Relationships Between Urban and Rural Rents

Research

May 2026

TABLE OF CONTENTS

1 SUMMARY

The following table summarizes the relationship between rural rents and the variables of interest across various regions of Canada. The table represents the percentage changes in rural rents that is associated with a 1% change in the values of the independent variables (first column in the table) within each region.

Table 1: Relationship between rural rents and studied variables.

Independent Variables	Atlantic	Western	Central	Ontario	Quebec
Average Income		0.48%	0.38%	0.16%	0.24%
Average Dwelling Value	0.39%	0.12%	0.12%	0.16%	0.22%
Population	0.24%	0.25%	0.25%	0.13%	0.17%
Average Rent - Nearest Urban Area	0.27%	0.33%	0.37%	0.50%	0.41%
Average Number of Dwellings	-0.20%	-0.22%	-0.21%	-0.10%	-0.13%

Note: Atlantic – PEI, NL, NS, & NB; Western – Alberta & British Columbia; Central – Manitoba & Saskatchewan; Average income is not significant for Atlantic Canada.

1.1 Highlights

Average Income
Average income levels have the largest link with average rents in rural Western and Central Canada. A 1% increase in the average incomes of rural Western and Central Canada are associated with increases in average rents of 0.48% and 0.38%, respectively. Average income is not a significant determinant of rents in rural Atlantic Canada. In rural Quebec, every percentage increase in average income is associated with a 0.24% increase in average rent, while the associated increase is 0.16% in rural Ontario.

Average Dwelling Value
In rural Atlantic Canada, with every 1% increase in average dwelling value, average rents increase by 0.39%. This is the largest association that average dwelling value has on average rents across all models. Additionally, Atlantic Canada is the only model in which average dwelling value is seen to have the largest effect on average rents in rural areas. The second largest effect can be seen in rural Quebec, where a 1% increase in average dwelling value is associated with a 0.22% increase in average rent. The associated increase in rural Ontario is 0.16%, while both rural Western and Central Canada see average rents grow 0.12% with every 1% increase in average dwelling value.

Population
Population has an almost identical effect on rural rents in Atlantic, Western, and Central Canada. A 1% increase in the population of rural Atlantic, Western, and Central Canada would increase average rural rents by 0.24%, 0.25%, and 0.25%, respectively. However, the effects of population are much lower in Ontario and Quebec, with a percentage increase in population leading to an increase of 0.13% and 0.17% in rural rents, respectively.

Average Rent in the Nearest Urban Area
Average rents of the nearest urban areas have the largest effects on rural rents in Ontario and Quebec. Rural areas in Ontario see a 0.50% increase in average rents with every percentage increase in average rent of the nearest urban area. The corresponding increase is 0.41% in Quebec. Such increases in Central and Western Canada are 0.37% and 0.33%, respectively. In rural Atlantic Canada, 1% increase in the average rent of the nearest urban area is associated with a 0.27% increase in average rent.

Average Number of Dwellings
The same can be said about the effects of the average number of dwellings. While increasing the average number of dwellings by 1% in Atlantic, Western, and Central Canada can decrease their respective rural rents by 0.20%, 0.22%, and 0.21%, the effects in Ontario and Quebec are smaller with an associated decrease in rural rents of 0.10% and 0.13%, respectively.

2 BUILDING THE MODEL

Across Canada, one of the larger gaps in housing data is understanding rental rates in rural areas. There are a variety of issues that contribute to this knowledge gap, namely:

- The higher rate of homeownership in the more rural areas of Canada means there is very little information available for the rental market; and when they are available, they are too few to be reported on due to confidentiality and confidence reasons.

- Rural rental units tend to be more informal in nature like rooms and basements in houses, which are challenging to track through formal data collection methods like the Rental Market Survey conducted by CMHC.

- Rural rental units that are homes are also difficult to track in that they are assessed as owned property in official records.

- The sheer size of the rural areas makes data collection expensive and time-consuming. In urban settings, data collection could be done through desktop research given the simplicity of identifying apartment buildings through assessment records.

- In some rural areas, the entire rental market may be secondary in nature, where units are not originally purpose-built for the rental market.

Keeping the challenges above in mind, this study aims to provide a method to estimate rents in the rural areas of Canada, through their relationships with other local data. For this study, we define rural areas to be Census Subdivisions (CSDs) of Canada with population less than 10,000; while CSDs with population of 10,000 or more are urban.

The relationship between rural rent and other local data is studied for the year 2021, using the only source of data in Canada that provides (self-reported) rural rental data as well as data on a list of socio-economic variables, the Census of the Population. Although the Census provides data at the Dissemination Area (DA) level, we conduct the study at the CSD level because, though relationships between rural rent and other data could be studied at the DA level, rural rent estimations for non-census years would not be possible because DA level data is not available on an annual basis. Many CSD data, on the other hand, are available on an annual basis.

We build our model based on the equation

$$Rural\,rent_{\,(i)} = \beta_0 + \beta_1(x_i) + \beta_2(U_i) + \varepsilon;$$

where, $Rural\,rent_{\,(i)}$ is the average monthly shelter costs for rented dwellings in place i; x_i is a vector of socio-economic indicators in place i; and U_i is the rent in the nearest urban centre from place i.

