The Business and Property Tax in Saskatoon

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1 Summary

This report evaluates local taxes paid by business, in particular the real property levy on business and (where applicable) the business tax. The results support 3 main, mutually consistent, conclusions:

1) Simplicity and transparency, and thereby accountability, could be improved by market value assessments taxed at explicitly stated mill rates (which might differ by class of property).

2) Business property tax rates in Saskatoon are high relative to other prairie cities. The differences reduce Saskatoon's competitiveness, and thereby its ability to attract and retain productive investments and employment. The impact is greatest for small businesses.

3) Business property tax rates are higher, relative to residential property tax rates, than can be justified by conventional standards of fairness in taxation.

Important property tax issues arise within the residential sector. The issues are complex and not addressed in this report.

2 Significance of the business property tax

This report analyzes the implications for competitiveness and for equity of local property taxes (and property-related taxes, such as the business tax) levied on business. The significance of the local property tax is often under-rated in discussions of tax policy toward business. For example, the corporate income tax receives much more attention. The 2.1 show corporate and property tax revenue in Saskatchewan in 1994-5. A comparison of corporate and real property tax revenues shows that the relative inattention of the property tax is unjustified: the local real property tax generates more than 5 time the revenue of the provincial corporate income tax in Saskatchewan, and the business share of local property and business taxes exceeds one-third in prairie cities.

Table 2.1
Corporate and property tax revenue
Saskatchewan 1994-5
Millions of dollars

Provincial corporate tax……………….. 155

Local property tax……………………… 888
Real property tax ……………………….820
Other property & related taxes………….. 68

Source: Statistic Canada, 1996, Public Sector
Finance 1995-1996, Cat. No. 68-212-XPB, Ottawa:
Industry Canada

It is valuable at the outset to compare property tax rates in Saskatchewan with those in neighbouring provinces. The real property levy and business tax are treated as a single aggregated amount. Effective business property tax rates are defined as the ratio of this aggregated amount to the (estimated) market value of real business property. This is consistent with Saskatoon's tax policy. It also provides a uniform basis for comparison with other sectors and policy in other cities.

Table 2.2 compares property taxes in Saskatchewan with those in Manitoba and Alberta. The comparisons are benchmarked on a common basis: properties of equal market value. The entries in columns 1 and 2 of rows 1 to 3 are the effective tax rates per $100,000 of market value. Column 3 shows the rate of tax on business property relative to that on residential property in each province. Rows 4 and 5 show the rate of tax on each type of property in Saskatchewan relative to that in its neighbours.

Table 2.2
Annual property taxes
Per $100,000 of property value, 1995

	Residential	Business	Ration of business to residential
	dollars	dollars	ratio
Manitoba	1810	3760	2.07
Saskatchewan	1920	4650	2.42
Alberta	1460	2750	1.88
Ratio of Saskatchewan	ratio	ratio	
to Manitoba	1.06	1.24	
to Alberta	1.32	1.69	

Source: Treff, Karin and David B. Perry, Finances of the Nation 1996,
Toronto: Canadian Tax Foundation, 1997.

This comparison is based on but one of several sources of information. Others will be provided below. In each comparison, the precise numbers will differ a little and for that reason, the precise numbers should be used with caution. This will not alter the basic conclusions.

Three points stand out. (1) Residential and business property tax rates are relatively high in Saskatchewan. (2) Saskatchewan tax rates on business properties are significantly higher than those in Alberta, raising the concern that Saskatchewan property tax policy man be uncompetitive. (3) The ratio of business to residential rates in relatively high in Saskatchewan, raising the concern that Saskatchewan property tax policy may be unfair.

2.1 Assessed values, market values, and effective tax rates

Among the attributes of good tax policy are simplicity and transparency. Transparency requires that the relationship between taxes payable and the market value of real property be stated as understandably as possible.

This requires that the value assessed for taxes correspond as closely as is practicable to market value. Saskatoon's taxable assessments are based on "fair values", but it is clear from the use of "neighbourhood adjustment factors", for example, that they are intended to reflect market values on a city-wide basis. Moreover, the need to relate taxes to market values underpins the current reassessment and the planned regular future reassessments.

This report will treat fair value assessments, and the corresponding assessments in other prairie cities, as if they were market value assessments. If the valuations of individual

properties deviate significantly from market values, significant inequities arise and the assessment appeals process must resolve the unfairness. These issues are important, but not the focus of this report.

Transparency also requires a simply stated tax rate, the fraction of market value that is to be paid in tax. Saskatoon's new tax policy obscures this rate in a multi-step calculation. Fair values are multiplied by assessment adjustment factors and the uniform mill rate is multiplied by mill rate adjustment factors. The effective tax rates are the product of these components. The result is that for different property classes, a given (fair) market value is taxed at different rates. There is no obvious reason why the intermediate steps could not be eliminated and the effective tax rates stated explicitly.

Summary: Taxing all property on its full market (fair) value at mill rates that are explicitly set, perhaps differently, for each property class would increase transparency. It would be simpler for taxpayers to understand. The simplicity would make more explicit the value judgments that the city council embeds in its tax decisions, and thereby improve accountability.

3   Comparisons with other prairie cities

Comparisons of taxes with other cities are informative, but they must be interpreted with care. There are several reasons for this, including: (1) The cities and their governments differ in a variety of ways that make it difficult to provide exactly comparable tax measures. (2) The relationship between assessed and market values differs between citied. (3) The cities are in the process of revising their property tax assessments and mill rates, and the tax rates will be revised. (4) Since provincial to local revenue transfer policies differ among the provinces, reliance on local taxes differs between cities and provinces.

We emphasize comparison with prairie cities of a similar or larger size, which provide similar services: Winnipeg (a major retail, services, and manufacturing centre), Calgary (the major business centre on the prairies), and Edmonton (a major commercial and industrial centre). These are the cities that Saskatoon would normally compete with in markets and for new business investment. This is consistent with other recent comparative analyses of competitiveness. For example, KPMG (1996) includes Winnipeg, Saskatoon, and Calgary, and Ernst & Young (1997) includes Saskatoon, Calgary, and Edmonton.

