

THE SENSITIVITY OF FOOD BANK VISITS TO SOCIAL ASSISTANCE, HOUSING AND LABOUR MARKET CONDITIONS IN TORONTO*

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SUMMARY

There are over 2,300 food banks across Canada. In 2019, there were approximately one million visits to food banks monthly. For individuals and families with little in the way of savings and with limited access to borrowing from non-predatory lenders, even temporary losses of income or unexpected expenses demand an immediate adjustment to the rest of their already strained budgets. When other parts of the social safety net do not provide sufficient income support, when labour markets fail to provide employment, or when housing markets fail to provide affordable housing, food banks can enable individuals and families to reallocate income away from expenditures on food toward meeting other basic needs.

In this study we use monthly data describing the number of visits to the Daily Bread Food Bank in Toronto over the period January 2014 to March 2020, a period over which visits increased by 53 per cent. We examine the relationship between this increase in food bank visits and trends in rents, social assistance incomes, minimum wages, and rates of employment in Toronto.

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The study shows that the number of visits to food banks increase with increases in rent, fall with increases in the minimum wage, and increase with reductions in the disability benefits available to people requiring social assistance. The most significant influence is disability benefits. The steady erosion of the real value of disability benefits in Ontario and growth in disability caseloads is correlated with a sizable increase in the number of visits to the Daily Bread Food Bank.

The sensitivity of food bank visits to changes in social assistance incomes means that monitoring changes in food bank visits is an effective way of gauging the adequacy of public policies intended to provide support to individuals and families in need. Like the proverbial canary in the coalmine, increased visits to food banks may be considered an early warning sign of trouble developing in social programs.

ABSTRACT

We make use of monthly data describing the number of visits to food banks operated by the Daily Bread Food Bank in Toronto. We identify the extent to which food bank visits may be associated with changes to public policies, to changes in the cost of shelter and to changes in labour market conditions. Our measures of these changes are those that are relevant to individuals and families with limited incomes and limited abilities to borrow or save. We find that the number of visits to food banks is sensitive to measures of all three of these types of changes; food bank visits increase with increases in rent, with falls in the minimum wage and with reductions in the disability benefits available to people requiring social assistance.

INTRODUCTION

Food banks are community-based, non-government initiatives that collect donated foodstuff and monetary donations from both the public and from industry, and in turn distribute food back to people in need. Food banks are an important part of Canada's social safety net. In 2019, there were 2,326 food banks operating in Canada, which were visited more than one million times monthly (Food Banks Canada 2019).

The broader social safety net in which food banks operate includes government income and employment support programs, faith-based and other private charities, such as domestic violence shelters, immigration services, homeless shelters and children's services, and, often in the first instance, family and friends. Publicly funded components include medicare, employment insurance, the Canada and Quebec pension plans, Old Age Security and workers' compensation. Some aspects of the social safety net are in the form of regulations, such as minimum wage laws and restrictions placed on levels and rates of change in rents. Individuals and families in need rely on those parts of the social safety net that best meet their needs when those needs arise. They often need to interact with the social safety net in many places. Not surprisingly then, a change in one part of the social safety net has the potential to influence how people respond to, or how much they rely on, the rest.

In this report, we make use of monthly data describing the number of visits to the Daily Bread Food Bank in Toronto from January 2014 to March 2020 to investigate the sensitivity of food bank visits to changes in government social assistance policies and to changes in labour and housing markets. In the next section, we briefly describe the place of food banks in the social safety net. We then review the literature describing how and by whom food banks are used and what has been reported in the literature on how changes in the rest of the social safety net affect the use of food banks. Following that, we describe the data made available to us by the Daily Bread Food Bank and the data we have constructed to investigate the place of food banks in the social safety net. Finally, we describe the results of an empirical investigation into how changes in labour and rental market conditions and in income support programs impact the number of food bank visits. We conclude with a discussion of the implications of our findings.

FOOD BANKS IN CANADA AND IN TORONTO

The first food bank in Canada was established in Edmonton in 1981 (Riches 1986). Today, there are over 2,300 food banks operating in Canada and in 2019 there were approximately one million visits to a food bank each month (Food Banks Canada 2019).

The Daily Bread Food Bank is one of three food bank networks operating in the Toronto region. The others are the North York Harvest Food Bank and the Mississauga Food Bank. The Daily Bread Food Bank has operated since 1983. In 2019, there were over 824,000 visits to the Daily Bread Food Bank, accounting for 88 per cent of all visits to food banks in the Toronto region.¹ At approximately 69,000 visits per month, the Daily Bread Food Bank, therefore, accounted for about seven per cent of all monthly visits to food banks in Canada in 2019. The number of visits to the Daily Bread Food Bank increased by 53 per cent over the period from January 2014 to March 2020.²

Food banks are charitable organizations that rely on donations of both money and food.³ While largely outside the publicly funded portion of the social safety net, in ways we describe in this report, their operations are impacted by decisions made by municipal, provincial and federal levels of government.

WHAT NEED DO FOOD BANKS FILL?

Food banks aid people whose circumstances have put them in a position of trying to satisfy their basic needs with insufficient income and inadequate savings. The list of what defines basic needs grows or shrinks depending on how one defines poverty, but there is no argument regarding the need for sufficient income to secure shelter, food, utilities and transportation services.⁴

As we describe in more detail below, food bank clients are typically facing an income constraint under which the cost of meeting basic needs always, or occasionally,

¹ Calculated from data provided by the Daily Bread Food Bank.

² As Bronstein and Imam (2019) report, the Daily Bread Food Bank did not increase the number of distribution centres during our period of analysis. After March 2020, the number of visits to the Daily Bread Food Bank increased, likely because of the COVID-19 pandemic. Between March 2020 and March 2021, the number of monthly visits increased by a further 61 per cent.

³ The most recent annual report of the Daily Bread Food Bank shows that in 2020, it received 0.16 per cent of its revenue in the form of government grants, 47 per cent in the form of monetary donations and 49 per cent in the form of donated food.

⁴ What should be considered a basic need is a broad and contentious topic. The federal government has adopted the Market Basket Measure (MBM) as its measure of poverty. MBM defines a basket of goods for which a family must have sufficient income to avoid being identified as experiencing poverty. As well as obvious necessities like food, shelter and clothing, the MBM includes a very wide range of items related to recreation, transportation needs (including an automobile for those living in rural areas), household needs, furniture, telephone services, reading materials including newspaper and magazine subscriptions, video rentals and even tickets to local sporting events. See Hatfield et al. (2010) for a list of goods in the MBM basket. This long and finely detailed list reflects a judgment that an element of poverty is the extent to which families with low income suffer social exclusion and that the latter can be avoided by making possible the purchase of entertainment and the enjoyment of recreation activities. Other measures of poverty rely on a more limited list of basic needs, a list that does not extend much further than shelter, food and clothing. See, for example, Sarlo (2013).

exceeds income. The income constraint is made particularly stringent by a lack of savings and limited access to borrowing from non-predatory lenders. Without savings or the ability to borrow, individuals and families have no way of bridging a gap between income and the costs of necessities resulting from a temporary or permanent loss of income or increase in the price of necessities. For these families, any gap between income and expenditures demands an immediate adjustment to expenditures.

