

## **Education Finance in the Slump: Ontario 1921-1939**

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## *Education Finance in the Slump: Ontario 1921-1939*

### *Introduction*

The boom and the bust in the economic cycle after the First World War is a reasonably well-documented story. However, the reaction to cyclical pressure at the level of local governments has been left largely unexamined. School boards had to meet the pressures created by expanding enrolment and the establishment of a secondary school system. Municipalities had to cope with expanding urban populations with a need for municipal infrastructure and then subsequently to meet the pressure to provide relief and a social safety net in the middle of the Great Depression. This required maintaining a tax effort used to support both education and municipal services at the local level.

This paper examines the patterns of fiscal adjustments made by local governments in Ontario to external pressure. It also sets out a brief empirical examination of some of the factors correlated to the maintenance of the level of education expenditures in the face of exogenous economic pressure on local finances and a minimal fiscal response from the provincial government. A model of the determinants of local spending on education based on Ladd (1975) is also specified and estimated using data generated from the reports of the Department of Education in the 1930s and the data set constructed to test municipal expenditure decisions in Tassonyi (2011).

### *Intergovernmental Finance*

“From its very beginnings at the turn of the nineteenth century, the Ontario school system has been functionally an eminently intergovernmental operation.”<sup>1</sup>

The arrangements for the financing of expenditures on primary and secondary education in the late nineteenth and early twentieth century Ontario reflect the interconnectedness in local and provincial public finances. Continued reliance on the local tax base was possible as the property tax base expanded through the period until the Great Depression and was apparently adequate to fund this component of local

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<sup>1</sup> Ontario Committee on Taxation (1967, 380).

expenditures. Education spending at the local level was financed from provincial transfers, local assessments (the property tax), from the use of revenues derived from the Clergy Reserves<sup>2</sup> and other sources (*Table 1*). These monies were spent on delivering education through elementary public and separate (Roman Catholic) schools to the grade eight level and secondary schools including academic (collegiate institutes, high schools and continuation schools) and vocational (technical and commercial high schools). Continuation schools were located in villages and rural schools, differing from their urban counterparts by minimum staffing levels.<sup>3</sup> However, the intergovernmental arrangements had to confront stresses created by the slumping economy in order to meet an increased demand for schooling.

### ***Property Taxation, Local Institutions and Schooling***

The linkage between local taxation and local schooling has been the focus of several related studies by Lindert, Sokoloff and various co-authors. More recently, the challenge of documenting this linkage in other parts of the world has been taken up by Chaudhary (2009), Chaudhary et al. (2010) and Gallego (2010). In a broad ranging study, Gallego (2010), using measures to test for democracy and political decentralization, finds that while democracy is a significant determinant of primary or elementary schooling, the degree of decentralization of political power seems to be more relevant to the establishment of secondary and higher education, with the former being related to quality measures as well.

In his comparative study of social spending and economic growth, Lindert (2004) sets out the importance of local initiative in the early development of publicly funded mass schooling. He notes that:

“Decentralization of government allows that region [where a slight mandate for public schooling has emerged] to vote

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<sup>2</sup> See Wilson (1968, 220-221) for a detailed history of the Clergy Reserves and the conversion of funds into debentures to provide revenues for local public infrastructure investments.

<sup>3</sup> See Ontario Ministry of Education (1939, 121).

for its own taxes and schools. If it were forced to put the same issue to a national government, the taxes and schools would not happen because the balance of power is still against them at the national level. ... The early leaders were those countries where local governments were free to choose their own levels of commitment to tax-based schools.”<sup>4</sup>

Sokoloff and Zolt (2005) argue that the property tax was a progressive tax during the nineteenth century in both the northern United States and Canada. In their view, the growth of local institutions including universal public schooling and the provision of local infrastructure is strongly linked to a “progressive” tax<sup>5</sup> providing a “broad distribution of social returns.” Recently, Go and Lindert (2007 and 2009) documented the links between the relatively higher relative prosperity of American wage-earners, making the purchase of schooling relatively more affordable, greater political voice relative to local elites and local autonomy, even below the state level in the US. These factors led to the decentralized provision of local elementary or common schooling. They also strongly emphasize that the common school laws followed rather than led local practice and that funding was derived from a mix of public and private sources. Their empirical work lends support to earlier studies that linked the extension of the franchise and political voice to support for public school funding including Engerman and Sokoloff (2005).

In a parallel series of articles, Goldin and Katz (2002) and (2003) have suggested a two stage transformation of education into a publicly provided good; the first being the passage of state legislation requiring school districts to provide education through publicly funded common schools and the second being the development of publicly funded secondary schooling in the United States. They note that: “These actions were not just the aggregate of individual family choices of whether or not to allow and encourage a child to attend school. Rather the choice was whether a school district,

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<sup>4</sup> Lindert (2004, 105).