β_{0i} represents the change in rural rent, ceteris paribus; β_1 represents the change in rural rent with every one unit change for a socio-economic indicator; β_2 represents a one unit change in rent for place i with every unit change in the rent of the nearest urban centre; and ε is the error representing the effects of the variables not included in the model.

After significance testing, the socio-economic indicators included in model (deemed as primary determinants of rural rents) were

1. Average value of dwellings, 2021, in place i, henceforth denoted as *dwellings value*;
2. Population of place i in 2021, henceforth denoted as *pop2021*;
3. Total private dwellings, 2021, in place i, henceforth denoted as *dwellings*; and
4. Average monthly shelter cost for rented dwellings in the nearest urban centre from place i, henceforth denoted as *nearest urban rent*.
5. Average Total Income of Household, 2021, in place i, henceforth denoted as *income.*

The model, thus, takes the form:

$$Rural\,rent_{\,(i)} = \beta_0 + \beta_1\left(dwellings\,value_{\,(i)}\right) + \beta_2\left(pop2021_{(i)}\right) + \beta_3(dwellings_{(i)}) + \beta_4(nearest\,urban\,rent_{\,(i)}) + \beta_5(income_{\,(i)}) + \varepsilon;$$

For ease of interpretation, we applied logarithmic transformation on both sides. This allows coefficients to be interpreted as percentage changes.

$$\begin{aligned}\log\left(rural\,rent_{\,(i)}\right) &= \beta_0 + \beta_1\log\left(dwellings\,value_{\,(i)}\right) + \beta_2\log\left(pop2021_{(i)}\right) + \beta_3\log\left(dwellings_{(i)}\right) \\ &\quad + \beta_4\log\left(nearest\,urban\,rent_{(i)}\right) + \beta_5(income_{\,(i)}) + \varepsilon\end{aligned}$$

In the log-log model:

- $\beta_1$represents the percentage change in rural rents in place i, with every 1% change in the average dwelling value in place i;
- $\beta_2$represents the percentage change in rural rents in place i, with every 1% change in the population of place i;
- β_3 represents the percentage change in rural rents in place i, with every 1% change in the number of dwellings in place i;

- β_4 represents the percentage change in rural rents in place i, with every 1% change in the rents of the urban centre closest to place i; and
- β_5 represents the percentage change in rural rents in place i, with every 1% change in the average income in place i.

Though not exhaustive, the list of independent variables in the model incorporates the effects of supply (the number of dwellings), demand (population and income), the state of the local market (dwelling value), and external factors (rent of nearest urban centre).

Theoretically, we would assume that rural rents decrease if the number of dwellings increases; rural rents increase as the population increases; rural rents increase if the average dwelling value increase; rural rents increase if the rent in the nearest urban centre increases; and rural rents increase with increase in the average income

The relationship was tested using seven different models:

- Ordinary Least Squares (**OLS**): a model that minimizes the sum of squared residuals to estimate relationships between variables.

- Generalized Least Squares (**GLS**): an improvement to the OLS model, that accounts for heteroskedasticity and autocorrelation in the residuals, thus providing more robust and efficient estimates when these issues are present.

- Spatial Durbin Error Model (**SDEM**): a spatial model the includes both spatially lagged independent variables and spatial error terms to account for dependence in both the predictors and the error term.

- Spatial Error Model (**SEM**): a spatial model that accounts for spatial dependence in the error terms, assuming that errors in one location may be correlated with errors in neighboring locations

- Spatial Lag of X Model (**SLX**): a spatial model that incorporates spatially lagged independent variables to capture the spillover effects of predictors on the dependent variable.

- Spatial Autoregressive Model (**SAR**) or Spatial Lag Model (**SLM**): a spatial regression model that includes a spatial lag of the dependent variable, capturing spatial dependence by assuming that the outcome in one location is influenced by outcomes in neighboring locations.

- Spatial Durbin Model (**SDM**): an extension of the spatial lag model that includes spatially lagged independent variables as well as spatially lagged dependent variable to account for dependence in both predictors and outcomes.

All seven models were tested for significance across Canada, by regions we defined as Atlantic Canada (Newfoundland & Labrador, Prince Edward Island, Nova Scotia, and New Brunswick), Quebec, Ontario, Central Canada (Manitoba and Saskatchewan), and Western Canada (British

Columbia and Alberta). The GLS model was tested to be the best out of all seven, for all areas of study (regions) across the country.[1]

3 ATLANTIC CANADA

3.1 Modeling Rural Rent

The results in the below table are for the generalized least squares estimation done for the rural areas of Atlantic Canada. The model for Atlantic Canada has a Multiple R^2 of 0.5187 and adjusted R^2 of 0.5149. This means that about 51.5% of the variance in rural rent is explained by the independent variables.