If increasing one's income to meet the cost of basic needs is not possible, individuals and families without access to savings or borrowing have a limited range of options. Vacha and Marin (1993) note that these include downsizing to smaller, less expensive and more crowded shelter, or it may include taking in a boarder to share the cost of shelter.⁵ Reducing utility bills by turning down heat, avoiding medical expenses by forgoing dental work and forgoing the expense of transit are other options.⁶ Still other possibilities include borrowing from family and friends, increasing the balance on a credit card, relying on a payday lender and non-financial responses such as skipping meals. See Bronstein and Iman (2019) for results of a survey of clients reporting these responses.

Another response is to reduce food expenditures. If adjusting the quality and quantity of food purchases is not enough to stay within the family's budget while still meeting nutritional needs, food banks offer another way of loosening the family's budget constraint. By reducing expenditures on food, the use of a food bank may enable a family to meet the cost of other basic needs. Importantly, it may allow them to retain shelter and avoid relying on other parts of the social safety net, including the use of homeless shelters, that come from not being housed.

The extent to which food bank use is related to long-term or short-term budget imbalances is useful for understanding causes and possible solutions to limiting the reliance on food banks by improving the design of the social safety net. Limited insights into this question are provided by observing how food bank clients make use of the service.

In their study of food bank clients in London (U.K.), Prayogo et al. (2017) find that most food bank clients use the service infrequently. Over a six-month period, 48.6 per cent of clients visited a food bank just once, 30.1 per cent visited twice, 12.6 per cent visited three times and 8.7 per cent visited four or more times. Black and Seto (2020) observed how clients in Vancouver used food banks over a much longer period. They use a finely detailed dataset describing food bank use by 116,963 uniquely identified clients who in aggregate made over 2.2 million visits to a food bank over the period January 1992 to June 2017. The richness of their dataset enables the authors to define groups of food bank clients differentiated by their frequency of food bank visits and the time between their first and last visit. Clients identified by the authors as transitional users of food banks did so infrequently and over a very short time frame.

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See Kneebone (2021) for Canadian evidence of crowding as a response to high rents.

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See Emery et al. (2012) for evidence of families with low income facing so-called "heat or eat" decisions because of their limited ability to absorb budget shocks.

Over the sample period, 91 per cent of clients used food banks in this way. These clients made an average of seven visits to a food bank over the course of two months and accounted for just over one-third of all visits to food banks. Clients identified as episodic made an average of 12.6 visits per year over 8.6 years and accounted for 40 per cent of all food bank visits over the period 1992–2017. Finally, clients identified by the authors as chronic users visited food banks frequently and did so over a very long period. In the study, just 1.5 per cent of food bank clients could be described in this way. They made an average of 24.8 visits to the food bank per year for an average of 13 years and accounted for 26 per cent of food bank visits.

The observation that in the Black and Seto dataset one-third of visits to food banks were by clients using the resource infrequently and over a short time span is consistent with an explanation that they used the food bank as a coping mechanism to respond to a rare event, either an unexpected loss of income or an unexpected additional expenditure. However, their short-term use is also consistent with them finding that the service provided by a food bank did not meet their specific needs or expectations and so they sought other solutions to their income shortfall. More definitively, the finding that two-thirds of visits to food banks in Vancouver were by clients relying on food bank services for long periods of time suggests their use is tied to long-standing income shortfalls.

WHAT DOES THE BUDGET OF A FOOD BANK CLIENT LOOK LIKE?

For individuals and families using a food bank, expenditures are most likely limited to necessities. While as noted above, there may be some very limited scope for adjusting the quantity or quality consumed of some necessities — turning down the heat to save on utilities or delaying expenditures on medical costs, for example — there is limited scope for temporary adjustments in what is the largest expenditure item in the budget of someone using a food bank, namely, the cost of shelter.

Table 1 presents data from Goldberg and Green (2009), who report the results of a survey of over 500 food bank clients asked about their monthly expenses. Using their data, a temporary 10 per cent loss in income, with no change in rent, would require an immediate 21 per cent reduction in the rest of the budget. Access to a food bank is a way of relieving this pressure on the budget without resorting to payday loans or other ways that may carry longer term negative impacts on a very limited budget.

Table 1: Average Monthly Expenses

Rent	53 per cent
Utilities	8 per cent
Telephone	4 per cent
Food	20 per cent
Transportation	7 per cent
Clothing	4 per cent
Medical/Dental	1 per cent
Recreation/Leisure	3 per cent
TOTAL	100 per cent

Source: Goldberg and Green (2009).

The other side of the budget constraint is income. Black and Seto (2020) report that 45 per cent of the food bank clients in their study reported social assistance as their main source of income. A further 10 per cent reported pension or disability income as being their main sources of income. These results are very similar to those reported in the 2019 Hunger Count (Food Banks Canada 2019) which reports that in 2019, 40.1 per cent of food bank clients in Canada relied on general social assistance benefits and 17.3 per cent relied on disability benefits.⁷ In Ontario, however, over 32 per cent of food bank clients reported relying on disability-related income support, easily the highest in Canada. Drilling down still further, in the Toronto region, 30 per cent of food bank clients report general social assistance (Ontario Works) as their main source of household income while 29 per cent report their main source of income to be disability benefits (ODSP) (Bronstein and Iman 2019). These sources of income, while more reliably constant than employment income, contribute to food bank use should they be inadequate to meet basic expenditure needs.

WHAT IMPACTS FOOD BANK VISITS?

The literature identifying the determinants of food bank visits is quite limited. There is a much larger and related literature examining the determinants of people experiencing food insecurity. This literature shows food insecurity increases with increases in rent, the loss of employment, being dependent on social assistance and reporting a disability.⁸

It is important to note, however, that evidence suggests that not all food-insecure people use food banks and so the determinants of food insecurity are not necessarily predictors of food bank use. Kirkpatrick and Tarasuk (2009 and 2012), for example,

⁷ In their study of food bank clients in three London (U.K.) boroughs, Prayogo et al. (2017) report that two-thirds received social assistance benefits.

⁸ See, for example, Loopstra and Tarasuk (2012), who study the determinants of food insecurity in households with low income in Toronto. A more recent study (MacLeod, Curl and Kearns 2018) from the U.K. identifies unemployment, the loss of social assistance benefits and sudden life events, such as bereavement, as key drivers of food bank use. More recently still, Men et al. (2021) report that in Canadian households with children, food insecurity falls with increases in the minimum wage, increases in welfare income, lower housing prices and lower rates of unemployment.

report the results of interviews of families with low incomes in high-poverty census tracks in Toronto. While these families tended to live with the constraints of low income, high rent and unstable employment — all factors identified as contributing to food insecurity — only 20 per cent of these families used food banks.