<sup>5</sup> Sokoloff and Zolt (2005, 27-28).

township, county or state would tax everyone to educate other peoples' children.”<sup>6</sup> This taxation was accomplished visibly through locally imposed property taxation.

## ***Contours of Governance and Finance***

### ***The Twentieth Century***

Operating revenues for the public education system in Ontario at the turn of the century were approximately \$6.0 million. By 1939, in terms of 1900 purchasing power, these revenues had grown to nearly \$30 million. The pattern of this increase is shown in current and constant dollars in Tables 1 to 4 below. These tables also show the principal sources of revenue and the principal categories of expenditure during this period. Revenue is dominated by local taxation while salaries dominate expenditures.

The most significant expansion in the number of schools and in revenues and expenditure occurred during the first decade of the twentieth century with the addition of 100 publicly supported secondary schools and operating expenditures for secondary education nearly tripling from \$770,000 to \$1.9 million from 1902 to 1912 in current dollars (*Table 3*) or \$1.3 million in 1900 purchasing power (*Table 4*)<sup>7</sup>.

From 1900 to 1939, the mean share of provincial transfers for elementary schooling was 7.4 percent but exhibited a coefficient of variance of 24.9 percent while the average share of taxes was 67 percent with a smaller coefficient of variance of 6.9 percent. (See Table A2 in the Appendix). By way of contrast, the mean share of transfers for secondary schooling was higher at 12.0 percent but exhibited a greater degree of variance at 34.6 percent and the average tax share was 65.0 percent but with double the variance of the elementary component of taxes at 14.8 percent. Thus the property tax component was the “stable” funding source for education. For the public boards, the school board determined the amount of tax to be raised and the municipalities had the responsibility to levy the rate, collect the tax and pay over the full amount of the levy,

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<sup>6</sup> Goldin and Katz (2003, 5).

<sup>7</sup> Throughout this study, a price index constructed using the index recently constructed by Minns and MacKinnon (2007) and extended using Emery and Levitt (2002) has been used in the calculation of constant dollar data.

whether collected or not. Thus, public school board finances would remain whole, in spite of the tax collection difficulties faced by municipalities.

### **Education Finance and Demand for Schooling in Ontario 1921-1939**

In the early 1930s, the local institutional structure was broadly similar to the current structure as were the fiscal arrangements between the province and local governments in respect of both municipal and school finance. The rural and suburban areas of the province were organized in a two tier municipal structure (counties) and the larger urban centres having a population of at least 10,000 were 'separated' or single tiers with full responsibility for the range of services being delivered municipally.

The organization of taxation and administration for the delivery of elementary education varied between urban and rural areas.

**Table 1. Revenue Sources for Funding Education (1902-1939)**

	Elementary				Secondary			
	Public and Separate Schools				Secondary Schools			
	Legislative	Municipal	Clergy	Total		Provincial	County	Total
	Grant	Grants	Reserves		Other/Fees	Grants	Assmts	Receipts
		& Assmts	Other					
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
1902	384	3,960	1,423	5,767	106	113	614	833
1912	842	9,479	3,937	14,258	477	210	1,727	2,414
1920	1,631	18,767	9,396	29,793	1,055	176	2,833	4,064
1925	3,402	24,690	12,671	40,763	2,768	392	5,329	8,489
1930	3,753	29,292	14,801	47,846	4,730	473	7,727	12,929
1935	3,014	24,163	6,407	33,584	1,529	441	6,823	8,793
1937	3,777	26,843	4,699	35,319	1,201	655	7,218	9,073
1938	4,419	27,599	4,569	36,587	3,978	862	6,521	9,474
1939	4,635	27,871	6,324	38,830	1,672	885	7,820	10,377
	Continuation				Vocational			
	Provincial	Local & County		Total	Provincial	Local & County		Total
	Grants	Assmts	Other	Receipts	Grants	Assmts	Other	Receipts
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
1902								
1912								
1920	114	325	110	548	140	829	49	1,389
1925	184	679	412	1,275	743	1,779	975	3,497
1930	229	891	518	1,637	1,191	3,972	4,263	9,246
1935	175	631	391	1,197	1,163	4,331	580	6,074
1937	192	622	351	1,165	1,020	4,534	600	6,154
1938	224	678	424	1,327	1,213	5,017	655	6,888
1939	247	792	358	1,397	1,249	5,004	1,208	7,461
	Secondary				Total			Total
	Provincial	Taxes	Other	Total	Provincial	Taxes	Other	Education
	Transfers				Transfers			Revenues
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
1902	113	614	106	833	496	4,574	1,529	6,599
1912	210	1,727	531	2,468	1,116	11,283	4,468	16,967
1920	430	3,499	1,215	5,144	2,432	22,754	10,610	35,796
1925	1,320	7,786	4,156	13,261	4,722	32,477	16,826	54,025
1930	1,893	12,664	9,511	24,068	5,646	41,881	24,312	71,840
1935	1,779	11,785	2,501	16,065	4,793	35,948	8,907	49,648
1937	1,867	12,374	2,151	16,392	5,644	39,217	6,850	51,711
1938	2,302	13,329	2,057	17,686	6,722	40,928	6,626	54,275
1939	2,381	13,647	3,238	19,266	7,015	41,518	9,562	58,095

Source: Ontario Ministry of Education, Annual Reports.

