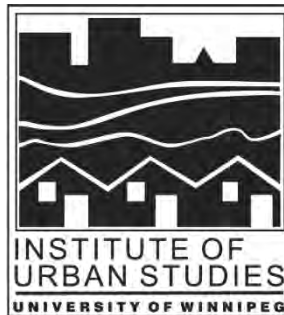
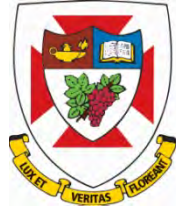


Fiscal Imbalance and Winnipeg: A Century of Response

by Derek Hum, Frank Strain, & Michele Strain
1985

The Institute of Urban Studies





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ABSTRACT

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A growing gap between municipal expenditures and municipal revenues is often characterized as fiscal imbalance or fiscal distress. It is well known that municipal governments in Canada have no constitutional standing and that their revenue sources are meagre, slow-growing and inadequate. At the same time, municipalities are obliged to provide their citizens more and more services, thereby resulting in continuous expenditure growth. This paper examines the extent of fiscal imbalance throughout the past century for the City of Winnipeg. It attempts not only to portray the reaction of a specific city to fiscal imbalance pressures, but also to relate the response to the economic orthodoxy and conditions of its period.

We begin by describing the main hypothesis concerning the cause of urban fiscal crisis and presenting an accounting framework for examining indicators of fiscal distress. We then survey the fiscal experience of Winnipeg from incorporation in 1874 to 1984 by dividing the century into five periods. We conclude that the reactions of municipal government to fiscal imbalance is conditioned just as much by the reigning economic orthodoxy of what constitutes a fiscally responsible action as it does by external factors such as revenue flows and public demand for services.

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FISCAL IMBALANCE AND WINNIPEG: A CENTURY OF RESPONSE

INTRODUCTION

Fewer topics in Canada have received more attention recently than the government deficit. A growing imbalance between municipal expenditures and municipal revenues is often characterized as fiscal imbalance or fiscal distress, such phrasing implying that the phenomenon is both recent and universal. Some observers go so far as to label the situation as one of "fiscal crisis".

Much discussion of public finances concerns government at the national or provincial level rather than the municipal. It is well known that municipal governments have no constitutional standing and that their revenue sources are often meagre, slow-growing and inadequate. At the same time, municipalities are obliged to provide their citizens more and more services, thereby resulting in continuous expenditure growth.

There is a growing empirical literature on the dimensions of urban fiscal distress. Much of this literature is American and British. There are few studies of Canadian municipalities, either single city case studies or groups of cities. Furthermore, analyses of urban fiscal crisis, except for dramatic cases such as New York City, are often too general in tone and cover too limited a time period to provide historical perspective. This paper examines the extent of fiscal imbalance at different points in the history of the City of Winnipeg. The case study approach is rare in the economic literature on urban fiscal

crisis. However it has the advantage of allowing us to portray the reaction over time of a specific city to fiscal imbalance pressures, and to relate that local government response to the economic orthodoxy and conditions of its period. The drawback of the case study method is that the experience of a particular city cannot be generalized. On the other hand, supplementary information is usually readily available for purposes of generalization, and the problems become less acute as more case studies are conducted.

The next section presents an overview of urban fiscal crisis; it describes the main hypotheses concerning its cause, and presents an accounting framework for examining indicators of fiscal distress and local government response. The following section then focuses on economic and political developments shaping Winnipeg's fiscal performance throughout its history. We survey the fiscal history of the City of Winnipeg from incorporation in 1874 to 1984 by dividing the century into five periods. Our discussion is analytical rather than historical; it attempts to identify various factors determining the fiscal health of Winnipeg.[1] A final section offers some concluding comments.

URBAN FISCAL CRISIS: AN OVERVIEW

A government deficit occurs whenever total government revenues (R) fall short of local expenditures (E). A continuous government deficit may be characterized as urban fiscal imbalance when the gap between revenues and expenditures ($R - E$) is viewed as permanent rather than temporary, structural rather than cyclical, and widening rather than diminishing. Typically, local governments are constrained in their attempt to develop new tax fields or to

raise tax rates on existing sources because of constitutional, political, or economic reasons. Local government expenditures, however, are thought to grow quickly and inexorably. Without an increasing injection of "outside funds" from a higher order of government (intergovernmental transfers), the fiscal position of urban governments inevitably implies a drastic curtailment of local services, or a dramatic increase in local taxation, or some combination of both.

In Canada, expenditures by provincial governments have expanded most rapidly, although there is significant provincial variation in the level of per capita expenditures.[2] Local government expenditures actually account for most of the final spending by the public sector since much of the spending of higher orders of government are intergovernmental fiscal transfers. By far the largest proportion of local expenditures is for education. Winnipeg ranked lowest among major Canadian cities in 1977 in terms of per capital local expenditures.

There is also wide variation among Canadian cities in the extent to which local expenditures are financed by locally collected revenues. Roughly 55% of local expenditures are financed by local revenues, with the property tax being the single most significant revenue source. In Winnipeg, the property tax accounts for about 60 percent of all local revenues. In sum, local revenues finance only about half the amount of local expenditures. No surprise then that intergovernmental transfers have been steadily increasing in importance for local governments.[3]

A number of theories have been put forth explaining fiscal crisis at the local government level. Among the first was a suggestion in 1967 by Baumol that differential productivity growth between the public and the private sectors of

the economy must eventually lead to fiscal imbalance.[4] This model (dubbed Baumol's disease) argued that productivity in the public service sector (i.e., fire protection, law enforcement, hospitals, education, etc.) would typically lag behind that of the private sector (i.e., manufacturing, telecommunications, etc.) but that wages in both sectors would tend to be roughly proportional, if not equal, to each other due to competition in the labour market. Labour was assumed to be mobile between the public and private sectors. Consequently, a rising proportion of real resources would have to be absorbed by the public sector over time in order to maintain a constant level of public services. If the level of public services were indeed maintained, this would lead to ever higher tax burdens on the private sector if local tax bases grew more slowly than the demand for public services. A "crisis" would eventually result from the fiscal imbalance if there exists a limit to the amount by which taxes can be raised without inducing massive distortions to the economy or inciting "tax revolt".

The Baumol hypothesis assumes that public service activities are labour-intensive, and doubtlessly some, like education, do require large amounts of high-wage labour inputs. De Alessi has suggested - with reference to the United States - that publicservice activities may actually be capital-intensive in production so that capital-financing explanations (i.e., municipal borrowing patterns) rather than public sector wages are key to understanding the urban fiscal crisis.[5] Bird and Slack note that much of municipal capital expenditures in Canada are financed entirely by provincial governments through special capital funds while current operating costs still rely predominantly on

local taxes.[6] While the evidence relating to urban expenditure growth and labour-intensity of public services is generally mixed, the possibility of differential productivity between the private and public sectors cannot be dismissed for Canada.

In this vein, Hum and Phillips [7] employed a variant of the differential productivity model to investigate growth and urban development patterns of staple-producing regions. Their concern was a distinction between the agricultural (staple) and non-agricultural (manufacturing) sectors rather than the public and private sectors. Western agriculture appeared to have had a generally higher level of labour productivity increase than other sectors, and the model was used to explain a number of elements of Winnipeg's evolution. Specifically, the Hum-Phillips model addressed the issue of a city dependent upon the servicing requirements of a staples region; that is, a region dependent for its growth on the export of natural resources. Hum and Phillips investigated the consequences of urban development and growth in the "maturing staple phase" --- when the staple has ceased to be the leading growth mechanism. While the Hum-Phillips analysis was fundamentally theoretical, there is little doubt that Prairie cities like Winnipeg were firmly in mind. More recently, Hum [8] explicitly focused on Winnipeg's specific circumstances. Some of the implications can be summarized as follows: For regions such as Manitoba where agriculture is the leading staple, where productivity increases are higher in agriculture than in other sectors, and where there is labour mobility, (i) the population will become increasingly urbanized over time, (ii) the overall rate of growth of the region (Manitoba) will decline as will urban growth (Winnipeg)

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and urban centres (Winnipeg) may face rising unemployment, falling relative wages and out-migration. In short, slower growth can be expected for Winnipeg in future compared to the past.

Economists often employ an "elasticity" measure to indicate the strength of response to a particular change. In the present context, expenditure elasticity refers to the rate of increase of expenditures that occurs with changes in the economy as measured by, say, Gross National Product (GNP). Similarly, revenue elasticity is the rate of change of local revenues with respect to growth in the tax base. Estimates of revenue elasticity to changes in GNP for the United States report a revenue elasticity for the property tax to be less than unity, indicating that revenue from the property tax increases more slowly than does income. In comparison, the revenue elasticity estimates for either the personal or corporate income tax were all in excess of unity.[9] In short, the property tax yields the least increase in revenue for government relative to other taxes when GNP rises.

The degree to which citizens demand local services invariably depends upon the service in question and community views. However, it is generally agreed that the demand for most local government services is either inelastic or grow more quickly than income. Consequently, fiscal imbalance results from a combination of low revenue elasticity and high expenditure elasticity. This arises simply because the lower the income elasticity of a given revenue source, the smaller the automatic increase in revenues that will result, and the greater the inadequacy of the revenue to meet existing and new expenditure demands. The particular assignment of local revenue sources (e.g., property tax) and local

functional responsibilities (e.g., education) to Canadian cities would therefore predict an evolutionary pattern of fiscal imbalance.

We investigate fiscal imbalance for Winnipeg by focusing on the municipal budget constraint faced by the City, and examining data series constructed from the Annual Budget Estimates of the City of Winnipeg since incorporation. A consistent accounting framework is necessary when comparing government financial positions over lengthy periods, as accounting practices and economic views as to the appropriate fiscal stance can change dramatically over time. The municipal budget constraint is a simple accounting identity which ignores the micro foundation causes of the fiscal imbalance. The municipal budget constraint may be expressed formally as:

$$E = R + G + D = t \cdot B + G + D \quad (1)$$

where E is local expenditures, R is total local revenues, G is intergovernmental transfers, and D is the budgetary surplus or deficit. Further, local revenues, R, is defined as the product of local tax rates, t, and local tax bases, B.

If expenditures exhibit a tendency to grow faster than revenue bases, as both Baumol's disease and the income elasticities discussed above suggest, there will be fiscal imbalance; municipalities will find it difficult to finance services demanded and will adopt measures to counter this tendency.

A municipal government may choose one of many responses to fiscal crisis. One response of a municipal government might be to do nothing. This will lead to increased borrowing and a growing debt and is not a long-run solution. A second, frequently employed response is to abandon the balanced growth path and rely on expenditure restraint to deal with fiscal crisis. This is a feasible

response but not very attractive. In the long-run it could result in a world of the kind decried by Galbraith, with a private sector expanding at the expense of municipal services, even though such services might contribute greatly to general welfare. A third response is to raise tax revenues by increasing tax rates. Municipal governments in Winnipeg have used this tactic often. The property tax is the most important municipal revenue source and typically the real property tax rate (usually referred to as the mill rate) is set to achieve a balanced budget. Rewriting the municipal budget constraint, we have:

$$t = (1/B) [E-T] \quad (2)$$

where t is the property tax rate (the mill rate is $t*1000$), B is the property tax base, E is expenditure, and T is all other revenues and transfers. A rising t is an obvious consequence of the tendency to fiscal imbalance.[10] However, this response is not without limit. There may be legal restrictions; citizens may revolt if tax rates become too high; or, tax rate increases may be limited by competition among municipalities as each attempts to attract new industry. In the post-staple-led growth phase, this will force the urban centre of a stagnating staple region to rely on nontax responses more heavily than other cities.[11] A municipal government might, under these circumstances, attempt to transfer some of its responsibilities to other orders of government. This response has also been employed by the City of Winnipeg. The theory of balanced growth suggests that low productivity sectors will become relatively costlier over time. Thus, other things equal, municipal governments would want to transfer responsibility for low productivity expenditure areas elsewhere whenever possible. A fifth alternative is to expand (widen and/or deepen) tax

bases. The introduction of the business tax at the turn of the century is an example of this response.

Finally, the municipal government might request financial assistance from other orders of government. Intergovernmental transfers have become increasingly important as a response to fiscal crisis in Winnipeg. The accounting identity (1) allows us to conveniently list Winnipeg's various responses to imbalance pressures. For expository purposes we may categorize the major "pure" responses in terms of our accounting framework as follows.

(i) **Balanced Budget Response:** Government ensures that expenditures always equal revenue ($E = R$) so that there is never a budgetary deficit ($D = 0$);

(ii) **Unbalanced Budget Response:** Government abandons the iron-rule of balanced budgets and allows whatever deficit or surplus to occur as a result of its expenditure plans and revenue efforts (D not equal to 0);

(iii) **Deficits Financed by Transfers:** Government cannot raise sufficient local revenues to finance its expenditures. Fiscal imbalance is masked by additional receipts from intergovernmental transfers (D not equal to 0 and G grows);

(iv) **Increasing local tax revenues:** Neither transfers nor property tax bases grow sufficiently fast to keep pace with rising local expenditures. The tax rate on local bases must actually be raised, (t must rise); and new tax bases sought (B must expand).

WINNIPEG AND BAUMOL'S DISEASE

Incorporation and City-Building

The Manitoba government passed an Act to Incorporate the City of Winnipeg in November 1873. Because the British North America Act of 1867 gave only the national and provincial governments constitutional sovereignty, the Act to incorporate makes the City truly a child of the Province. While the precise details of the Act need not concern us, two features are important. First, the Act specified certain municipal revenue sources: real and personal property taxes and a variety of licencing charges. Second, the Act specified the powers of the municipal corporation to include the passage of by-laws concerning nuisances, safety, sanitation, fire, police, and markets. The Act also enabled City Council to "pass By-laws for contracting debts by borrowing money or otherwise and for payments of such debts on the ratable property of the town for any purpose within the jurisdiction of the Council." [12] Although provincial legislation governing the affairs of the City would change regularly thereafter, the two features of the original Act stressed here remained important in subsequent legislation.

Still, the Act itself does not give a broad enough picture of municipal responsibilities at incorporation. The British North America Act of assigned responsibility for what we now regard as the welfare state functions (education, health and medical care, and income support, etc.) to the provinces. But the provinces, following in the English tradition, relied on local organizations

(the family, the church, the school board, etc.) to deliver services. Municipalities were expected to play a role only if these organizations were unable to perform the allotted tasks. Consequently, incorporation meant that "many activities essential to the establishment of a community which had previously been ill done or neglected were attempted or projected". [13] One of the first of these projects was a city hall. Other undertakings included the construction of a waterworks system, sewers, streets, sidewalks, and the purchase of fire fighting equipment. [14]

Growth was initially slow. By 1880 the population had just reached six thousand and the property tax base (per capita) had hardly changed at all. Nonetheless, City building required significant (and somewhat unusual) fiscal action during this period. For example, the Winnipeg City Council, in an effort to assure that the Canadian Pacific Railway passed through Winnipeg, paid the Railway \$200,000 and exempted "the property now owned or hereafter to be owned by the said railway company for railway purposes within the City of Winnipeg from taxation forever". [15] The investment in the CPR paid off --- especially for the large landholders --- in the boom of the years that followed.

The population of Winnipeg rose from 6,000 in 1880 to 13,000 in 1882. Local property assessments in 1880 amounted to 4 million. In 1882, just two years later, the assessed value of property in the City was over 30 million. [16] Fortunes were made and Winnipeg emerged as the entrepot of a developing agricultural economy.

The dramatic growth in these years led an optimistic City Council to embark on a number of new and ambitious projects. The City borrowed \$1.9 million to

finance capital investments such as a new city hall, a new sewer system, a police station, a fire hall, street and bridge improvements, and a host of other items. [17] However, when the boom collapsed in 1883, the City faced its first fiscal crisis.

The source of this first crisis was not "Baumol's disease". Rather, its origins lay in the exuberant city building stimulated by the real estate boom. As a result, Artibise notes that the solution to this crisis was the election of a slate of candidates "with proven business ability" who would "reduce expenditure to the lowest point consistent with progress and efficiency" --- in short, expenditure restraint.[18]

Data distilled from the annual estimates of the City beginning in 1886/87 clearly indicate the extent of the problem.[19] Debt charges in that year accounted for over fifty percent of municipal expenditures, but slowly declined thereafter as City Council gained control over capital expenditures. Debt, however, was not the only problem plaguing the City between 1887 and 1896. Despite continued growth in both population and local assessments the property tax base actually declined (see Figure 1), also leading to expenditure restraint.

After debt charges, general government, the protection of persons and property, and education were the most important expenditure areas.[20] As a consequence, these were most affected by restraint. On the other hand, social, recreational, and health-related expenditures were almost nonexistent and were therefore not affected by the fiscal crisis.