Goldberg and Green (2009) is one of few papers that directly investigates the question of how food bank use relates to government policy choices. They note that it seems reasonable to assume that changes in employment opportunities and wages and changes in rents will play primary roles. They also emphasize that policies restricting access to social assistance might play a role. Using annual data from 1991 to 2004 relevant for cities across Canada, they investigate the potential influences of the employment rate, the value of social assistance benefits, the value of the minimum wage, the rent paid on a one-bedroom apartment and the number of social assistance cases for describing the fraction of the population accessing food banks.⁹ They report that the fraction of the population accessing food banks decreases with increases in rent, a result contrary to what would be expected of income-constrained households. Neither the minimum wage, nor the size of social assistance benefits or the rate of employment exerted statistically significant effects on the fraction of the population accessing food banks. The number of social assistance cases was found to have a negative effect on the fraction of the population accessing food banks. The authors interpret this result as being due to efforts by provincial governments during this period (1991 to 2004) to severely restrict the ability of people to access social assistance. The severity of these restrictions, measured by the size of the fall in social assistance cases, increased the fraction of the population accessing food banks.

Although Black and Seto (2020) do not formally test the sensitivity of food bank use to changes in social assistance policies or other changes to the social safety net, some of their findings are suggestive of the influences of such changes. They find, for example, that people reporting disability and pension incomes and people reporting mobility challenges visited food banks more often.

ANALYSIS

We take advantage of an opportunity to obtain non-public data from the Daily Bread Food Bank in Toronto describing the monthly number of food aggregate number of visits to their distribution centres. Using these data, we seek to identify how sensitive the number of food bank visits is to changes in public policies meant to address poverty. Our approach recognizes that food bank use is embedded within a broad social safety net that expands and contracts both as a matter of public policy and also due to changes in labour and housing markets. Our empirical approach, therefore, includes measures of variables in all three of these dimensions.

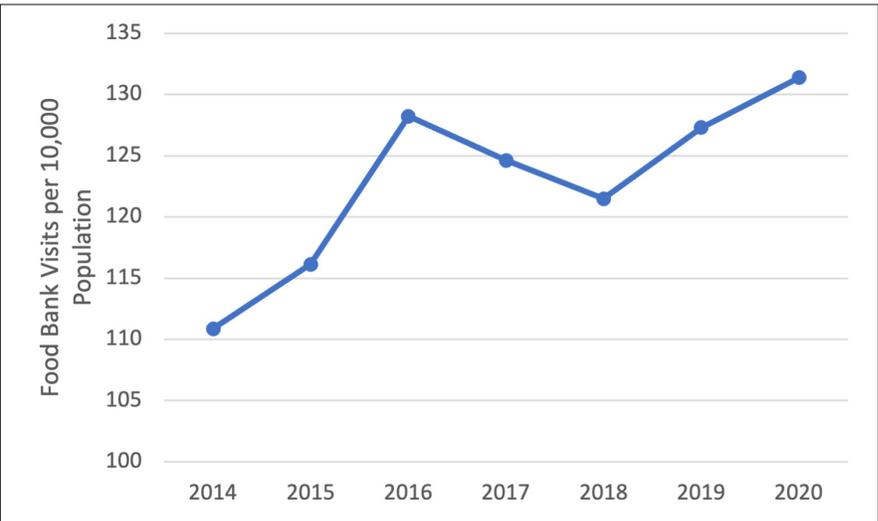
⁹

Monetary values were deflated by a price index that we assume was the all-items Consumer Price Index. The social assistance benefit was defined as that which is paid to a single employable and rent is the average amount paid on a one-bedroom apartment. Importantly, no attempt was made to distinguish someone with one visit to the food bank during a year from someone with multiple visits.

Our dependent variable is based on the number of visits to the Daily Bread Food Bank in the Toronto region. These data are monthly and describe the number of visits over the period from January 2014 to March 2020 inclusive.¹⁰ We truncate our dataset to end with March 2020 to avoid any influence of the COVID-19 pandemic on our data and our analysis. Recognizing that the number of people making use of food banks grows with population, our dependent variable is the number of food bank visits per 10,000 people.¹¹

Figure 1 uses yearly dummy variables to show how food bank visits per 10,000 people have changed over our sample period. Over the entire period, food bank visits per 10,000 people increased by 18 per cent. The average number of visits during 2016 and 2017 was markedly higher and interrupted what might have otherwise been a steadier annual increase.

Figure 1: Year Dummy Variables, January 2014 to March 2020

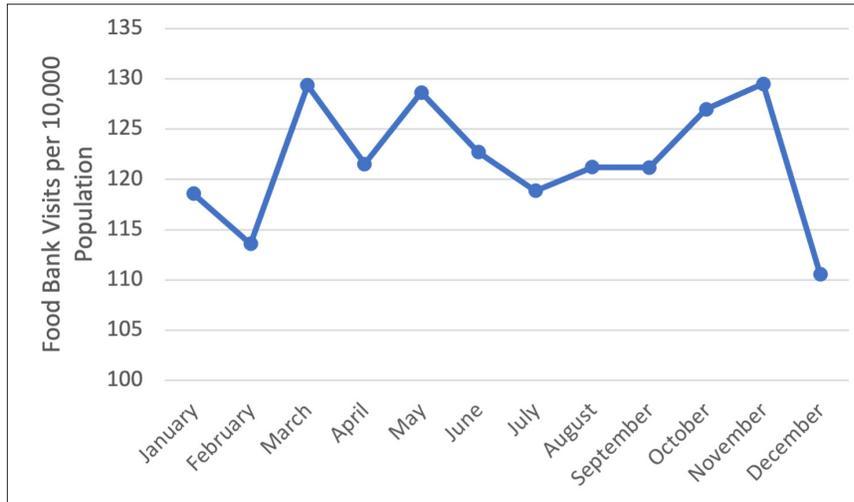


Source: Daily Bread Food Bank and authors' calculations.

¹⁰ These data do not describe the use of food banks by uniquely identified individuals and so we cannot determine the frequency of use by individuals in the manner of Black and Seto (2020). Instead, the data simply report the total number of visits to the Daily Bread Food Bank.

¹¹ Monthly values of population and employment for the Toronto CMA are available from Statistics Canada Table 14-10-0380-01. Data are not seasonally adjusted. The Daily Bread Food Bank does not serve North York or Mississauga and so our data overstate the population and employment in the area the Daily Bread serves. We assume that over the 2014-2019 period, population and employment in North York and Mississauga remained a constant share of population and employment in the Toronto CMA so that variation in the data provides an accurate measure of the variation in that part of the CMA served by the Daily Bread.