**Table 2. Revenue Sources for Funding Education (\$1900s )**

	Elementary				Secondary			
	Public /Separate Schools				Secondary Schools			
	Provincial	Municipal	Clergy	Total		Provincial	County	Total
	Transfers	Grants &	Reserves		Other/Fees	Grants	Assessments	Receipts
		Assmts	Other					
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
<b>1902</b>	366	3,776	1,357	5,500	101	107	586	794
<b>1912</b>	566	6,376	2,648	9,590	321	141	1,162	1,624
<b>1920</b>	659	7,582	3,796	12,036	426	71	1,145	1,642
<b>1925</b>	1,432	10,389	5,332	17,153	1,165	165	2,242	3,572
<b>1930</b>	1,771	13,825	6,986	22,582	2,232	223	3,647	6,102
<b>1935</b>	1,647	13,202	3,500	18,349	835	241	3,728	4,804
<b>1937</b>	1,983	14,091	2,467	18,540	630	344	3,789	4,763
<b>1938</b>	2,381	14,869	2,461	19,711	2,143	465	3,513	6,120
<b>1939</b>	2,377	14,293	3,243	19,913	857	454	4,010	5,322
	Continuation				Vocational			
	Provincial	Local & County		Total	Provincial	Local & County		Total
	Transfers	Assessments	Other	Receipts	Grants	Assessments	Other	Receipts
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
<b>1902</b>								
<b>1912</b>								
<b>1920</b>	46	131	44	222	57	335	20	412
<b>1925</b>	77	286	173	537	313	748	410	1,472
<b>1930</b>	108	421	244	773	562	1,874	2,012	4,449
<b>1935</b>	96	345	214	654	635	2,366	317	3,319
<b>1937</b>	101	327	184	612	536	2,380	315	3,230
<b>1938</b>	121	365	229	715	654	2,703	353	3,709
<b>1939</b>	127	406	184	716	641	2,566	619	3,826
	Secondary				Total			Total
	Provincial	Total	Other	Total	Provincial	Taxes	Other	Education
	transfers	Taxes			Transfers			Revenues
	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's
<b>1902</b>	107	586	101	794	473	4,362	1,458	6,294
<b>1912</b>	141	1,162	357	1,660	751	7,589	3,005	11,413
<b>1920</b>	174	1,414	491	2,078	982	9,192	4,286	14,461
<b>1925</b>	555	3,276	1,749	5,580	1,987	13,666	7,080	22,733
<b>1930</b>	893	5,977	4,489	11,359	2,665	19,767	11,475	33,906
<b>1935</b>	972	6,439	1,366	8,777	2,619	19,641	4,867	27,127
<b>1937</b>	980	6,495	1,129	8,605	2,963	20,586	3,596	27,145
<b>1938</b>	1,239	7,181	1,108	9,528	3,621	22,050	3,570	29,241
<b>1939</b>	1,221	6,998	1,661	9,880	3,597	21,291	4,904	29,792

Source: Ontario Department of Education Reports and Author's Calculations.