The relatively slow development of Winnipeg from 1886 onward was, in part,

a consequence of world-wide depression, and as the world economy rebounded from this period of stagnation Winnipeg blossomed. The period from 1896 to 1914 would be one of dramatic growth. Even after 1914 the Wheat Economy would continue to spur the growth of the City. But in this period, growth would be much slower.

Staple-related growth: 1896-1929

The rapid growth of the Wheat Economy between 1896 and 1914 solidified the position of Winnipeg as the entrepot of an entire staple producing region.

Bellan describes the expansion as follows:

[It] produced a huge increase in the demand for Winnipeg's metropolitan services. The growing stream of new settlers and merchandise was funnelled out to the West through Winnipeg, and, flowing in the opposite direction, a swelling tide of grain and cattle converged from the plains to the city, for onward shipment over the trunk railway lines eastward. The rapid increase in both the volume of the westward stream of people and goods, and of the eastward stream of farm produce, required a corresponding expansion of the Winnipeg facilities and institutions which directed and handled the inward and outward flows of the hinterland. The city prospered and grew. [21]

The dramatic growth of Winnipeg in the early years of this period is captured in the population data. The population grew from thirty-eight thousand in 1895 to over one hundred and fifteen thousand in 1907. Growth of the property tax base was more striking still, almost tripling between 1896 and 1914 (see Figure 1).

The growth of the real property tax base, together with introduction of a business tax, greatly strengthened the fiscal position of Winnipeg. The City Council was now dominated by a commercial elite, [22] and took advantage of

this favorable situation. It set up a hydro-electric plant and water power facilities and made power available at cheap rates. Mill rates were also reduced and this benefitted the property-owning commercial elite. By 1912 the City owned, controlled and operated public utilities providing light, heat, power and water supply.

The domination of City Council by the commercial elite also determined the orientation of city expenditures. Spending was concentrated on areas conducive to accumulation and profits. There was little concern for the social welfare of the community as a whole.[23] City government did little to address serious health and housing problems. Indeed, the development of an active health department was undertaken only in the wake of a severe typhoid epidemic.[24] Only education received substantial support; with approximately 25 percent of city revenue going to the public school board in 1915.

With the outbreak of war in 1914 Winnipeg's fortunes took a turn for the worse. Between 1914 and 1929 the City suffered several major setbacks. First, Vancouver, supported by the Panama Canal, emerged as a major competitor in the grain and merchandise transport trade. Second, other prairie cities had developed and undermined Winnipeg's position as a "gateway" city.[25] Finally, the growth of the Wheat Economy slowed. Bellan describes Winnipeg's malaise at the end of the twenties:

While Winnipeg prospered during the latter years of the 1920s, the pace of economic activity failed to match that recorded in other major Canadian cities. While the index of employment rose by 37% in the three prairie provinces between 1925 and 1929, the increase in Winnipeg was only 27%. Bank clearing, although greater than during the early 1920s, had increased less than elsewhere, while construction activity in Winnipeg, having regard to the city's size, was slower during the entire decade than in practically all

comparable cities in the country.[26]

The slower growth of Winnipeg is again evident from population data. After the dramatic threefold increase between 1896 and 1907, population growth waned. Population barely doubled between 1907 and 1929. The per capita real property tax base actually declined from 1915 onward. (see Figure 1).

The City responded to the declining tax base by, first, raising the mill rate (through 1921) (see Figure 5) and then, by eliminating expenditure growth. Moreover, the slight amount of capital expenditure that took place involved primarily upgrading of work originally completed in the pre-war boom. [27] In sum, the fiscal response was a combination of restraining expenditures and increasing tax rates.

The composition of municipal spending changed little over this period. However, two developments are worthy of mention. Social services became an area of municipal concern during this period and expenditures in this area grew as unemployed men converged on Winnipeg. Also, expenditure on the protection of persons and property rose dramatically in 1919 as a response to the General Strike. [28]

Although expenditures on social services grew in this period, it did not grow as fast as demand. In 1920 federal and provincial governments became involved in the finance of unemployment relief (each contributing one-third of the cost).[29] In 1926 the provincial government began assuming part of the cost of hospitalization of indigents.[30] The Old Age Security Act of 1927 reduced municipal expenditures on the elderly.[31] And, in 1930, the province assumed full responsibility for the Mother's Allowance.[32] For its part,

Winnipeg attempted to control social expenditures by tightening eligibility requirements. In 1925 relief was limited to married men with at least two dependents. In 1926 a residency requirement (one year) was also added. Expenditure restraint also affected public works as there were no major new projects in this period. The province did assume some responsibility for "main highways" in the City but this had a negligible impact. [33]

Deterioration of the fiscal health of the City after the dramatic growth at the turn of the century left Winnipeg ill-prepared for the depression that followed. The City had clearly entered the post-staple-led growth period. Demands for municipal services were rising at an increasing rate and, for the first time, "Baumol's disease" begins to threaten a weak patient.

Depression and the war

World-wide depression was exacerbated by the collapse of farm prices and a series of severe droughts. Between 1930 and 1936 population actually decreased. New building virtually ceased and the stock of existing property was continually revalued downward. The net result was a continuation of the decline in the per capita real property tax base which began in 1915 (see Figure 1).

The Depression also resulted in massive unemployment and a dramatic increase in demand for social services. The City was now experiencing its most serious fiscal crisis. Reflecting on the Depression experience, the Royal Commission on the Municipal Finances and Administration of the City of Winnipeg (1939) notes:

While the financial health of the City is considerably better than many persons have believed it to be, it must be remembered that it

has been brought about only as a result of burdens cast upon its citizens, with great economy in civic administration involving substantial reductions in important civic services, coupled with great ability in the management of its finances. While the fact that the City has come through the trying years of the depression in this commendable manner warrants a considerable pride and confidence in the City on the part of its citizens, the Commission points out that the City has not yet been able to make adequate provision for the redemption of its large floating debt caused by heavy unemployment relief costs burden which the City has had to bear during his period.[34]

In other words, Winnipeg employed almost all of the available means for coping with fiscal crisis. It ran a deficit in the early years of the depression (see Figure 3); it attempted to limit expenditures (see Figure 2); it raised the mill rate (although only slightly) (see Figure 5); it accepted transfers of responsibility for the Mother's Allowance (to the province) and for unemployed employables (to the federal government).[35] And it welcomed intergovernmental transfers to support relief efforts.

Despite all this, Winnipeg was forced to take further unusual fiscal action. Even with federal and provincial support, Winnipeg was unable to finance relief expenditures from current revenue, and the necessary funds were obtained by selling bonds (the total value of direct capitalized unemployment relief was \$9,346,449) to the trustees of the City's Sinking Fund. This additional debt was not recorded as a current account deficit and this should be kept in mind when examining the deficits depicted in Figure 3 (actual deficits are larger).

The economic situation in Winnipeg changed dramatically with the outbreak of war in 1939. Winnipeg became a major centre for wartime manufacturing; unemployment disappeared; incomes rose; and population began to grow again.

The decline in the per capita property tax base which began in 1915 finally bottomed out. (see Figure 1) Furthermore, repayment of arrears accumulated during the thirties brought in additional revenues. Indeed, the Manitoba Provincial Municipal Committee Report notes: "such repayments have caused municipal finances to appear extremely favourable, as taxes collected exceeded taxes imposed during the war and during the immediate post war years, providing municipalities with ample resources for current operations, for the liquidation of deficits, and for the accumulation of reserves."

By 1950 the City was ready to enter a new era. Most of the debt acquired during the depression had been repaid. The property tax base was beginning to rise. And Keynesian economic policies were being adopted nationally to stabilize economic activity in Canada. But Baumol's disease in its pure form was also about to strike. While the fifties and sixties would be years of prosperity for citizens in general, they would also be years of continuing adjustment for City officials.

Prosperity and adjustment: 1950-1973

Between 1950 and 1970 the property tax base of the City more than doubled (see Figure 1). Coupled with slow population growth (about 6%) this resulted in dramatic growth in the per capita base. Despite this, the fifties and sixties were also a time of threatening fiscal crisis.

Winnipeg had to face three major challenges in the period after 1950. With the maturation of the regional staple economy, Winnipeg was destined for much

slower growth as the post-staple-led growth model predicted.[36] In the late sixties Winnipeg was actually designated a slow growth area by the federal government and local firms became eligible for grants from the Department of Regional Economic Expansion.[37]

The second challenge arose from expanding ownership of motor vehicles and the spread of population to the suburbs. These developments brought a need for extending street networks, and more demand for urban services by nontaxpayers.

The final challenge was how to counter "Baumol's disease". Demand for municipal services grew as fast as (if not faster than) the demand for other goods. But since many municipal services were inherently low productivity areas the proportion of society's resources being used by the municipal sector grew faster still. Baumol's disease was not unique to Winnipeg, however. The Economic Council of Canada noted in 1967: "many municipalities [are now] caught in a squeeze, with revenues from their own sources - still largely the property tax - lagging behind expenditure requirements".[38]

Winnipeg responded to fiscal crisis in a variety of ways. Tax increases were frequent. The mill rate in 1950 was 41.5; by 1973 the rate had risen to 83.5 (more than double).[39] Transfers of legislative responsibility were also important in this period. The introduction of the federal Hospital Insurance Act decreased municipal responsibility for health and indirectly led to more provincial activity in this sector. For example, the province established the Manitoba Hospital Commission to guide the overall direction of hospitals in Manitoba. Winnipeg had to finance only 20% of the costs of new hospital construction and was responsible for operating deficits only in excess of

amounts approved by the Hospital Commission.

The federal Unemployment Assistance Act also had an impact on Winnipeg. The legislation reduced costs incurred directly by Winnipeg and also stimulated the province to assume a larger role in the social service field. The Social Allowances Act of Manitoba (1959) relieved municipalities of responsibility for long-term social assistance cases. Consequently, the Act sharply reduced municipal expenditures on social services by leaving municipalities with responsibility only for the following: the family of a husband in jail for less than one year; a family deserted by the breadwinner for less than one year; unmarried mothers with one child; and the employable needy who had exhausted Unemployment Insurance benefits or who were not insured. [40] Moreover, municipalities were only partially responsible for even these cases. The province paid 80 percent of the cost in excess of one mill of equalized assessment or 40 percent of total costs incurred, whichever was greater. With the passage of the Canada Assistance Plan Act in 1966 the federal role in financing became even more important.[41] "Outdoor relief" was no longer a purely municipal fiscal responsibility.

Many conditional and unconditional transfers were also introduced in this period, and by 1963 there were no less than 39 different kinds of provincial grants to municipalities. In 1948 the province began cost-sharing of expenditures on approved road and bridge construction on a 50/50 basis. In 1961 the province assumed a larger share of the costs (60/40).

Education expenditures were also increasingly financed via transfers during this period. Indeed, provincial government grants financed approximately 22

percent of education expenditure in 1950.[42] By 1962 this had risen to almost 41 percent.[43] Conditional grants were also introduced in areas such as sport, recreation and fitness, and housing.

The province also made unconditional transfers to the City as well, beginning with the Unconditional Grant Act in 1957. In 1950 intergovernmental transfers accounted for just over one percent of Winnipeg's total revenue. By 1970 this figure had risen to over 7% (and would rise further still in the next decade).

Winnipeg's financial position was also affected by two other dramatic developments in response to urban sprawl: the creation of the Metropolitan Corporation of Greater Winnipeg in 1960 and Unicity in 1972. Prior to 1960 there were 16 different municipal governments in the greater Winnipeg area. The Manitoba government created the Metropolitan Corporation of Greater Winnipeg in 1960 and integrated property tax provisions.

The new Metro Council was charged with the preparation of a development plan for the area as a whole. In addition certain functions closely related to the plan became a direct responsibility of the corporation, namely, zoning, major streets and bridges, traffic control, transit, sewer and water, and the establishment of major parks and garbage disposal. The Council was also charged to make a uniform assessment of all property for the purposes of local taxation....[44]

The 16 municipalities were consolidated to 13 (including the City of Winnipeg), with each municipality retaining jurisdiction over purely local matters not described within the mandate of the Metro Corporation. [45]

The Manitoba government went a step further in 1972 and legislated amalgamation of municipal governments in the greater Winnipeg area. Unicity officially came into effect on July 1, 1972, and Winnipeg (newer and larger)

entered a new era.

Stagflation and continuing fiscal crisis: 1972-1985

Unicity was born into a relatively inhospitable climate. While Baumol's disease threatened to become a chronic irritant, economic conditions were much worse. Rising unemployment and rapid inflation, coupled with a general perception that Keynesian demand management policies were no longer working, led to cries for reduced government activity in economic affairs. Citizens, struggling to maintain real incomes, opposed tax increases. At the same time governments faced rising costs due to wage and price inflation. The result was a struggle with Baumol's disease involving almost every imaginable remedy. The fiscal crisis appeared to have finally arrived, and with a vengeance.

From 1973 onward the City government fought to keep tax rates under control. The battle was exacerbated by inflation which, in the absence of annual reassessments, resulted in real expenditures diverging from real revenues. With inflation, nominal expenditures must rise to keep real expenditures constant. Provided the property tax base is reassessed annually the base will also rise at the same rate and increases in the mill rate will be unnecessary. However, if the property tax base is not reassessed annually, the nominal mill rate will have to rise to maintain a balanced budget. In this case the effective rate (the proportion of the value of property paid in taxes) still remains constant. Thus inflation placed extra strain on an already flawed property tax system. This struggle was described in the City estimates for

1973:

There is no relief in sight to the City from the pressures of inflation on wage costs and on the costs of other components of civic services. Coupled with this is the effect of increasing urbanization and the requirement to service new areas of development with sewer and water, recreational facilities, roads, storm drainage, parks, public transportation, and other necessities and amenities of urban existence, to say nothing of the need to improve the environment in older areas of the City.

The City is not in a financial position to deal in a constructive way with the challenges which face it. The evidence of the present budget is that to merely maintain existing levels of service requires a significant increase in the mill rate.[46]

The actual increase in the mill rate was five points (two of which were required to offset a declining real base). [47] The City continued to increase the nominal mill rate throughout this period. In 1972 the nominal mill rate was approximately 80. By 1984 it had risen to almost 210. However, as indicated, the nominal mill rate can be misleading. Our estimates suggest the effective rate rose from 63 in 1972 to 74 in 1976 and then declined to 66 in 1984 (see Figure 5).

City Council appeared to have avoided dramatic increases in the effective rate by three policy responses. Expenditure growth was sharply curtailed; new fiscal arrangements were secured with the Province; and several of its responsibilities were transferred to the Province.

The first strategem was pursued as early as 1973. Council noted in that year:

. . . this budget is not an expansionary one and basically contains only those increases which result from increased costs of labour and other commitments to maintain the same level of services.[48]

The Board of Commissioners made a similar statement when presenting their 1976 estimates to the Executive Policy Committee:

In reviewing the estimates, the Board took the position that it should endeavor to present a budget which did no more than maintain existing levels of services. In general we believe these estimates achieve these objectives.[49]

This policy of expenditure restraint continued through 1985. A variety of internal measures, including the adoption of a program-based budgeting approach, were also introduced to cut costs.

Winnipeg also attempted a revenue-sharing agreement with the Province, and was partly successful in 1973. The City wanted access to the lucrative personal and corporate income tax bases. The 1973 arrangement involved one significant change to the per capita unconditional grant introduced in 1957. These grants were to be adjusted (from 1973 onward) in proportion to the growth of personal and corporate income tax revenue. By tying the amount of the grant to growth of the income tax base, the Province was able to give the old grant a new interpretation: the grant was viewed by provincial officials as the City's share (per capita) of provincial personal and corporate income tax revenues. Winnipeg, however, did not share this interpretation and rightfully argued that the new arrangement was still basically a conditional grant. [50] Specifically, Winnipeg argued:

Although admittedly a step in the right direction such action with respect to unconditional grants did not constitute, in the City's opinion, a new overall fiscal arrangement which would alleviate the City's financial problems.[51]

Conditional grants were also introduced or increased by the province, particularly for the transit system, public health, road maintenance, Assiniboine Park, the Convention Centre and for combatting dutch elm disease.

In 1979 the Province informed Winnipeg that it would now make one

unconditional block grant in lieu of nine existing conditional grants. The conditional grants affected included: regional street maintenance grants, public health grants, the Convention Centre grant, grants made under the Assiniboine Park Management Agreement, and transit system grants. Provincial reasons behind the move to block funding are similar to those behind the federal move to block fund the EPF programs in 1977; namely, to remove red tape and to gain predictability and control over fiscal transfers.

The overall impact of changes in the fiscal arrangements is evident from the changing share of City revenue received from the provincial government. Provincial grants accounted for 6.97 percent of municipal revenue in 1972, but by 1984 they comprised 13 percent.

The growth of provincial grants is the most significant feature of this period and it is likely that such grants will grow in importance; the Core Area Initiative project alone underscores the importance of federal and provincial government grants in urban fiscal matters.