Several smaller prairie cities view themselves as tax competitive alternatives to the major centres and thereby, as competitors of Saskatoon. We therefore include effective property tax rates for Brandon, Medicine Hat, Lethbridge, and Red Deer.

We do not compare Saskatoon with Regina for several reasons: (1) Regina is currently reforming its property and business tax policy and the final outcome is not known. (2) It is not productive to fashion Saskatoon's tax policies to be competitive with Regina's if the substantive issue is to be competitive with Alberta and Manitoba, to rank favourably in the prairie region. (3) Both cities face similar commercial and industrial taxation issues and their resolution will not be found in mutual comparisons.

3.1   Comparisons of property tax rates

It is best to base the analysis on the tax rate that would apply if all properties were assessed at market value. We call this the "effective tax rate". Intuitively, this tax rate is the ratio of the tax levy to the market value of the property base.

Because current assessment practices do not always yield market value assessments and because assessments are somewhat out of date, market value assessments are not available for any of the cities. Nonetheless, the assessments all fall in a reasonably close time frame and all are intended to yield defensible assessments, i.e. good approximations to market value. Informative comparisons can be based on them.

Table 3.1 shows effective tax rates for Saskatoon and 3 larger prairie cities. Winnipeg's tax rate is significantly higher than those in other prairie cities. Saskatoon's tax rate, although lower than Winnipeg's, exceeds that in the dynamic urban economies of Alberta by a significant factor.

Calgary's property tax rate and 5-year population growth rate exceed Edmonton's. The industrial composition of the cities differs in important respects, however. Calgary's growth is significantly affected by conditions in world resource markets and the major productive assets of Calgary's export oriented resource industries are located outside of Calgary. There is a similarity with Saskatoon.

Several smaller prairie cities view themselves as tax competitive alternatives to the major centres and thereby, as competitors of Saskatoon. Table 3.1 also slows effective property tax rates for Brandon, Medicine Hat, Lethridge, and Red Deer. Manitoba property tax rates are higher tan Alberta's in general, and the Brandon tax rate is the highest of the smaller cities. Nonetheless, tax rates in the smaller cities are significantly lower than in Saskatoon. Two of the smaller Alberta cities levy rates well below 3%; Red Deer taxes commercial and industrial property at rates that approach the single-family rate in Saskatoon[1].

Summary: The commercial and industrial property tax ratein Saskatoon is competitive with Winnipeg. To be property tax competitive with Brandon and Calgary requires an effective rate in the neighbourhood of 4%; to be competitive with Edmonton, a lower rate is required. Substantially lower rates are required i f Saskatoon is to be property tax competitive with the smaller Albert cities of Medicine Hat, Lethbridge, or Red Deer.

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[1] Rising property values in Alberta implies that Table 3.1 overstates the tax rates are slightly overstated in Table 3.1. Current reassessments will provide a more accurate picture.

Table 3.1
Effective tax rates on business property
per cent

	Brandon	Medicine Hat	Red Deer	Lethbridge	Saskatoon	Winnipeg	Calgary	Edmonton
Effective tax rate	3.99	3.08	2.23	2.71	4.50	5.29	4.18	3.61
1996 population	40,581	56,570	60,075	63,053	219,056	667,209	821,628	862,597
1991-96 growth rate	1.7	7.4	3.3	3.4	3.8	1.0	9.0	2.6

Note: The data for each city are for the most recent available year. In each case, the tax rate includes the business tax with the municipal and education levy on the real property base. Reassessment is ongoing in each of the cities and will result in tax rate changes. Saskatoon's tax rate is currently 4.710%; this includes a revenue bubble to finance the phase-in tax changes for business property; net of the buble, the rate is 4.50%.

Source: Authors' estimates; information provided by the respective cities; Statistics Canada, A National Overview, 1996 Census of Canada, Cat. No. 93-357-XPB, Ottawa: Industry Canada, 1997.

3.2 Comparisons of property tax burdens

There is a concern that the business share of the property levy is excessively high in Saskatoon relative to that in other prairie cities. Table 3.2 compares the shares of business property value in the total property value in each city. The business share of both total property value and taxes is lowest in Saskatoon.

There is a concern that the business share of the education property levy is excessively high in Saskatoon relative to that in other prairie cities. Row 1 in Table 3.3 compares the share of the education levy in the local property tax levy across prairie cities. The second row of Table 3.3 shows the variation in the business share of the education levy across cities. The business share of the Saskatoon levy falls in the middle of the range.

TABLE 3.2
Property and business tax burdens
per cent

	Brandon	Medicine Hat	Red Deer	Lethbridge	Saskatoon	Winnipeg	Calgary	Edmonton
Share of:								
Business property in total property value	24.46	28.54	27.73	26.79	22.05	23.53	23.63	27.07
Taxes on business in total taxes	49.51	40.90	40.80	39.50	35.64	49.17	46.25	47.01

Note: Data are for the most recent available year.
Source: Authors' estimates; information provided by respective cities

TABLE 3.3
School property tax burdens
per cent

	Brandon	Medicine Hat	Red Deer	Lethbridge	Saskatoon	Winnipeg	Calgary	Edmonton
Share of:								
Education levy in total taxes	51.79	55.41	48.10	44.74	55.66	43.71	40.33	40.84
Business education levy in education levy	42.75	49.32	37.17	33.63	35.64	62.50	30.21	37.31

Note: Data are for the most recent available year.
Source: Authors' estimates; information provided by respective cities

4 Competitiveness and the property tax

Competitiveness is a central concern of many policy makers in a world of increased capital (and labour) mobility. Since investment capital is highly mobile across interprovincial and international borders, as well as intraprovincially, the degree to which taxes impinge on the relative rates of return to investment in neighbouring jurisdictions can have a significant impact on the willingness of investors to commit their productive resources in one jurisdiction rather than another.[2]

Property taxes are an important component in the overall competitiveness of a community. By competitiveness we mean the relative ability of the community to attract retain investment and jobs, and attract new investment and jobs – in short, the relative ability of the community to prosper.