**Table 3. Education Operating and Capital Expenditures (1902-1939)**

Education Operating Expenditures							Capital Outlays	
Elementary			Secondary Schools			Elementary	Secondary	
Salaries	Other	Total	Salaries	Other	Total			
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902	3,198	1,194	4,392	547	223	770	433	44
1912	6,110	2,387	8,497	1,233	720	1,953	2,778	328
1920	13,070	12,147	25,217	2,269	956	3,225	4,793	364
1925	18,569	14,739	33,308	3,986	2,439	6,425	4,043	1,464
1930	20,503	15,051	35,554	5,059	4,522	9,581	4,753	2,056
1935	18,712	10,667	29,379	4,968	2,833	7,801	525	236
1937	19,214	11,341	30,555	5,194	2,960	8,154	1,317	159
1938	19,380	12,765	32,145	5,376	3,168	8,544	1,494	293
1939	20,117	12,367	32,484	5,427	3,308	8,735	1,395	950
Continuation			Vocational			Continuation	Vocational	
Salaries	Other	Total	Salaries	Other	Total			
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902								
1912								
1920	318	120	438	456	775	1,231	35	515
1925	596	299	895	1,525	1,521	3,046	207	320
1930	728	375	1,103	3,063	1,870	4,933	174	3,167
1935	570	756	1,326	3,426	1,765	5,191	40	38
1937	570	325	895	3,495	2,335	5,830	32	226
1938	594	346	940	3,604	2,176	5,780	158	174
1939	643	473	1,116	3,593	2,361	5,954		623
Secondary Total			Education Total			Total	Grand	
Salaries	Other	Total	Salaries	Other	Total	Secondary	Total	
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902	547	223	770	3,745	1,417	5,162	44	477
1912	1,233	720	1,953	7,343	3,107	10,450	328	3,106
1920	3,043	1,851	4,894	16,113	13,998	30,111	914	5,707
1925	6,107	4,259	10,366	24,676	18,998	43,674	1,991	6,034
1930	8,850	6,767	15,617	29,353	21,818	51,171	5,397	10,150
1935	8,964	5,354	14,318	27,676	16,021	43,697	314	839
1937	9,259	5,620	14,879	28,473	16,961	45,434	417	1,734
1938	9,576	5,690	15,264	28,954	18,455	47,409	625	2,119
1939	9,663	6,142	15,805	29,780	18,509	48,289	1,573	2,968

Source: Ontario Department of Education Reports and Author's Calculations.

**Table 4. Education Operating and Capital Expenditures (\$1900s)**

Education Operating Expenditures							Capital Outlays	
Elementary			Secondary					
Salaries	Other	Total	Salaries	Other	Total	Elementary	Secondary	
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902	3,050	1,139	4,189	522	213	734	413	42
1912	4,110	1,606	5,715	829	484	1,314	1,869	221
1920	5,280	4,907	10,187	917	386	1,303	1,936	147
1925	7,814	6,202	14,016	1,677	1,026	2,704	1,701	616
1930	9,677	7,104	16,780	2,388	2,134	4,522	2,243	970
1935	10,224	5,828	16,052	2,714	1,548	4,262	287	129
1937	10,086	5,953	16,039	2,727	1,554	4,280	691	83
1938	10,441	6,877	17,318	2,896	1,707	4,603	805	158
1939	10,316	6,342	16,658	2,783	1,696	4,479	715	487
Continuation			Vocational			Continuation	Vocational	
Salaries	Other	Total	Salaries	Other	Total			
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902								
1912								
1920	128	48	177	184	313	497	14	208
1925	251	126	377	642	640	1,282	87	135
1930	344	177	521	1,446	883	2,328	82	1,495
1935	311	413	724	1,872	964	2,836	22	21
1937	299	171	470	1,835	1,226	3,060	17	119
1938	320	186	506	1,942	1,172	3,114	85	94
1939	346	255	601	1,843	1,211	3,053		319
Total Secondary			Total Education					
Salaries	Other	Total	Salaries	Other	Total	Total	Total	
\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
1902	522	213	734	3,572	1,764	5,336	42	455
1912	829	484	1,314	4,939	3,957	8,896	239	2,107
1920	1,229	587	1,816	6,509	5,494	12,004	369	2,306
1925	2,570	1,792	4,361	10,383	7,990	18,373	838	2,539
1930	4,176	2,512	6,689	13,853	8,504	22,358	2,626	4,869
1935	4,898	2,679	7,577	15,121	8,508	23,629	310	597
1937	4,860	2,950	7,811	14,946	8,903	23,850	219	911
1938	5,159	3,066	8,225	15,599	9,943	25,542	484	1,289
1939	4,955	2,305	7,261	15,272	8,647	23,919	319	1,035

Source: Ontario Department of Education Reports and Author's Calculations..

Boards of education were largely co-terminous with county boundaries. In urban communities, the municipality was the unit of taxation and administration; in rural areas, the school section was the unit of taxation and administration. A public school section was created by the township council; a separate school by 'not less than five heads of families being householders or freeholders resident within any public school section and being Roman Catholics' convening a public meeting and following a procedure outlined by law.

### ***Structure of Finance***

The structure of financing education varied as between elementary and secondary education. The total cost of elementary education in rural areas was funded by levies at the township and the county level and a provincial transfer with the residual being raised at the level of the school section. The township, county and provincial grants were determined by formula related to expenditures and the residual was raised at the school section level.

In general, the provincial transfers were made to school boards, (elementary public and separate and secondary) on the basis of attendance, taxable property, school expenditures, and sometimes on the basis of other criteria approved by the Minister of Education. Transfer payments made to collegiate institutes and high school boards, were apportioned on the basis of salaries paid to teachers, type of accommodation and value of equipment; subsidies for special subjects; and some assistance for schools in poor rural sections and in mining and lumbering settlements.

