A New Measure of the Rental Cost of Housing in the Toronto Market, 1890-1914

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This research note reports the methodology involved in calculating a new measure of rents in the Toronto housing market in the quarter century preceding World War I. It uses a sample of newspaper advertisements for rental accommodation. When compared with previous estimates of shelter costs, the series constructed on the basis of the new index reveals a higher rate of increase in rents for the years 1900-05 and a lower rate of increase for the years 1905-13. In these respects, the new measure proves more sensitive to rental market developments than do existing indexes.

Cette note de recherche traite de la méthodologie utilisée pour calculer un nouvel indice des coûts de location dans le marché domiciliaire de Toronto, de 1890 jusqu'à la Première Guerre mondiale. Elle repose sur un échantillon d'annonces de maisons à louer dans un journal à fort tirage. Les séries construites à partir du nouvel indice, comparativement à celles faites antérieurement, montrent un taux d'augmentation du coût des loyers plus élevé pendant les années 1900-1905 et moindre au cours des années 1905-1913. Ainsi, le nouvel indice rend mieux compte des fluctuations de la courbe des coûts du logement que ne le font les indices actuels.

This research note reports an annual measure of rents for Toronto over the period 1890-1914. The measure is an intrinsic part of a larger project to construct a cost of living index for Toronto for these years. With such an index it will be possible to assess more adequately the work of revisionist historians who have argued that despite Toronto's advantages, wage earners were only slightly better off there than their counterparts in Montreal.[1] Michael Piva, for example, states that between 1900 and 1921, "the incomes of industrial workers were never sufficient to support a family at an acceptable level of health and decency".[2] Housing is an essential element in a cost of living index and, to the author's knowledge, the proposed method for deriving a measure of rent has not been previously employed in Canadian studies. A separate reporting, therefore, is offered of the methodology

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1. Michael J. PIVA, *The Condition of the Working Class in Toronto, 1900-1921* (Ottawa: University of Ottawa Press, 1979), p. 171. For conditions in Montreal, see Terry COPP, *The Anatomy of Poverty: The Condition of the Working Class in Montreal, 1897-1929* (Toronto, 1974).

2. PIVA, *Working Class in Toronto*, p. 272. The index of rental prices reported in this paper does not exactly coincide with the era Piva considers. It does nevertheless cover the previous decade of the nineties together with those years of his study free of the successive shocks of a devastating war and a major postwar recession (1920-21), both of which could be expected to affect individual welfare adversely.

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involved in calculating the new measure, with a comparison of the results to existing, albeit fragmentary quantitative and qualitative knowledge about shelter costs.[3]

Empirical findings on shelter costs have their own special significance in the context of Toronto's urbanization prior to World War I. The impact of an expanding economic base and population growth on housing stock is defined by a unique attribute of housing. In economic terms, as a nontradeable commodity, it is immobile with location specific service flows. If in a local area demand exceeds supply at the current market price, the shortfall cannot be made up by imports into the region. Rather, in a market economy, the deficit is met initially with a price increase which under competitive conditions provides the incentive to capital expenditures on housing that enlarge the stock of dwellings. In order to describe the effect of economic and social transformations on housing stock and to use shelter costs to assess changing urban living standards, it is necessary to generate systematic quantitative evidence on pre-1914 shelter costs. Such evidence does not yet exist for any urban area in Canada, let alone Toronto.

Table 1 summarizes population growth and housing stock development in the city of Toronto and York County between 1891 and 1911. Occupied housing stock rather than total stock is reported.

Table 1 **Population and Housing Stock, Toronto and York County, 1891-1911**

	1891	1901	1911	Annual % change 1891-1901	Annual % change 1901-1911
Population*	241.3	268.8	338.9	1.08	2.32
Families*	46.3	53.9	91.8	1.52	5.32
Housing stock occupied*	44.4	51.8	85.5	1.54	5.01
Proportion of housing stock 6-10 rooms	.638	.617	NA	—	—

Sources: Canada, *Census*, 1891, vol. I, Table 2; *Census*, 1901, vol. IV, Table 17; *Census*, 1911, vol. I, Table 11. Note that the 1901 Census reports the number of families occupying houses of given room numbers. The number of families per occupied dwelling unit is 1.0398 (53,893 ÷ 51,828); hence the number of 6-10 room houses is likely to be slightly overstated in 1911.