Regression Statistics	
Multiple R^2	0.5187
Adjusted R^2	0.5149
Standard Error	0.664
Observations	511

GLS coefficients – Atlantic Canada (PEI, NL, NS, & NB)						
Variables	**Coefficients**	**Std. Error**	**t-value**	**P(>|t|)**	**Lower Bound**	**Upper Bound**
(Intercept)	-0.46	0.38	-1.21	0.23	-1.21	0.29
log (dwelling value)	0.39	0.03	13.48	0.00	0.34	0.45
log (pop2021)	0.24	0.05	5.07	0.00	0.15	0.33
log (nearest urban rent)	0.27	0.05	4.90	0.00	0.16	0.38
log (dwellings)	-0.20	0.05	-4.25	0.00	-0.30	-0.11

Firstly, note that the variable *income* is removed due to insignificance in the Atlantic Canadian model. The insignificance of income could stem from various reasons like income homogeneity, where there is little difference between income across areas; or due to high homeownership rates, which means a smaller rental market where the incomes of those renting have little effect on market rents; or it could be a result of the effects of other variables in the model overshadowing or incorporating the effects on income with them.

Note also that the intercept is insignificant. Theoretically, the intercept in our model would be the baseline level of rent in an area. The statistical insignificance of the intercept suggests that there is no implicit baseline rent level in the rural areas of Atlantic Canada.

The coefficient for log (dwelling value) of 0.39, suggests that a 1% increase in the value of dwellings in the rural areas of Atlantic Canada is associated with an increase of 0.39% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

[1] Results of model tests are included in the appendix.

The coefficient for log (pop2021) of 0.24, suggests that a 1% increase in the population in the rural areas of Atlantic Canada is associated with an increase of 0.24% in the average rent of those areas. The t- and p-values indicate high statistical significance for the coefficient.

The coefficient for log (nearest urban rent) of 0.27, suggests that a 1% increase in the average rent in the nearest urban centre is associated with an increase of 0.39% in the average rent of the rural area in question. The t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwellings) of -0.20, suggests that a 1% increase in the number of dwellings in the rural areas of Atlantic Canada is associated with a decrease of 0.20% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

3.2 Use Case: Estimating Rural Rent In Nova Scotia (2023)

Using the coefficients for Atlantic Canada we estimate rural rents across CSDs with less than 10,000 people in Nova Scotia. Since the exact annual versions of all the data we used to build the model are not available, we use proxies as described below. One point to keep in mind is that the average rent that we estimate is the average for all rented dwellings in an area, which include currently rented units as well as vacant units. The estimated rents are not asking rents.

The number of dwellings for each CSD in reported in the 2021 Census is an aggregation of self-reported households. For our 2023 estimation we calculate total dwellings from the number of dwellings assessed through Property Valuation Services Corporation (PVSC) records.

Average dwelling value by CSD in the 2021 Census was based on respondent-reported value of their dwellings. By cross-checking the self-reported averages for each CSD from the 2021 Census with averages from PVSC assessment records for each CSD in 2021, we find that homeowners over-valued their dwellings by about $80,000. Therefore, when estimating 2023 rural rents, we adjust the input of average 2023 assessments upward by $80,000 for each CSD to capture the higher valuation homeowners make on their dwellings.

For the variable nearest urban rent, the model estimation used the average rent in the nearest CSD with a population of 10,000 or more in 2021. However, because not all CSDs had average rents for 2023, we used rents for the four most populous CSDs in Nova Scotia, namely, Halifax RM, Cape Breton RM, Municipality of East Hants, and Municipality of the District of Lunenburg. The 2023 average rents come from Canada Housing and Mortgage Corporation's Rental Market Survey.

Population estimates for CSDs are the most straight-forward to find, available from Statistics Canada's Annual Demographic Estimates, Table 17-10-0155-01. Note that these annual population estimates run from June 30th to July 1st of each year. So, the 2023 figure of a CSD is the population as of the 1st of July that year.

According to our model estimations, the Town of Wolfville in Kings County (about 100 kilometres away from Halifax), was the rural area with the highest average rent in Nova Scotia in 2023, at $1,176.67. Acadia University, the fifth-most populous university in Nova Scotia, being located in Wolfville is likely to be the driving force of the relatively higher average rent.

The second-highest average rent in rural Nova Scotia in 2023 is estimated to be in Antigonish Subdivision A at $1,099.53. The average rent in Antigonish Subdivision A is likely driven by the University of St. Francis Xavier being located in the Town of Antigonish. Antigonish itself is estimated to have an average rent of $973.43, likely due to the presence of on-campus student housing and a higher share of owned dwellings (i.e., more owners result in lower rental demand in general and, therefore, comparatively lower rents).

The third-highest average rent in 2023 is estimated to be in Kentville Town, home to Nova Scotia Community College's Kingstec Campus, at $1,052.41. Kings Subdivision D ($1,050.20) and Kings Subdivision B ($1,042.39), both bordering Kentville Town to the South and North, respectively, have the fourth and fifth-highest average rents.

The rural area with the lowest average rent in Nova Scotia as of 2023, is found to be the Town of Clark's Harbour on Cape Sable Island, with an average of $628.62. The town has a population of 762 as of 2023, with no university campuses, nor any major businesses present.

A full list of all estimated rents for Nova Scotia CSDs is in **Appendix 1.**

4 WESTERN CANADA MODEL

The results below are for the generalized least squares estimation done for the rural areas of Western Canada, which we define as the provinces Alberta and British Columbia. The model for Western Canada has a Multiple R^2 of 0.6471 and adjusted R^2 of 0.6428. This means that about 64.5% of the variance in rural rent is explained by the independent variables.