By 1900, approximately 14.5 percent of total education expenditures were provincially financed. However, by 1920, the province funded 22.7 percent of the total expenditures of \$34 million on education. In 1930, the total assistance stood at \$12.8 million and had reached its pre-war peak at 23.5 percent of total expenditures on elementary and secondary education.<sup>8</sup> In terms of the allocation of provincial monies, a significant change was made in 1930 coming into effect in 1931 such that all sums of money appropriated for public and separate schools was to have regard to attendance, the value of

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<sup>8</sup> Committee of Enquiry (1938, 73-74).

property liable for taxation purposes, the expenditures of the board, and such other considerations deemed necessary. The *School Law Amendment Act* placed both urban and rural schools on the same basis, included all expenditures of a board, and recognized the need for equalization.<sup>9</sup> (The next major revision took place in 1945.)<sup>10</sup>

The education grant model at the beginning of the 1930s was constructed as follows:

- “(1) a grant of one dollar for each pupil in average attendance for the next preceding calendar year;
- (2) a grant on account of teachers’ salaries, based on the ratio of such salaries to the equalized assessment of the school area, increasing as the ratio increased, and greatest in rural sections and small urban municipalities;
- (3) a grant on equipment for rural public and separate schools only, but not to exceed \$100 per classroom in the counties and \$200 per classroom in the Districts;
- (4) a grant based on teachers’ certificates for rural public and separate schools only, and varying according to the grade of the certificate;
- (5) a special grant to school sections or urban municipalities with low assessment on account of both maintenance and capital expenditure, and increasing as assessment declined.”<sup>11</sup>

However, financial stringency resulted in the following modifications to elementary funding for rural public schools:

“The township grant has been fixed at amounts varying from \$600, at least, for every principal teacher and \$400, at least, for each assistant, in townships in which the average assessment per section is at least \$100,000, to \$150 and \$100 respectively in townships in which the average assessment is below \$30,000. These amounts were reduced by 25 per cent in 1933, but this deduction was reduced in 1936 to 20 per cent. The township grants are applicable exclusively to teachers’ salaries, but their

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<sup>9</sup> In this context, equalization refers to the calculation used to bring assessment bases to a common valuation year.

<sup>10</sup> Dupré (1967, 119-122) provides the full details of the various shifts and changes in the funding formula. At one point, he notes: “The reader who has been bewildered by the above is invited to take a brief pause which he may use to give vent to any appropriate emotional reaction.” (at 121).

<sup>11</sup> Committee of Enquiry. p. 38.

payment to boards is made conditional on the payment to the teacher of a salary of at least \$500 a year. The county is required to collect a sum at least equal to that part of the Legislative grant for public and separate school purposes which is apportioned by the Minister of Education on the basis of the equipment and accommodations of the rural schools of the county, and also a sum equal to the Legislative grant for Fifth Classes maintained by public and separate schools; these sums are payable to the boards of schools receiving such Legislative grants in the same proportion as the grants are paid to the several schools.”<sup>12</sup>

This approach seems counter-intuitive in penalizing assessment-poor townships. However, the Committee, while recommending the restoration of grants to the level prevailing in 1933 was less convinced that poorer areas should receive more funding.<sup>13</sup>

Provincial transfers to secondary schooling were rigidly defined. The Commission itself noted: “the amount of the Provincial grant has been extremely small in relation to the total cost of secondary education.” The principal characteristics of this grant were as follows:

- “1. A fixed grant of \$300 for high schools with fewer than four teachers, and of \$275 for other high schools, and of \$250 for collegiate institutes.
2. A grant in respect of equipment, represented by a sum which has varied from 6 per cent to 10 per cent of the expenditure on account of equipment, subject, however, to the condition that it should not exceed \$122.50 for high schools with two teachers, and \$167.50 in the case of other high schools and collegiate institutes.
3. A grant in respect of school accommodation, determined on the basis of a definite system of grading, but not exceeding amounts fixed during the last several years at \$212 in the case of high schools with two teachers, at \$330 in the case of high schools with three or

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<sup>12</sup> Committee of Enquiry (1938, 37)

<sup>13</sup> The Committee noted that it: “believes that the payment of the grant on account of teachers’ salaries on a graduated scale provides a definite advantage to the poor school section despite the fact that it may not obtain the maximum of benefit. The poorer school section receives a larger grant on account of salaries than the wealthier section which pays the same salary. The Committee is unable to recommend a change in the principle underlying the payment of the grant on account of the teachers’ salaries”. (Ibid. 39)

more teachers, and at \$424 in the case of collegiate institutes.