We emphasize at the outset that taxes, and property taxes in particular, are but one of many factors that influence investment and location decisions. Investment depends on profitability. Profitability is affected by many factors besides taxes, including the availability of good labour, infrastructure, local suppliers, and proximity to markets. The quality of life in the community, stable governments, good health care and education, and more, also have an effect on location decisions.

Property taxes are important, however, and they are the focus of this report. Since property taxes are the major tax tool available to local governments, it is essential that the linkage between property taxes and competitiveness be clear. It would not be good strategy, for example, for a community to neutralize other competitive advantages by imposing relatively high property taxes on productive investments.

We first measure the impact of property taxation on the return to investment capital, and then analyze the consequences for investment and location decisions.

4.1 Incentives to invest: an example

The property tax impinges on the rate of return to investments in productive business assets. An example will give a sense of the magnitudes involved.

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[2] This is in addition to the effect of taxes on the incentive to save, to accumulate investment capital, and to commit that capital to productive uses.

Suppose a business is financed with a mix of debt and equity (50% debt), the rate of interest on debt is 8%, and the corporate tax rate is 33.3%:[3]

Capital investment.	$6,000,000
Land and structure.	2,000,000
Equipment and inventories	4,000,000
Debt (50% of capital)	3,000,000
Annual sales	4,500,000
Wages and salaries	1,500,000
Materials and supplies.	3,000,000
Interest on debt	240,000

Without property tax:[4]

Before-tax profit.	360,000
Corporate tax	120,000
After-tax profit.	240,000

Without property tax, the before-tax rate of return on the equity commitment is 12% and the after-tax rate of return is 8%.

Now include property tax at 4.5% (see Table 3.1) on land and improvements of $2,000,000:

Property tax.	90,000
Before-tax profit	270,000
Corporate tax (@ 33.3%).	90,000
After-tax profit	180,000

The property tax has reduced the rate of return to investors from 8% to 6% - the property tax has reduced the after-tax rate of return by 2%. It is analogous to increasing the rate of corporate tax to 50%. This is a substantial reduction and it is credible that it would have a significant impact on incentives to invest. For example, individuals choosing GIC investments respond to smaller variations in rates of return.

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[3] Although this example is designed to be numerically transparent, the capital structure is consistent with the scenarios for manufacturing described in KPMG (1996) and Ernst & Young (1997). Consistent with other analyses, e.g., KPMG (1996), Ernst & Young (1997), or Maslove (1993), personal taxes are not included. The representative corporate rate is explained in Section 5.1.

[4] The appropriate marginal tax rate for Saskatoon business depends in part on the composition and circumstances of the business sector. The core of the Saskatoon business sector is small to medium sized firms, and the use of a representative tax rate of 33.3% is intended to reflect that reality. Circumstances vary within the business sector however, and the use of a single representative tax rate can significantly misrepresent the situation of particular businesses. A bu siness – a new business, for example – might not be in a taxable position and if so, the effective property tax rate is better approximated by the full rate.

The share of debt financing has an important impact. Interest rates are determined in national and international financial markets, independently of business conditions in Saskatoon. Property taxes depend on the value of the land and structure, independently of how the assets are financed. Thus the relative impact of property taxes on cash flow rises with the share of debt in the finance of the investment. This is especially important for small and new businesses with limited access to equity finance.

Enriching the detail in the example (to include capital cost allowances, for example) will not alter the substantive conclusion. The reason is that property taxes are imposed in addition to the corporate income tax with all its various complexities. For regular business operations, deductibility is the essential interaction between the property tax and the corporate tax.

Summary: Local real property taxes have a significant impact on the rate of return to investment in productive business assets in a community.

4.2 Incentives to invest: manufacturing comparisons

Ernst & Young (1997) and KPMG (1996) compare costs between cities for investments in manufacturing industries. Ernst & Young (1997) analyzes 1 industry, food processing, in Saskatoon, Calgary, Edmonton, and 3 U.S. cities. KPMG (1996) analyzes costs in Saskatoon, Winnipeg, Calgary, 10 other Canadian cities, and 10 U.S. cities, for 7 industries: auto parts manufacturing, environmental waste treatment systems manufacturing, frozen food processing, medical devices manufacturing, pharmaceutical manufacturing, software development and production, and telecommunication equipment manufacturing.

In this section, we combine and update information from the Ernst & Young and KPMG studies to analyze the impact of property taxes on the rate of return to equity on investments in Saskatoon, Winnipeg, Calgary, and Edmonton. We provide comparisons for each of the industry structures described in detail in KPMG (1996). KPMG models a fixed equity investment; we fix the debt-equity ratio at the KPMG average value.

Property values, and thus property taxes, for new investments depend on land prices and building costs.

We use current land prices for a clean, services, industrial acre: Saskatoon - $90,000, Winnipeg - $85,000, Edmonton - $90,000, and Calgary - $175,000. These are mid-range prices in current markets; land prices have been rising and are expected to continue to rise in each city.

We use a Saskatoon building cost of $60 per square foot in each industry. Structure costs depend on construction characteristics and will ordinarily vary across industries as specific requirements vary. The value used here reflects advice from consulting engineers and is consistent with the Saskatoon Regional Economic Development

Authority Report on Opportunities in Food Processing. For each of the other cities, we adjust this cost by a construction cost index: Saskatoon – 92.4, Winnipeg – 100.3, Calgary – 99.9, and Edmonton – 99.7. This yields a cost of approximately $65 per square foot in each of the other cities.

Since KPMG summarizes its data in U.S. dollars, the value of the exchange rate (at which the data are converted to Canadian dollars) affects the share of location sensitive costs in the capital structure of each industry. KPMG uses an exchange rate of 1.36 and Ernst & Young uses 1.35; we use 1.35.

The results are shown in Table 4.1. Each entry shows the reduction in the return on equity due to property (and business) taxes. Thus the property tax would reduce the rate of return on equity for an investment in frozen food processing in Saskatoon by 2.81%. The average reduction in Saskatoon is 2.3%, slightly greater than the 2% reduction in the illustrative example above.