*In thousands.

The table indicates that occupied dwelling units increased at a rate slightly lower than the growth in family units in the period 1901-11. By contrast, the two rates were almost equivalent in the years 1891-1901.

3. Canada, Department of Labour, *The Inquiry into Cost of Living in Canada* (Ottawa, 1915), vol. II, p. 1064, states that between 1900 and 1913 the percentage of current income "going for rent has risen from 20.9 to 24.7". In a footnote on the same page, it is stated that a similar minimum expenditure in Canada "used to be 18 percent". In the 1880s the Ontario Bureau of Industries reported on the cost of living of urban workers in fourteen Ontario communities including Toronto. This was based on sample returns on income and outlays for some 2,600 households across the province. Tables in Ontario, Bureau of Industries, *Sessional Paper No. 80* (Toronto, 1890), pps. 46, 54, indicate that rent represented 30.0 and 28.9 percent of tenant household expenditures in 1888 and 1889 respectively. In deriving this approximation, family expenditures for food and clothing were obtained by multiplying average household size by reported per capita expenditures on these items.

In stark contrast to Montreal, Toronto was a city of single family dwellings. This is most readily evident in homeownership ratios for the two cities in 1921, the first year these are available in the census. The ratio in Toronto was 46.8 percent, while in Montreal it was 14.8 percent.[4] Homeownership ratios in a selected group of cities in the United States were fairly stable between 1890 and 1920.[5] It is not unreasonable, therefore, to assume that the Toronto homeownership ratio in earlier census years was not greatly different from 1921. If so, then throughout the period 1891-1911 homeownership was an alternative to renting for a large number of urban dwellers. Given the tastes and asset portfolio objectives of a family unit, the choice at the margin between homeownership and renting would depend on the relative costs of these alternatives.

Table 1 also indicates that in 1900 something in excess of three-fifths of occupied dwelling units were six to ten rooms in size. Evidence that houses at the lower end of this range constituted an important segment of the rental market for wage and salary earners is found in the Department of Labour study published in 1915, *The Inquiry into Cost of Living in Canada*, which estimated rental costs for the working class by pricing six-room dwellings both with and without sanitary conveniences in major urban areas across Canada, including Toronto, for the years 1900, 1905, 1912 and 1913.[6]

The method proposed in this study to measure rental price has not previously been applied to Canadian data, although A.W. Rees used a similar approach in estimating the rental component of his pre-1914 American cost of living index.[7] Before describing the approach, it may be asked how tenant and landlord were brought together in the urban housing market at the beginning of the twentieth century. No doubt knowledge about the market was spread by word of mouth, though this channel was probably more significant in smaller than in larger urban areas. Real estate agents played the middleman roles of not only collecting rent and managing property, but also of maintaining rental listings. A third source of information in larger urban areas was the classified advertising section of local newspapers. Those using the newspapers included rental agents (generally acting for larger owners) as well as smaller owners who managed their own rentals. Newspaper advertisements were also placed by those looking for rental accommodation; but, then as now, property owners more often took the initiative in advertising. The methodology employed has been to use the "Unfurnished Houses for Rent" section of the Toronto *Telegram*. Among Toronto newspapers, the *Telegram*'s classified section was the major source of property listings for the urban residential real estate market.[8]

4. Canada, *Census*, 1921, vol. III, pp. 54-58.

5. United States, *Census*, 1920, vol. II, pp. 1280-88, for homeownership percentages in comparable American cities in 1920, namely, Cleveland (35.1), Buffalo (38.6), Pittsburgh (28.3), Chicago (27.0), and Philadelphia (39.5). The percentage of homeownership in these same cities in 1890 was: Cleveland (39.1), Buffalo (40.0), Pittsburgh (27.6), Chicago (28.7), and Philadelphia (22.8). The relative growth in Philadelphia homeownership occurred almost entirely between 1910 and 1920 when the percentage rose from 26.6. For 1890 data see United States, *Census*, 1910, vol. I, p. 1314.

6. *Inquiry into Cost of Living*, vol. II, 373-405.