Regression Statistics	
Multiple R^2	0.6471
Adjusted R^2	0.6438
Standard Error	0.5658
Observations	544

GLS coefficients – Western Canada (Alberta & British Columbia)						
Variables	**Coefficients**	**Std. Error**	**t-value**	**P(>|t|)**	**Lower Bound**	**Upper Bound**
(Intercept)	-2.59	0.50	-5.19	0.00	-3.58	-1.61
log (income)	0.48	0.05	10.41	0.00	0.39	0.57
log (dwelling value)	0.12	0.02	7.69	0.00	0.09	0.16
log (pop2021)	0.25	0.03	7.59	0.00	0.19	0.32
log (nearest urban rent)	0.33	0.04	7.37	0.00	0.24	0.42
log (dwellings)	-0.22	0.03	-6.30	0.00	-0.29	-0.15

Unlike in the model for Atlantic Canada, all variables are statistically significant in the Western Canada model. The significance of the income variable in Western Canada signifies the importance of the role of an area's average income in determining the average rent of the area.

Note also that the intercept is significant. Theoretically, the intercept in our model would be the baseline level of rent in an area. In case of our model, our intercept represents the log of the average rent in a rural area, when all other variables equal to zero.

$$\log(average\ rural\ rent)\ , when\ all\ else\ is\ equal\ to\ 0 = -2.59$$

Undoing the log to convert to dollars:

$$\log(average\ rural\ rent) = -2.59 = e^{-2.59}$$

$$e^{-2.59} = \$\ 0.075.$$

This would mean that the average rent would theoretically be about $0.075 per month, which does not make sense in the real world, because the intercept in a log-log model provides an abstract baseline, and not one reflecting real-world scenarios. The intercept is less important on its own.

The main purpose of the intercept in a log-log model is to help in predicting values accurately across combinations of different independent variables in the model. The intercept helps to adjust the prediction downward, in the case for the Western Canadian model, to align with observed rent values.

The coefficient for log (income) of 0.48, suggests that a 1% increase in the average income of rural areas in Western Canada is associated with an increase of 0.48% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwelling value) of 0.12, suggests that a 1% increase in the value of dwellings in the rural areas of Western Canada is associated with an increase of 0.12% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (pop2021) of 0.25, suggests that a 1% increase in the population in the rural areas of Western Canada is associated with an increase of 0.25% in the average rent of those areas. The t- and p-values indicate high statistical significance for the coefficient.

The coefficient for log (nearest urban rent) of 0.33, suggests that a 1% increase in the average rent in the nearest urban centre is associated with an increase of 0.33% in the average rent of the rural area in question. The t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwellings) of -0.22, suggests that a 1% increase in the number of dwellings in the rural areas of Western Canada is associated with a decrease of 0.22% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

5 CENTRAL CANADA MODEL

The results below are for the generalized least squares estimation done for the rural areas of Central Canada, which we define as the provinces Manitoba and Saskatchewan. The model for Central Canada has the lowest Multiple R^2 and adjusted R^2, across all models at 0.4155 and 0.4086. This means that about 41.5% of the variance in rural rent is explained by the independent variables.

Regression Statistics	
Multiple R^2	0.4155
Adjusted R^2	0.4086
Standard Error	0.6404
Observations	430

GLS coefficients – Central Canada (Manitoba & Saskatchewan)						
Variables	**Coefficients**	**Std. Error**	**t-value**	**P(>|t|)**	**Lower Bound**	**Upper Bound**
(Intercept)	-1.91	0.82	-2.34	0.02	-3.51	-0.30
log (income)	0.38	0.07	5.40	0.00	0.24	0.52
log (dwelling value)	0.12	0.03	3.57	0.00	0.05	0.18
log (pop2021)	0.25	0.04	6.26	0.00	0.17	0.32
log (nearest urban rent)	0.37	0.09	4.18	0.00	0.20	0.55
log (dwellings)	-0.21	0.04	-5.18	0.00	-0.28	-0.13

The coefficient for log (income) of 0.38, suggests that a 1% increase in the average income of rural areas in Central Canada is associated with an increase of 0.38% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwelling value) of 0.12, suggests that a 1% increase in the value of dwellings in the rural areas of Central Canada is associated with an increase of 0.12% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (pop2021) of 0.25, suggests that a 1% increase in the population in the rural areas of Central Canada is associated with an increase of 0.25% in the average rent of those areas. The t- and p-values indicate high statistical significance for the coefficient.

The coefficient for log (nearest urban rent) of 0.37, suggests that a 1% increase in the average rent in the nearest urban centre is associated with an increase of 0.37% in the average rent of the rural area in question. The t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwellings) of -0.21, suggests that a 1% increase in the number of dwellings in the rural areas of Central Canada is associated with a decrease of 0.21% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

6 ONTARIO MODEL

The results below are for the generalized least squares estimation done for the rural areas of the province of Ontario, which includes all CSDs with a population of less than 10,000 people. The model for Ontario has the highest Multiple R^2 and adjusted R^2 across all models at 0.8156 and 0.8132. This means that about 81.5% of the variance in rural rent in Ontario is explained by the independent variables in our model.