4. A grant in respect of salaries, equal to 10 per cent of the approved expenditure- the grant in no case to exceed the sum of \$1,000.”<sup>14</sup>

A priori, these grant arrangements may not have influenced spending decisions as directly as did the formula arrangement that prevailed in 1986 and continued until 1998.<sup>15</sup> Overall education expenditures continued to increase prior to the Great Depression. While salary expenditures in nominal terms were reduced after 1930 to meet the exigencies of the crisis, particularly in elementary schools, the impact was offset by deflation. However, capital outlays were drastically reduced from the peak levels achieved around 1930, measured in both nominal and real terms.<sup>16</sup>

### ***Attendance and Teaching***

The Ministry of Education’s published data show that there was an increase in demand for schooling coincident with the general financial strain. In 1902, there were nearly 470,000 pupils in elementary schools and nearly 27,000 in secondary schooling. (The total provincial population was approximately 2.2 million at the turn of the century.) By 1922, elementary enrolment was approximately 600,000 and secondary enrolment excluding evening vocational classes was nearly 65,000. Evening vocational enrolment was at 39,000 in 1927. (Provincial population had increased to 2.9 million from 2.2 million at the turn of the century.) By 1934, in the depths of the depression, elementary enrolment had slipped from a peak in 1927 of nearly 640,000 to nearly 567,000 and secondary enrolment had increased to nearly 115,000 pupils. Vocational evening enrolment had slipped to 24,000 in 1934 but increased to 37,000 by 1939. The elementary numbers declined to 543,000 by 1939 and the secondary enrolment increased to 121,000 by 1939.

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<sup>14</sup> Committee of Enquiry (1938, 32).

<sup>15</sup> See Locke and Tassonyi(1993) for a description of the Mill Rate Equalization Plan and Tassonyi (2011) for further analysis.

<sup>16</sup> There is a gap between the revenues and expenditures as compiled from the Annual Reports of the Ministry of Education. It may be that the consolidation of debt in supervised municipalities left the expenditure on debt service being unreported.)

The number of teachers in elementary schools had reached a plateau during the 1930s, around 17,600. By contrast, the number of secondary school teachers increased from 3,500 in 1930 to approximately 4,300 in 1932 and to 5,100 by 1938. The number of secondary schools had increased marginally from 1927 to 1938 and the number of continuation schools and vocational schools varied marginally from 1927 to 1934. The number of elementary schools had been steadily increased to 1923 reaching a plateau around 7,200 schools during the 1920s and 1930s. It would appear that from 1922 to 1927, some excess capacity had been built into the stock of elementary and secondary schools in the province.

Thus from 1902 to 1939, locally financed elementary and secondary education expanded to meet growing enrolments. Investments were made in new schools and in expanding the number of teachers. However, after 1930, school boards reacted to financial exigency. While capital outlays were substantially curtailed, the number of teachers remained relatively stable, while expenditures on salaries were somewhat reduced in nominal terms. During the latter part of the decade, the number of pupils per teacher fell only marginally. Although revenues per pupil also fell after 1930, the demand for education would continue to put pressure on the property tax base.

Aggregate operating expenditures measured in real terms show long run stability with retrenchment in real capital expenditures. *Table 5* shows the per pupil revenue and expenditures for selected years from 1902 to 1939 in current and 1900 purchasing power dollars. Per pupil expenditures generally peak around 1930 and then exhibit stability at a lower level of expenditure. Similarly revenues per pupil peak around 1930 and then are drastically reduced by 1935 for both elementary and secondary purposes.

**Table 5. Education Expenditures and Revenue Per Pupil**

<b>Education Operating Expenditures Per Pupil</b>				
	<b>Elementary</b>	<b>Elementary</b>	<b>Secondary</b>	<b>Secondary</b>
	<b>Total</b>	<b>Total</b>	<b>Total</b>	<b>Total</b>
	<b>\$</b>	<b>\$1900s</b>	<b>\$</b>	<b>\$1900s</b>
<b>1902</b>	9.42	8.99	28.88	27.54
<b>1912</b>	17.33	11.66	43.60	29.32
<b>1920</b>	44.51	17.98	71.09	28.72
<b>1925</b>	54.09	22.76	72.50	30.51
<b>1930</b>	62.98	29.73	91.44	43.16
<b>1935</b>	52.23	28.54	66.95	36.58
<b>1937</b>	53.83	28.26	69.41	36.43
<b>1938</b>			70.21	37.82
<b>1939</b>	59.80	30.67	72.16	37.01

<b>Capital Outlays per Pupil</b>				
	<b>Elementary</b>	<b>Secondary</b>	<b>Elementary</b>	<b>Secondary</b>
	<b>\$</b>	<b>\$</b>	<b>\$1900s</b>	<b>\$1900s</b>
<b>1902</b>	0.93	17.89	0.89	1.57
<b>1912</b>	5.67	69.34	3.81	4.92
<b>1920</b>	8.46	125.81	3.42	8.14
<b>1925</b>	6.57	68.09	2.76	9.45
<b>1930</b>	8.42	96.87	3.97	24.31
<b>1935</b>	0.93	7.20	0.51	1.47
<b>1937</b>	2.32	14.76	1.22	1.86
<b>1938</b>		17.41		2.77
<b>1939</b>	2.57	24.52	1.32	6.66