Less important in this period were transfers of responsibility. Only two occurred and total savings amounted to only about one million dollars. The Province assumed full responsibility for the Courts in Winnipeg in 1973 and full responsibility for the costs of operating the Public Safety Building in 1976.

CONCLUSION

This paper traced various responses of the City of Winnipeg to fiscal crisis. We noted the frequent use of tax increases, the transfers of

responsibilities, and the growing importance of government grants. We also noted that the City frequently relied on expenditure restraint. This last response resulted in what Baumol has called unbalanced growth and may have led to an underdeveloped municipal sector.

Expenditure restraint, we have seen, cannot be but a temporary response. Inevitably, demand for services must be met and restraint, at best, merely delays the task of raising new revenues. Intergovernmental transfers have come to play an increasingly important role but this tendency, while evident for Winnipeg, is also part of a national trend and may bring with it, in future, a lessening of relevance and importance for municipal governments in general. In this, Winnipeg's stance is not unlike many other municipalities in Canada. We have also seen that failure of the property tax base to grow was a critical cause of fiscal imbalance. In recognition of this problem, other Canadian cities have explored or introduced several reform measures. Winnipeg has not. For Winnipeg, this would seem to imply that newer (and fairer) assessment practices will have to be put in place quickly so that the base growth will be more in step with economic growth in general.[52] This might require policy thinking to depart radically from present views as well as fundamental changes in institutional arrangements and vested interests. However, this should not be the least surprising after our examination of a century's response to fiscal crisis. It is particularly instructive at this point to note the last half of that often quoted concluding paragraph of Keynes' famous General Theory:

... the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual

influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. Not, indeed, immediately, but after a certain interval; ... But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.[53]

The balanced budget was conventional wisdom before Keynesian ideas, and we have seen how expenditure restraint, rather than deficit financing, represented the orthodox response. The problems of unemployment relief and social welfare were considered purely municipal responsibilities until massive unemployment and a world depression rendered such "Elizabethan Poor Law" thinking obsolete; and we have seen how federal and provincial governments assumed expanded responsibilities only when the notion of social welfare as a legitimate function of modern industrial society gained acceptance. In sum, the reactions of municipal government to fiscal crisis is conditioned just as much by the reigning economic orthodoxy of what constitutes a "fiscally responsible" action and the appropriate scope of different orders of government in a federal state as it is by external factors such as revenue elasticities and public demand for services. Consequently, our examination of the history of Winnipeg's response to fiscal crisis is, equally, a record of changing economic ideas about public finance and the role of governments in Canada.

Notes

This paper is dedicated to Ruben Bellan, Professor of economics, St John's College, University of Manitoba, and a life long resident and chronicler of Winnipeg's economic fortunes. An earlier version of this paper was presented to the Canadian Urban Studies Conference, Winnipeg, 1985. We are indebted to A. Artibise, R. Bellan, J. Snidal and P. Thomas for helpful comments.

- 1 Our investigation required extensive statistical compilation of historical data not previously available. Further, because of variations in accounting practices, reporting methods and the like, we made numerous adjustments to the public accounts data to render them comparable in economic terms. Space permits us to portray only a few of the important trends in the data in Appendix A.
- 2 See Richard Bird and Enid Slack, Urban Public Finance in Canada (Toronto: Butterworth & Co. Ltd., 1983); Harry M. Kitchen, Local Government Finance in Canada (Toronto: Canadian Tax Foundation, 1984)
- 3 Bird and Slack, op. cit., 57; Kitchen, op. cit., Chapter 9.
- 4 W. J. Baumol, "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis", American Economic Review 1967, 57: 415-26. For a recent empirical study see William J. Baumol, Sue Anne Batey Blackman, and Edward N. Wolfe, "Unbalanced Growth Revisited: Asymptotic Stagnancy and New Evidence", American Economic Review 1985, 75: 806-817. The data was found consistent with the predictions of the 1967 Baumol model.
- 5 L. De Alessi, "Implications of Property Rights for Government Investment Choices", American Economic Review 1969, 59: 13-24.

- 6 Bird and Slack, op. cit.
- 7 Derek Hum and Paul Phillips, "Growth, Trade, and Urban Development of
Staple Regions", Urban History Review 1981, X:2, 13-23.
- 8 Derek Hum, "Winnipeg's Challenge: Adjustment to Post-Staple-Led Growth"
(Winnipeg: Institute of Urban Studies, Occasional Paper 11, 1985)
- 9 R. J. Bennett, The Geography of Public Finance (London: Methuen & Co.,
1980), 159.
- 10 As the Economic Council of Canada, Fourth Annual Review: The Canadian
Economy from the 1960s to the 1970s (Ottawa: Queens Printer, 1967) notes,
there are pros and cons to this budgeting practice:
- The necessity of facing annual decisions . . . to increase tax rates
obviously has decided advantages for budget restraint and the
municipal taxpayers' interests. At the same time it may create some
built-in discrimination against services performed at the municipal
level no matter how important.
- 11 The logic is relatively straightforward. Assume two cities are initially
identical in all respects but then growth rates diverge. The centre with
the slower growth rate will face a smaller per capita tax base at the end
of the period. But if balanced growth is maintained and per capita
expenditure increases by the same amount in each city, the slow-growth city
is clearly at a disadvantage. The slow-growth city is unable to raise its
tax rates above those in the high-growth city. It must therefore rely more
heavily on other responses to "Baumol's disease".
- 12 The Act to Incorporate the City of Winnipeg, 1873, section 88.
- 13 Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth (Montreal:
McGill-Queen's University Press, 1975) 19.
- 14 Ruben Bellan, Winnipeg First Century: An Economic History (Winnipeg:

Queenston House Publishing, 1978) p 11.

- 15 Alan Artibise, Winnipeg: A Social History op. cit., 73.
- 16 At least part of this rise is attributable to the addition of Fort Rouge in 1882. However, the greatest proportion was simply a result of the vastly-inflated land values that accompanied the boom. See Ruben Bellan, Winnipeg First Century op. cit., 30.
- 17 Alan Artibise, Winnipeg: A Social History op. cit., 45.
- 18 Ibid, 50.
- 19 Appendix B documents the data sources and the major adjustments. The data series themselves --- detailing expenditures by each functional area, and revenues by each source on an annual basis in dollar amounts, proportion of budget, and per capita basis --- are too voluminous to include but are available upon request. See also note 1, supra.
- 20 During the period 1887-1900 the annual budget estimates were organized on a standing committee basis. Our general government category corresponds to the finance committee plus expenditures on the pound and licencing minus debt payments and education. Protection of persons and property includes the expenditures of the police, fire, and market committees. Recreation expenditures equal expenditures on trees and the control of noxious weeds plus the Parks Board. Between 1887 and 1890 City education expenditures went to separate school boards. After 1890 and the passage of the Manitoba School Act, payments went to a public nondenominational school board. The Parks Board was established in 1893/94.
- 21 Ruben Bellan, Winnipeg First Century op. cit., 71.
- 22 For detailed treatment of the dominance of Winnipeg Council by the

commercial elite in this period, see Alan Artibise, Winnipeg: A Social History op. cit.

23 Artibise, *ibid.*, 147, also argues that the age/sex distribution of the population was important. He notes:

. . . it is not unrealistic to assume that a city of predominantly young men would look kindly on programs designed to create employment opportunities. Only when Winnipeg's population became older and more evenly balanced in terms of sex would programs that measured social as opposed to purely economic returns grow in popularity.

24 Alan Artibise, Winnipeg: A Social History op. cit., 223.

25 For a discussion of Winnipeg's transition from a "gateway" to a "central place", see T. J. Kuz, "Metropolitan Winnipeg: Inter Urban Relationships", in T. J. Kuz (ed.) Winnipeg 1874-1974: Progress and Prospects (Winnipeg: Manitoba Department of Industry and Commerce, 1974) pp. 7-19.

26 Ruben Bellan, Winnipeg First Century op. cit., 185.

27 *Ibid.*, 184.

28 Expenditures on protection of persons and property as a proportion of total expenditures rose from 17.7 percent in 1919 to 25 percent in 1920.

29 Ottawa discontinued payments in 1922, claiming that its finances were strained by the heavy obligations imposed by the War. See Ruben Bellan, "Relief in Winnipeg", paper presented at a conference on provincial social welfare policy in Calgary, 1985, p 3.

30 The provincial share in 1926 was only 5.1 percent. This share rose to 15 percent in the 1930s.

31 Ottawa assumed 75 percent of the costs of the pension. The province and municipality equally shared the remaining costs.

32 Manitoba first introduced the Mother's Allowance in 1916. Between 1916 and

1930 the cost of the Allowance was shared by the municipality and the province.

- 33 H. C. Goldenberg, Municipal Finances in Canada. A Study Prepared for the Royal Commission on Dominion Provincial Relations (Ottawa: Kings Printer, 1939)
- 34 Manitoba, Royal Commission on the Municipal Finances and Administration of the City of Winnipeg (Winnipeg: Kings Printer, 1939) p 532.
- 35 The transfer of responsibility for unemployed employables was first attempted in 1935. However, it would be 1941 before the federal government was legally able to implement an unemployment insurance program.
- 36 For a discussion see Hum and Phillips, op. cit., 1981, and Hum, op. cit., 1985.
- 37 Ruben Bellan, Winnipeg First Century op. cit., 240.
- 38 Economic Council of Canada, Fourth Annual Review op. cit., 215.
- 39 This refers to the nominal mill rate. The effective rate increase was smaller. The difference between the nominal and effective rates arises because the City did not reassess property values after 1957 (although there was an adjustment in 1962). Thus the nominal mill rate had to rise to capture the increase in the base (that is, to keep the effective rate constant). Figure 5 portrays our estimates of the effective rate.
- 40 This latter category of expenditure was eligible for federal cost-sharing (50/50) under the unemployment assistance program. See Manitoba, Royal Commission on Local Government and Finance (Winnipeg: Queens Printer, 1964) 23.
- 41 For further discussion of the history and financing of the Canada

Assistance Plan Act see Derek P.J. Hum, Federalism and the Poor: A Review of the Canada Assistance Plan (Toronto: Ontario Economic Council, 1983)

42 These provincial grants did not go to the City. Schools are run by autonomous Public School Boards. The City acts as a tax collection agency for the School Board. Thus these grants do not appear in our data but the school-related mill rate does

43 Royal Commission on Local Government and Finance, op. cit., 73.

44 T. R. Weir, "Winnipeg: A City in the Making" in T.J. Kuz (editor) Winnipeg 1874 - 1974: Progress and Prospects (Winnipeg: Manitoba Department of Industry and Commerce, 1974) pp 49-50.

45 Data considered for the period 1960-1972 in this paper are for Winnipeg City only, although the City's contribution to the new Metro Corporation is recorded. The Metro levy is recorded as an unclassified expenditure.

46 Budget Estimates, City of Winnipeg, 1973, p 4.

47 In the absence of reassessment data it is necessary to employ a relatively crude measure of the effective rate. See note 12 in Appendix B for an explanation of our procedures. Our measure gives only a general indication of what happened.

48 Budget Estimates, City of Winnipeg, 1973, p 1.

49 Budget Estimates, City of Winnipeg, 1976, p 3.

50 No end of controversy attends these views. The provincial interpretation can be distilled from the following manipulations. The provincial per capita grant was a fixed amount, $\$X$ per person; the grants to municipalities totalled $\$NX$ where N is the population. This is also equal to $N(j)X$ where $N(j)X$ is the grant to the j th municipality. If total

income tax revenue is TR then NX/TR is the share of income tax revenues for municipal purposes and $N(j)X/TR$ is the share of municipality j. When combined with the adjustment for growth, the share interpretation is plausible although, as the City argued, it can also be viewed as a semantic trick.

51 Budget Estimates, City of Winnipeg, 1973, p 2.

52 The terms of reference for the Review of the City of Winnipeg Act specifically excludes the question of property tax assessment from its mandate. Nevertheless, a report prepared for the Chief Commissioner (Study of Property Tax and Alternative Sources of Revenue, March 25, 1985) recommended that the City of Winnipeg urge the Manitoba government to enact recommendations of the Manitoba Assessment Review Committee. Additionally, it suggested a transfer of responsibility for health, education and welfare functions to the Manitoban government.

48 John M. Keynes, The General Theory of Employment, Interest, and Money (London: MacMillan and Co. Ltd., 1936). Note also this interesting passage from the recent report of the Royal Commission on the Economic Union and Development Prospects for Canada (Macdonald Commission): "Keynesian theory ... redefined the post war role of the state.... The point is of general application and significance. The future role of the state, the choice of particular instruments of intervention, and the relative importance of institutions within government will partially reflect the findings of some academic scribbler puzzling over a recalcitrant theorem." Vol I, Ch. 1, p 27. (Canada: Minister of Supply and Services, 1985).

Appendix A

Space permits only the following figures portraying the data trends to be included:

- Figure 1 Property Tax Base: City of Winnipeg 1874-1984
- Figure 2 Expenditure and Revenue: City of Winnipeg 1874-1974
- Figure 3 Surplus/Deficit: City of Winnipeg 1887-1984
- Figure 4 Actual and Estimated Property Tax Revenue
- Figure 5 Nominal and Effective Mill Rates

Figures are also available indicating expenditure by area as a proportion of total municipal expenditures for the following functional categories: General Government, Protection of Persons and Property, Education, Debt Charges, Public Works, Recreation and Community Services, Social Services, and Health. Additionally, figures are also available depicting different revenue sources as a proportion of total revenue. The different categories include: Property Tax, including Payments in lieu of Taxes, Business Tax, and Government Grants. Discussion in the text is based upon these data trends. All figures, plus the data series themselves, are available from the authors at cost.