Regression Statistics	
Multiple R^2	0.8156
Adjusted R^2	0.8132
Standard Error	0.4854
Observations	393

GLS coefficients – Ontario						
Variables	**Coefficients**	**Std. Error**	**t-value**	**P(>|t|)**	**Lower Bound**	**Upper Bound**
(Intercept)	-0.79	0.48	-1.65	0.10	-1.72	0.15
log (income)	0.16	0.05	3.23	0.00	0.06	0.25
log (dwelling value)	0.16	0.02	9.12	0.00	0.13	0.20
log (pop2021)	0.13	0.03	5.01	0.00	0.08	0.18
log (nearest urban rent)	0.50	0.05	10.32	0.00	0.40	0.59
log (dwellings)	-0.10	0.03	-3.62	0.00	-0.15	-0.05

The coefficient for log (income) of 0.16, suggests that a 1% increase in the average income of rural areas in Ontario is associated with an increase of 0.16% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwelling value) of 0.16, suggests that a 1% increase in the value of dwellings in the rural areas of Ontario is associated with an increase of 0.16% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (pop2021) of 0.13, suggests that a 1% increase in the population in the rural areas of Ontario is associated with an increase of 0.13% in the average rent of those areas. The t- and p-values indicate high statistical significance for the coefficient.

The coefficient for log (nearest urban rent) of 0.50, suggests that a 1% increase in the average rent in the nearest urban centre is associated with an increase of 0.50% in the average rent of the rural area in question. The t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwellings) of -0.10, suggests that a 1% increase in the number of dwellings in the rural areas of Ontario is associated with a decrease of 0.10% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

7 QUÉBEC MODEL

The results below are for the generalized least squares estimation done for the rural areas of the province of Quebec, which includes all CSDs with a population of less than 10,000 people. The model for Quebec has a Multiple R^2 of 0.6975 and an adjusted R^2 of 0.6959. This means that about 69.5% of the variance in rural rent in Quebec is explained by the independent variables in our model.

Regression Statistics	
Multiple R^2	0.8156
Adjusted R^2	0.8132
Standard Error	0.4854
Observations	393

GLS coefficients – Ontario						
Variables	**Coefficients**	**Std. Error**	**t-value**	**P(>|t|)**	**Lower Bound**	**Upper Bound**
(Intercept)	-1.97	0.39	-5.12	0.00	-2.73	-1.22
log (income)	0.24	0.05	5.21	0.00	0.15	0.33
log (dwelling value)	0.22	0.02	9.74	0.00	0.18	0.27
log (pop2021)	0.17	0.03	6.21	0.00	0.12	0.22
log (nearest urban rent)	0.41	0.04	10.54	0.00	0.33	0.49
log (dwellings)	-0.13	0.03	-4.78	0.00	-0.19	-0.08

The coefficient for log (income) of 0.24, suggests that a 1% increase in the average income of rural areas in Quebec is associated with an increase of 0.24% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwelling value) of 0.22, suggests that a 1% increase in the value of dwellings in the rural areas of Quebec is associated with an increase of 0.22% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (pop2021) of 0.17, suggests that a 1% increase in the population in the rural areas of Quebec is associated with an increase of 0.17% in the average rent of those areas. The t- and p-values indicate high statistical significance for the coefficient.

The coefficient for log (nearest urban rent) of 0.41, suggests that a 1% increase in the average rent in the nearest urban centre is associated with an increase of 0.41% in the average rent of the rural area in question. The t- and p-values indicate high statistical significance for this coefficient.

The coefficient for log (dwellings) of -0.13, suggests that a 1% increase in the number of dwellings in the rural areas of Quebec is associated with a decrease of 0.13% in the average rent of those areas. Both the t- and p-values indicate high statistical significance for this coefficient.

APPENDIX 1 – Nova Scotia Estimated Rural Rents

CSD	Lower Bound	Average Rural Rent (Estimated)	Upper Bound
Wolfville Town (T)	$1,118.73	$1,176.67	$1,237.61
Antigonish Subd. A	$1,040.50	$1,099.53	$1,161.91
Kentville Town (T)	$1,014.75	$1,052.41	$1,091.47
Kings Subd. D	$1,012.43	$1,050.20	$1,089.38
Kings Subd. B	$1,004.85	$1,042.39	$1,081.34
Colchester Subd. C	$980.62	$1,040.84	$1,104.76
West Hants Rural Municipality (RM)	$976.55	$1,015.50	$1,056.00
Lunenburg Town (T)	$954.34	$1,014.65	$1,078.77
Mahone Bay Town (T)	$924.01	$994.00	$1,069.30
Antigonish Town (T)	$920.52	$973.43	$1,029.37
Pictou Subd. B	$908.11	$962.86	$1,020.90
Colchester Subd. B	$921.10	$959.32	$999.11
Pictou Subd. C	$896.99	$951.61	$1,009.56
New Glasgow Town (T)	$887.65	$943.41	$1,002.67
Kings Subd. A	$893.89	$930.94	$969.53
Chester Municipal District (MD)	$885.78	$928.94	$974.20
Stewiacke Town (T)	$895.95	$928.67	$962.59
Truro Town (T)	$883.13	$917.56	$953.35
Berwick Town (T)	$858.38	$898.96	$941.46
Kings Subd. C	$855.20	$886.80	$919.56
Pictou Subd. A	$850.31	$882.50	$915.90
Annapolis Subd. C	$825.57	$854.18	$883.79
Cumberland Subd. C	$810.14	$849.23	$890.20
Cumberland Subd. D	$801.94	$845.97	$892.42
Stellarton Town (T)	$792.48	$843.33	$897.45
Colchester Subd. A	$809.87	$838.89	$868.95
Inverness Subd. B	$818.64	$838.49	$858.82
Pictou Town (T)	$788.94	$838.41	$890.97
Antigonish Subd. B	$817.11	$835.78	$854.88
Bridgewater Town (T)	$807.93	$833.73	$860.34
Annapolis Subd. A	$800.10	$826.80	$854.39
Westville Town (T)	$773.93	$824.53	$878.44
Annapolis Subd. B	$792.87	$817.82	$843.55
Yarmouth Municipal District (MD)	$777.43	$800.76	$824.80
Amherst Town (T)	$760.37	$794.84	$830.88
Richmond Subd. A	$775.73	$791.11	$806.79