<b>Operating Revenues</b>				
	<b>Elementary</b>	<b>Elementary</b>	<b>Secondary</b>	<b>Secondary</b>
	<b>Total</b>	<b>Total</b>	<b>Total</b>	<b>Total</b>
	<b>\$</b>	<b>\$1900</b>	<b>\$</b>	<b>\$1900</b>
<b>1902</b>	12.37	11.80	31.24	29.79
<b>1912</b>	29.08	19.56	55.09	37.06
<b>1920</b>	52.59	21.24	113.40	45.81
<b>1925</b>	66.19	27.85	149.64	62.97
<b>1930</b>	84.76	40.00	229.71	108.41
<b>1935</b>	59.70	32.62	137.87	75.33
<b>1937</b>	62.22	32.66	139.53	73.24
<b>1938</b>			145.35	78.29
<b>1939</b>	71.48	36.66	159.15	81.61

Source: Ontario Department of Education Reports and Author's Calculations.

Rapid growth in the number of persons attending school in Canada took place from 1921 to 1931 (**Table 6**). School attendees increased from 1.7 million to 2.2 million, reflecting a 26 percent increase compared to the 18 percent increase in the school-age population. (MacLean, 1942). MacLean notes several reasons including the fact that, by this time, the population was already more schooled and the share in the total population of school-age persons was increasing. Further, “of greater social significance, [that] in the last year of the decade, people have attended school because they have nothing else to do.” Accordingly, “the number of persons attending school at the age of 16 grew by 80 percent during the decade; the number of 17 year olds by 91 percent and 18 year olds by 93 percent or more than four times as fast as the average and five times the rate of increase of the population. The number of school attendees, aged 16 to 19 increased by 86 percent. Ontario also amended the *Adolescence School Attendance Act* which required attendance to the age of 16 or 17 depending on obtaining a leaving certificate.”<sup>17</sup> This legislation was also paralleled in other jurisdictions. **Table 7** provides comparisons of the school age population in attendance and its increase over the 1920s.

**Table 6. Population in Schools**

	1931	1931	1931	% of School Age Pop. in Schools		
	Share of 5-19 in Total Population	Share of 5-19 in School	Share of All Ages in School	Age 7	Age 11	Age 14
	%	%	%	%	%	%
<b>Canada</b>	31.29	65.67	20.81	86.97	97.18	83.33
<b>Ontario</b>	28.26	69.63	20.04	90.86	98.22	90.40

Source: MacLean (1942, 670)

<sup>17</sup> MacLean (1942, 664).



## *Entanglement in Local Finance*

The roots of the fiscal crisis that encompassed Ontario municipalities can be traced to several different fundamentals. The 1920s and early 1930s witnessed a significant increase in the indebtedness of Ontario municipalities generally. However, the combination of unsustainable urban sprawl in suburban municipalities, shoddy administrative practice, the responsibility to provide social assistance (relief), and limited access to revenues proved to be too much for some.<sup>19</sup> By August 1934, over 40 Ontario municipalities and school boards had defaulted on their obligations.<sup>20</sup> (*Table 8*) The majority of the defaults had occurred during 1932 and 1933. Of these only four were cities. Many of the municipalities were typically "working-class dormitory suburbs- i.e., the poorer residential districts of metropolitan areas."<sup>21</sup> Some of the common characteristics of the defaulting municipalities, including a comparison of the percentage of the population on relief are also shown on *Table 8*.

**Table 8. Defaulting Municipalities, 1931-1941**

Municipality	Suburban	Auto	Pulp	Border	Default Date	1939relief/pop.
<b>Etobicoke</b>	x				01/06/1933	9.5
<b>Mimico</b>	x				01/03/1933	12.6
<b>New Toronto</b>	x				01/10/1933	11.9
<b>Scarborough</b>	x				15/12/1932	14.5
<b>North York</b>	x				01/12/1933	9.2
<b>Weston</b>	x				01/07/1934	3.4
<b>York</b>	x				01/10/1933	14.9
<b>Leaside</b>	x	x			01/01/1933	0.2
<b>East York</b>	x				01/10/1933	13.5
<b>Niagara Falls</b>				X	12/01/1933	13.6
<b>Thorold</b>			x	X	01/09/1934	6.7
<b>Fort Erie</b>				X	01/08/1934	7.9
<b>Eastview/Vanier</b>	x					16.9
<b>Sudbury</b>					01/10/1933	4.8
<b>Kingsville</b>		x			06/01/1934	1.2

<sup>19</sup> Harris (1996, 151) points out that City of Toronto staff argued against further annexations after 1918 on the grounds that financing infrastructure in the suburban areas was becoming too costly and impairing the city's fiscal position. This left the suburbs in the position of having to take care of themselves.