7. A.W. Rees, *Real Wages in Manufacturing, 1890-1914* (Princeton: National Bureau of Economic Research, 1961), pp. 96-105.

8. The price of the daily newspaper was one cent. While rates on classifieds varied somewhat, the *Telegram* charged for this column one cent per word per day. Classifieds in the Toronto *Globe and*

The specific procedures in using the *Telegram* were as follows:

1) Data on the rent of six-, seven- and eight-room unfurnished houses were taken from two Saturday issues per year, generally in April and September. Where this yielded a sample judged to be too small—fewer than seventy observations in total—an additional sample was taken in June approximately midway between the two sample points. The great majority of listings included the asking rent. This resulted in a sample size for each year of at least 150 observations. In some years the number of observations exceeded 300. The early spring and early autumn are generally regarded as moving periods. It should be noted also that the years in which the April and September sample are small, viz. 1901 to 1904, were years of rapidly rising rents as measured by the new index in Table 2. The inference is that the length of the "for rent" column is a proxy for the state of the rental market.

2) No house was eliminated from the sample on the basis of price, though units advertised as having a garage or stable were excluded as being upper or middle class housing.

3) Generally, it was not possible to identify the characteristics of the dwelling unit other than the number of rooms. Only those houses which specified room numbers were included in the sample. Advertisements as a rule did not inform the reader if the unit had a bathroom, indoor plumbing, or steam heat, though the term "modern conveniences" frequently appeared.

4) All monthly rents were divided by the number of rooms to derive a measure of monthly rent per room.

5) Both a geometric and arithmetic average of rent per room for six-, seven- and eight-room houses were calculated. These indexes actually differ very little in level and in annual rate of change. For comparative purposes an index based solely on the rent for six-room houses is also presented. As indicated earlier, the *Inquiry into Cost of Living in Canada* collected data on six-room houses as the basis of its rent index.

The result is an index of asking rents, that is, prices posted by the seller. How adequate are asking prices as a measure of actual prices? One aspect of this question is whether a posted price is a good surrogate for the price on which landlord and tenant agree; a second aspect is whether trends in posted prices are correlated with trends in actual market prices. While the answers depend upon how much room there was for haggling in the rental market, the advertised price probably established an upper limit on the rent charged. Moreover, since the rent index is a measure of asking price on vacant units, it should be sensitive to current and expected market conditions.

The asking price might reflect as well changes in the quality of housing. During these years, possible sources of quality change include the greater prevalence

Mail in contrast were predominantly for "business opportunities", "machinery and equipment for sale" and "help wanted". During much of the period covered, the classified section of the Toronto *Star* was very limited.

of brick construction, indoor plumbing, steam heat, and improved locational features of suburban housing with the development of an urban transportation system. In practice, however, it was impossible to systematically include such qualitative changes in construction of the index.[9]

Rent indexes constructed on three alternative bases are given in Table 2.

Table 2 **Rent Indexes for Unfurnished Houses, Toronto, 1890-1914**

Year	Arithmetic mean, 6-8 room houses	Geometric mean, 6-8 room houses	Index for 6 room houses
1890	103.3	102.8	96.5
1891	100.2	100.0	95.4
1892	90.8	90.5	82.3
1893	88.7	88.5	79.9
1894	91.6	91.1	78.4
1895	89.4	89.3	83.3
1896	87.8	87.2	73.8
1897	82.8	82.7	77.2
1898	89.8	89.7	83.8
1899	98.8	98.7	94.5
1900	100.0	100.0	100.0
1901	120.5	120.3	114.1
1902	130.1	130.0	122.2
1903	147.7	147.5	147.4
1904	158.0	157.9	160.9
1905	170.3	170.2	170.7
1906	175.8	175.7	172.4
1907	187.0	186.9	184.7
1908	176.1	176.0	169.6
1909	165.3	164.9	155.3
1910	178.3	178.0	168.5
1911	189.6	189.2	173.5
1912	209.9	209.8	202.4
1913	230.6	230.4	223.5
1914	217.5	217.3	208.7

Source: Toronto *Telegram*, real estate listings, 1890-1914.

