Urban Versus Rural Food Insecurity: Evidence from Canada

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Background

- *Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilization and stability* (FAO, 2009).
- Food insecurity level varies significantly across Canada between 2019 and 2022 (Statistics Canada, 2023).
- Between 2019 and 2022 the percentage of insecure food families in Quebec did not change (13.8%)(Statistics Canada, 2023).
- Between 2019 and 2022 the provinces with the highest levels of food insecurity are Newfoundland and Labrador (23%), New Brunswick (22%) and Alberta (22%)(Statistics Canada, 2023).
- In 2022 households living in urban areas (19%) showed a higher percentage of food insecurity than those living in rural areas (15%)(Statistics Canada, 2023).
- There is a gap in research on possible differences in food insecurity between urban and rural areas.
- More focus on food security at the population level and/or in urban areas and lack of research on possible differences in food insecurity between urban and rural areas, and why?

Literature review

- There is no direct correlation between low-income and household food insecurity in Canada (Olabiyi & McIntyre, 2014).
- As in United States, about 15 per cent of Canadian food insecure households are not income poor (Olabiyi & McIntyre, 2014).
- Rising housing costs, job loss and chronic health conditions contribute to food insecurity in the US (Gregory & Coleman-Jensen, 2017; Nord et al., 2014; Tapogna et al., 2004).
- Household Food Security Survey Module (HFSSM) is one of the most used tools for the measurement of food security in the high-income country context (Beacom et al., 2022; Kirkpatrick & Tarasuk, 2008; Lee, 2022).
- There is a greater likelihood of experiencing food insecurity if lower levels of education, limited social networks, lower social capital, family income, and being unemployed occur (Smith et al., 2017).

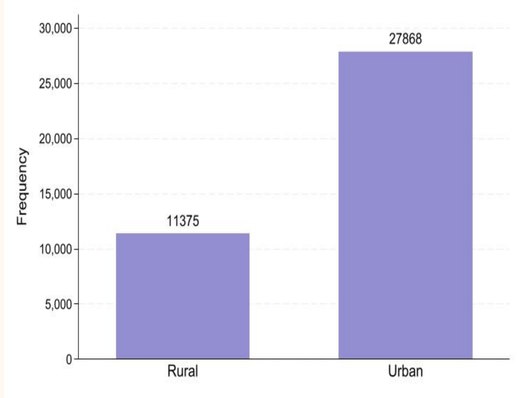
Research Questions

How does the rate of food insecurity vary within the Canadian population?
What factors, other than income, are related to food insecurity?

Methods and Data

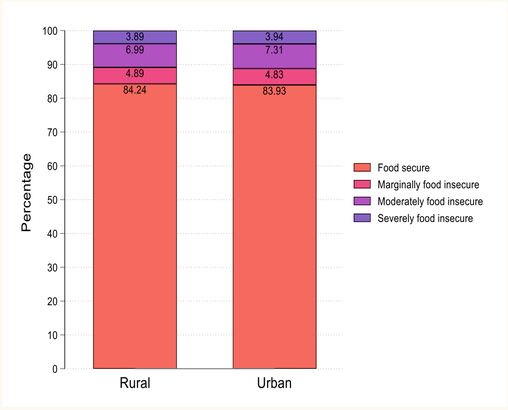
- Data were derived from the Canadian Income Survey (CIS) 2021 that applies the HFSSM.
- The HFSSM consist of 18 items to measure the household food security status: 10 adult household items and 8 children household items.
- The HFSSM is intended to measure food insecurity over last 12 months.
- The classification distinguishes between food secure and food insecure. The latter category is, in turn, subdivided into marginally, moderately and severely food insecure.
- A total of 39,243 observations were included in the analysis.
- Data were analyzed using multinomial logit analysis.

Sample Descriptive Statistics



- About 70% of the analyzed sample is located in urban areas and the remaining 30% is located in areas indicated as rural.

- 84.02% of households in Canada are food secure. The remaining 16% of households fall into food insecure category, which breaks down as follows: 4.85% are marginally food insecure, 7.21% are moderately food insecure and 3.92% are severely food insecure.