Figure 2: Monthly Dummy Variables, January 2014 to March 2020



Source: Daily Bread Food Bank and authors' calculations.

In Figure 2, we use monthly dummy variables to look for seasonal influences on food bank visits. The data identify significantly lower numbers of visits during January, February and December than during other months.¹²

We begin with a comparison of our dependent variable with explanatory variables suggested by our discussions above. Figure 3 compares the number of food bank visits per 10,000 people to changes in the rent paid on a one-bedroom unit priced in the first quartile of market rents. We use market rents based on the observation that in the Toronto region 67 per cent of food bank clients reported living in market rentals in 2019 and we assume a one-bedroom unit since two-thirds of clients are either single (51 per cent) or single parents (16 per cent).¹³ Finally, we use the rent paid on a unit priced in the first quartile of market rents on the assumption that food bank clients

¹²

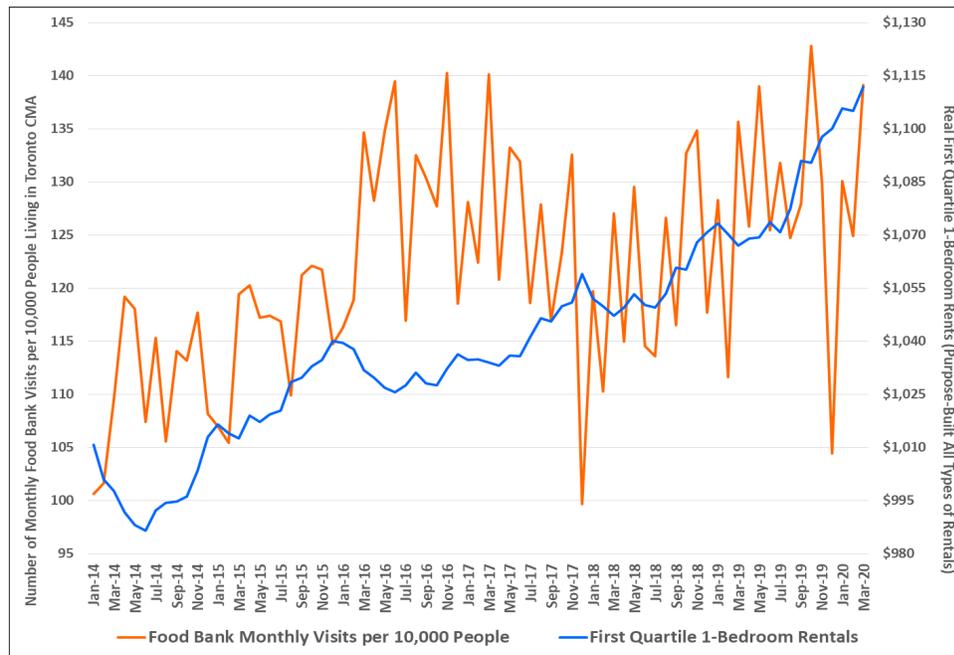
We are unsure of what might explain this pattern of seasonality. In a study using U.S. data, Nord and Cantor (2006) identify changes in heating and cooling costs as impacting food insecurity among low-income senior citizens, suggesting that food insecurity, and perhaps visits to food banks, might increase in a Canadian winter. This is the opposite of what the data show in Toronto. Emery et al. (2012) note that food insecurity resulting from rising heating costs was experienced by homeowners rather than renters, a finding that is consistent with the fact that people with low incomes are more likely to rent and heating costs are included in monthly rents. Thus, heating costs are not a likely explanation for seasonality in food bank visits and, in any case, the influence would be the opposite of what is identified in Figure 2. Short-term employment opportunities during the holiday season may explain the fall in food bank visits during the winter months, but this is speculation. An additional possibility is that there is an influx of informal and formal financial and food supports provided by religious and cultural groups and family members, which existing food bank clients may access over the holiday season. Attendance at drop-in meals or temporary, informal community programs would not be captured in food bank data. Understanding seasonal influences on food bank visits is an interesting question for future research.

¹³

These data are reported in Bronstein and Iman (2019). A single person may choose to rent a studio apartment. However, the stock of studio apartments is very limited, making it more likely that single people share one-bedroom units. It is also worth emphasizing that the rent-to-income ratio is significantly less for a single person relying on social assistance income should she share a one-bedroom unit with a roommate than should she live alone in a studio. In 2020, a single person in Toronto would have needed to allocate 108 per cent of social assistance income to pay rent on a studio apartment priced in the first quartile of rents. A single person relying on disability support would have needed to allocate 70 per cent of their income to rent. Sharing a one-bedroom unit with a roommate with equivalent income would have reduced these rent-to-income ratios to 68 per cent and 44 per cent, respectively. Finally, a comparison of time series on one-bedroom and studio market rentals in Toronto shows them to be very highly correlated.

are sufficiently constrained by their incomes and the costs of necessities that they rent units of relatively poor quality and so offered at relatively low cost.¹⁴ Market rents are deflated using monthly values of the all-items Consumer Price Index (CPI) for Toronto.¹⁵

Figure 3: Food Bank Visits and Rent, January 2014 to March 2020



Source: Daily Bread Food Bank, CMHC, Statistics Canada CANSIM Table 14-10-0380-01 and Table 18100004 and authors' calculations. The Pearson correlation coefficient between these two series is $r = 0.42$.

Except for the period of approximately January 2016 to December 2017, there is a generally positive correlation between the real value of rents and food bank visits.

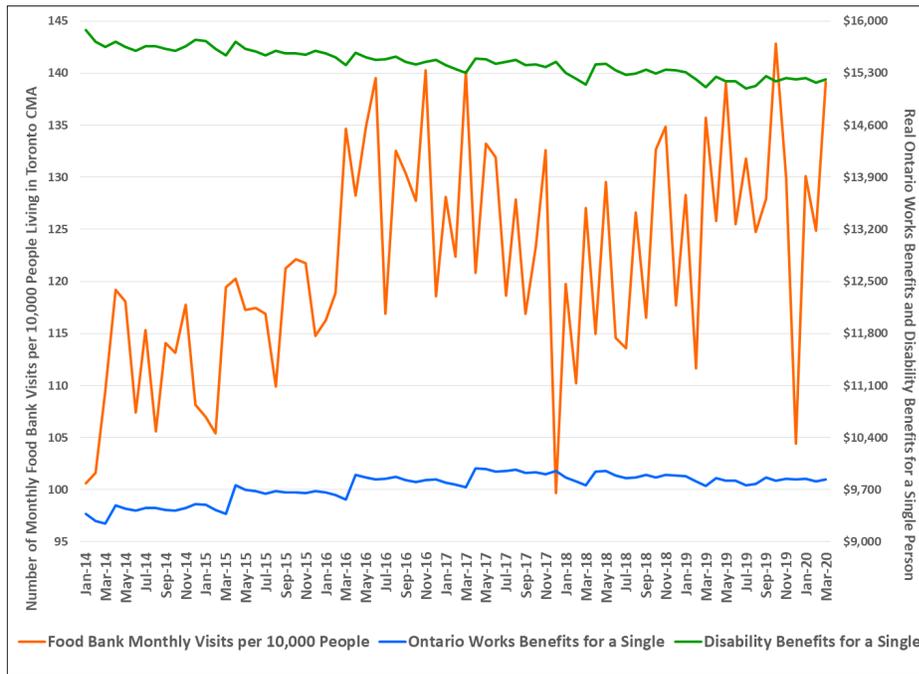
Figure 4 compares food bank visits to the real value of social assistance incomes. As noted earlier, 60 per cent of food bank clients in the Toronto region report social assistance as their main source of income, with half of those receiving benefits through the Ontario Works (OW) program and half through the Ontario Disability Support Program (ODSP). We show the social assistance provided to a single person in each of these programs.¹⁶