They reveal a decline in rents during the mid-nineties coinciding with the cyclical downturn of that period.[10] This is followed by a rise after 1896, and a particularly sharp increase of 70 percent between 1900 and 1905. The increase between 1905 and 1913 was 35 percent for the arithmetic average of six to eight room houses, and 31 percent for six-room houses alone. The year 1913 is chosen rather than 1914 because the cyclical decline in the North American economy depressed rental prices in the latter year.

9. To this day the series on rents reported in Canadian, American and other national measures of consumer prices do not control for quality of housing.

10. Though there are no quantitative measures of unemployment in Canada in this period, the unemployment rate in the United States averaged 15 percent between 1894 and 1897. See U.S. Department of Commerce, Bureau of the Census, *Historical Statistics* (Washington, 1975), ser. D-86. It is commonly assumed that conditions were as bad, if not worse, in Canada.

Table 3 compares the results from the new series with those in presently available, fragmented series for 1900-05 and 1905-13. These appear in *The Inquiry into the Cost of Living in Canada* and are constructed from monthly rents of six-room dwellings with and without sanitary conveniences as reported by real estate agents and by correspondents of the *Labour Gazette*.

Table 3 **Monthly Rent Measures, Toronto, 1900, 1905, 1913**

Year	New index	Existing indexes		
		A	B	C
1900	100.0	100.0	100.0	100.0
1905	170.7	125.0	115.4	113.1
1913	223.5	166.7	192.3	186.4
Percent average change:				
1900-05	70.7	25.0	15.4	13.1
1905-13	30.9	33.4	66.7	64.8
1900-13	123.5	66.7	92.3	86.4

Source: The Inquiry into Cost of Living in Canada (Ottawa, 1915), vol. II, Table A, p. 400, Table B, pp. 403, 405.

Note: Column "A" is derived from dollar rents for real estate with sanitary conveniences; columns "B" and "C" are derived from measuring rates of change betwen the midpoints of the dollar rent range for six-room dwellings with and without sanitary conveniences respectively.

The series differ substantially. The rates of increase in the new series are higher for 1900-05 and lower for 1905-13 than in the presently existing measures. This provides a basis for judging the merits of the new index. If there were a much greater scarcity of housing in the 1900-05 period, the new index would prove more sensitive to rental market developments than existing indexes. The latter, on the other hand, would be compatible with greater relative scarcity in the 1905-13 period.

Some limited evidence with which to weigh these alternative interpretations of rental values in the pre-1914 period is available from the papers of the University of Toronto economist James G. Mavor.[11] Mavor collected dwelling rents from real estate agents in the early years of the century, and his data purports to be quality-adjusted. That is, it is confined to units for which no improvements were made over the sample period. Using systematic portions of the Mavor data, an annual rental index was constructed based on the rents quoted for a constant sample of thirty-three houses managed by J.W.G. Whitney, a real estate agent. The index shows an increase of 84 percent between 1900 and 1905, and a further 76 percent between 1905 and 1913. Virtually all the increase between 1905 and 1913, however, is accounted for by the period 1905-08. Beyond 1908 the index remains at a quite stable level.

An additional bit of quantitative evidence bearing on the 1900-05 period is found in Glazebrook who refers to an unofficial study as showing the following results for the average rental price of unimproved houses. Size of the dwelling is not indicated.

11. These papers were brought to my attention by Marian Steele of the University of Guelph.

Table 4 **Unofficial Study of Average Monthly Rental Prices, Toronto, 1897-1907**

Year	Samples A (N=93)	B (N=41)	C (N=95)	D (N=43)
1897	$7.45	$5.71	$7.63	$6.20
1906	$13.94	$10.09	$14.40	—
1907	—	$12.85	—	$13.19

Source: G.P. de T. GLAZEBROOK, *The Story of Toronto* (Toronto: University of Toronto Press, 1971), p. 200.

Note: Source of the data is not indicated.

This evidence, however crude, suggests substantial demand pressures on the housing market in the first six or seven years of the century.