TABLE 4.1
Impact of property taxes on the rate of return on equity
in manufacturing investments
per cent

	Winnipeg	Saskatoon	Calgary	Edmonton
Auto parts	-3.32	-3.04	-2.90	-2.36
Environmental waste treatment systems	-3.04	-2.76	-2.65	-2.16
Frozen Foods	-3.09	-2.81	-2.74	-2.20
Medical devices	-2.33	-2.12	-2.03	-1.65
Pharmaceuticals	-2.70	-2.46	-2.35	-1.92
Software development and production	-1.99	-1.80	-1.77	-1.42
Telecommunications Equipment	-1.44	-1.30	-1.29	-1.02

Note: Assumes U.S. dollar exchange rate = 1.35; construction cost advantage for Saskatoon. See text.
Sources: Ernst & Young (1997); KPMG (1996); R.S. Means (1997); industrial real estate agents in Saskatoon, Winnipeg, Calgary, and Edmonton.

Since property taxes reduce the rate of return in each city, it is the difference between the impact in Saskatoon and that in the other cities that affects investment location decisions. Table 4.2 shows the differences between the reduction in returns in Saskatoon and those in each of the other cities. Thus the property tax reduces the rate of return on equity invested in frozen foods manufacturing by 0.606% more in Saskatoon than in Edmonton – Edmonton offers a higher rate of return by 0.606%. This is a substantial difference and it can be expected to affect investor decisions.

Row 8, the row labelled "current scenario", of Table 4.2 summarizes the industry impacts for each city as an average of the rows above it. Saskatoon currently has a competitive advantage relative to Winnipeg and is close to competitive with Calgary. High land prices in Calgary and low property taxes in Edmonton explain the difference between Calgary and Edmonton. For these manufacturing scenarios, new investments located in Edmonton offer, on average, a 0.5% higher rate of return on equity than if located in Saskatoon.

TABLE 4.2
Competitive advantage:
differential impact of property taxes
per cent

	Winnipeg	Calgary	Edmonton
Auto parts	-0.281	0.144	0.679
Environmental waste treatment systems	-0.276	0.109	0.603
Frozen Foods	-0.288	0.063	0.606
Medical devices	-0.209	0.090	0.464
Pharmaceuticals	-0.239	0.113	0.543
Software development and production	-0.186	0.037	0.389
Telecommunications Equipment	-0.142	0.007	0.273

Average:
  Current scenario
  Long-run scenario
	-0.231
	-0.122
		0.080
		0.176
			0.508
			0.613

Note: Rows 1 – 8 assume a U.S. dollar exchange rate = 1.35 and a construction cost advantage for Saskatoon. Row 9 is averaged over corresponding calculations for a long-run scenario with a U.S. dollar exchange rate = 1.25 and no construction cost advantage for Saskatoon. See text.
Source: Table 4.1 and authors' calculations.

Investments in productive capital are long-term decisions, and property tax policy should be evaluated over a corresponding time horizon. We therefore provide a summary calculation for a second scenario in row 9, the row labelled "long-run scenario", in Table 4.2.

The relatively low building cost index for Saskatoon reflects slack in the construction industry in recent years; increased activity is closing the gap between Saskatoon and the other cities. In the long-run scenario, construction costs are equalized across the cities at $60 per square foot.

KPMG observes that Canada's cost advantage relative to the U.S. requires an exchange rate of 1.15 or higher; the rule-of-thumb in the construction industry is to adjust U.S. construction costs in the R.S. Means tables by a factor of 1.15. Statistics Canada estimates the long-run purchasing power parity exchange rate at 1.20 – 1.25. We

therefore use an exchange rate of 1.25, midway between 1.35 and 1.15, and close to the Statistics Canada estimate, in the long -run scenario.

Land prices are roughly equal in Saskatoon, Winnipeg, and Edmonton. Since land in Calgary has generally commanded a higher price than in the other cities, the long-run scenario uses the current land prices.

The main implication of the long-run scenario is that the competitive advantage Saskatoon currently enjoys relative to Winnipeg may weaken and the competitive advantage of the large Alberta cities may increase.

For the 3 smaller Alberta cities, the difference in the long -run rate of return on equity exceeds 1%. If land prices in those cities are significantly lower, their competitive advantage will be correspondingly larger.

Summary: Property taxes create significant differences in the rates of return on equity investments in manufacturing between prairie cities.

4.3 Incentives to invest: interindustry comparisons

In a competitive national (and international market) for investment capital, assets will be committed to opportunities – industries and locations – in which rates of return are highest. Investment will move into high return communities and out of low return communities, and over time, rates of return will tend to equalize across communities.

The observation that rates of return tend to equalize across communities does not justify the conclusion that property taxes have little effect. The correct conclusion is that the impact of property taxes has been offset by changes in investment patterns across communities. This section provides additional evidence on the impact of local property taxes on the incentives to alter investment patterns.

Tables 4.3 and 4.4 show the impact of property (and business) taxes on the rate of return on equity investment. The share of equity in business finance is assumed to be 50% for each business and location. The share of real property in capital investment varies by business type but not by location. Since property taxes are deductible under the corporate income tax, the tables distinguish investments which qualify for the small business deduction, and for large corporations, investments in manufacturing and processing businesses. The appropriate tax rates vary across jurisdictions.

TABLE 4.3

Impact of property taxes on required rates of return on equity:

large corporations

per cent

	Saskatoon	Calgary	Edmonton	Winnipeg
Manufacturing	1.949	1.688	1.461	2.054
Construction	0.981	0.935	0.809	1.152
Transportation & Storage	2.580	2.460	2.128	3.032
Communications	2.954	2.817	2.437	3.472
Wholesale trade	2.017	1.924	1.664	2.371
Retail trade	2.238	2.134	1.846	2.631
Service	2.714	2.588	2.239	3.190
Average	2.205	2.078	1.798	2.557

Note: Large manufacturing is taxed at the M & P rate.
Source: Chen and Mintz (1993) and authors' calculations.

Table 4.3 shows the impact on the rate of return to equity investments in large corporations, i.e., corporations not qualifying for the small business deduction. For Saskatoon, the impact on manufacturing is close to 2%, and the average over industries is slightly greater than 2%. Overall, the results are consistent with the example above and with the results for the individual manufacturing industries.

