdictions not subject to the new transfer tax. This quasi-experimental design treats sales in the City of Toronto as the treatment group and sales in neighboring jurisdictions as the control group allowing Dachis et al. to isolate the effect of the policy change in January 2008 from other factors such as economic climate and sales seasonality which should affect both treatment and control jurisdictions equally. In order to ensure that they do no confound differential trends with treatment effects, they further restrict their analysis to sales within three kilometers of the City of Toronto border. That is, the approach taken by Dachis et al. "boils down to a difference-in-differences estimation for observations on a narrow band on both sides of the Toronto border."[55]

Using their modified quasi-experimental design, Dachis et al. find that the imposition of the transfer tax in the City of Toronto led to a 15% decline in the number of houses sold, a result they find to be robust to various specifications. Dachis et al. also explore the effect of the policy change on the sales price of homes and find that the new transfer tax led to a decline in housing prices that was approximately equal to the magnitude of the tax. That is, the new transfer tax is almost perfectly offset through a corresponding decrease in the purchase price meaning the tax is "fully capitalized into land prices."[56] Translating these figures into welfare, the authors find that the total welfare losses of the tax, which are effectively the cost of forgone mobility, were equivalent to over 12% of the revenue raised or about $19 million per year for Toronto. The authors conclude by suggesting that "welfare would be improved by shifting the burden of public finance from land transfer taxes to ordinary property taxes."[57]

This paper was discussed by Abigail Payne[58] and Daniel Parent.[59] Much of the discussion focused on the underlying assumptions of the estimation strategy. First, a necessary assumption

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[54] Ben Dachis, Gilles Duranton, and Matthew A. Turner, *The Effects of Land Transfer Taxes on Real Estate Markets: Evidence from a Natural Experiment in Toronto*, Working Paper (Toronto: University of Toronto, 2011). Available at http://individual.utoronto.ca/gilles/Papers/TREB.pdf

[55] Ibid, at page 10.

[56] Ibid, at page 25.

[57] Ibid, at page 25.

[58] Abigail Payne, Associate Professor, Department of Economics, McMaster University, http://www.economics.mcmaster.ca/faculty/paynea

is that the "real estate market did not anticipate the tax"[60] but given that the special authority to impose the tax was granted a full year before the tax was implemented and that discussions leading up to the imposition of the transfer tax suggested that the imposition in the City of Toronto was an acute possibility, it is not clear that this assumption strictly holds. If the assumption does not hold then this poses problems with identifying the true policy date. If the tax was anticipated than the behavioural changes as a result of the policy become blurred and it is not clear what period of time is the true pre-policy period and what period of time is the after policy period. Given the short window of time studied, it is also not clear whether these effects are limited to the short-run or will persist in the long-run. A follow-up study on how these effects evolve and the market adjusts would be beneficial in this regard.

Finally the discussion also focused on the definition of the alternative for the welfare analysis. The City of Toronto needed to increase it budgetary revenues. Therefore, one would want to compare the welfare effects of the transfer taxes to the welfare effects of the alternatives for generating the needed revenue. Finally, it is also not clear if the observed effects are temporary or long-lived which are equally important for understanding the adjustment factors. A follow-up study would be useful to determine this aspect.

Conclusion

The Tax Time workshop provided an opportunity to showcase current research tackling public policy issues in the field of empirical public finance. An underlying theme of many of the papers was inequality. Income constraints differ enormously across individuals, time, and countries. A substantial public policy problem is when, how, and to what extent do we intervene to create income equity. The answers to these types of questions are difficult and rely on many considerations outside the purview of economic research. However, to even attempt to design policy responses, we need to know: how much inequality and poverty there are in Canada, the sources of inequality and poverty, and the costs and benefits of specific policies. The work by Milligan, Bibi et al., Lemieux, and Albouy showcase public finance research which is tackling these complexities of income inequality.

Taxes are one of the primary tools governments use for both for redistribution and to incentivize desired choices. It is therefore fitting that they were the other focus of the research presented. The papers by Rehavi, Wen and Gordon, and Dachis et al. consider how various tax measures contribute to the loss of social welfare, either through contributing to compliance and reporting costs, curtailing entrepreneurial behaviour, or influencing mobility decisions. This research emphasizes the importance of understanding the consequences (both intended and unintended) of the design, delivery, and implementation of taxes.

Evidence from academia can be an important input to policy decisions. Having clear policy evidence available clarifies the choices facing public officials and enables them to maximize the return on the resources at their disposal. It is to be hoped that the papers presented at the Tax Time workshop help to fulfill that role.

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[59] Daniel Parent, Associate Professor, Institute of Applied Economics, HEC Montreal, http://www.hec.ca/en/profs/parent.daniel.html

[60] Ibid, at page 6.