Some qualitative evidence about the state of the housing market after 1900 is available from reports of the Toronto correspondent for the Federal Department of Labour and published in *The Labour Gazette*. From 1903 to 1907, specific references are made to the housing problem for "working class" people. In November 1903, the correspondent points to "a great scarcity of housing accommodation" with "rents in many localities . . . considerably advanced". A reference to the "scarcity of working men's houses" is repeated in December 1904. August, October and November of 1905 combine references to the rapid rate of construction activity with further assertions concerning the lack of availability of suitable housing and the continuing rise in rents. In November 1905, it is stated that "large numbers of working men have secured lots outside the city in the northwestern suburbs" to build small frame houses of "unsubstantial character". By April 1907, the correspondent states that "the dwelling-house problem continues serious, notwithstanding the large number of new houses built" and under construction.[12]

Economic theory can shed additional light on the timing of rental changes in the Toronto market. Where rents are fairly stable, they reflect an approximate balance between the demand for and supply of housing services. Actual housing stock is said to coincide with desired housing stock. Since houses are assets, the matter can be seen most clearly in an investment decision framework. The actual gross rate of return on an average housing unit may be expressed as the ratio of annual rent to house price. For the investor to be satisfied, this ratio must approximately equal the desired return which is the sum of depreciation, owner repairs and maintenance, property taxes, mortgage interest payments and the rate of change in house prices (capital gain on the asset), all expressed as a percentage of average house price. The mortgage interest rate is taken to be the appropriate measure of opportunity earnings, i.e., compared to earnings if funds were invested elsewhere. If the actual gross return exceeds the desired return, pressures will build for increases in the housing stock to capture yields; in the contrary case, if the actual gross return falls short of the desired return, new residential construction will be discouraged. The

12. *Labour Gazette*, IV (November 1903): 389; V (December 1904): 583; VI (August, October and November 1905): 148, 388, 498; VII (April 1907): 1082.

larger the positive gap between actual and desired returns, the stronger will be the incentive to the residential construction industry; and vice versa, the smaller the gap, the weaker the incentive. In short, this model says that residential construction activity is determined by the size of the difference between the actual and desired gross rental returns. If we have evidence about residential construction activity, property taxes, depreciation, owner maintenance and repairs, mortgage rates, and an estimate of capital gain potential, then we can infer the rate of increase in rents in the 1900-05 period that would be consistent with these variables. In that way a judgment may be made about the suitability of the new index relative to the existing rent measures.

Consider first evidence on the volume of residential construction activity from the late 1890s through 1907. In the absence of data on housing starts, we must use proxies assembled by K.A.H. Buckley. He constructed series on numbers of property transfers, mortgages and discharges of mortgages registered in Toronto and York, and an index of the constant dollar value of permits per capita issued for new buildings in Toronto. Of these measures, the first most closely approximates housing activity, while the second is more strongly influenced by the larger unit contract values for non-residential construction. Property transfers registered, mortgages registered and mortgage discharges were 2.86, 3.28 and 2.22 times larger in 1906 than in 1900.[13] Increases were recorded in each year over this period and followed flat performance at sub-1900 levels between 1894 and 1898.[14] Using 1900 as the base year, the per capita index of constant dollar building permits rose from 100.0 to 418.0 between 1900 and 1906. Between 1894 and 1898 it averaged 68.0 and was 142.3 at the top of the building boom in 1889.[15]

Let us turn to other variables. Table 5 presents quantitative evidence on four variables other than capital gains from 1900 to 1907. Mortgage interest rates, depreciation and replacement costs, and expenditures for maintenance and repairs increased during the period, while mill rates declined slightly. Mortgage interest rates rose slightly, from 5.75 to 6 percent through 1906 and again in 1907. Assuming a fifty-year house life, depreciation was 2 percent annually. On a replacement cost basis, a house's absolute value rose by 15.7 percent from 1900 to 1905 and by a further 8.7 percent between 1905 and 1907. Maintenance and repair costs also rose by just over 15 percent from 1900 to 1907.

Given the building boom set off in the period 1900-05, which is more plausible: the larger rent increase of 70 percent indicated by the new index, or the smaller increase in the 13-25 percent range suggested by existing indexes? It is improbable that the accelerated growth recorded in the construction data of these years represents a wave of speculative building. How likely is it that builders would be amenable to such a high rate of speculative construction in the wake of the serious depression of the nineties? There was little in that environment to encourage construction; indeed, the general experience of those years likely produced cautious lending

13. K.A.B. BUCKLEY, *Capital Formation in Canada, 1896-1930* (Toronto: Carleton Library Series, 1974), p. 227. The year 1906 is used because Buckley does not provide data for 1905. In effect, the actual experience in 1905 is not available.