Table 4.4 shows the impact of property taxes on the rate of return to equity invested in small business corporations. The impacts are systematically greater for small business than for large corporations, because the tax saving through the corporate income tax deduction for small business is significantly smaller. Moderating the tax rate would moderate the impact on small business corporations.

TABLE 4.3
Impact of property taxes on required rates of return on equity:
small business corporations
per cent

	Saskatoon	Calgary	Edmonton	Winnipeg
Manufacturing	2.582	2.456	2.125	2.977
Construction	1.400	1.332	1.152	1.614
Transportation & Storage	5.193	4.940	4.274	5.988
Communications	4.340	4.128	3.571	5.003
Wholesale trade	2.974	2.829	2.447	3.429
Retail trade	3.316	3.155	2.729	3.824
Service	3.985	3.791	3.280	4.595
Average	3.399	3.233	2.797	3.919

Source: Chen and Mintz (1993) and authors' calculations.

Summary: (1) Saskatoon's property tax policy provides a competitive advantage relative to Winnipeg's. Saskatoon has a tax disadvantage compared to Calgary and especially Edmonton. (2) Property taxes impinge especially heavily on small businesses.

4.4 Investment response: results from selected American studies

The study of state and local business and property taxes and their effects on firm location, capital investment and economic growth, regional employment and income, and several other economic activity measures, has a long and rich history in the public economics literature.[5] We do not discuss those studies that deal with the tax impacts on regional income or employment,[6] and concentrate instead on some of the better studies dealing with capital investment and plant location.

Most of the literature in this area originates in the United States. It is an issue of some importance in that country since the U.S. has experienced major inter-regional shifts in economic activity over the last 2 or 3 decades.[7] Canada has not experienced such large inter-regional shifts and as a consequence, there are few comparative studies using Canadian data. Ernst & Young (1993) suggest the more important shifts, as far as Canada is concerned, are between Canada and the U.S. Nevertheless, experience in the U.S. may provide useful insights into the Canadian situation.

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[5] For an excellent survey of the recent literature, see Bartik (1991)

[6] It should be noted, however, that virtually all of these studies found negative and significant relationships between various measures of taxation and various measures of employment or income.

[7] Most of the shift has been from the upper mid-west and north-east to the west coast and the gulf south.

In a relatively recent study, Papke (1995) computed after tax rates of return to investment for 12 cities in the upper American mid-west across 6 contiguous states and 14 industry types. He found that the after-tax rates of return across all industries and all jurisdictions that would be considered competitors, were virtually identical. Papke (1995, 196) concluded that, "The implicit and uncoordinated policy of business tax collaboration is explained by the externalities of competitive forces and defensive strategies for the retention of domestic firms, the levelling effect from the deductibility of sub national business taxes in computing the federal corporate, and recognition that indigenous business are the principal source of new investment and employment."

In an earlier study, Eberts (1991) examined the relationship between the number of new plant openings and total taxes (federal, state, and local) for a group of manufacturing industries across several different U.S. MSAs (metropolitan statistical areas). He found significant negative effects for large firms headquartered outside of the state, with an elasticity of –0.20; for large firms headquartered within the state, he found a slightly smaller elasticity of –0.16.

In order to study the location of high technology vs. low technology firms in several MSAs from 1976 to 1980, Harris (1986) constructed an index of business and property taxes. He found an elasticity of births of high tech firms with respect to the tax index of -0.31. For low tech firms, he found an elasticity of –0.49.

In an econometric (statistical) study of the effect of interstate tax differentials on the location and size of capital investment using 20 manufacturing industries across 20 states, Papke (1987) found that tax burden differentials had a significant negative effect on business location decisions. He concluded that tax incentives were not likely to effect after-tax return sufficiently to induce an established firm to move, but could well influence the decision to establish a new firm or a branch plant. Papke (1987, 189) states that "The new economic reality that anything can be made anywhere and sold everywhere precludes the states from formulating general business tax policies independently of their neighbors."

Papke (1987) found elasticities of new capital expenditure (per worker) with respect to the after-tax rate of return to be significantly positive for all 20 industries considered over all 20 states.

The average (industry) elasticity was found to be 2.05 with a smallest value of 0.75 and a largest value of 4.12.

This implies that every percentage point increase in the after-tax rate of return increases the rate of capital investment by two percentage points, that is, a doubling. This is not a trivial impact, and as the results above show, the after-tax rate of return is significantly affected by the property tax rate.

Gyourko (1987) found that the more capital intensive the industry the more sensitive that industry was to taxes that taxed plant and equipment. He also found that jurisdictions

that had relatively higher taxes on land tended to attract relatively labour intensive industries rather than capital intensive industries. This finding is consistent with the conventional wisdom that capital is more mobile than labour.

Bartik (1989) examined the small business start rate for the periods 1976-78 and 1980-82 across several industries and several states, with respect to the effective business tax rates. He found a significant negative long run elasticity of –0.73 between the tax rate and the small business start rate. This means that for a 10 percent decrease in the local tax rate, Bartik would forecast approximately a 7.3 percent long run increase in the rate of new business starts. For example, if the existing tax rate was 5.0 percent and the existing rate of new business starts was 3.0 percent, then a decrease of 10% in the tax would bring it down to 4.5 percent, and the resultant start rate would drift up to 3.22 percent.[8]

In a 1989 study of 259 MSAs, Baker and Cromwell found that the elasticity of new firm births, scaled by total employment, was –0.61 with respect to the effective state corporate tax rate, a result not greatly different from Bartik's estimate of –0.73.

In a later study of new firm births, Papke (1991) controlled for state and industry effects by censoring the sample to include only industries that were not tied to any particular location. The sample industries in this study were manufacturing industries that were considered to be completely footloose, that is, not dependent on any specific location for inputs, and selling outputs in a national market. He found that high state marginal effective tax rates tended to significantly reduce the number of firm births for at least half of these industries.