¹⁴ First quartile market rents are from the Canada Mortgage and Housing Corporation (CMHC) Data Portal. These data measure the rent observed in October of each year from 2014 to 2020 inclusive. To obtain monthly values, we used a spline interpolation.

¹⁵ Monthly values of the all-items CPI for Toronto are from Statistics Canada Table 18-10-0004-01.

¹⁶ Annual values of social assistance incomes available to an individual or family assumed to be residing in Toronto are reported by Maytree Foundation. See Laidley and Aldridge (2020). These data include income received in the form of basic benefits, tax benefits such as the GST/HST credit and other provincial credits and benefits, and both federal and provincial child benefits when applicable. We assume social assistance recipients claim and receive all benefits they are entitled to. We assume the nominal value of benefits is established at the beginning of the provincial government's fiscal year (April 1s) and is constant until the following fiscal year. Maytree reports real values of social assistance incomes that are deflated using the Canadian CPI. We calculate nominal values and deflate using the all-items CPI for Toronto.

Figure 4: Food Bank Visits, Ontario Works Benefits and Disability Benefits for a Single Adult, January 2014 to March 2020



Source: Daily Bread Food Bank, Maytree, Statistics Canada CANSIM Table 14-10-0380-01 and Table 18100004 and authors' calculations. Benefits are measured in January 2021 dollars. The Pearson correlation coefficient between food bank visits and OW and ODSP Benefits is $r = 0.50$ and $r = -0.52$, respectively.

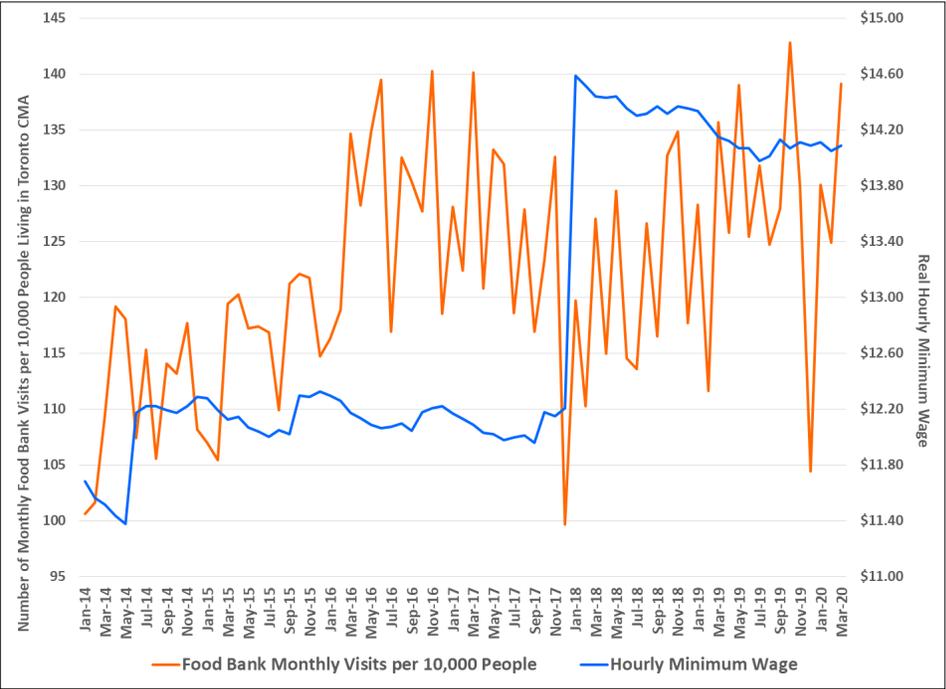
Income support incomes are less volatile than visits to food banks and so it is difficult to observe obvious correlations. It is noteworthy that over the period of analysis, the real value of disability benefits provided to a single person trended downward while the real value of Ontario Works benefits provided to a single employable was trending upward due to increases in OW rates between 2014 and 2018 for single individuals.¹⁷

We assume that clients of food banks who report employment income earn wages that are reasonably well-represented by the provincial minimum wage.¹⁸ Figure 5 shows how the real value of the hourly minimum wage has varied relative to the number of food bank visits.

¹⁷ See Novogrodsky (2021) for a detailed discussion of the history of the real and nominal values of Ontario Works benefits in Toronto over the past 20 years. Between 2014 and 2017, OW benefits paid to singles were increased more quickly than provincial benefits provided to families in recognition of the fact that over this period parents were able to access enhanced federal child benefits.

¹⁸ Data on the nominal value of the minimum wage in Ontario and the date on which its value was adjusted are from <http://srv116.services.gc.ca/dimt-wid/sm-mw/rpt4.aspx>.

Figure 5: Food Bank Visits and the Hourly Minimum Wage, January 2014 to March 2020