FIG. 1- PROPERTY TAX BASE CITY OF WINNIPEG 1887-1984

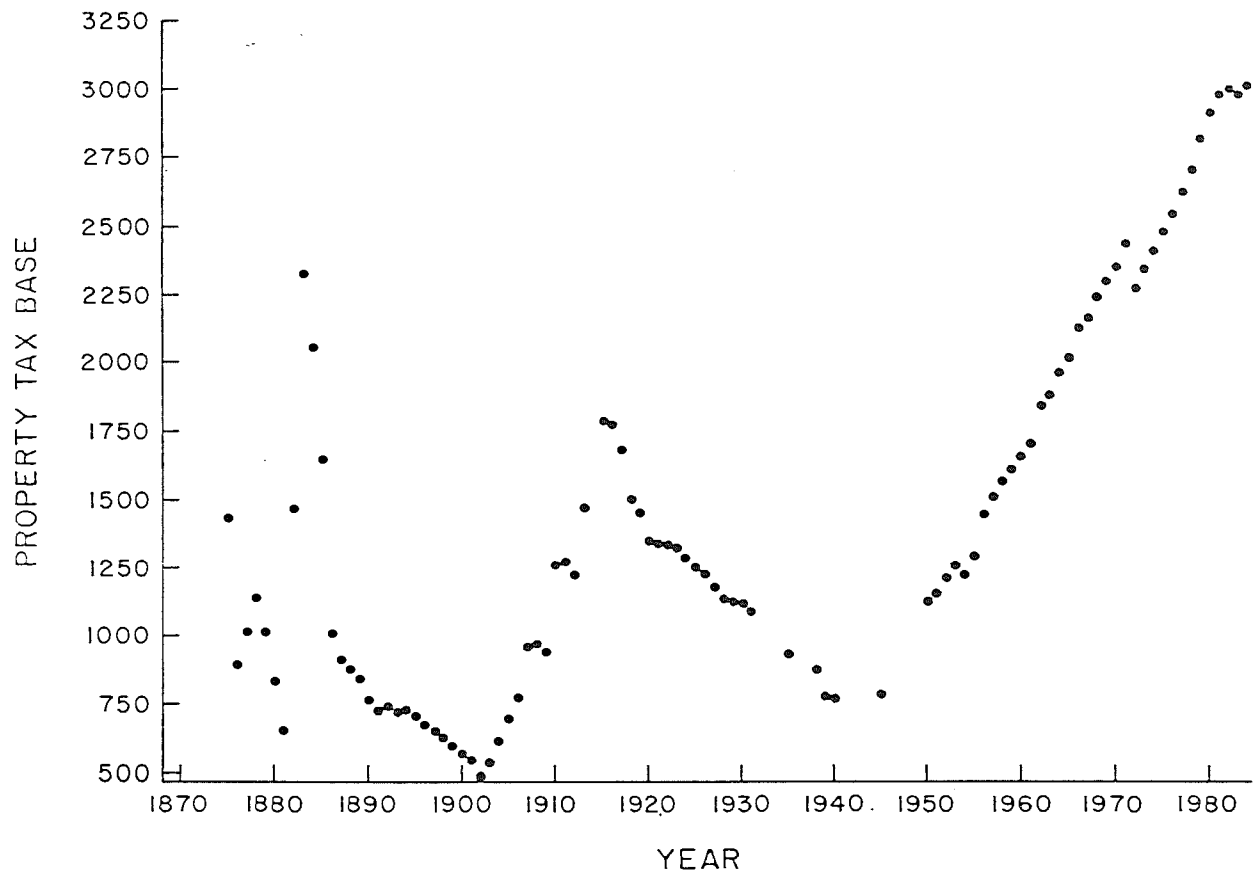


FIG.2- EXPENDITURE AND REVENUE CITY OF WINNIPEG 1887-1984

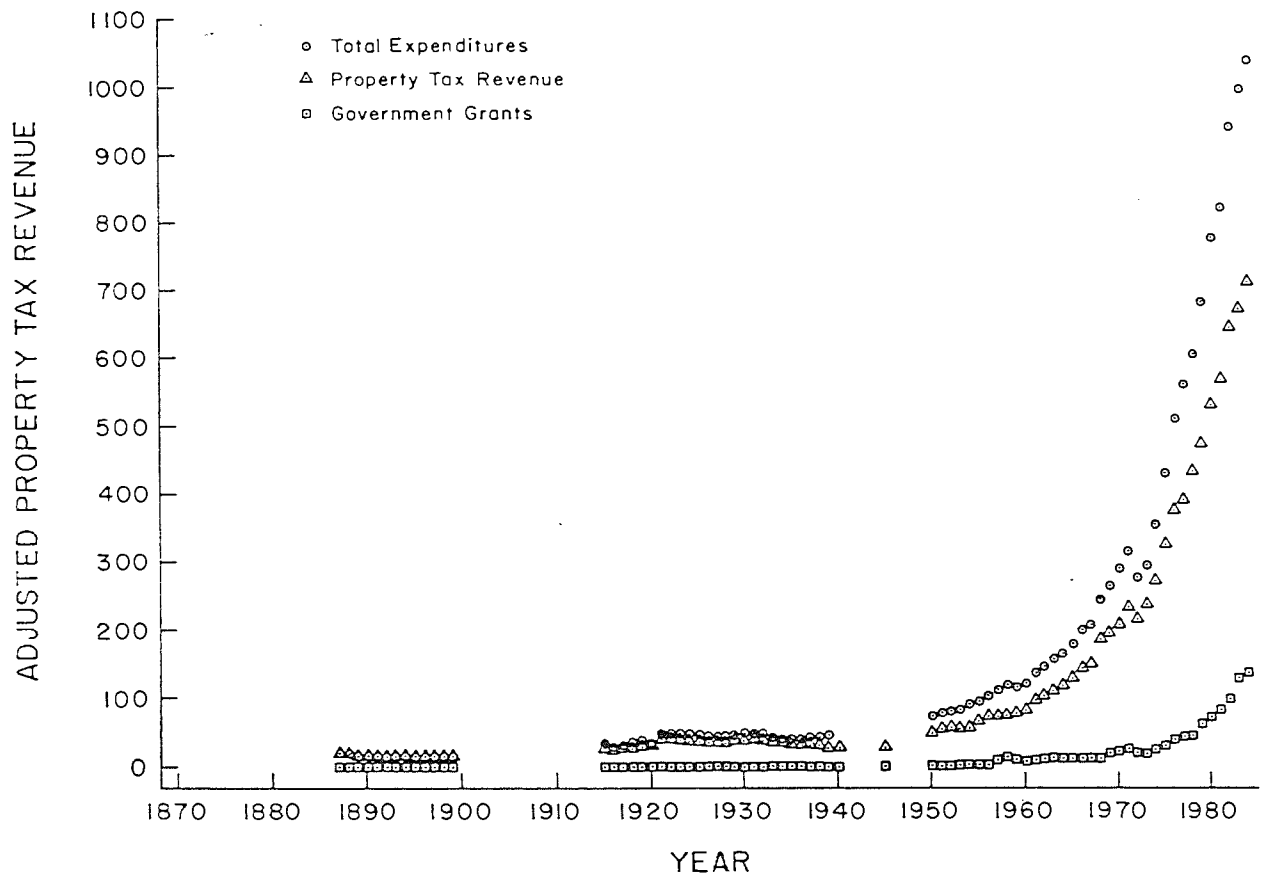


FIG. 3— SURPLUS / DEFICIT CITY OF WINNIPEG 1887-1984

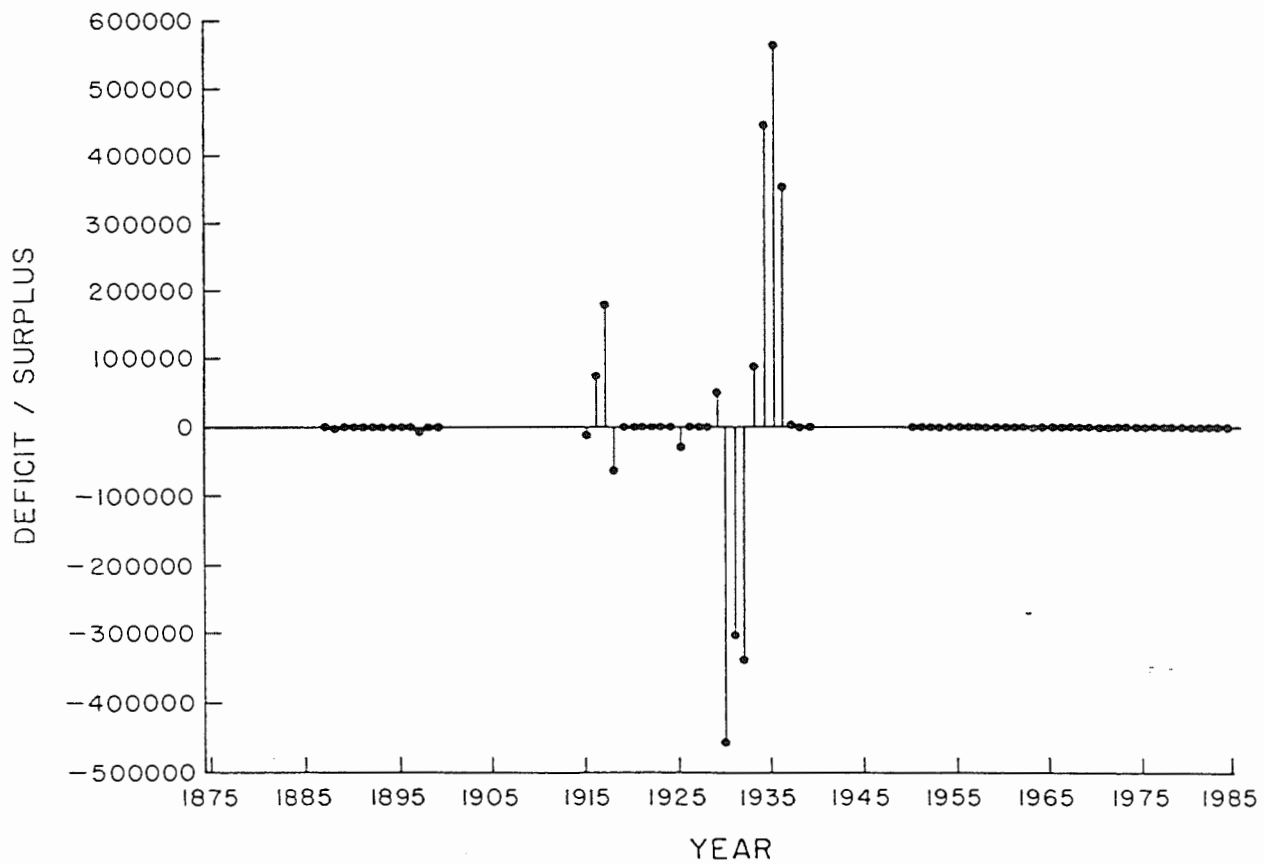


FIG. 4- ACTUAL AND ESTIMATED PROPERTY TAX REVENUES

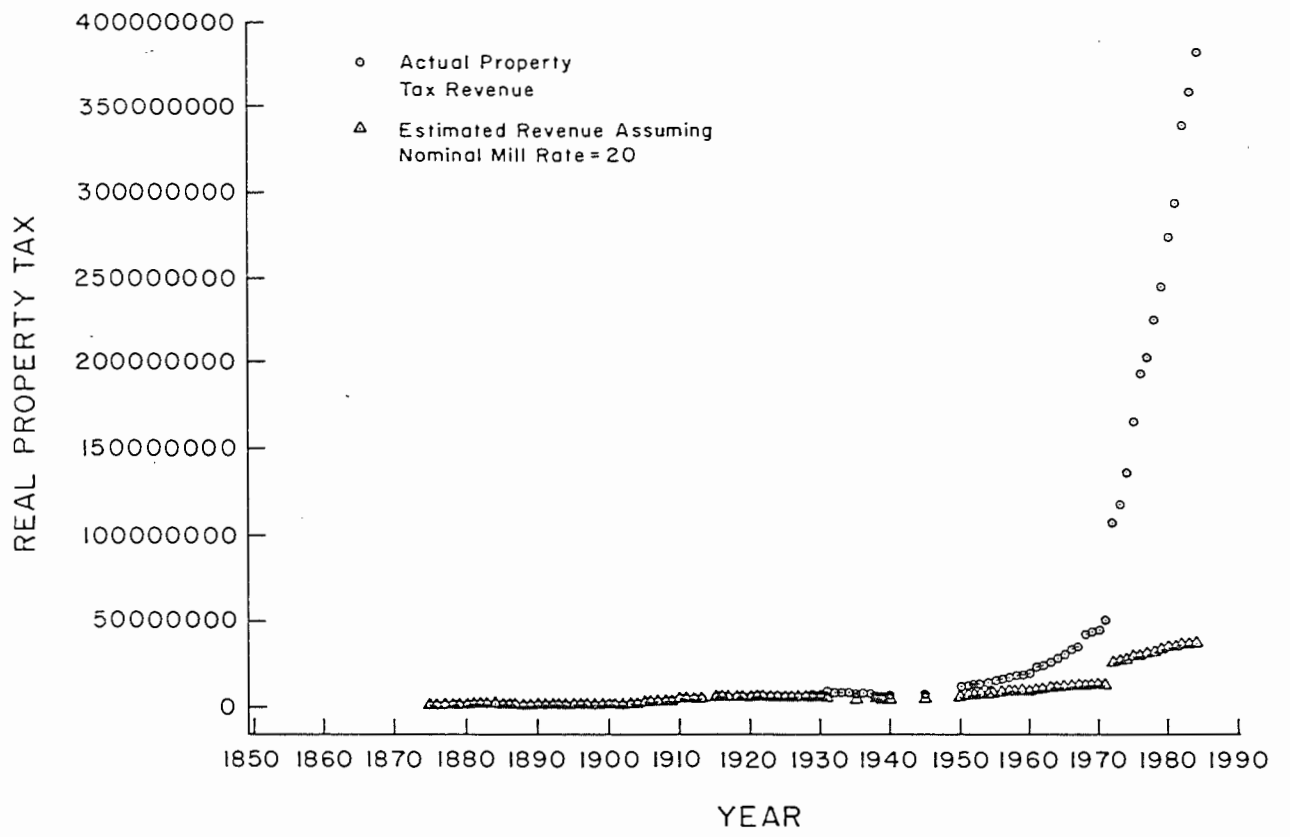
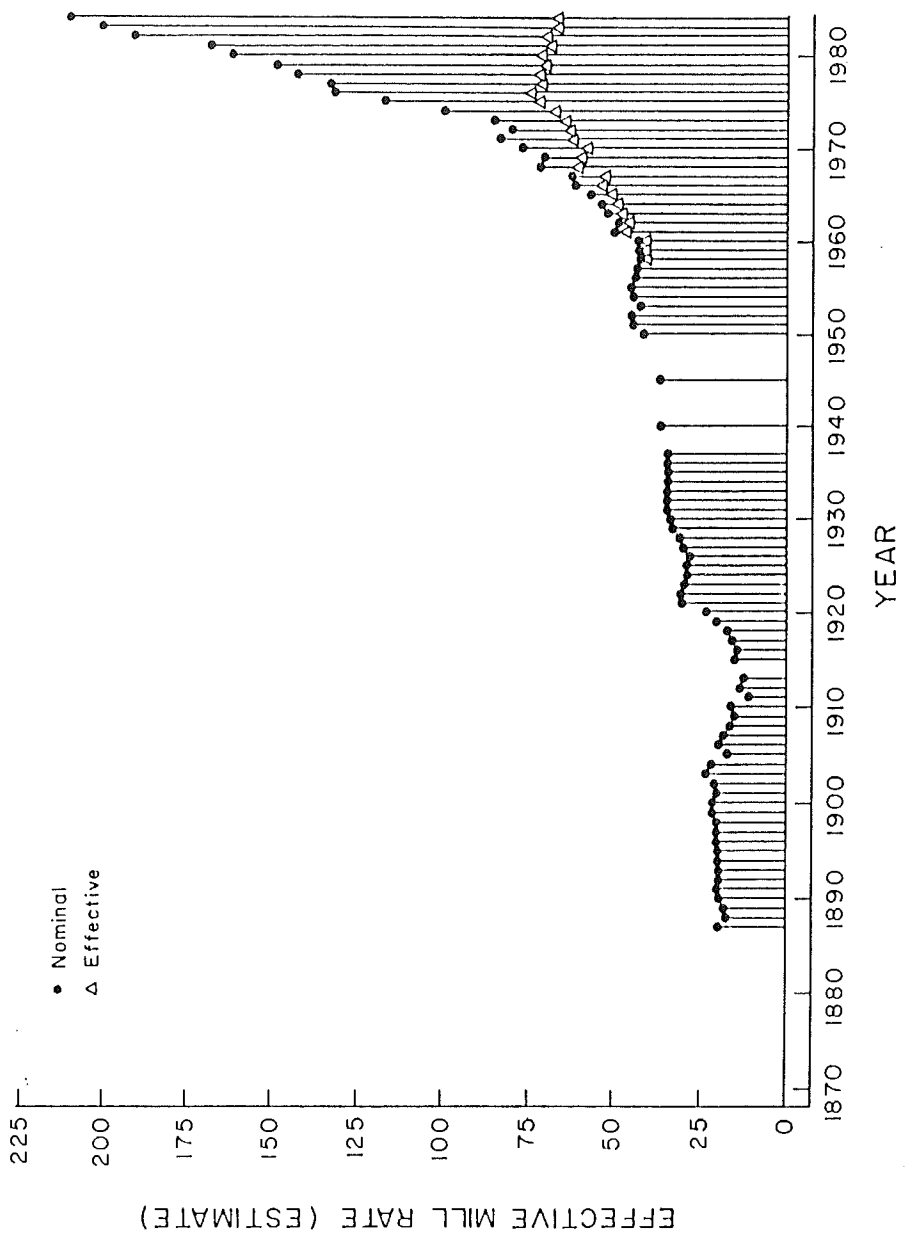


FIG. 5 - NOMINAL AND EFFECTIVE MILL RATE



Appendix B

Notes on Data Employed and Adjustments.

1. Sources of data for the periods 1886/87-1898/99, 1919/20-1930, and 1950-1984 are from the Annual Budget Estimates of the City of Winnipeg. Data for the period 1914/15-1918/19 are from Annual Estimates of the City of Winnipeg 1919/20 and are actual, not estimated, data. Data for the period 1931-1937 are from the Royal Commission on the Municipal Finances and Administration of the City of Winnipeg and are actual, not estimated data. Assessment data for the periods 1874/75-1885/86, 1899/1900-1913/14 are from "The Gateway City" reprinted in Artibise.
2. The data is presented using standard accounting categories. This required a reworking of early estimates which were reported on a committee basis.
3. Education is not a City responsibility. The Manitoba School Act of 1890 empowered local residents to organize school corporations run by a board. Municipal Corporations act as tax collection agencies for the school board but have no control over how much is raised or how it is spent. Reported education expenditure is actually that part of the property tax turned over to the school boards.
4. Beginning in 1886/87 the previous year's surplus is added to miscellaneous (the catch-all category) revenue. Deficits are added to unclassified expenditure in the next year.
5. Utility profits and provincial government grants (before 1950) are not reported separately. They are included in the miscellaneous category.

6. In 1921 there was a change in the fiscal year. Prior to 1921 the fiscal year end was April 30. After 1921 the fiscal year was the calendar year.
7. The Provincial Levy (The Municipal Commissioners Levy) is a levy made by the municipality for a sum of money required of it by the province for specific purposes (including the support of local courts, old age pensions, mothers allowances, soldiers tax relief, and cancer research). Prior to 1919/20 the Levy is included in unclassified expenditures. The levy was terminated in 1953.
8. Population data is based on the Canada Census. Yearly data interpolated based on the average annual rate of change between census dates.
9. Assessment practices change over the period. Generally land is assessed at 100 percent of estimated market value while improvements are assessed at only 66.6 percent of estimated market value.
10. After 1967 property is separated into two categories. Reported mill rates are actually a weighted average (weights based on assessed values).
11. With Unicity in 1972, mill rates diverge because of the large number of different school boards. The mill rate in the j th district is:

$$t(j) = t^* + st(j)$$

where t^* is the City of Winnipeg mill rate and $st(j)$ is the rate imposed by the j th school board.