TABLE 4.5		
Comparison of Tax Elasticity Estimates		
	Bartik 1991/92 Surveys	Phillips & Goss 1995 Survey
All studies	-.25 (-.14 to -.36)	-.35 (-.22 to -.48)
Using public service controls	-.33 (-.15 to -.51)	-.60 (-.47 to -.73)
Using local effects controls	-.44 (-.22 to -.66)	-.49 (-.36 to -.62)
Public service & local effects	-.51 (-.17 to -.85)	-.75 (-.61 to -.88)
Within metro area growth	-1.76 (-1.0 to –3.0)	-1.25 (-1.04 to –1.46)

Source: Phillips and Goss (1995)

In the Table 4.5, we summarize the results of three comprehensive surveys of the literature with respect to tax elasticities (Bartik 1991, 1992; Phillips and Goss 1995). The

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[8] The long-run adjustment period is perhaps 10 years.

results of the Bartik survey are amalgamated in column 1. Column 2 lists the results of Phillips and Goss's most comprehensive analysis. The individual numbers in each row are the average tax elasticities with respect to economic development, calculated over all of the studies falling into that row category.[9] The numbers in parentheses just below the averages represent 95 percent confidence intervals around the average values. The estimate would fall within the upper and lower limits 19 times out of 20.

The top 4 rows all refer to studies involving interstate and inter-metro growth. The last row refers to intra-metro growth studies. Row 1 refers to all inter-metro studies. Row 2 is a proper subset of row 1. It includes only studies that allowed for differences in the level of public services provided by the metro area. Row 3 is also a subset of row 1 in that it includes only studies that control for locational differences that might influence the investment decisions of the firm. Row 4 contains the results of studies that allowed for both the level of public service and the fixed locational factors.

Several observations follow. (1) All of the average elasticities are negative, as are all of the upper confidence limits, and none of these upper limits are conceivably anywhere near zero. (2) The intra-metro elasticities are much larger (in absolute value) than the inter-metro elasticities, by a factor of between 1.5 to 3.5.[10] (3) The studies that controlled for the level of public service exhibited substantially larger average elasticities than those found for all studies. (4) Studies that controlled for local fixed effects exhibited larger elasticities than those not doing so. (5) The studies that controlled for both effects exhibited still larger elasticities.

Summary: The weight of the empirical evidence supports the conclusion that taxes have significant effects on new business location and new investment. This is consistent with general perceptions and with a broad range of public policies designed to attract and retain productive economic activity in communities, provinces and states, and countries.

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[9] Bartik (1991) surveyed over 84 different studies. The Phillips and Goss (1995) meta-regression analysis considered a total of 69 studies, many of which were not yet published at the time of the Bartik surveys.
[10] This is based on a comparison of the last two rows of the table, since they are perhaps most comparable.

5 Equity and the property tax

Equity is a constant and important concern in the design of local tax policy.[11] There are 2 fundamental notions of equity: (1) that taxes should reflect taxpayers' relative ability-to-pay, and (2) that taxes should be commensurate with the benefits of the services they finance. We consider each in turn.

All of the analysis presumes that property is assessed at current market value and that th e tax base is 100% of market value. The discussion in Section 2.1 applies here.

5.1 Ability-to-pay

Distributing local tax burdens according to the values of the various properties in the taxing jurisdiction has a very long history. We therefore accept for present purposes that this practice has some ethical as well as practical justification. In particular, real property is the major tax base available to local governments.

5.1.1 Horizontal equity

It is a fundamental requirement of equity that taxpayers with an equal ability-to-pay tax – with property of equal value – should pay the same amount of tax.[12] This is known as "horizontal equity".

We begin with an example, by comparing the burdens of a homeowner and a business, each with a property of the same value.[13]

Residential property owners pay their property taxes out of their after-tax incomes. Accordingly, $1000 of property tax puts the residential homeowner out-of-pocket by $1000.

Business property taxes are deductible under the income tax, however, and t he savings in income tax partially offset the burden for businesses. The degree of offset depends on the applicable income tax rate, and that depends on the size and type of business. Table 5.1 summarizes the pertinent information for 1997.

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[11] See Fair Tax Commission (1992) for a detailed attempt to grapple with equity issues in Ontario.

[12] The second fundamental requirement, "vertical equity", is discussed in Section 5.1.2 below.

[13] One family has an annual income of $75,000 and owns a $150,000 house; another has an annual income of $75,000, owns a $90,000 house, and $60,000 of business property. There is no dif ference in their ability-to-pay, but the property tax liabilities of the second family will be higher under the current structure. The fact that the property tax does not take income into account does not by itself justify imposing tax liabilities that vary with the allocation of family assets between business property and residential property.

TABLE 5.1
Combined Saskatchewan and federal tax rates

Corporations
Small business	21.1%
Manufacturing and processing businesses	32.1%
General	46.1%
Unincorporated business	29.1% - 51.9%

Sources: Treff and Perry (1997) and Ernst & Young (1997)

We approximate the applicable corporate income tax rate by 33.3%. This is close to the average of the small business and general tax rates (33.6%), as well as to the manufacturing and processing rate. If such a business has property of value equal to that of the homeowner and pays property taxes of $1500:

Property tax liability	$1500.00
reduction in corporate tax liability (@33.3%)	500.00
net cost to the business	1000.00

The homeowner and the business are both out-of-pocket by $1000. Thus equity combined with the advantage of income tax deductibility for the business implies that business property taxes should be levied at a higher rate than residential property taxes. In this example, a residential property tax rate at 2.2% of market value and a business property tax rate at 3.33% (= 1.5 X 2.2%) of market value would treat the business and homeowner equally.[14]

We now repeat the calculation for a small business, and approximate the applicable tax rate as 20%.

Property tax liability	$1500.00
reduction in corporate tax liability (@ 20%)	300.00
net cost to the business	1200.00

A fundamental principle of equity, that equally placed taxpayers should receive equal treatment, is violated. Although some such inequities are inevitable in a practical tax implementation, they are not desirable. Income tax deductibility justifies somewhat higher rates on businesses, but allowance for variation in the income tax circumstances of the various sizes and types businesses suggests caution.