CSD	Lower Bound	Average Rural Rent (Estimated)	Upper Bound
Annapolis Royal Town (T)	$737.91	$783.50	$831.92
Argyle Municipal District (MD)	$761.88	$783.21	$805.14
Victoria Subd. B	$751.17	$776.73	$803.17
Queens Regional Municipality (RGM)	$746.90	$775.81	$805.83
Middleton Town (T)	$750.98	$775.19	$800.17
Inverness Subd. C	$754.55	$774.45	$794.88
Yarmouth Town (T)	$753.48	$774.35	$795.80
Inverness Subd. A	$751.97	$773.85	$796.37
St. Mary's Municipal District (MD)	$721.06	$772.12	$826.80
Richmond Subd. C	$755.95	$769.01	$782.29
Trenton Town (T)	$716.90	$766.91	$820.42
Barrington Municipal District (MD)	$744.51	$765.16	$786.38
Cumberland Subd. B	$730.15	$763.40	$798.16
Clare Municipal District (MD)	$740.18	$762.08	$784.64
Port Hawkesbury Town (T)	$745.23	$759.21	$773.45
Annapolis Subd. D	$725.93	$751.83	$778.66
Oxford Town (T)	$721.27	$749.69	$779.24
Victoria Subd. A	$724.88	$749.54	$775.03
Shelburne Municipal District (MD)	$719.83	$744.75	$770.54
Cumberland Subd. A	$710.84	$741.82	$774.14
Digby Municipal District (MD)	$714.08	$734.04	$754.57
Richmond Subd. B	$687.22	$717.12	$748.32
Digby Town (T)	$695.07	$713.75	$732.93
Shelburne Town (T)	$689.74	$706.86	$724.39
Guysborough Municipal District (MD)	$663.35	$685.31	$708.01
Lockeport Town (T)	$626.64	$651.14	$676.60
Mulgrave Town (T)	$630.75	$647.32	$664.32
Clark's Harbour Town (T)	$612.28	$628.62	$645.40

APPENDIX 2 – Model Tests: Atlantic Canada

Atlantic Canada log(rents)= log(dwellings_value)+log(pop2021)+log(nearest_rent)+log(dwellings)															
Betas	OLS			GLS		SDEM		SEM		SLX		SDM		SAR/SLM	
	coefficient	p-value	p-value (White)	coefficient	p-value	coefficient (Total)	p-value (total impact)	Coefficient	p-value	coefficient (total)	p-value (total impact)	coefficient (total)	p-value (total impact)	coefficient	p-value
Intercept	-0.249480	0.558000	0.575546	-0.460380	0.227000	-0.201114	0.674380	-0.125145	0.783076	-0.301400	0.505800	-0.230075	0.606556	-0.250810	0.551300
log(dwellings_value)	0.394230	0.000000	0.000000	0.394910	0.000000	0.413838	0.000000	0.383898	0.000000	0.421778	0.000000	0.416696	0.000000	0.396207	0.000000
log(pop2021)	0.218690	0.000002	0.000250	0.237350	0.000001	0.153577	0.049220	0.230873	0.000000	0.133680	0.069939	0.146512	0.081877	0.219946	0.000001
log(nearest_rent)	0.247880	0.000049	0.003096	0.268130	0.000002	0.208782	0.003547	0.246484	0.000155	0.211085	0.001585	0.212113	0.005018	0.241702	0.000082
log(dwellings)	-0.191250	0.000046	0.000777	-0.202420	0.000048	-0.124348	0.122261	-0.202950	0.000013	-0.104138	0.170559	-0.117137	0.178571	-0.191197	0.000040
Lambda						0.094746	0.088937	0.108950	0.049436						
Rho												0.098008	0.074140	-0.009284	0.026075
Log likelihood						92.381370		88.374000				92.529060		88.919280	
R-squared		0.429600			0.518700										
Adjusted R-squared		0.425100			0.514900										
F-statistic		0.000000			0.000000										
Autocorrelation:															
Durbin Watson		0.022000													
Ljung-Box test		0.000322													
Box-Pierce test		0.000382													
Moran I		0.024000			0.023000		0.490000		0.503500		0.047700		0.530900		0.021900
Homocedasticity:															
Breusch-Pagan		0.000436					0.001519		0.000285		0.001371		0.001360		0.000550
Lagrange multipliers															
RSerr		0.060090			0.075420										
RSlag		0.026450			0.502000										