The reported mill rate (t) is a simple weighted average:

$$t = \sum v(j)t(j)$$

where the weights, $v(j)$, are equal to $B(j)/B$ (the base in district j divided by the total base).

12. Effective tax rates are estimated using a relatively simple stock adjustment equation. The value of the base in year t is:

$$\begin{aligned} B(t) &= (1+p(t))B(t-1) + B(t) - B(t-1) \\ &= X(t) + Y(t) \end{aligned}$$

where $X(t)$ is the revalued stock, $p(t)$ is the rate of price increase (the change in the consumer price index), and $Y(t)$ is the flow (the new stock accumulated during the period).

The effective tax rate is simply property tax revenue divided by the adjusted base. This in turn is just a weighted average of the effective rates on different categories of property.

13. The Metropolitan Corporation of Winnipeg levy is included in unclassified expenditures (1961-1971).

Appendix B

TABLE 1: REVENUE BY SOURCE

YEAR	REAL PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOV. GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	TOTAL REVENUE
1875	.	.	.	.	.	.	.
1876	.	.	.	.	.	.	.
1877	.	.	.	.	.	.	.
1878	.	.	.	.	.	.	.
1879	.	.	.	.	.	.	.
1880	.	.	.	.	.	.	.
1881	.	.	.	.	.	.	.
1882	.	.	.	.	.	.	.
1883	.	.	.	.	.	.	.
1884	.	.	.	.	.	.	.
1885	.	.	.	.	.	.	.
1886	.	.	.	.	.	.	.
1887	376172	0	0	0	0	37700	413873
1888	334560	0	0	0	0	35205	434485
1889	344873	0	0	0	0	33046	377919
1890	359381	0	0	0	0	27237	386618
1891	372248	0	0	0	0	27529	399777
1892	388913	0	0	0	0	27180	416093
1893	394559	0	0	0	0	29105	423664
1894	425169	0	0	0	0	43041	468210
1895	431226	0	0	0	0	44953	476179
1896	443379	0	0	0	0	54547	497926
1897	451208	0	0	0	0	72201	523409
1898	456640	0	0	0	0	66180	522820
1899	491311	0	0	0	0	46934	538245
1900	.	.	.	.	.	.	607245
1901	.	.	.	.	.	.	629835
1902	.	.	.	.	.	.	725124
1903	.	.	.	.	.	.	823459
1904	.	.	.	.	.	.	876126
1905	.	.	.	.	.	.	1035430
1906	.	.	.	.	.	.	1087099
1907	.	.	.	.	.	.	1584736
1908	.	.	.	.	.	.	1909421
1909	.	.	.	.	.	.	2328843
1910	.	.	.	.	.	.	2400894
1911	.	.	.	.	.	.	2533054
1912	.	.	.	.	.	.	2708559
1913	.	.	.	.	.	.	3428507
1914	.	.	.	.	.	.	.
1915	4155711	438263	0	0	0	459040	5053015
1916	4038318	381000	0	0	0	488830	4908149
1917	4376078	331854	0	0	0	683280	5391293
1918	4312352	333866	0	0	0	775913	5422133
1919	5050576	343156	0	0	0	538387	6464846
1920	5428540	375436	0	0	0	660869	6464175
1921	7160310	431915	0	0	0	990444	8582669
1922	7333776	480000	0	0	0	817561	8664891
1923	7123984	500000	0	0	0	904640	8528624
1924	6779937	500000	0	0	0	1231508	8511446
1925	6683065	490000	0	0	0	1279764	8452829
1926	6514703	490000	0	0	0	1270524	8275227
1927	6892452	490000	0	0	0	1172640	8555092
1928	7063731	520000	0	0	0	1166926	8750658

TABLE 1: REVENUE BY SOURCE

YEAR	REAL PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOV. GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	TOTAL REVENUE
1929	7664610	550000	0	0	0	1148201	9362712
1930	7926592	594240	0	0	0	1065546	9586378
1931	8190547	579779	0	0	0	1177409	9947735
1932	8225102	554426	0	0	0	1255039	10034567
1933	7515852	509867	0	0	0	1098106	9123825
1934	7428294	484563	0	0	0	1182942	9095799
1935	6919482	785988	0	0	0	1393466	9098936
1936	6842089	782869	0	0	0	1221952	8846910
1937	6686775	789838	0	0	0	1351787	8828400
1938	6554766	980000	0	0	0	1726300	9302246
1939	5892794	1000000	0	0	0	1752800	9743463
1940	6184213	1037983	0	0	0	.	.
1941	.	.	.	.	.	.	.
1942	.	.	.	.	.	.	.
1943	.	.	.	.	.	.	.
1944	.	.	.	.	.	.	.
1945	6514444	1100704	0	0	0	.	.
1946	.	.	.	.	.	.	.
1947	.	.	.	.	.	.	.
1948	.	.	.	.	.	.	.
1949	.	.	.	.	.	.	.
1950	10896091	2000000	1414000	234720	325000	2031044	16900886
1951	12085859	2250000	1450000	256720	450000	1509745	18002324
1952	13012389	2400000	1063000	279720	480000	1932191	19167300
1953	12943217	2690000	853000	505120	354600	2569024	19914962
1954	13412001	2550000	825000	486720	575000	4428000	22278411
1955	14555573	2750000	690000	400220	1783000	3395647	23574440
1956	16164016	2818000	625000	515720	1969300	3940305	26032342
1957	16614464	3050000	630000	2377720	2007500	4064097	28809784
1958	16978059	3250000	680000	3165820	2125600	4346319	30545799
1959	18039957	3410000	680000	2631720	2133900	3266790	30162367
1960	18724125	3990000	600000	1956320	2565800	3754448	31590694
1961	22535552	4000000	600000	2174320	3088780	3626887	36024740
1962	23741904	4150000	700000	2778320	3100400	3715455	38186080
1963	25590788	4400000	1200000	2950320	3097540	3502415	40741063
1964	27531713	4400000	1555000	2852820	2747600	3542747	42629281
1965	29698903	4510000	1610000	2850820	3539500	3769674	45978898
1966	33358847	4900000	2120000	2680820	3295300	4303296	50658263
1967	34175182	5070000	2500000	2759820	3710150	4452575	52667728
1968	41828613	5150000	2731200	2760820	4960736	4227771	61659141
1969	43137574	5441000	1795000	4477865	5341300	5644719	65837458
1970	44358455	5890000	4395000	5039820	6941202	4836637	71819557
1971	50119283	6367000	2141000	5864300	6818936	5880916	77191436
1972	106845702	9930000	1531720	10577995	11931000	11936121	152752538
1973	117554836	10667000	1361000	10050600	14175987	10977380	164786803
1974	135706066	13100000	0	13688524	17363603	24051230	199733078
1975	165144469	15100000	0	16169413	20674928	27611850	244700660
1976	193020249	17300000	0	22418300	23492899	36077045	292308493
1977	202128270	18800000	0	25076800	24122881	53543824	323671775
1978	224541427	19750000	0	24821366	27630073	55535397	352278263
1979	243539138	20950000	0	36471070	30705545	64589012	396254765
1980	273321479	23200000	0	42015360	33450965	77894174	449881978
1981	292381016	26100000	0	47626751	36777520	74360205	477245492
1982	337550287	26500000	0	58023779	41540966	90380677	553995709

TABLE 1: REVENUE BY SOURCE

YEAR	REAL PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOV. GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	TOTAL REVENUE
1983	357350714	28900000	0	76344121	44389374	86690592	593674801
1984	380974178	28500000	5840000	81137160	46425206	80472183	623348727

TABLE 2: FISCAL INDICATORS

YEAR	PROPERTY TAX BASE	MILLRATE	PROPERTY TAX BASE	DEFICIT/SURPLUS
1875	2676018	.	1431.79	.
1876	2635805	.	890.17	.
1877	3031685	.	1010.56	.
1878	3097824	.	1138.07	.
1879	3216980	.	1011.63	.
1880	3415065	.	830.31	.
1881	4008460	.	648.83	.
1882	9156085	.	1466.15	.
1883	30303270	.	2331.02	.
1884	32883200	.	2055.20	.
1885	27444700	.	1643.99	.
1886	19711605	.	1007.03	.
1887	19286405	19.50	909.82	223
1888	19393410	17.25	873.46	-2820
1889	19523890	17.75	839.52	385
1890	18607860	19.35	763.93	755
1891	18612410	20.00	725.86	1753
1892	19944270	19.50	739.77	-414
1893	20388100	19.40	719.28	-274
1894	21692300	19.60	727.88	597
1895	22001300	19.60	702.15	912
1896	22168990	20.00	672.91	-432
1897	22560430	20.00	651.30	-6609
1898	22832000	20.00	626.93	26
1899	22851700	21.50	596.81	-753
1900	22955600	21.25	570.20	.
1901	23076540	20.00	545.03	.
1902	23938860	20.50	486.10	.
1903	30873910	23.25	538.98	.
1904	41106879	21.50	616.96	.
1905	53786070	17.00	694.03	.
1906	69624550	19.70	772.29	.
1907	93825960	17.90	958.54	.
1908	102785170	16.00	967.18	.
1909	107997320	15.00	936.01	.
1910	157608220	16.00	1258.17	.
1911	172677250	10.80	1269.36	.
1912	172677250	13.25	1224.27	.
1913	214360440	12.00	1465.82	.
1914	.	.	.	.
1915	280791340	14.80	1786.09	-10959
1916	288451340	14.00	1769.64	74081
1917	278732370	15.70	1678.13	179107
1918	253667790	17.00	1498.76	-62803
1919	252528800	20.00	1449.08	0
1920	236023520	23.00	1342.87	0
1921	238677000	30.00	1332.74	0
1922	240451700	30.50	1327.27	0
1923	241490990	29.50	1317.74	0
1924	237892540	28.50	1283.23	0
1925	234493510	28.50	1250.40	-28631
1926	232667970	28.00	1226.45	0
1927	229748400	30.00	1177.01	0
1928	227862310	31.00	1134.53	0
1929	232260000	33.00	1123.91	49585
1930	236614700	33.50	1112.79	-455448

TABLE 2: FISCAL INDICATORS

YEAR	PROPERTY TAX BASE	MILLRATE	PROPERTY TAX BASE	DEFICIT/SURPLUS
1931	237407160	34.5	1085.12	-300557
1932	.	34.5	.	-335527
1933	.	34.5	.	88585
1934	.	34.5	.	445884
1935	200564700	34.5	926.81	563229
1936	.	34.5	.	353313
1937	.	34.5	.	4180
1938	189993230	.	870.53	0
1939	169936080	.	774.27	0
1940	169430488	36.5	767.64	.
1941	.	.	.	.
1942	.	.	.	.
1943	.	.	.	.
1944	.	.	.	.
1945	178477912	36.5	784.15	.
1946	.	.	.	.
1947	.	.	.	.
1948	.	.	.	.
1949	.	.	.	.
1950	262556430	41.5	1120.32	0
1951	271592340	44.5	1152.23	0
1952	289164205	45.0	1207.55	0
1953	304546300	42.5	1251.83	0
1954	301393290	44.5	1219.45	0
1955	323457190	45.0	1288.20	0
1956	367364010	44.0	1440.12	0
1957	386382900	43.0	1502.68	0
1958	404239510	42.0	1559.68	0
1959	419533890	43.0	1605.88	0
1960	435444780	43.0	1653.59	0
1961	450711050	50.0	1698.05	-1
1962	484528670	49.0	1836.92	0
1963	492130540	52.0	1878.17	0
1964	509846550	54.0	1958.37	0
1965	521033400	57.0	2014.29	0
1966	545614130	61.5	2122.97	0
1967	550398090	62.5	2159.40	0
1968	564993890	72.0	2236.32	0
1969	574043750	70.5	2291.67	0
1970	583386190	77.0	2348.98	0
1971	598138170	83.5	2429.03	0
1972	1257577060	80.2	2265.90	0
1973	1310851620	85.2	2339.97	0
1974	1360627910	99.7	2401.81	8
1975	1415173635	116.7	2471.06	0
1976	1466607135	131.6	2536.50	0
1977	1521093085	132.9	2614.01	0
1978	1576493655	142.4	2694.86	0
1979	1638767480	148.6	2810.92	0
1980	1692221750	161.5	2904.10	0
1981	1739403380	168.1	2974.36	0
1982	1772204590	190.4	2993.59	0
1983	1787189480	199.9	2975.67	0
1984	1814173440	209.9	3006.09	0

TABLE 3: EXPENDITURES BY AREA

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES		
1875	.	.	.	.	.
1876	.	.	.	.	.
1877	.	.	.	.	.
1878	.	.	.	.	.
1879	.	.	.	.	.
1880	.	.	.	.	.
1881	.	.	.	.	.
1882	.	.	.	.	.
1883	.	.	.	.	.
1884	.	.	.	.	.
1885	.	.	.	.	.
1886	.	.	.	.	.
1887	62937	56136	3871	18267	2795		
1888	82742	58105	2720	19744	2335		
1889	52222	66793	14520	21349	1855		
1890	59251	69333	14100	19015	3800		
1891	65809	70115	15200	20006	4400		
1892	69985	72148	15595	27610	2400		
1893	58780	74934	13650	42580	3300		
1894	80362	78404	24180	38673	13300		
1895	90933	79564	22260	37160	14100		
1896	98537	88565	26290	40960	13100		
1897	109590	91735	27459	52435	13150		
1898	113363	88552	25110	42219	14585		

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	POPULATION	TOTAL EXPENDITURE
1875	.	.	.	.	.	1869	.
1876	.	.	.	.	.	2961	.
1877	.	.	.	.	.	3000	.
1878	.	.	.	.	.	2722	.
1879	.	.	.	.	.	3180	.
1880	.	.	.	.	.	4113	.
1881	.	.	.	.	.	6178	.
1882	.	.	.	.	.	6245	.
1883	.	.	.	.	.	13000	.
1884	.	.	.	.	.	16000	.
1885	.	.	.	.	.	16694	.
1886	.	.	.	.	.	19574	.
1887	1780	207914	59950	0	0	21198	413650
1888	880	207914	62865	0	0	22203	437305
1889	1500	143194	76101	0	0	23256	377534
1890	2000	143194	75170	0	0	24358	385863
1891	1750	143194	77550	0	0	25642	398024
1892	1500	144069	83200	0	0	26960	416507
1893	1500	146194	83000	0	0	28345	423938
1894	1500	146194	85000	0	0	29802	467613
1895	1500	139750	90000	0	0	31334	475267
1896	2000	134906	94000	0	0	32945	498358
1897	3500	135559	96590	0	0	34639	530018
1898	3000	137875	98090	0	0	36419	522794

TABLE 3: EXPENDITURES BY AREA

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES		
1899	119472	88023	26690	41889	15750		
1900	.	.	.	.	.
1901	.	.	.	.	.
1902	.	.	.	.	.
1903	.	.	.	.	.
1904	.	.	.	.	.
1905	.	.	.	.	.
1906	.	.	.	.	.
1907	.	.	.	.	.
1908	.	.	.	.	.
1909	.	.	.	.	.
1910	.	.	.	.	.
1911	.	.	.	.	.
1912	.	.	.	.	.
1913	.	.	.	.	.
1914	.	.	.	.	.
1915	260688	1131508	466406	418091	196227		
1916	209472	1018775	385580	298670	192546		
1917	211755	1087418	490666	310223	198496		
1918	239816	1137936	588426	310843	198003		
1919	241590	1145646	654246	302315	196784		
1920	312613	1616353	730513	474309	206473		
1921	384911	1670192	1112218	628024	277265		
1922	357248	1576774	997268	553696	264749		
YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	POPULATION	TOTAL EXPENDITURE
1899	2000	140584	104590	0	0	38290	538998
1900	.	.	.	.	.	40259	.
1901	.	.	.	.	.	42340	.
1902	.	.	.	.	.	49247	.
1903	.	.	.	.	.	57282	.
1904	.	.	.	.	.	66628	.
1905	.	.	.	.	.	77498	.
1906	.	.	.	.	.	90153	.
1907	.	.	.	.	.	97884	.
1908	.	.	.	.	.	106273	.
1909	.	.	.	.	.	115380	.
1910	.	.	.	.	.	125268	.
1911	.	.	.	.	.	136035	.
1912	.	.	.	.	.	141045	.
1913	.	.	.	.	.	146239	.
1914	.	.	.	.	.	151625	.
1915	399482	692236	1167800	0	331536	157210	5063974
1916	423850	821647	1194498	0	289030	163000	4834068
1917	366756	729849	1187855	0	629168	166097	5212186
1918	317100	658680	1301310	0	732822	169252	5484936
1919	352356	613575	1504000	532650	921684	174268	6464846
1920	384766	378504	1583981	563500	213163	175760	6464175
1921	461684	374445	2771742	576000	326188	179087	8582669
1922	469010	371381	3022575	650930	401260	181162	8664891