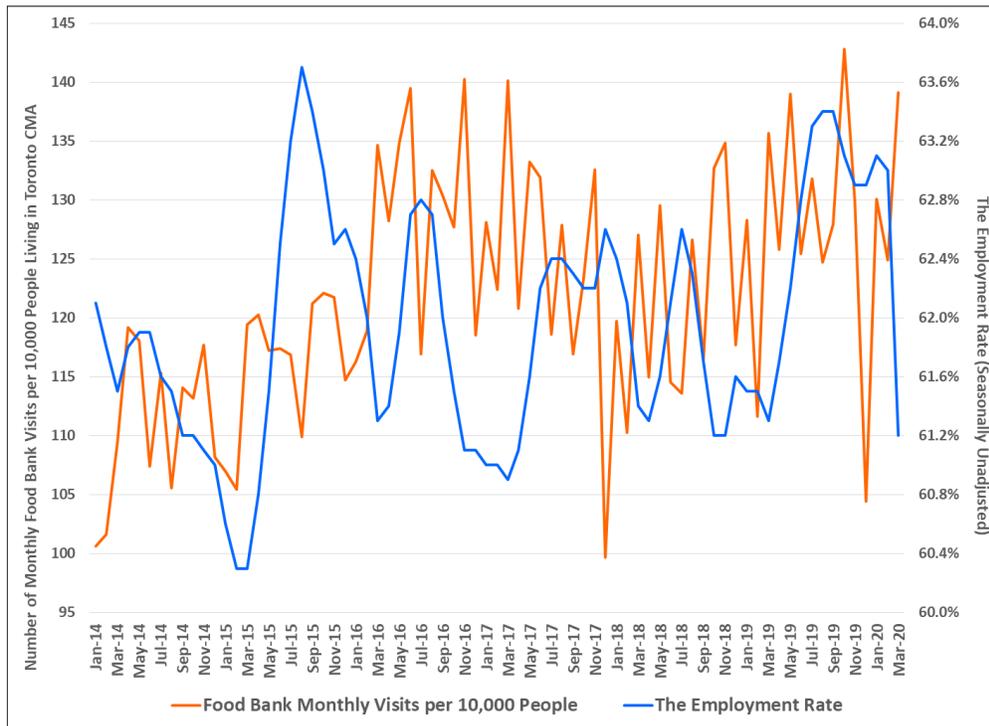
Source: Daily Bread Food Bank, Government of Canada, Statistics Canada CANSIM Table 14-10-0380-01 and Table 18100004 and authors’ calculations. The minimum wage is measured in January 2021 dollars. The Pearson correlation coefficient between these two series is $r = 0.20$ prior to January 2018 and $r = -0.25$ after.

The large increase in the minimum wage introduced in January 2018 interrupts what appears to be a generally negative correlation between the real minimum wage and food bank visits.

The employment rate is the fraction of the population of Toronto that is employed and is a measure of the success people are having in finding paid employment. In Figure 6, it is difficult to identify a close correlation between the employment rate and food bank visits.¹⁹

¹⁹ The time between when an individual loses employment and may be forced to visit a food bank will depend on the individual’s savings and their eligibility for Employment Insurance (EI). If savings are available and/or one has access to EI, then there may be a lag between changes in the employment rate and changes in visits to food banks. In the empirical analysis we discuss below, we find that after controlling for other influences, there is a contemporaneous relationship between the employment rate and food bank visits, suggesting food bank clients have limited savings and insufficient labour market attachment to provide them with access to EI.

Figure 6: Food Bank Visits and the Employment Rate, January 2014 to March 2020



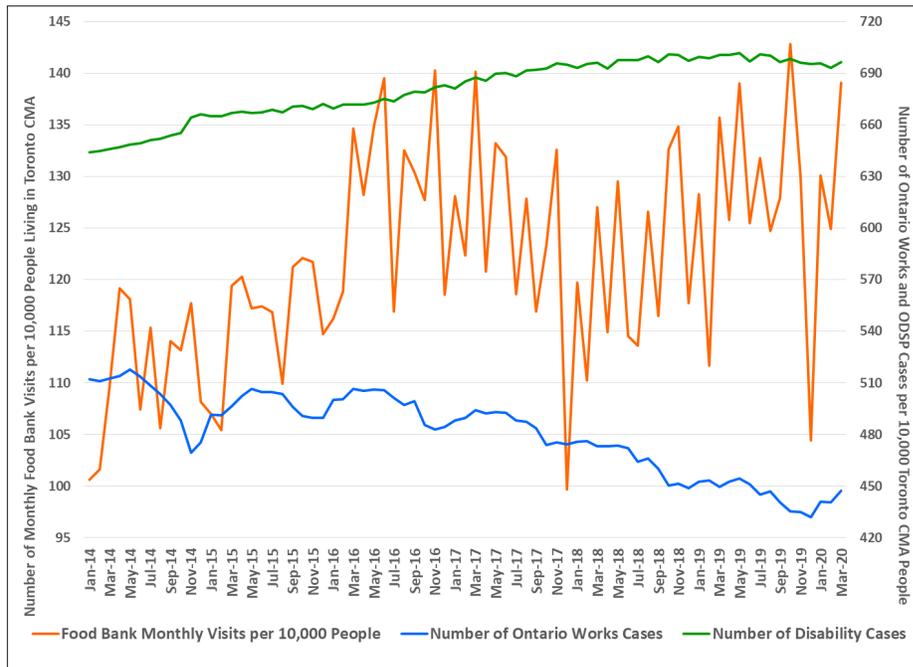
Source: Daily Bread Food Bank, Statistics Canada CANSIM Table 14-10-0380-01 and authors' calculations. The Pearson correlation coefficient between these two series is $r = 0.05$.

Finally, the number of Ontario Works and ODSP cases, measured relative to population, provides a measure of what fraction of the population is reliant on social assistance and so is possibly most exposed to the tight budget constraints associated with reliance on food banks. While caseloads are only available for the province, we expect that the variation in these data is reflective of variation in Toronto.²⁰

²⁰

Monthly data on Ontario Works and ODSP caseloads are from Ontario Social Assistance Monthly Statistical Reports, various years. In an email exchange dated September 13, 2021, Scott Leon and Hannah Aldridge provided a few months of data reporting ODSP (six monthly observations over the period March 2002 to March 2014) and OW (four monthly observations from March 2014 to December 2019) caseloads for the Toronto region only. We used these data to calculate the size of ODSP and OW caseloads in the Toronto region as a fraction of those in all of Ontario. These calculations show that ODSP cases in Toronto ranged from a low of 21.9 per cent to a high of 23.9 per cent of all cases in Ontario. For OW, the calculations ranged from a low of 30.2 per cent to a high of 31.9 per cent. Based on these calculations, we feel confident in our assumption that the variation in provincial caseloads fairly represents the variation in caseloads within the Toronto region.

Figure 7: Food Bank Visits and the Number of Ontario Works Cases and Disability Cases per 10,000 Population, January 2014 to March 2020



Source: Daily Bread Food Bank, Statistics Canada CANSIM Table 14-10-0380-01, Ontario Social Assistance Monthly Statistical Reports, and authors' calculations. The Pearson correlation coefficient between food bank visits and OW and ODSP Cases is $r = -0.31$ and $r = 0.50$, respectively.

We again see a notable difference in Ontario's two income support programs. The number of ODSP cases grew over most of our study period, falling slightly in the last year. Ontario Works caseloads, on the other hand, declined more or less steadily throughout our period of analysis. The broad upward trend in food bank visits is positively correlated with rising disability caseloads but negatively with Ontario Works caseloads.

Table 2 provides summary statistics of all these variables.