Econometric Analysis Results

Mlogit discrete effects for predicting the probability change for each food security state

Variable	Secure		Marginal Insecure		Moderate Insecure		Severe Insecure	
	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Area of residence								
Rural	-0.015***	0.004	0.004	0.003	0.006*	0.003	0.005*	0.002
Socio-demographic variables								
Age								
30 - 39	-0.032***	0.009	0.004	0.006	0.024***	0.007	0.005	0.006
40 - 49	-0.026***	0.009	-0.004	0.005	0.022***	0.007	0.008	0.006
50 - 59	0.036***	0.009	-0.014***	0.005	-0.010	0.006	-0.012**	0.006
60 - 69	0.090***	0.009	-0.020***	0.005	-0.028***	0.006	-0.042***	0.006
70 +	0.145***	0.009	-0.027***	0.006	-0.054***	0.006	-0.065***	0.006
Sex								
Female	-0.033***	0.004	0.008***	0.002	0.016***	0.003	0.008***	0.002
Visible Minority Status								
Not minority	0.048***	0.006	-0.023***	0.004	-0.032***	0.005	0.007**	0.003
Not stated	0.029**	0.012	-0.020***	0.007	-0.020**	0.009	0.010*	0.006
Education								
High school	0.040***	0.008	-0.009**	0.005	-0.021***	0.006	-0.009**	0.005
Non-university post-secondary education	0.045***	0.008	-0.011**	0.005	-0.023***	0.006	-0.011***	0.004
University	0.120***	0.008	-0.030***	0.005	-0.057***	0.006	-0.034***	0.004
Not stated	0.030***	0.011	-0.005	0.007	-0.016**	0.008	-0.010*	0.005
Household size								
2 members	0.037***	0.005	-0.003	0.003	-0.012***	0.003	-0.022***	0.003
3 members	0.010	0.006	0.005	0.004	0.006	0.005	-0.021***	0.003
4 members	0.014**	0.007	0.009**	0.004	0.001	0.005	-0.024***	0.003
5 members	-0.015	0.010	0.014**	0.007	0.019**	0.008	-0.018***	0.005
6 members	-0.024	0.017	0.011	0.011	0.035***	0.013	-0.022***	0.008
7 members	0.017	0.021	0.005	0.014	0.010	0.016	-0.033***	0.007
Province								
Prince Edward Island	0.045***	0.016	-0.009	0.011	-0.030**	0.012	-0.006	0.009
Nova Scotia	0.016	0.014	-0.009	0.009	-0.003	0.011	-0.004	0.007
New Brunswick	0.007	0.014	-0.011	0.009	0.006	0.011	-0.001	0.007
Quebec	0.105***	0.011	-0.020***	0.007	-0.052***	0.009	-0.033***	0.006
Ontario	0.060***	0.012	-0.020***	0.007	-0.031***	0.009	-0.008	0.006
Manitoba	0.052***	0.013	-0.016**	0.008	-0.024**	0.010	-0.012*	0.007
Saskatchewan	0.052***	0.013	-0.017**	0.008	-0.036***	0.010	0.000	0.007
Alberta	0.027**	0.013	-0.017**	0.008	-0.021**	0.010	0.011	0.007
British Columbia	0.073***	0.012	-0.023***	0.008	-0.039***	0.009	-0.011*	0.006
Precariousness of employment								
Part-time	0.011	0.009	0.002	0.005	0.009	0.007	-0.023***	0.005
Full-time	0.060***	0.006	-0.003	0.004	-0.022***	0.005	-0.035***	0.004
Not stated	0.029***	0.011	-0.001	0.007	-0.009	0.008	-0.020***	0.007
Poverty								
Not poor	0.076***	0.008	-0.016***	0.005	-0.030***	0.005	-0.029***	0.004
Ownership of dwelling								
Owned	-0.098***	0.005	0.015***	0.003	0.043***	0.004	0.040***	0.003

Conclusions and Policy implications

- Living in a rural rather than an urban area decreases the probability of being food secure and increases the probability of being severely food insecure.
- Generally, the probability of being food insecure declines with increasing age and level of education of the major income earner in the household, and with having permanent employment.
- Results suggest food insecurity a bigger problem in rural areas once other factors (such as incomes and poverty rates) have been taken into account.
- Highlight issues around access to food, including food prices and ability to get to a grocery store, which may in turn reflect limited transport infrastructure.