TABLE 3: EXPENDITURES BY AREA

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES		
1923	349726	1579535	944959	573176	261618		
1924	337509	1593488	910528	518806	261089		
1925	337897	1562723	866923	552126	254056		
1926	346290	1565145	845130	476653	250197		
1927	356138	1601618	857573	610547	248712		
1928	361299	1622150	874015	675278	247021		
1929	368389	1688106	908605	686488	251061		
1930	437386	1509110	799359	793113	236615		
1931	424011	1545277	772797	665471	237407		
1932	398011	1387985	648187	463901	190727		
1933	370858	1245792	560301	436728	154796		
1934	403962	1246955	589055	515854	193129		
1935	449007	1267682	615812	513767	188071		
1936	413350	1306281	660246	594118	193300		
1937	458335	1348754	687926	608602	189113		
1938	430272	1625993	782732	641127	226057		
1939	449484	1751163	840080	650733	253117		
1940	.	.	.	.	.
1941	.	.	.	.	.
1942	.	.	.	.	.
1943	.	.	.	.	.
1944	.	.	.	.	.
1945	.	.	.	.	.
1946	.	.	.	.	.
YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	POPULATION	TOTAL EXPENDITURE
1923	468535	330234	3016213	639030	365598	183262	8528624
1924	469202	341645	3000101	643993	435085	185386	8511446
1925	591373	341661	3001813	600000	372888	187535	8481460
1926	462736	344064	3000589	580000	404423	189708	8275227
1927	540979	355961	3162140	406862	414562	195196	8555092
1928	543656	355913	3163669	320000	587657	200843	8750658
1929	545746	346867	3252579	657000	608286	206653	9313127
1930	876209	798786	3317200	468467	805581	212632	10041826
1931	1545277	902764	3216300	176325	762663	218785	10248292
1932	1387985	1009036	2940600	194355	1749307	218192	10370094
1933	1245792	1040841	2600000	188807	1191325	217594	9035240
1934	1246955	1095022	2860000	203120	295863	216998	8649915
1935	1267682	1212723	2989500	188611	-157148	216403	8535707
1936	1306281	1207365	2989500	203385	-380229	215814	8493597
1937	1348754	1221467	3053000	202056	-293787	217029	8824220
1938	1528498	252821	3019892	208911	585943	218250	9302246
1939	1656517	216988	3153609	213343	558429	219480	9743463
1940	.	.	.	.	.	220715	.
1941	.	.	.	.	.	221960	.
1942	.	.	.	.	.	223358	.
1943	.	.	.	.	.	224766	.
1944	.	.	.	.	.	226181	.
1945	.	.	.	.	.	227606	.
1946	.	.	.	.	.	229045	.

TABLE 3: EXPENDITURES BY AREA

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1947					
1948					
1949					
1950	794643	3581668	1907916	1169930	616078
1951	829841	3616377	1904310	1212817	628517
1952	936480	3920389	2135002	1153134	687335
1953	1009203	4493653	2209449	1153429	794789
1954	1172435	4714592	3016180	1380682	890740
1955	1227722	4869704	2909451	1571327	1138225
1956	1244853	5164881	3120707	1813254	1192717
1957	1288185	5547349	3394702	1805402	1386813
1958	1374044	6344240	3640644	1809841	1535483
1959	1499063	6612965	1864993	1854337	1690212
1960	1630998	6923219	2012688	1825204	1962246
1961	1331415	6918968	2103293	1547535	1925019
1962	1416298	7449147	2176484	1472351	1930770
1963	1489618	7422657	2285867	1456275	1979477
1964	1644720	7670082	2385223	1479789	2083457
1965	1763560	7941392	2400832	1625039	2102673
1966	2028163	8540242	2566559	2066326	2394303
1967	2076167	9199868	2631678	2040966	2708812
1968	2369283	10352083	3233489	2224715	3109586
1969	2439305	10472849	3272269	2161658	3229143
1970	2572736	11251214	3692262	2328440	3906865

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	POPULATION	TOTAL EXPENDITURE
1947						230362	
1948						231687	
1949						233358	
1950	1515391	981683	5495200	84178	754199	234359	16900886
1951	1779364	1023368	5863800	85797	1058133	235710	18002324
1952	1652400	1023182	6737050	48118	874210	239464	19167300
1953	1641763	956689	6686900	0	969087	243280	19914962
1954	1571531	836720	7639000	0	1056531	247155	22278411
1955	1957245	878611	8006800	0	1015355	251092	23574440
1956	2412664	1061822	8815600	0	1205844	255093	26032342
1957	3239962	1179180	9878400	0	1089791	257129	28809784
1958	3921175	1289426	9685100	0	945846	259181	30545799
1959	3043636	1376439	11075900	0	1144822	261248	30162367
1960	2184058	1644492	12192800	0	1214989	263333	31590694
1961	2700569	1450731	13340300	0	4706911	265429	36024741
1962	3299050	1626714	14000050	0	4815216	263772	38186080
1963	3515216	2087379	15439200	0	5065374	262026	40741063
1964	3464853	2626930	15586400	0	5687827	260342	42629281
1965	3464891	2963354	16831500	0	6885657	258668	45978898
1966	3331093	3194930	18645200	0	7891447	257005	50658263
1967	3473774	3623430	16987313	0	9925720	254885	52667728
1968	3582122	3895159	21829139	0	11063565	252644	61659141
1969	3974842	3681583	23647138	0	12958671	250491	65837458
1970	4626205	4088800	24896290	0	14456745	248357	71819557

TABLE 3: EXPENDITURES BY AREA

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES		
1971	2572127	12769102	3801036	2385434	3905143		
1972	8327361	23018862	6249096	11083195	10580587		
1973	9013834	26151432	6601777	12861381	12613912		
1974	12256672	30825237	1826177	23267878	16445109		
1975	12087099	35831325	1662990	35672429	18068072		
1976	14323856	39848217	2364058	35739835	19394266		
1977	16312176	44896939	2405831	39108662	27720108		
1978	18198480	49520608	2736596	41053799	31840678		
1979	19742907	53498231	2844745	47538254	34324214		
1980	22678815	59434769	3051686	47969657	38884191		
1981	24533322	66538263	3474023	52484452	42619442		
1982	28927121	76420206	3897593	60591725	50192629		
1983	31326107	86327173	4163340	63288311	51567234		
1984	31962976	86022610	4278193	65424049	52764696		
YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	POPULATION	TOTAL EXPENDITURE
1971	5823334	4871023	25503714	0	15610523	246246	77191436
1972	6400590	16091438	57939312	0	13062097	555000	152752538
1973	4649117	16904519	59830455	0	16160376	560200	164786803
1974	5294554	18321127	72415436	0	19080880	566500	199733070
1975	5168718	20023342	89369178	0	26817507	572700	244700660
1976	5735946	25156035	108903775	0	40842505	578200	292308493
1977	5950050	32235629	118770364	0	36272016	581900	323671775
1978	6487214	37968596	127674714	0	36797578	585000	352278263
1979	6608913	51310992	140450567	0	39935942	583000	396254765
1980	7373867	55295118	161116581	0	54077294	582700	449881978
1981	7807508	58534356	154203206	0	67050920	584800	477245492
1982	8976514	68327310	175062392	0	81600219	592000	553995709
1983	20597529	71084003	165040190	0	100280914	600600	593674801
1984	23460970	74783227	175615187	0	109036819	603500	623348727

TABLE 4: REVENUES BY SOURCE
(AS A PROPORTION OF TOTAL REVENUE)

YEAR	PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOVERNMENT GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER
1875	.	.	.	.	.	.
1876	.	.	.	.	.	.
1877	.	.	.	.	.	.
1878	.	.	.	.	.	.
1879	.	.	.	.	.	.
1880	.	.	.	.	.	.
1881	.	.	.	.	.	.
1882	.	.	.	.	.	.
1883	.	.	.	.	.	.
1884	.	.	.	.	.	.
1885	.	.	.	.	.	.
1886	.	.	.	.	.	.
1887	0.908907	0.0000000	0	0	0	0.091091
1888	0.770015	0.0000000	0	0	0	0.081027
1889	0.912558	0.0000000	0	0	0	0.087442
1890	0.929551	0.0000000	0	0	0	0.070449
1891	0.931139	0.0000000	0	0	0	0.068861
1892	0.934678	0.0000000	0	0	0	0.065322
1893	0.931302	0.0000000	0	0	0	0.068698
1894	0.908073	0.0000000	0	0	0	0.091927
1895	0.905596	0.0000000	0	0	0	0.094404
1896	0.890452	0.0000000	0	0	0	0.109548
1897	0.862056	0.0000000	0	0	0	0.137944
1898	0.873417	0.0000000	0	0	0	0.126583
1899	0.912802	0.0000000	0	0	0	0.087198
1900	.	.	.	.	.	.
1901	.	.	.	.	.	.
1902	.	.	.	.	.	.
1903	.	.	.	.	.	.
1904	.	.	.	.	.	.
1905	.	.	.	.	.	.
1906	.	.	.	.	.	.
1907	.	.	.	.	.	.
1908	.	.	.	.	.	.
1909	.	.	.	.	.	.
1910	.	.	.	.	.	.
1911	.	.	.	.	.	.
1912	.	.	.	.	.	.
1913	.	.	.	.	.	.
1914	.	.	.	.	.	.
1915	0.822422	0.0867330	0	0	0	0.090845
1916	0.822778	0.0776260	0	0	0	0.099596
1917	0.811694	0.0615537	0	0	0	0.126738
1918	0.795324	0.0615747	0	0	0	0.143101
1919	0.781237	0.0530803	0	0	0	0.083279
1920	0.839789	0.0580795	0	0	0	0.102236
1921	0.834275	0.0503241	0	0	0	0.115400
1922	0.846378	0.0553960	0	0	0	0.094353
1923	0.835303	0.0586261	0	0	0	0.106071
1924	0.796567	0.0587444	0	0	0	0.144688
1925	0.790631	0.0579688	0	0	0	0.151401
1926	0.787254	0.0592129	0	0	0	0.153533
1927	0.805655	0.0572758	0	0	0	0.137069

TABLE 5: EXPENDITURE BY AREA
(AS A PROPORTION OF TOTAL EXPENDITURE)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS		
1875	.	.	.	.
1876	.	.	.	.
1877	.	.	.	.
1878	.	.	.	.
1879	.	.	.	.
1880	.	.	.	.
1881	.	.	.	.
1882	.	.	.	.
1883	.	.	.	.
1884	.	.	.	.
1885	.	.	.	.
1886	.	.	.	.
1887	0.152150	0.135709	0.009358	0.044161		
1888	0.189209	0.132871	0.006220	0.045149		
1889	0.138324	0.176919	0.038460	0.056549		
1890	0.153554	0.179683	0.036541	0.049279		
1891	0.165339	0.176158	0.038189	0.050263		
1892	0.168028	0.173222	0.037442	0.066289		
1893	0.138652	0.176757	0.032198	0.100439		
1894	0.171856	0.167669	0.051709	0.082703		
1895	0.191330	0.167409	0.046837	0.078188		
1896	0.197723	0.177714	0.052753	0.082190		
1897	0.206767	0.173079	0.051808	0.098931		
1898	0.216841	0.169382	0.048030	0.080756		
YEAR	RECREATION AND COMMUNITY SERVICES	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED
1875	.	.	.	.	.	.
1876	.	.	.	.	.	.
1877	.	.	.	.	.	.
1878	.	.	.	.	.	.
1879	.	.	.	.	.	.
1880	.	.	.	.	.	.
1881	.	.	.	.	.	.
1882	.	.	.	.	.	.
1883	.	.	.	.	.	.
1884	.	.	.	.	.	.
1885	.	.	.	.	.	.
1886	.	.	.	.	.	.
1887	0.0067569	0.0043032	0.502633	0.144929	0.0000000	0.000000
1888	0.0053395	0.0020123	0.475444	0.143756	0.0000000	0.000000
1889	0.0049135	0.0039732	0.379288	0.201574	0.0000000	0.000000
1890	0.0098481	0.0051832	0.371101	0.194810	0.0000000	0.000000
1891	0.0110546	0.0043967	0.359762	0.194837	0.0000000	0.000000
1892	0.0057622	0.0036014	0.345898	0.199757	0.0000000	0.000000
1893	0.0077842	0.0035383	0.344848	0.195783	0.0000000	0.000000
1894	0.0284423	0.0032078	0.312639	0.181774	0.0000000	0.000000
1895	0.0296675	0.0031561	0.294045	0.189367	0.0000000	0.000000
1896	0.0262863	0.0040132	0.270701	0.188619	0.0000000	0.000000
1897	0.0248105	0.0066035	0.255763	0.182239	0.0000000	0.000000
1898	0.0278982	0.0057384	0.263727	0.187626	0.0000000	0.000000

TABLE 5: EXPENDITURE BY AREA
(AS A PROPORTION OF TOTAL EXPENDITURE)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS		
1899	0.221656	0.163309	0.049518	0.0777164		
1900	.	.	.	.
1901	.	.	.	.
1902	.	.	.	.
1903	.	.	.	.
1904	.	.	.	.
1905	.	.	.	.
1906	.	.	.	.
1907	.	.	.	.
1908	.	.	.	.
1909	.	.	.	.
1910	.	.	.	.
1911	.	.	.	.
1912	.	.	.	.
1913	.	.	.	.
1914	.	.	.	.
1915	0.051479	0.223443	0.092103	0.0825618		
1916	0.043332	0.210749	0.079763	0.0617844		
1917	0.040627	0.208630	0.094138	0.0595188		
1918	0.043723	0.207466	0.107280	0.0566721		
1919	0.037370	0.177212	0.101201	0.0467629		
1920	0.048361	0.250048	0.113009	0.0733750		
1921	0.044847	0.194601	0.129589	0.0731735		
1922	0.041229	0.181973	0.115093	0.0639011		
YEAR	RECREATION AND COMMUNITY SERVICES	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED
1899	0.0292209	0.003711	0.260825	0.194045	0.0000000	0.000000
1900	.	.	.	.	.	.
1901	.	.	.	.	.	.
1902	.	.	.	.	.	.
1903	.	.	.	.	.	.
1904	.	.	.	.	.	.
1905	.	.	.	.	.	.
1906	.	.	.	.	.	.
1907	.	.	.	.	.	.
1908	.	.	.	.	.	.
1909	.	.	.	.	.	.
1910	.	.	.	.	.	.
1911	.	.	.	.	.	.
1912	.	.	.	.	.	.
1913	.	.	.	.	.	.
1914	.	.	.	.	.	.
1915	0.0387496	0.078887	0.136698	0.230609	0.0000000	0.065470
1916	0.0398310	0.087680	0.169970	0.247100	0.0000000	0.059790
1917	0.0380831	0.070365	0.140027	0.227900	0.0000000	0.120711
1918	0.0360994	0.057813	0.120089	0.237252	0.0000000	0.133606
1919	0.0304391	0.054503	0.094909	0.232643	0.0823918	0.142569
1920	0.0319411	0.059523	0.058554	0.245040	0.0871728	0.032976
1921	0.0323052	0.053793	0.043628	0.322946	0.0671120	0.038005
1922	0.0305542	0.054128	0.042860	0.348830	0.0751227	0.046309

TABLE 5: EXPENDITURE BY AREA
(AS A PROPORTION OF TOTAL EXPENDITURE)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS		
1971	0.0333214	0.165421	0.0492417	0.030255		
1972	0.0545154	0.150694	0.0409099	0.072557		
1973	0.0547000	0.158699	0.0400625	0.078049		
1974	0.0613653	0.154332	0.0091431	0.116495		
1975	0.0493954	0.146429	0.0067960	0.145780		
1976	0.0490025	0.136322	0.0080875	0.122268		
1977	0.0503973	0.138711	0.0074329	0.120828		
1978	0.0516594	0.140572	0.0077683	0.116538		
1979	0.0498238	0.135010	0.0071791	0.119969		
1980	0.0504106	0.132112	0.0067833	0.106627		
1981	0.0514061	0.139421	0.0072793	0.109974		
1982	0.0522154	0.137944	0.0070354	0.109372		
1983	0.0527664	0.145412	0.0070128	0.106604		
1984	0.0512762	0.138001	0.0068632	0.104956		