The relative heavy property tax burden for small business conflicts with other tax policy objectives. The reduced income tax rate for small business is intended to foster investments in new businesses, create employment, encourage innovation, and ensu re some progressivity in the corporate income tax. The property tax works against those

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[14] A higher blended tax rate would increase the differential. For example, with a blended rate of 40%, the differential would be a factor of 1.67. With a residential rate of 2.2%, the non-residential rate would be 3.67%.

objectives. The property tax also exacerbates cash flow problems and reduces the ability of the business to reduce debt or grow through reinvestment reinvestment of earnings.

5.1.2 Vertical equity

The second fundamental requirement of equity, called "vertical equity", requires amounts of tax that rise with ability-to-pay, so that taxpayers with differing abilities pay appropriately different amounts of tax. Needless to say, the rate at which tax liabilities ought to rise with ability – tax progressivity – is very contentious.[15]

Since property tax levies are proportional to assessments, the vertical equity concern is that the value of one's real property is an imperfect index of one's ability-to-pay property taxes. From the viewpoint of the information available to local governments however, ability-to-pay is measured by property value. To the extent that property value is an imperfect measure, local tax authorities can offset adverse impacts by setting moderate tax rates.

Shifting the tax burden from residential to business rate payers assumes that abilities-to-pay do not differ much within the residential sector or within the business sector, and that the business sector is systematically better-off than the residential sector. Since neither assumption is valid, it is difficult to justify sectoral property tax rate differentials as solutions to the vertical equity problems of the property tax.[16]

Summary: It is difficult on equity grounds to justify a difference in residential and non-residential rates of more than a factor of 1.5 to 1.67. If the residential rate is 2.2%, for example, non-residential rates of 3.33% to 3.67% are reasonable for policy makers concerned with fairness.

5.1.3 Further considerations

It is possible that businesses can shift taxes forward onto purchasers or backward onto suppliers, and thereby have a greater ability-to-pay than residential ratepayers. Relatively high property taxes might be passed on to purchasers in higher prices or absorbed in lower wages. However, Saskatoon's export markets are quite competitive and there is

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[15] The possibility of unaffordable impositions on low-income residential rate-payers is an important concern. The linkage of that concern with the present issue – the overall balance between residential and business property taxes – is quite indirect however, and modifying the balance does not directly target support to low income families. The issue of vertical equity within the residential sector is an important issue but outside the focus of this report.

[16] It would be more effective, for example, to arrange property tax relief measures for low income ratepayers in cooperation with the province. The province has the information and tax tools required to identify and help low income ratepayers.

little scope for raising export prices.[17] Over time, interprovincial labour mobility limits the willingness of labour to absorb the taxes through lower wages or higher prices for local goods and services. The willingness of labour to move is evidenced, for example, in the stability of the Saskatchewan unemployment rate relative to variations in business conditions.

The possibility that businesses competing in local markets may be able to shift a portion of the tax onto local purchasers (other businesses or consumers) or onto local suppliers does not make taxes on businesses more equitable. The portion of the property tax shifted onto purchasers is effective a sales tax (at rates that vary with the real property exposure of the business rather than explicit local government choices) and the distribution of the burden will approximate that of a sales tax. Sales taxes are not progressive taxes. If the burden is shifted onto local labour, the property tax becomes a local wage tax. It is only to the extent that the tax is shifted onto land that Saskatoon's property tax might be shifted progressively. There is no evidence that shifting onto landowners would be sufficient to offset the impacts on local wage earners or consumers.

To elaborate the analysis to include individual income taxes (and other taxes) poses substantial information requirements. These include knowing the timing of future income distributions from the businesses, the forms which the distributions will take, the identities (and thus the structure of the ownership of the businesses) and relevant personal circumstances (such as other income and asset holdings) of the recipients (who may be future inheritors), the jurisdictions of residence of the recipients and applicable tax laws, and so forth. This information is not available to local governments; the corresponding tax tools are only available to provincial and national governments.

5.2 Benefits from public services

Another view of tax equity requires that taxes paid should reflect benefits received, that taxpayers should pay for what they get and get what they pay for.[18]

Local public expenditures create benefits for many homeowners and businesses and it is not feasible to disentangle them with a view to setting tax liabilities, however.[19] For example, traffic control and crime prevention, or streets and other infrastructure, are mutually beneficial for homeowners and businesses. Attributing the benefits to individual residents and businesses for the purposes of determining the property tax liabilities of individual residents and businesses is not feasible.

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[17] Although the mining industry is a possible exception, it does not own a sufficiently large fraction of Saskatoon real property to justify a broadly based rate differential in the hope of exporting a fraction of the burden.

[18] To maintain that the taxes paid by various classes of property owners actually reflects benefits received would require that expenditure patterns and thereby benefit patterns be revised to reflect revised assessments and levies. There will undoubtedly be some pressure on the City to move in this direction, but it is unreasonable to expect that adjustment to be complete.

[19] Although greater use of user charges might be desirable, there will remain a significant residual to be financed through property taxes. We do not discuss user charges here.

Although measurement of individual benefits is not practical, it is interesting to enquire into whether or not broadly based sectors are receiving benefits commensurate with their tax payments. Studies have attempted to derive an overall measure of the balance of tax collections from and expenditure benefits for the business sector. The classic Canadian analysis (Clayton 1968) concluded that businesses received about 60% of the benefits of residential properties.[20]

The most recent reinvestigation (Kitchen and Slack 1993) of the Canadian evidence found that non-residential property taxes averaged 41.1% of total property taxes. They compared this tax share to the benefits received by non-residential properties. They found that the non-residential share of municipal expenditures averaged 17.9%.[21] Thus Kitchen and Slack concluded that the ratio of non-residential property taxes to non-residential expenditure benefits is 2.3 (= 41.1 / 17/9).

If we adjust the tax cost to non-residential property to allow for deductibility under the income tax (at the rate of 33.3%), and the business share of property taxes to 35.6%, the ratio of non-residential property taxes to non-residential benefits is 1.33 (=0.67 X 35.6/17.9). That is, taxes exceed benefits by approximately one-third; the excess will be higher for small businesses and smaller for large businesses.