Table 2: Summary Statistics, January 2014 to March 2020

	Food Bank Visits per 10,000 Population	Real Monthly Rent	Real Monthly Ontario Works Benefits	Real Monthly ODSP Benefits	Real Minimum Wage Rate	Employment Rate	Ontario Works Cases per 10,000 Population	ODSP Cases per 10,000 Population
Mean	121.8	1040.9	811.7	1,286.7	12.9	62.0	480.8	680.8
Median	120.8	1036.0	817.7	1,287.7	12.2	61.9	488.0	685.4
Maximum	142.8	1112.5	831.7	1,324.0	14.6	63.7	517.9	701.7
Minimum	99.7	986.1	770.0	1,258.6	11.4	60.3	432.1	644.2
St. dev.	10.4	29.9	15.7	14.9	1.1	0.8	23.6	17.3

Monetary values expressed in 2019 dollars.

REGRESSION ANALYSIS

The simple data presentations in the previous section are useful for identifying trends that might suggest relationships between key variables but do not account for how food bank use may vary when all these variables are changing simultaneously. To understand how each of the variables described above impacts food bank use independently from the others, we employ a simple econometric investigation.

Our analysis of the determinants of food bank visits uses the following regression:

$$\begin{aligned}
 FB_{t,i} = & \alpha + \beta_1 Rent_{t,i} + \beta_2 OWBenefit_{t,i} + \beta_3 ODSPBenefit_{t,i} + \beta_4 MW_{t,i} + \beta_5 EMrate_{t,i} + \beta_6 OWCases_{t,i} \\
 & + \beta_7 ODSPCases_{t,i} + \delta_i Month_i + \mu_t Year_t + \varepsilon_{t,i}
 \end{aligned} \tag{1}$$

Where FB_t is the natural logarithm (log) of the ratio of food bank visits per 10,000 population in year t and month i , $Rent_{t,i}$ is the log of the real rent on an apartment priced in the first quartile of rents, $OWBenefit_{t,i}$ is the log of the real value of social assistance benefits paid to a single person in the Ontario Works program, $ODSPBenefit_{t,i}$ is the log of the real value of social assistance benefits paid to a single person in the ODSP, $MW_{t,i}$ is the log of the real value of the minimum wage, $EMrate_{t,i}$ is the log of the employment rate, $OWCases_{t,i}$ is the log of the number of Ontario Works caseloads, $ODSPCases_{t,i}$ is the log of the number of ODSP caseloads, $Month_i$ is a monthly dummy variable, $Year_t$ is a year dummy variable and $\varepsilon_{t,i}$ is an error term. Dollar values are deflated using the all-items Consumer Price Index (CPI) for Toronto.

This specification assumes that it is reasonable to suggest that food bank use is primarily related to how tight the budget is of individuals and families most likely to access food banks. For an income-constrained household, the budget becomes tighter as rent increases, real social assistance benefits fall, real minimum wages decline and employment falls. Food bank visits are also expected to increase when the number of individuals and families reliant on social assistance increases.

Table 3 reports the estimated coefficients from the estimation of this model under three sets of assumption. Column (a) omits the month and year dummy variables from

the regression. Food bank visits are shown to be associated with measures of real social assistance income, the real minimum wage and the state of the labour market. An increase in the minimum wage, higher rates of employment and higher real values of disability assistance benefits are all associated with reductions in food bank visits. Contrary to what is found with respect to disability benefits, an increase in the real value of social assistance benefits received by an Ontario Works client is associated with an increase in food bank visits. Changes in the real value of rent on a one-bedroom rental unit do not have a statistically significant association with food bank visits. The number of social assistance cases, both Ontario Works and ODSP cases, do not have statistically significant associations with food bank visits.

Column (b) accounts for the seasonal effects observed in Figure 1 by adding monthly dummy variables. The real value of rent now becomes statistically significant, suggesting that increases in real rents are associated with more food bank visits. The unexpected positive association between Ontario Works benefits and food bank visits now becomes statistically insignificant.

Finally, in column (c), we report the results when both month and year dummy variables are included. The number of ODSP cases per 10,000 population now becomes statistically significant and suggests a higher caseload is associated with more food bank visits. Controlling for the number of ODSP cases also increases the size of the coefficient on the ODSP benefit.

Table 3: Regression Results

	(a)	(b)	(c)
Constant	64.98 (22.70)**	51.09 (22.54)**	45.21 (32.68)
Ln(<i>Rent</i>)	0.366 (0.638)	1.99 (1.03)*	6.20 (2.70)**
Ln(<i>OWBenefit</i>)	2.40 (1.08)**	0.74 (1.37)	1.83 (1.52)
Ln(<i>ODSPBenefit</i>)	-6.86 (1.82)***	-5.77 (1.93)***	-11.33 (4.12)***
Ln(<i>MW</i>)	-0.43 (0.23)**	-0.41 (0.16)**	-1.19 (0.60)*
Ln(<i>EMrate</i>)	-1.46 (0.65)**	-1.96 (0.93)**	-2.98 (1.38)**
Ln(<i>OWCases</i>)	-0.003 (0.52)	0.61 (0.66)	-0.07 (1.00)
Ln(<i>ODSPCases</i>)	-1.77 (1.69)	-0.91 (1.40)	3.72 (2.03)*
Month Dummies	No	Yes	Yes
Year Dummies	No	No	Yes
Adj R ²	0.373	0.596	0.669

The dependent variable is the number of food bank visits per 10,000 population. Monthly data, January 2014 to March 2020, inclusive. Robust standard errors are reported in parentheses. N = 75. Asterisks denote levels of statistical significance on t-tests of the null hypothesis that the value of the reported coefficient is not statistically different from zero. Asterisks denote p-values better than one per cent (***), five per cent (**), and 10 per cent (*). Tests of the null hypothesis of independently distributed errors could not be rejected.

In our discussion of the implications of these estimates, we focus on those reported in column (c) where both month and year dummy variables are included. This reflects our recognition that visits to food banks in Toronto are influenced by very local conditions that are often not well measured by available data. By including month and year dummy variables, we control for changes in unobserved variables and in doing so may produce more accurate measures of the influences of variables on which we have observations.

Except for the real value of Ontario Works benefits paid to a single person (*OWBenefits*) and the number of OW cases per 10,000 population (*OWCases*), all variables influence the number of food bank visits in a way consistent with the explanation that visits increase when someone dealing with an already tight budget constraint experiences a loss of income or an additional expense. The two exceptions are not statistically significant.

The estimated coefficient on *RENT* indicates that a one per cent increase in the real value of a one-bedroom rental unit priced in the first quartile of market rents is associated with a six per cent increase in food bank visits. Rental market tightness thus contributes in an important way to an increase in food bank visits. Higher rent squeezes an already tight budget for necessities, causing greater reliance on food banks to relieve that pressure. Measured at the mean of our data on monthly rent and food bank visits per 10,000 people, a \$30 per month increase in rent is associated with an additional 22 visits per 10,000 people.²¹

A one per cent increase in the real value of the benefit provided to a single person reliant on disability benefits (*ODSPBenefit*) is associated with an 11.3 per cent reduction in food bank visits. Measured at the mean of our data on monthly disability benefits provided to a single person, a \$15 per month increase in benefits is associated with 16 fewer visits per 10,000 people.