14. Ibid., p. 227.

15. These indicators point to an active residential construction sector in the immediate post-1900 years following the sluggishness of the nineties, and are consistent with the aforementioned reports carried in the *Labour Gazette*.

Table 5 **Index of Cost Components Making up Required Return on House, Toronto, 1900-07 (1900 = 100)**

Year	Mortgage interest rate	Depreciation at replacement cost	Maintenance and repairs	Municipal tax rate
1900	100.0	100.0	100.0	100.0
1901	100.0	100.3	106.1	97.4
1902	100.0	106.8	114.8	97.4*
1903	100.0	110.6	112.3	97.4
1904	104.3	111.5	111.2	97.4
1905	104.3	115.7	111.2	97.4
1906	104.3	120.4	111.9	97.4
1907	113.0	125.8	115.2	97.4

Sources: Mortgage interest rate for Toronto from *Inquiry into Cost of Living in Canada*, vol. II, p. 721. Rates for Toronto are reported in the range of 5.5 to 6 percent for 1900-03 and 6 to 7 percent in 1907. The index was calculated using the mid-point of these respective ranges.

Depreciation at replacement cost is calculated from the author's own index of residential construction costs (exclusive of land) for the period 1890-1914. Data and weights are available on request.

Maintenance and repairs costs are based on hourly wage rates for pointers and glaziers reported in the *Inquiry into Cost of Living in Canada*, vol. II, p. 484-89, and prices for window glass, prepared paint and varnish, ibid., pp. 62-63, and for printed linoleum taken from issues of *Eaton's Catalogue*. Weights assigned: labour component (.33), glass (.10), paint (.25), varnish (.10) and linoleum (.22).

The municipal tax rate, in mills, is from the *Inquiry into Cost of Living in Canada*, vol. II, p. 333.

*excludes a special school levy in 1902.

policies by financial institutions and a more conservative approach to risk-taking by businessmen. Hence, it is reasonable to infer that the higher level of building activity in the early years of the century was rooted in an economic reality of a large rise in observed rents. Within an investment decision framework, the modest increases in rental prices as reported by *The Inquiry into Cost of Living in Canada* seem too low, all factors considered, while the new index reported in Table 2 appears more consistent with other available evidence.

Conversely, the new index reported in this research note shows a lower rate of increase in the years 1905-13 than the existing rent measures. In this respect, the new index appears to fit less well the absolute level of property transfers, mortgages and mortgage discharges, which continued to rise after 1905. However, builders and householders held expectations about housing prices. Surely these expectations would have been influenced by the experience recorded in the years 1906 and 1907. Note that in Table 2 our index of six-room house rents reaches 184.7 in 1907. The level fell in the recession year of 1908 and showed continued weakness into 1909. The question is whether this rather sharp and severe decline would have broken buoyant housing expectations formed by the experience of 1900-07. If it did not, then the sustained high level of construction activity remains plausible and consistent with the new rent index. This hypothesis is supported by the pressures of continued population growth on the housing market in Toronto. These were tempered in time by the income effects of the cyclical contraction of 1913, and then by the household disruptions caused by the war.

Given the importance of housing to the welfare of urban families, and our lack of systematic knowledge about prevailing price trends in this market, certainly

prior to World War I, the basic question is whether the method applied here to Toronto is applicable to other urban areas in Canada. Based on the author's experience, the answer depends on a number of conditions. First, classified advertisements in newspapers must serve as an important means of bringing buyer and seller together. Secondly, there should be no significant variation from year to year in the characteristics of advertised units, for example, in the number of rooms and payment of utilities. Finally, of course, the asking rent must commonly be included in the advertisement.

These conditions were satisfied in the Toronto case. Regrettably in Montreal they were not. There the rental market as reflected in the classified section was dominated by furnished and unfurnished flats, but it was in most instances impossible to determine what was and what was not included in the rent. This was a disappointment since the initial intention was to construct a composite index for the two cities as well as drawing inter-city comparisons. However, the situation in Montreal notwithstanding, it would be surprising if the conditions necessary for the application of this method were absent in other Canadian cities in this period.