YEAR	RECREATION AND COMMUNITY SERVICES	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED
1971	0.0505904	0.0754402	0.063103	0.330396	0	0.202231
1972	0.0692662	0.0419017	0.105343	0.379302	0	0.085511
1973	0.0765469	0.0282129	0.102584	0.363078	0	0.098068
1974	0.0823354	0.0265081	0.091728	0.362561	0	0.095532
1975	0.0738374	0.0211226	0.081828	0.365218	0	0.109593
1976	0.0663486	0.0196229	0.086060	0.372565	0	0.139724
1977	0.0856426	0.0183830	0.099594	0.366947	0	0.112064
1978	0.0903850	0.0184150	0.107780	0.362426	0	0.104456
1979	0.0866216	0.0166784	0.129490	0.354445	0	0.100783
1980	0.0864320	0.0163907	0.122910	0.358131	0	0.120203
1981	0.0893030	0.0163595	0.122650	0.323111	0	0.140496
1982	0.0906011	0.0162032	0.123335	0.316000	0	0.147294
1983	0.0868611	0.0346950	0.119736	0.277998	0	0.168916
1984	0.0846472	0.0376370	0.119970	0.281729	0	0.174921

TABLE 6: REVENUES BY SOURCE
(PERCAPITA)

YEAR	PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOVERNMENT GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	PROPERTY TAX BASE	TOTAL REVENUE
1875	.	.	.	.	.	.	1431.79	.
1876	.	.	.	.	.	.	890.17	.
1877	.	.	.	.	.	.	1010.56	.
1878	.	.	.	.	.	.	1138.07	.
1879	.	.	.	.	.	.	1011.63	.
1880	.	.	.	.	.	.	830.31	.
1881	.	.	.	.	.	.	648.83	.
1882	.	.	.	.	.	.	1466.15	.
1883	.	.	.	.	.	.	2331.02	.
1884	.	.	.	.	.	.	2055.20	.
1885	.	.	.	.	.	.	1643.99	.
1886	.	.	.	.	.	.	1007.03	.
1887	17.7456	0.00000	0	0	0	1.77847	909.82	19.5242
1888	15.0682	0.00000	0	0	0	1.58560	873.46	19.5688
1889	14.8294	0.00000	0	0	0	1.42097	839.52	16.2504
1890	14.7541	0.00000	0	0	0	1.11820	763.93	15.8723
1891	14.5171	0.00000	0	0	0	1.07359	725.86	15.5907
1892	14.4256	0.00000	0	0	0	1.00816	739.77	15.4337
1893	13.9199	0.00000	0	0	0	1.02681	719.28	14.9467
1894	14.2665	0.00000	0	0	0	1.44423	727.88	15.7107
1895	13.7622	0.00000	0	0	0	1.43464	702.15	15.1969
1896	13.4582	0.00000	0	0	0	1.65570	672.91	15.1139
1897	13.0260	0.00000	0	0	0	2.08438	651.30	15.1104
1898	12.5385	0.00000	0	0	0	1.81718	626.93	14.3557
1899	12.8313	0.00000	0	0	0	1.22575	596.81	14.0571
1900	.	.	.	.	.	.	570.20	15.0835
1901	.	.	.	.	.	.	545.03	14.8756
1902	.	.	.	.	.	.	486.10	14.7242
1903	.	.	.	.	.	.	538.98	14.3755
1904	.	.	.	.	.	.	616.96	13.1495
1905	.	.	.	.	.	.	694.03	13.3607
1906	.	.	.	.	.	.	772.29	12.0584
1907	.	.	.	.	.	.	958.54	16.1899
1908	.	.	.	.	.	.	967.18	17.9671
1909	.	.	.	.	.	.	936.01	20.1841
1910	.	.	.	.	.	.	1258.17	19.1661
1911	.	.	.	.	.	.	1269.36	18.6206
1912	.	.	.	.	.	.	1224.27	19.2035
1913	.	.	.	.	.	.	1465.82	23.4445
1914	.	.	.	.	.	.	.	.
1915	26.4341	2.78776	0	0	0	2.91992	1786.09	32.1418
1916	24.7750	2.33742	0	0	0	2.99896	1769.64	30.1113
1917	26.3465	1.99795	0	0	0	4.11374	1678.13	32.4587
1918	25.4789	1.97260	0	0	0	4.58437	1498.76	32.0359
1919	28.9817	1.96913	0	0	0	3.08942	1449.08	37.0971
1920	30.8861	2.13607	0	0	0	3.76006	1342.87	36.7784
1921	39.9823	2.41176	0	0	0	5.53052	1332.74	47.9246
1922	40.4819	2.64956	0	0	0	4.51287	1327.27	47.8295
1923	38.8732	2.72833	0	0	0	4.93632	1317.74	46.5379
1924	36.5720	2.69708	0	0	0	6.64294	1283.23	45.9120
1925	35.6364	2.61285	0	0	0	6.82413	1250.40	45.0733
1926	34.3407	2.58292	0	0	0	6.69726	1226.45	43.6209
1927	35.3104	2.51030	0	0	0	6.00750	1177.01	43.8282

TABLE 6: REVENUES BY SOURCE
(PERCAPITA)

YEAR	PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOVERNMENT GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	PROPERTY TAX BASE	TOTAL REVENUE
1928	35.170	2.5891	0.0000	0.0000	0.0000	5.810	1134.53	43.570
1929	37.089	2.6615	0.0000	0.0000	0.0000	5.556	1123.91	45.306
1930	37.278	2.7947	0.0000	0.0000	0.0000	5.011	1112.79	45.084
1931	37.437	2.6500	0.0000	0.0000	0.0000	5.382	1085.12	45.468
1932	37.697	2.5410	0.0000	0.0000	0.0000	5.752	.	45.990
1933	34.541	2.3432	0.0000	0.0000	0.0000	5.047	.	41.930
1934	34.232	2.2330	0.0000	0.0000	0.0000	5.451	.	41.917
1935	31.975	3.6321	0.0000	0.0000	0.0000	6.439	926.81	42.046
1936	31.704	3.6275	0.0000	0.0000	0.0000	5.662	.	40.993
1937	30.811	3.6393	0.0000	0.0000	0.0000	6.229	.	40.678
1938	30.033	4.4903	0.0000	0.0000	0.0000	7.910	870.53	42.622
1939	26.849	4.5562	0.0000	0.0000	0.0000	7.986	774.27	44.393
1940	28.019	4.7028	0.0000	0.0000	0.0000	.	767.64	.
1941	.	.	.	.	.	.	.	.
1942	.	.	.	.	.	.	.	.
1943	.	.	.	.	.	.	.	.
1944	.	.	.	.	.	.	.	.
1945	28.622	4.8360	0.0000	0.0000	0.0000	.	784.15	.
1946	.	.	.	.	.	.	.	.
1947	.	.	.	.	.	.	.	.
1948	.	.	.	.	.	.	.	.
1949	.	.	.	.	.	.	.	.
1950	46.493	8.5339	6.0335	1.0015	1.3868	8.666	1120.32	72.115
1951	51.274	9.5456	6.1516	1.0891	1.9091	6.405	1152.23	76.375
1952	54.340	10.0224	4.4391	1.1681	2.0045	8.069	1207.55	80.043
1953	53.203	11.0572	3.5062	2.0763	1.4576	10.560	1251.83	81.860
1954	54.266	10.3174	3.3380	1.9693	2.3265	17.916	1219.45	90.139
1955	57.969	10.9522	2.7480	1.5939	7.1010	13.524	1288.20	93.888
1956	63.365	11.0470	2.4501	2.0217	7.7199	15.447	1440.12	102.050
1957	64.615	11.8618	2.4501	9.2472	7.8074	15.806	1502.68	112.044
1958	65.507	12.5395	2.6236	12.2147	8.2012	16.769	1559.68	117.855
1959	69.053	13.0527	2.6029	10.0736	8.1681	12.505	1605.88	115.455
1960	71.104	15.1519	2.2785	7.4291	9.7436	14.257	1653.59	119.965
1961	84.902	15.0699	2.2605	8.1917	11.6369	13.664	1698.05	135.723
1962	90.009	15.7333	2.6538	10.5330	11.7541	14.086	1836.92	144.769
1963	97.665	16.7922	4.5797	11.2596	11.8215	13.367	1878.17	155.485
1964	105.752	16.9008	5.9729	10.9580	10.5538	13.608	1958.37	163.743
1965	114.815	17.4355	6.2242	11.0212	13.6836	14.573	2014.29	177.753
1966	129.798	19.0658	8.2489	10.4310	12.8219	16.744	2122.97	197.110
1967	134.081	19.8913	9.8083	10.8277	14.5562	17.469	2159.40	206.633
1968	165.563	20.3844	10.8105	10.9277	19.6353	16.734	2236.32	244.055
1969	172.212	21.7213	7.1659	17.8764	21.3233	22.535	2291.67	262.834
1970	178.608	23.7159	17.6963	20.2926	27.9485	19.475	2348.98	289.179
1971	203.533	25.8563	8.6946	23.8148	27.6916	23.882	2429.03	313.473
1972	192.515	17.8919	2.7599	19.0595	21.4973	21.507	2265.90	275.230
1973	209.844	19.0414	2.4295	17.9411	25.3052	19.595	2339.97	294.157
1974	239.552	23.1244	0.0000	24.1633	30.6507	42.456	2401.81	352.574
1975	288.361	26.3663	0.0000	28.2337	36.1008	48.213	2471.06	427.275
1976	333.830	29.9204	0.0000	38.7726	40.6311	62.395	2536.50	505.549
1977	347.359	32.3080	0.0000	43.0947	41.4554	92.016	2614.01	556.233
1978	383.831	33.7607	0.0000	42.4297	47.2309	94.932	2694.86	602.185
1979	417.734	35.9348	0.0000	62.5576	52.6682	110.787	2810.92	679.682
1980	469.060	39.8147	0.0000	72.1046	57.4068	133.678	2904.10	772.064

TABLE 6: REVENUES BY SOURCE
(PERCAPITA)

YEAR	PROPERTY TAX	BUSINESS TAX	UTILITY PROFITS	PROVINCIAL GOVERNMENT GRANTS	PAYMENTS IN LIEU OF TAXES	OTHER	PROPERTY TAX BASE	TOTAL REVENUE
1981	499.968	44.6306	0.00000	81.441	62.8891	127.155	2974.36	816.08
1982	570.186	44.7635	0.00000	98.013	70.1706	152.670	2993.59	935.80
1983	594.990	48.1185	0.00000	127.113	73.9084	144.340	2975.67	988.47
1984	631.275	47.2245	9.67688	134.444	76.9266	133.342	3006.09	1032.89

TABLE 7: EXPENDITURES BY AREA
(PERCAPITA)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1875	.	.	.	.	.
1876	.	.	.	.	.
1877	.	.	.	.	.
1878	.	.	.	.	.
1879	.	.	.	.	.
1880	.	.	.	.	.
1881	.	.	.	.	.
1882	.	.	.	.	.
1883	.	.	.	.	.
1884	.	.	.	.	.
1885	.	.	.	.	.
1886	.	.	.	.	.
1887	2.96901	2.64817	0.18261	0.86173	0.13185
1888	3.72661	2.61699	0.12251	0.88925	0.10517
1889	2.24553	2.87208	0.62436	0.91800	0.07976
1890	2.43251	2.84642	0.57887	0.78065	0.15601
1891	2.56645	2.73438	0.59278	0.78020	0.17159
1892	2.59588	2.67611	0.57845	1.02411	0.08902
1893	2.07373	2.64364	0.48157	1.50220	0.11642
1894	2.69653	2.63083	0.81135	1.29766	0.44628
1895	2.90206	2.53922	0.71041	1.18593	0.44999
1896	2.99095	2.68827	0.79800	1.24328	0.39763
1897	3.16377	2.64832	0.79272	1.51376	0.37963
1898	3.11274	2.43148	0.68948	1.15926	0.40048

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	TOTAL EXPENDITURE
1875	.	.	.	.	.	.
1876	.	.	.	.	.	.
1877	.	.	.	.	.	.
1878	.	.	.	.	.	.
1879	.	.	.	.	.	.
1880	.	.	.	.	.	.
1881	.	.	.	.	.	.
1882	.	.	.	.	.	.
1883	.	.	.	.	.	.
1884	.	.	.	.	.	.
1885	.	.	.	.	.	.
1886	.	.	.	.	.	.
1887	0.08397	9.80819	2.8281	0.00000	0.00000	19.5136
1888	0.03963	9.36423	2.8314	0.00000	0.00000	19.6958
1889	0.06450	6.15729	3.2723	0.00000	0.00000	16.2338
1890	0.08211	5.87873	3.0860	0.00000	0.00000	15.8413
1891	0.06825	5.58435	3.0243	0.00000	0.00000	15.5223
1892	0.05564	5.34381	3.0861	0.00000	0.00000	15.4491
1893	0.05292	5.15766	2.9282	0.00000	0.00000	14.9564
1894	0.05033	4.90551	2.8522	0.00000	0.00000	15.6907
1895	0.04787	4.46001	2.8723	0.00000	0.00000	15.1678
1896	0.06071	4.09489	2.8532	0.00000	0.00000	15.1270
1897	0.10104	3.91348	2.7885	0.00000	0.00000	15.3012
1898	0.08237	3.78580	2.6934	0.00000	0.00000	14.3550

TABLE 7: EXPENDITURES BY AREA
(PERCAPITA)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1899	3.12019	2.2989	0.69705	1.09399	0.41133
1900	.	.	.	.	.
1901	.	.	.	.	.
1902	.	.	.	.	.
1903	.	.	.	.	.
1904	.	.	.	.	.
1905	.	.	.	.	.
1906	.	.	.	.	.
1907	.	.	.	.	.
1908	.	.	.	.	.
1909	.	.	.	.	.
1910	.	.	.	.	.
1911	.	.	.	.	.
1912	.	.	.	.	.
1913	.	.	.	.	.
1914	.	.	.	.	.
1915	1.65822	7.1974	2.96677	2.65944	1.24818
1916	1.28510	6.2502	2.36552	1.83233	1.18126
1917	1.27489	6.5469	2.95409	1.86772	1.19506
1918	1.41692	6.7233	3.47663	1.83657	1.16987
1919	1.38631	6.5740	3.75425	1.73477	1.12920
1920	1.77864	9.1964	4.15631	2.69862	1.17474
1921	2.14930	9.3261	6.21049	3.50681	1.54821
1922	1.97198	8.7037	5.50484	3.05636	1.46139

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	TOTAL EXPENDITURE
1899	0.05223	3.67156	2.7315	0.00000	0.0000	14.0767
1900	.	.	.	.	.	.
1901	.	.	.	.	.	.
1902	.	.	.	.	.	.
1903	.	.	.	.	.	.
1904	.	.	.	.	.	.
1905	.	.	.	.	.	.
1906	.	.	.	.	.	.
1907	.	.	.	.	.	.
1908	.	.	.	.	.	.
1909	.	.	.	.	.	.
1910	.	.	.	.	.	.
1911	.	.	.	.	.	.
1912	.	.	.	.	.	.
1913	.	.	.	.	.	.
1914	.	.	.	.	.	.
1915	2.54107	4.40326	7.4283	0.00000	2.1089	32.2115
1916	2.60031	5.04078	7.3282	0.00000	1.7732	29.6569
1917	2.20808	4.39411	7.1516	0.00000	3.7880	31.3804
1918	1.87354	3.89171	7.6886	0.00000	4.3298	32.4069
1919	2.02192	3.52087	8.6304	3.05650	5.2889	37.0971
1920	2.18916	2.15353	9.0122	3.20608	1.2128	36.7784
1921	2.57799	2.09086	15.4771	3.21631	1.8214	47.9246
1922	2.58890	2.04999	16.6844	3.59308	2.2149	47.8295

TABLE 7: EXPENDITURES BY AREA
(PERCAPITA)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1923	1.9083	8.6190	5.1563	3.1276	1.4276
1924	1.8206	8.5955	4.9115	2.7985	1.4084
1925	1.8018	8.3330	4.6227	2.9441	1.3547
1926	1.8254	8.2503	4.4549	2.5126	1.3189
1927	1.8245	8.2052	4.3934	3.1279	1.2742
1928	1.7989	8.0767	4.3517	3.3622	1.2299
1929	1.7826	8.1688	4.3968	3.3219	1.2149
1930	2.0570	7.0973	3.7594	3.7300	1.1128
1931	1.9380	7.0630	3.5322	3.0417	1.0851
1932	1.8241	6.3613	2.9707	2.1261	0.8741
1933	1.7044	5.7253	2.5750	2.0071	0.7114
1934	1.8616	5.7464	2.7146	2.3772	0.8900
1935	2.0749	5.8580	2.8457	2.3741	0.8691
1936	1.9153	6.0528	3.0593	2.7529	0.8957
1937	2.1119	6.2146	3.1697	2.8042	0.8714
1938	1.9715	7.4501	3.5864	2.9376	1.0358
1939	2.0479	7.9787	3.8276	2.9649	1.1533
1940	.	.	.	.	.
1941	.	.	.	.	.
1942	.	.	.	.	.
1943	.	.	.	.	.
1944	.	.	.	.	.
1945	.	.	.	.	.
1946	.	.	.	.	.