The estimated coefficient on the real value of the minimum wage (*MW*) indicates that a one per cent increase is associated with a 1.2 per cent decrease in food bank visits. Measured at the mean of our data, an increase in the minimum wage of \$1 is associated with 11 fewer visits to the food bank per 10,000 people.

Increases in the employment rate (*EMrate*) are also found to have a statistically significant effect on food bank visits, though the influence is small. A one per cent increase in the employment rate is associated with a three per cent decrease in visits to the food bank. At the mean of our data, an increase in the employment rate of one percentage point is associated with less than one fewer visits to the food bank per 10,000 people.

²¹

For this example, we use a \$30 per month increase in rent because that is approximately the size of one standard deviation about the mean value of rent (see Table 2). In our sample, \$30 per month defines the range of changes in rent that we can expect to observe most of the time. In all our descriptions of the sensitivity of food bank use, we rely on changes in variables approximately equal to the standard deviation of the distribution of values of those variables.

Finally, our estimates show that food bank visits increase with the number of ODSP cases. A one per cent increase in the ODSP caseload increases visits to the food bank by 3.7 per cent.

Although not statistically significant, the estimated coefficient on the real value of Ontario Works benefits provided to a single employable is interesting for its suggestion that increasing these benefits might have no, or may even have a positive effect, on food bank visits. Why might this be the case when increases in disability benefits have such a strong and negative influence on food bank visits? One possibility is that increased OW rates may allow recipients to move into a rental unit with more adequate cooking facilities. Since food banks distribute grocery food products that require cooking, clients will be more likely to access these services if they have adequate cooking and food storage. Those who live in housing that lacks adequate cooking facilities may be more likely to rely on a drop-in meal program, which would not be captured in the food bank visit data.

In our analysis, the strongest influence on food bank visits is exerted by changes in the real value of disability benefits. As the real value of disability benefits has been steadily falling over our sample period (see Figure 4), this has likely played a key role in causing food bank visits to trend upward. This influence is compounded by the fact that ODSP caseloads have also been trending upward exposing more people to the consequences of a declining real income. The real value of rents also plays a key role in our analysis. As the real value of rent has been steadily rising over our sample period (see Figure 3), this has also played a key role in causing food bank visits to trend upward.

DISCUSSION

The results of our analysis are similar to those recently reported by Men et al. (2021), who study how social policies and the economic environment impact food insecurity. They report that improvements in income supports, favourable labour market conditions and affordable shelter costs are all associated with reduced food insecurity. To the extent this may lead to fewer visits to food banks, their results are consistent with ours.

The sensitivity of food bank visits to public policies that are directed toward providing support to individuals and families with low income shows the extent to which food banks are connected to the rest of the social safety net. Our results also highlight that the social safety net is very broad and varied and is not limited to government social programs. Charitable organizations and family and friends are also integral parts of the social safety net, with each providing a form of support that may be outside the ability of the rest of the safety net to provide.

The limited literature on the intensity and frequency of use of food banks reported earlier shows that most people visiting food banks do so for only short periods. This may be due to people with long-term income inadequacy using food banks for short periods before finding they are inappropriate for meeting their needs or it may be due to most visits to food banks being by people seeking a temporary solution to a temporary budget crisis. The distinction is important because they suggest different policy responses to increases in food bank visits.

If most visits to food banks are due to temporary budget crises, then as suggested by Emery et al. (2013), changes to the design of public policies aimed at better enabling people with limited incomes to meet unexpected and temporary budget shortfalls could conceivably replace the services provided by food banks. Alternatively, the service provided by food banks to people in temporary need might be understood to be a preferred response to a redesigned government program of social assistance that could respond immediately to a budget crisis.

If, on the other hand, most visits are by people dealing with long-term income shortages, then the appropriate public policy is to increase the generosity of income support programs. Our empirical findings lend support to this possibility as they show the number of food bank visits in Toronto to be sensitive to changes in ODSP income and changes in the number of ODSP cases. This indicates that disability supports are inadequate for satisfying the basic needs of people dependent on those supports. These results suggest that visits to food banks are most likely driven by long-lasting gaps between income and expenditures. More research, using finely detailed data showing food bank use by uniquely identified individuals, is required to confirm this speculation.

An under-appreciated role of food banks is their ability to enable individuals and families with very low incomes to retain shelter and so avoid homelessness. Our empirical results show that rising rents force more and more people to rely on food banks and in this way make income available to pay for shelter. The sensitivity of rates of homelessness to changes in rent is well-established.²² If rising rents force individuals and families to devote an extremely high proportion of their limited income to shelter, they may be forced to try their luck with doubling-up with family and friends or use homeless shelters. To the extent food banks can free up monetary resources that can then be devoted to rent, they may contribute to rates of homelessness being less than they would otherwise be.

LIMITATIONS

This study is subject to a number of limitations. Our data describe the total number of visits to the Daily Bread Food Bank. The data do not describe the number of visits by uniquely identified individuals and so we are unable to determine the frequency and intensity of use of food banks by individuals. Thus, our investigation into changes in the number of visits to food banks does not allow us to determine whether these changes are due to more frequent visits by the same number of families and individuals, visits by more families and individuals or some combination of these possibilities. Related to this, we are also unable to say anything about how our independent variables influence the duration of food bank use. To determine this would require longitudinal data of the sort available to Black and Seto (2020). In addition, we have noted that whereas we are investigating changes in the number of food bank visits to the Daily Bread Food Bank in Toronto, we have had to rely on data defining the number of income support cases

²²

See Hanratty (2017) for a recent review of this evidence using U.S. data. Kneebone and Wilkins (2021) show similar evidence using recently available Canadian data.

in the province of Ontario. While we are confident that the variation in income support cases is similar in Toronto as Ontario so that our empirical investigation is not seriously impacted, it would be preferable to have data for Toronto alone.

CONCLUSION

We have used monthly data describing the number of visits to food banks operated by the Daily Bread Food Bank in Toronto. Our goal has been to identify the extent to which food bank visits may be associated with changes to public policies and to housing and labour market conditions. Our focus has been on measures of those policies and market conditions that impact the lives of individuals and families whose financial situations are most likely to expose them to the possibility that they must use a food bank. Thus, our focus has been on the roles played by income support policies, the minimum wage and the cost of relatively inexpensive rental accommodations. We have found that the number of visits to food banks is sensitive to all three of these measures; food bank visits increase with increases in rent, with falls in the minimum wage and with reductions in the disability benefits available to people requiring social assistance. In an interesting way, monitoring changes in food bank visits is an effective way of gauging the adequacy of public policies intended to provide support to individuals and families in need.

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