APPENDIX 3 – Model Tests: Western Canada

West Canada log(rents)= log(income)+log(dwellings_value)+log(pop2021)+log(nearest_rent)+log(dwellings)

Betas	OLS			GLS		SDEM		SEM		SLX		SDM		SAR/SLM	
	coefficient	p-value	p-value (White)	coefficient	p-value	coefficient (Total)	p-value (total impact)	Coefficient	p-value	coefficient (total)	p-value (total impact)	coefficient (total)	p-value (total impact)	coefficient	p-value
Intercept	-2.784930	0.000000	0.000008	-2.597440	0.000000	-2.895170	0.000000	-2.793088	0.000000	-2.753000	0.000001	-2.706764	0.000001	-2.828687	0.000000
log(income)	0.500700	0.000000	0.000000	0.478190	0.000000	0.545645	0.000000	0.501294	0.000000	0.463472	0.000000	0.554190	0.000000	0.505225	0.000000
log(dwellings_value)	0.123390	0.000000	0.000000	0.122180	0.000000	0.110283	0.000008	0.127710	0.000000	0.146381	0.000007	0.108780	0.000027	0.126704	0.000000
log(pop2021)	0.254350	0.000000	0.000000	0.237520	0.000000	0.243524	0.000004	0.259710	0.000000	0.248167	0.000001	0.241546	0.000003	0.258721	0.000000
log(nearest_rent)	0.320890	0.000000	0.000000	0.334390	0.000000	0.284895	0.000018	0.314370	0.000000	0.320646	0.000000	0.298976	0.000013	0.319204	0.000000
log(dwellings)	-0.219270	0.000000	0.000012	-0.218170	0.000000	-0.200621	0.000418	-0.226288	0.000000	-0.213343	0.000348	-0.199087	0.000419	-0.223363	0.000000
Lambda						0.132020	0.006947	0.130730	0.005791						
Rho												0.116660	0.013226		
Log likelihood						206.554000		204.136400				205.980000		202.075700	
R-squared		0.608100		0.640600											
Adjusted R-squared		0.604500		0.637200											
F-statistic		0.000000			0.000000										
Autocorrelation:															
Durbin Watson		0.102000													
Ljung-Box test		0.000304													
Box-Pierce test		0.000356													
Moran I		0.002000			0.002000	0.472100			0.470500		0.003700		0.376500		0.003700
Homocedasticity:															
Breusch-Pagan		0.000000					0.000000		0.000000		0.000000		0.000000		0.000000
Lagrange multipliers															
RSerr		0.004630		0.871900											
RSlag		0.062090		0.005098											

APPENDIX 4 – Model Tests: Central Canada

Central Canada log(rents)= log(income)+log(dwellings_value)+log(pop2021)+log(nearest_rent)+log(dwellings)															
Betas	OLS			GLS		SDEM		SEM		SLX		SDM		SAR/SLM	
	coefficient	p-value	p-value (White)	coefficient	p-value	coefficient (Total)	p-value (total impact)	Coefficient	p-value	coefficient (total)	p-value (total impact)	coefficient (total)	p-value (total impact)	coefficient	p-value
Intercept	-1.600940	0.054085	0.078418	-1.905500	0.019980	-1.769049	0.043599	-1.583375	0.058129	-1.760000	0.044590	-1.752426	0.041959	-1.552922	0.063030
log(income)	0.367520	0.000001	0.000041	0.380780	0.000000	0.413955	0.000062	0.365283	0.000001	0.403166	0.000074	0.417984	0.000086	0.363156	0.000001
log(dwellings_value)	0.116470	0.000687	0.013423	0.117580	0.000401	0.180485	0.001835	0.113175	0.000846	0.188981	0.000900	0.185619	0.001396	0.116997	0.000372
log(pop2021)	0.233590	0.000000	0.000000	0.245630	0.000000	0.141031	0.069812	0.237133	0.000000	0.148153	0.053911	0.136396	0.094577	0.233604	0.000000
log(nearest_rent)	0.357330	0.000069	0.000109	0.374440	0.000036	0.225838	0.043821	0.362381	0.000062	0.227584	0.038146	0.225696	0.040674	0.355204	0.000014
log(dwellings)	-0.196400	0.000002	0.000002	-0.205420	0.000000	-0.125608	0.114258	-0.198373	0.000001	-0.135153	0.085406	-0.122647	0.137019	-0.195832	0.000006
Lambda						0.051175	0.407960	0.053333	0.371900						
Rho												0.058137	0.329510	-0.001212	0.738400
Log likelihood						70.148460		66.537640				70.281500			
R-squared		0.366400		0.415500											
Adjusted R-squared		0.359000		0.408600											
F-statistic		0.000000			0.000000										
Autocorrelation:															
Durbin Watson		0.456000													
Ljung-Box test		0.008063													
Box-Pierce test		0.009207													
Moran I		0.173000			0.165000		0.491000		0.487600		0.193300		0.543800		0.158600
Homocedasticity:															
Breusch-Pagan		0.000771					0.013860		0.000736		0.011840		0.013660		0.000787
Lagrange multipliers															
RSerr		0.364500			0.338400										
RSlag		0.738500			0.880700										