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	TOTAL EXPENDITURE
1923	2.5566	1.8020	16.458	3.48697	1.9949	46.538
1924	2.5309	1.8429	16.183	3.47380	2.3469	45.912
1925	3.1534	1.8219	16.007	3.19940	1.9884	45.226
1926	2.4392	1.8137	15.817	3.05733	2.1318	43.621
1927	2.7715	1.8236	16.200	2.08438	2.1238	43.828
1928	2.7069	1.7721	15.752	1.59328	2.9260	43.570
1929	2.6409	1.6785	15.739	3.17924	2.9435	45.066
1930	4.1208	3.7567	15.601	2.20318	3.7886	47.226
1931	7.0630	4.1263	14.701	0.80593	3.4859	46.842
1932	6.3613	4.6245	13.477	0.89075	8.0173	47.527
1933	5.7253	4.7834	11.949	0.86770	5.4750	41.523
1934	5.7464	5.0462	13.180	0.93605	1.3634	39.862
1935	5.8580	5.6040	13.815	0.87157	-0.7262	39.444
1936	6.0528	5.5945	13.852	0.94241	-1.7618	39.356
1937	6.2146	5.6281	14.067	0.93101	-1.3537	40.659
1938	7.0034	1.1584	13.837	0.95721	2.6847	42.622
1939	7.5475	0.9886	14.369	0.97204	2.5443	44.393
1940	.	.	.	.	.	.
1941	.	.	.	.	.	.
1942	.	.	.	.	.	.
1943	.	.	.	.	.	.
1944	.	.	.	.	.	.
1945	.	.	.	.	.	.
1946	.	.	.	.	.	.

TABLE 7: EXPENDITURES BY AREA
(PERCAPITA)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1947	.	.	.	.	.
1948	.	.	.	.	.
1949	.	.	.	.	.
1950	3.3907	15.283	8.1410	4.992	2.6288
1951	3.5206	15.342	8.0790	5.145	2.6665
1952	3.9107	16.372	8.9158	4.815	2.8703
1953	4.1483	18.471	9.0819	4.741	3.2670
1954	4.7437	19.075	12.2036	5.586	3.6040
1955	4.8895	19.394	11.5872	6.258	4.5331
1956	4.8800	20.247	12.2336	7.108	4.6756
1957	5.0099	21.574	13.2023	7.021	5.3935
1958	5.3015	24.478	14.0467	6.983	5.9244
1959	5.7381	25.313	7.1388	7.098	6.4698
1960	6.1937	26.291	7.6431	6.931	7.4516
1961	5.0161	26.067	7.9241	5.830	7.2525
1962	5.3694	28.241	8.2514	5.582	7.3198
1963	5.6850	28.328	8.7238	5.558	7.5545
1964	6.3175	29.462	9.1619	5.684	8.0028
1965	6.8179	30.701	9.2815	6.282	8.1288
1966	7.8915	33.230	9.9864	8.040	9.3162
1967	8.1455	36.094	10.3250	8.007	10.6276
1968	9.3780	40.975	12.7986	8.806	12.3082
1969	9.7381	41.809	13.0634	8.630	12.8913
1970	10.3590	45.303	14.8668	9.375	15.7308

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	TOTAL EXPENDITURE
1947	.	.	.	.	.	.
1948	.	.	.	.	.	.
1949	.	.	.	.	.	.
1950	6.4661	4.189	23.448	0.359184	3.218	72.12
1951	7.5490	4.342	24.877	0.363994	4.489	76.37
1952	6.9004	4.273	28.134	0.200940	3.651	80.04
1953	6.7485	3.932	27.486	0.000000	3.983	81.86
1954	6.3585	3.385	30.908	0.000000	4.275	90.14
1955	7.7949	3.499	31.888	0.000000	4.044	93.89
1956	9.4580	4.162	34.558	0.000000	4.727	102.05
1957	12.6005	4.586	38.418	0.000000	4.238	112.04
1958	15.1291	4.975	37.368	0.000000	3.649	117.86
1959	11.6504	5.269	42.396	0.000000	4.382	115.45
1960	8.2939	6.245	46.302	0.000000	4.614	119.96
1961	10.1744	5.466	50.259	0.000000	17.733	135.72
1962	12.5072	6.167	53.076	0.000000	18.255	144.77
1963	13.4155	7.966	58.922	0.000000	19.332	155.48
1964	13.3089	10.090	59.869	0.000000	21.848	163.74
1965	13.3951	11.456	65.070	0.000000	26.620	177.75
1966	12.9612	12.431	72.548	0.000000	30.705	197.11
1967	13.6288	14.216	66.647	0.000000	38.942	206.63
1968	14.1785	15.418	86.403	0.000000	43.791	244.06
1969	15.8682	14.697	94.403	0.000000	51.733	262.83
1970	18.6272	16.463	100.244	0.000000	58.210	289.18

TABLE 7: EXPENDITURES BY AREA
(PERCAPITA)

YEAR	GENERAL GOVERNMENT	PROTECTION OF PERSONS AND PROPERTY	HEALTH AND SANITATION	PUBLIC WORKS	RECREATION AND COMMUNITY SERVICES
1971	10.4454	51.855	15.4359	9.484	15.8587
1972	15.0043	41.475	11.2596	19.970	19.0641
1973	16.0904	46.682	11.7847	22.959	22.5168
1974	21.6358	54.413	3.2236	41.073	29.0293
1975	21.1055	62.566	2.9038	62.288	31.5489
1976	24.7732	68.918	4.0887	61.812	33.5425
1977	28.0326	77.156	4.1344	67.209	47.6372
1978	31.1085	84.651	4.6779	70.177	54.4285
1979	33.8643	91.764	4.8795	81.541	58.8752
1980	38.9202	101.999	5.2371	82.323	66.7311
1981	41.9516	113.780	5.9405	89.748	72.8787
1982	48.8634	129.088	6.5838	102.351	84.7848
1983	52.1580	143.735	6.9320	105.375	85.8595
1984	52.9627	142.540	7.0890	108.408	87.4311

YEAR	SOCIAL SERVICES	DEBT CHARGES	EDUCATION	PROVINCIAL LEVY	UNCLASSIFIED	TOTAL EXPENDITURE
1971	23.6484	19.781	103.570	0	63.394	313.47
1972	11.5326	28.994	104.395	0	23.535	275.23
1973	8.2990	30.176	106.802	0	28.848	294.16
1974	9.3461	32.341	127.830	0	33.682	352.57
1975	9.0252	34.963	156.049	0	46.826	427.28
1976	9.9203	43.507	188.350	0	70.637	505.55
1977	10.2252	55.397	204.108	0	62.334	556.23
1978	11.0893	64.904	218.247	0	62.902	602.19
1979	11.3360	88.012	240.910	0	68.501	679.68
1980	12.6547	94.895	276.500	0	92.805	772.06
1981	13.3507	100.093	263.685	0	114.656	816.08
1982	15.1630	115.418	295.713	0	137.838	935.80
1983	34.2949	118.355	274.792	0	166.968	988.47
1984	38.8748	123.916	290.995	0	180.674	1032.89

TABLE 8 : ACTUAL VS. EFFECTIVE MILL RATES

YEAR	MILLRATE	EFFECTIVE MILLRATE (ESTIMATE)
1875	.	.
1876	.	.
1877	.	.
1878	.	.
1879	.	.
1880	.	.
1881	.	.
1882	.	.
1883	.	.
1884	.	.
1885	.	.
1886	.	.
1887	19.50	.
1888	17.25	.
1889	17.75	.
1890	19.35	.
1891	20.00	.
1892	19.50	.
1893	19.40	.
1894	19.60	.
1895	19.60	.
1896	20.00	.
1897	20.00	.
1898	20.00	.
1899	21.50	.
1900	21.25	.
1901	20.00	.
1902	20.50	.
1903	23.25	.
1904	21.50	.
1905	17.00	.
1906	19.70	.
1907	17.90	.
1908	16.00	.
1909	15.00	.
1910	16.00	.
1911	10.80	.
1912	13.25	.
1913	12.00	.
1914	.	.
1915	14.80	.
1916	14.00	.
1917	15.70	.
1918	17.00	.
1919	20.00	.
1920	23.00	.
1921	30.00	.
1922	30.50	.
1923	29.50	.
1924	28.50	.
1925	28.50	.
1926	28.00	.
1927	30.00	.
1928	31.00	.
1929	33.00	.
1930	33.50	.

TABLE 8 : ACTUAL VS. EFFECTIVE MILL RATES

YEAR	MILLRATE	EFFECTIVE MILLRATE (ESTIMATE)
1931	34.5	.
1932	34.5	.
1933	34.5	.
1934	34.5	.
1935	34.5	.
1936	34.5	.
1937	34.5	.
1938	.	.
1939	.	.
1940	36.5	.
1941	.	.
1942	.	.
1943	.	.
1944	.	.
1945	36.5	.
1946	.	.
1947	.	.
1948	.	.
1949	.	.
1950	41.5	.
1951	44.5	.
1952	45.0	.
1953	42.5	.
1954	44.5	.
1955	45.0	.
1956	44.0	.
1957	43.0	.
1958	42.0	40.7535
1959	43.0	40.7088
1960	43.0	40.3982
1961	50.0	46.4417
1962	49.0	45.3584
1963	52.0	47.6739
1964	54.0	48.8007
1965	57.0	50.7233
1966	61.5	53.4476
1967	62.5	52.4144
1968	72.0	60.6135
1969	70.5	59.3576
1970	77.0	57.6994
1971	83.5	61.9592
1972	80.2	62.9088
1973	85.2	64.1241
1974	99.7	67.1643
1975	116.7	71.9493
1976	131.6	74.4088
1977	132.9	71.0945
1978	142.4	71.8317
1979	148.6	70.1933
1980	161.5	71.2010
1981	168.1	68.4153
1982	190.4	69.7328
1983	199.9	66.4418
1984	209.9	66.6350

TABLE 9: NET (OF EDUCATION) MUNICIPAL REVENUES

YEAR	NET MUNICIPAL REVENUE	NET PROPERTY TAXREVENUE	NET PROPERTY TAX REVENUE SHARE	BUSINESS TAX SHARE (NET)	PROV. GOV. GRANTS SHARE (NET)
1875	.	.	.	.	.
1876	.	.	.	.	.
1877	.	.	.	.	.
1878	.	.	.	.	.
1879	.	.	.	.	.
1880	.	.	.	.	.
1881	.	.	.	.	.
1882	.	.	.	.	.
1883	.	.	.	.	.
1884	.	.	.	.	.
1885	.	.	.	.	.
1886	.	.	.	.	.
1887	316222	353923	0.893477	0.000000	0
1888	271695	371620	0.731110	0.000000	0
1889	268772	301818	0.890510	0.000000	0
1890	284211	311448	0.912547	0.000000	0
1891	294698	322227	0.914566	0.000000	0
1892	305713	332893	0.918352	0.000000	0
1893	311559	340664	0.914564	0.000000	0
1894	340169	383210	0.887683	0.000000	0
1895	341226	386179	0.883595	0.000000	0
1896	349379	403926	0.864958	0.000000	0
1897	354618	426819	0.830839	0.000000	0
1898	358550	424730	0.844183	0.000000	0
1899	386721	433655	0.891771	0.000000	0
1900	.	.	.	.	.
1901	.	.	.	.	.
1902	.	.	.	.	.
1903	.	.	.	.	.
1904	.	.	.	.	.
1905	.	.	.	.	.
1906	.	.	.	.	.
1907	.	.	.	.	.
1908	.	.	.	.	.
1909	.	.	.	.	.
1910	.	.	.	.	.
1911	.	.	.	.	.
1912	.	.	.	.	.
1913	.	.	.	.	.
1914	.	.	.	.	.
1915	2987911	3885215	0.769047	0.112803	0
1916	2843820	3713651	0.765775	0.102594	0
1917	3188223	4203438	0.758480	0.078948	0
1918	3011042	4120823	0.730689	0.081019	0
1919	3546576	4960846	0.714914	0.069173	0
1920	3844559	4880194	0.787788	0.076931	0
1921	4388568	5810927	0.755227	0.074328	0
1922	4311201	5642316	0.764084	0.085071	0
1923	4107771	5512411	0.745186	0.090704	0
1924	3779836	5511345	0.685828	0.090722	0
1925	3681252	5451016	0.675333	0.089891	0
1926	3514114	5274638	0.666228	0.092897	0
1927	3730312	5392952	0.691701	0.090859	0
1928	3900062	5586989	0.698062	0.093073	0

TABLE 9: NET (OF EDUCATION) MUNICIPAL REVENUES

YEAR	NET MUNICIPAL REVENUE	NET PROPERTY TAXREVENUE	NET PROPERTY TAX REVENUE SHARE	BUSINESS TAX SHARE (NET)	PROV. GOV. GRANTS SHARE (NET)
1929	4412031	6110133	0.722084	0.090014	0.000000
1930	4609392	6269178	0.735247	0.094788	0.000000
1931	4974247	6731435	0.738958	0.086130	0.000000
1932	5284502	7093967	0.744929	0.078155	0.000000
1933	4915852	6523825	0.753523	0.078155	0.000000
1934	4568294	6235799	0.732592	0.077707	0.000000
1935	3929982	6109436	0.643264	0.128651	0.000000
1936	3852589	5857410	0.657729	0.133654	0.000000
1937	3633775	5775400	0.629182	0.136759	0.000000
1938	3534874	6282354	0.562667	0.155992	0.000000
1939	2739185	6589854	0.415667	0.151748	0.000000
1940	.	.	.	.	.
1941	.	.	.	.	.
1942	.	.	.	.	.
1943	.	.	.	.	.
1944	.	.	.	.	.
1945	.	.	.	.	.
1946	.	.	.	.	.
1947	.	.	.	.	.
1948	.	.	.	.	.
1949	.	.	.	.	.
1950	5725891	11405686	0.502021	0.175351	0.020579
1951	6672059	12138524	0.549660	0.185360	0.021149
1952	6755339	12430250	0.543460	0.193077	0.022503
1953	6610917	13228062	0.499765	0.203356	0.038185
1954	6348001	14639411	0.433624	0.174187	0.033247
1955	8331773	15567640	0.535198	0.176648	0.025708
1956	9317716	17216742	0.541201	0.163678	0.029955
1957	8743564	18931384	0.461856	0.161108	0.125597
1958	9418559	20860699	0.451498	0.155795	0.151760
1959	9097957	19086467	0.476671	0.178661	0.137884
1960	9097125	19397894	0.468975	0.205692	0.100852
1961	12284032	22684440	0.541518	0.176332	0.095851
1962	12842254	24186030	0.530978	0.171587	0.114873
1963	13249128	25301863	0.523642	0.173900	0.116605
1964	14692913	27042881	0.543319	0.162705	0.105492
1965	16406903	29147398	0.562894	0.154731	0.097807
1966	18008947	32013063	0.562550	0.153063	0.083741
1967	20898019	35680415	0.585700	0.142095	0.077348
1968	24960210	39830002	0.626669	0.129300	0.069315
1969	24831736	42190320	0.588565	0.128963	0.106135
1970	26403367	46923267	0.562692	0.125524	0.107406
1971	31434505	51687722	0.608162	0.123182	0.113456
1972	60837390	94813226	0.641655	0.104732	0.111567
1973	71900368	104956348	0.685050	0.101633	0.095760
1974	80654233	127317642	0.633488	0.102892	0.107515
1975	96450219	155331482	0.620932	0.097211	0.104096
1976	107609373	183404718	0.586732	0.094327	0.122234
1977	107480787	204901411	0.524549	0.091751	0.122385
1978	124496786	224603549	0.554296	0.087933	0.110512
1979	133794116	255804198	0.523033	0.081899	0.142574
1980	145655863	288765397	0.504409	0.080342	0.145500
1981	174955330	323042286	0.541586	0.080794	0.147432
1982	204028861	378933317	0.538429	0.069933	0.153124

TABLE 9: NET (OF EDUCATION) MUNICIPAL REVENUES

YEAR	NET MUNICIPAL REVENUE	NET PROPERTY TAXREVENUE	NET PROPERTY TAX REVENUE SHARE	BUSINESS TAX SHARE (NET)	PROV. GOV. GRANTS SHARE (NET)
1983	236699898	428634611	0.552218	0.0674234	0.178110
1984	251784197	447733540	0.562353	0.0636539	0.181218