We conclude that non-residential property taxes exceed the benefits of local expenditures to non-residential properties by a substantial fraction. The current non-residential property tax levy cannot be rationalized as a benefit tax.

5.3 An appropriate business share

Is there an appropriate share for taxes on business property in the local tax levy? For example, should business pay a constant share, perhaps 40%, or local taxes? Discussions of local tax policy are sometimes stated in terms of imposing a fixed share on business property, or with the same effect, a limit on the levies on residential property.

Both the ability-to-pay and benefit views will lead to a tax levy on business, and thereby some fraction of local taxes will be levied on business. However, this fraction will be a result derived from the application of fundamental equity principles; it is not a predetermined number.

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[20] The empirical evidence from the United States reveals that business tax payments usually exceed the benefits they receive from local government services (Bartik 1992, 59)

[21] The extend to which local businesses benefit from local school expenditure s is contentious. Kitchen and Slack (1993, 27) argue that "There appears to be no rationale for distributing the benefits of local education expenditures to non-residential properties in each jurisdiction." However, the education levy is not a benefit tax for residential taxpayers either. Residential education tax liabilities do not depend on whether anyone in the household has been or is being educated in the jurisdiction. The local property tax is simply the way local residents allocate among themselves the cost of educating the young in their community.

To predetermine a business share, or to insist on the continuation of an historical share, is indefensible on equity grounds. It insists on a levy that is insensitive to the relative size of the business sector. If one sector grows relative to another, its market value grows relative to the other, and its claim on local public services grows relative to the other. By both ability-to-pay and benefit criteria, the relatively larger sector should pay a relatively larger share of local taxes. Both the ability-to-pay and the benefits of local expenditures will vary with the size of the business sector, but a fixed share is insensitive to size. [22]

A fixed business share requires higher tax rates on business property if hard economic times depress the value of business property. Thus if the business sector is shrinking in absolute size, a fixed share is perverse on efficiency and competitiveness grounds. [23] Imposing a fixed share of total levies on a shrinking business base requires a higher effective tax rate on the business sector. In fact, unless the value of business sector property grows at the same rate as that of the residential sector, adherence to fixed sectoral tax shares will require that business effective tax rates rise relative to residential effective tax rates. But raising tax rates on the business sector will reduce competitiveness, working to ensure continued (relative) shrinkage and higher tax rates at the next reassessment.

Summary: Predicating local tax policy on a concept of an appropriate business sector tax share, perhaps observed in historical practice, is not defensible on equity grounds or sensible on competitiveness and efficiency grounds.

5.3.1 A numerical illustration

Suppose that business property is 25% and residential property is 75% of the market value of property in the city. Suppose that business property taxes are deductible from corporate income taxes and that the appropriate rate of corporate tax is 33.3%. Suppose that the city requires $1000 of taxes, and $333.33 is levied on business property and $666.67 is levied on residential property.

The corporate income tax deduction saves business $111.11, and the net cost to business is $222.22. Net business property tax outlays are 25% of total outlays – 222.22 = 0.25 X (666.67 + 222.22) – and busiess pays a share of taxes equal to its share of property value.

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[22] Because Saskatoon has no history of market value assessments, trends in sectoral shares are undetectable. Since the new assessments differ significantly from previous assessments, historical patterns are not a reliable guide to tax policy design in Saskatoon. Otherwise, there would be a strong case for resisting tax shifts within the residential sector and within the business sector. But this would continue the inequities and anomalies that motivated the reassessment.

[23] Such shrinkage is possible. Winnipeg's 1994 assessment used 1991 values; its 1998 assessment uses 1995 values. The market value of the residential plus business assessment will change by about 1%, but within the total assessment, residential values have risen and business values have fallen. If the impact of reassessment on Winnipeg's mill rates is small, there will be a shift in the share of the total local levy from business to residential. If sectoral shares are fixed, tax rates will increase for businesses.

If the total value of property in the community is $40,000, the effective tax rate on residential property is 0.0222 (= $666.67 / $30,000) and on business property is 0.03333 (= $333.33 / $10,000). The tax rate on business property is 1.5 times that on residential property.

5.4 Home-based business

Home-based businesses, including home-based offices, have traditionally been a small segment of business activity. Developments in modern telecommunications are now making it possible to conduct substantial and sophisticated activities from homes, and also to disperse some traditional office tasks to home-based suppliers. This strengthening trend promises significant productivity gains in which Saskatoon should participate.

A home-based business is also an opportunity for property and business tax avoidance however, an artificial encouragement that distorts the allocation of productive activity within in the business sector. Tax avoidance is not equivalent to an efficiency gain. Nor is it equitable. Business in the same industry and with the same ability-to-pay will remit differing amounts of tax if some are home-based and others occupy commercial or industrial premises.[24] A concern for business start-ups is best addressed by tax neutrality with respect to the choice of premises.

Property tax policy cannot wholly resolve the inefficiencies and inequities relating to home-based businesses, but it can work to reduce them by moderating the differential between residential and non-residential property tax rates. This is consistent with the conclusions above.

5.5 The education levy

There is a concern that business property might be over-taxed with respect to the education component of the total local levy on property owners. This concern has some basis, as documented in the inter-city comparisons in Section 3.3 above. It was concluded there that the underlying cause was a relatively high reliance of local schools on local property owners in general, rather than a relatively high reliance on business property in particular. We suggest, therefore, that this concern is best relieved at its source, through a combination of cost containment and increased support from broadly based provincial tax revenues.

It is important to be aware that it is the overall property tax levy that affects competitiveness and equity, and this is captured in the effective tax rate. The nominal classification of the payments of residential and non-residential property owners into

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[24] Home-owners with and without home-based businesses, but otherwise similar abilities-to-pay, will pay different amounts of tax if the home-based business deducts a share of property tax paid.

education and municipal levies can be altered without affecting the total tax collected from each group, or the total tax collected for each purpose.[25]

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[25] Calgary is an example. When the education levy became a provincial responsibility in Alberta, the residential share increased and the business share decreased in Calgary. Calgary restructured its municipal levies to eliminate the tax shift that would otherwise have occurred.

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