APPENDIX 5 – Model Tests: Ontario

Ontario log(rents)= log(income)+log(dwellings_value)+log(pop2021)+log(nearest_rent)+log(dwellings)															
Betas	OLS			GLS		SDEM		SEM		SLX		SDM		SAR/SLM	
	coefficient	p-value	p-value (White)	coefficient	p-value	coefficient (Total)	p-value (total impact)	Coefficient	p-value	coefficient (total)	p-value (total impact)	coefficient (total)	p-value (total impact)	coefficient	p-value
Intercept	-0.951430	0.094700	0.099554	-0.951430	0.094700	-1.440296	0.022840	-0.988661	0.080470	-1.414000	0.027690	-1.426886	0.023640	-0.951006	0.091600
log(income)	0.223550	0.000077	0.000191	0.223551	0.001354	0.268888	0.000265	0.226582	0.000047	0.268516	0.000290	0.270672	0.000542	0.223491	0.000071
log(dwellings_value)	0.174520	0.000000	0.000000	0.174517	0.000000	0.232679	0.000000	0.172389	0.000000	0.233379	0.000000	0.233105	0.000000	0.174561	0.000000
log(pop2021)	0.109760	0.000011	0.013135	0.109758	0.000001	0.113829	0.001589	0.109533	0.000009	0.110896	0.002035	0.112127	0.003783	0.109758	0.000018
log(nearest_rent)	0.388400	0.000000	0.000000	0.388400	0.000000	0.297566	0.001261	0.393034	0.000000	0.292003	0.001515	0.295662	0.001196	0.388333	0.000000
log(dwellings)	-0.065300	0.013400	0.149272	-0.065303	0.013400	-0.084941	0.042369	-0.065078	0.013140	-0.080934	0.052787	-0.082988	0.059103	-0.065309	0.017257
Lambda						0.025435	0.683480	0.024535	0.682440						
Rho												0.017888	0.768480	-0.000167	0.988680
Log likelihood						218.043600		215.611000				218.003800		215.527400	
R-squared	0.725800			0.815600											
Adjusted R-squared	0.722200			0.813200											
F-statistic		0.000000			0.000000										
Autocorrelation:															
Durbin Watson		0.278000													
Ljung-Box test		0.044320													
Box-Pierce test		0.048280													
Moran I			0.303000		0.176000		0.486700		0.497400		0.297800		0.432400		0.296500
Homocedasticity:															
Breusch-Pagan		0.000000					0.000000		0.000000		0.000000		0.000000		0.000000
Lagrange multipliers															
RSerr		0.639200			0.390400										
RSlag		0.988700			0.764300										

APPENDIX 6 – Model Tests: Québec

Quebec log(rents)= log(income)+log(dwellings_value)+log(pop2021)+log(nearest_rent)+log(dwellings)																
Betas	OLS			GLS		SDEM		SEM		SLX		SDM		SAR/SLM	
	coefficient	p-value	p-value (White)	coefficient	p-value	coefficient (Total)	p-value (total impact)	Coefficient	p-value	coefficient (total)	p-value (total impact)	coefficient (total)	p-value (total impact)	coefficient	p-value
Intercept	-1.778840	0.000037	0.000446	-1.973150	0.000000	-1.288440	0.007879	-1.800703	0.000047	-1.295000	0.006110	-1.235819	0.007960	-1.822246	0.000021
log(income)	0.239000	0.000002	0.000030	0.240670	0.000000	0.141367	0.029542	0.257876	0.000001	0.136848	0.026618	0.151868	0.033940	0.248236	0.000003
log(dwellings_value)	0.221840	0.000000	0.000000	0.222760	0.000000	0.281717	0.000000	0.211267	0.000000	0.281861	0.000000	0.283494	0.000000	0.222843	0.000000
log(pop2021)	0.192010	0.000000	0.000007	0.168750	0.000000	0.114620	0.004682	0.208716	0.000000	0.114339	0.001885	0.106590	0.007007	0.196483	0.000000
log(nearest_rent)	0.373640	0.000000	0.000000	0.411120	0.000000	0.337618	0.000003	0.366423	0.000000	0.346329	0.000000	0.340167	0.000011	0.366128	0.000000
log(dwellings)	-0.145280	0.000000	0.000657	-0.131480	0.000002	-0.052644	0.217411	-0.163851	0.000000	-0.052980	0.171758	-0.045099	0.262554	-0.149336	0.000000
Lambda						0.129630	0.002502	0.149420	0.000759						
Rho												0.136520	0.001264	0.012564	0.114600
Log likelihood						275.731700		258.654100				276.359200		254.229500	
R-squared	0.608900			0.697500											
Adjusted R-squared	0.606900			0.695900											
F-statistic		0.000000			0.000000										
Autocorrelation:															
Durbin Watson		0.000000													
Ljung-Box test		0.022280													
Box-Pierce test		0.023160													
Moran I		0.001000			0.001000		0.564400		0.603600		0.001500		0.652100		0.001500
Homocedasticity:															
Breusch-Pagan		0.000000					0.000000		0.000000		0.000000		0.000000		0.000000
Lagrange multipliers															
RSerr		0.000759			0.000783										
RSlag		0.114900			0.801400										