<sup>20</sup> See Bradshaw (1935, 123). This list is parallel to a similar list of "supervised municipalities" described in Department of Municipal Affairs (1946, XIII). For an analysis of the imposition of the hard budget constraint, see Tassonyi (2011) and Bird and Tassonyi (2003).

<sup>21</sup> RCDPR (1939, Book II, 147).

<b>Municipality</b>	<b>Suburban</b>	<b>Auto</b>	<b>Pulp</b>	<b>Border</b>	<b>Default Date</b>	<b>1939relief/pop.</b>
<b>Essex</b>		x			01/02/1933	7.1
<b>Windsor</b>		x		X	01/12/1932	12.1
<b>Ford City</b>	x	x				
<b>Lasalle</b>	x	x		X	01/02/1932	12.3
<b>Riverside</b>	x	x		X	01/12/1931	9.3
<b>East Windsor</b>	x	x		X	01/12/1931	
<b>Sandwich</b>	x	x		X	01/02/1932	
<b>Sandwich E</b>	x	x		X		11.0
<b>Sandwich S</b>	x	x		X	01/12/1931	0.5
<b>Sandwich W</b>	x	x		X	01/12/1931	17.1
<b>Walkerville</b>	x	x		X	01/09/1934	
<b>Pelee</b>				X		0.0
<b>Tecumseh</b>					01/01/1932	18.3
<b>Dysart</b>					01/12/1932	6.4
<b>Pt. Edward</b>				X	31/12/1933	5.4
<b>Trenton</b>					01/01/1934	14.8
<b>Leamington</b>					01/09/1934	1.0
<b>Hawkesbury</b>			x		01/10/1932	29.0
<b>Clarence</b>					01/09/1933	4.5
<b>Pembroke</b>			x		01/03/1934	7.7
<b>Midland</b>						22.8
<b>Collingwood</b>						16.3
<b>Penetang</b>						18.0
<b>Blind River</b>						26.9
<b>Calvert</b>						6.8
<b>Sturgeon Falls</b>			x		01/09/1933	45.2
<b>Haileybury</b>						3.6
<b>Rainy River</b>						5.1

Source: Bradshaw (1935, 123) and Annual Reports of the Department of Municipal Affairs.

In particular, “dormitory” or suburban municipalities around Toronto and Windsor, the border towns, towns dependent on lake shipping and single-industry municipalities dependent on the pulp and paper industry were vulnerable.<sup>22</sup> The Commission of Enquiry into Education Costs noted that:

... the extension of settlement beyond the boundaries of the city has been due to the migration of wage-earners in search of cheap houses. This type of movement has resulted in the rapid development of thickly populated

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<sup>22</sup> The Commission of Enquiry into the Costs of Education (1937, 4) Bliss (1987, 419-421) provides an account of the impact of the economic collapse on various sectors of the economy, including the collapse in pulp and paper and steel production at the firm level.

districts with houses assessed definitely lower than the average assessment of similar houses within the city. The birth-rate in such areas has been higher than the average, usually, and the demand for educational facilities has been urgent. Because the population belongs largely to the wage-earning class, its ability to pay taxes is dependent on conditions of employment within the city. This type of district, as is illustrated in the cases of the suburban areas adjoining the cities of Toronto and Windsor, was among the first to suffer from the decline of employment in the late 1920's. Here the burden of unemployment relief became greatest, at a time when the necessity for providing facilities for education became most acute and the ability to pay taxes had reached a minimum.”

Several separate school boards, (mostly in the Windsor area) were also put under supervision. (These included the Brantford, Sandwich East, Sandwich, Sandwich West, East Windsor, Lasalle, Riverside and Tecumseh boards.) As Goldenberg notes, separate boards collected their own taxes<sup>23</sup> unlike the public boards. During the slump, clearly they were unable to do so.

Coincident with the rising levels of municipal debt and debt service payments in the 1930s, Ontario municipalities faced collapses in their property tax bases. Bradshaw (1932-33) indicates that in Windsor, where the Depression hit particularly hard on the local economy:

“unpaid taxes for 1931 represented 41.5 per cent of the total taxes levied. Of total taxes levied in other leading Ontario municipalities in 1931, Kitchener had collected by the end of the year 91.4 percent, Peterborough 91.2 percent, Ottawa, 91 percent, Hamilton, 87.8 percent, Brantford 86.2 percent, and Toronto 83 percent. Per capita arrears in [Windsor's] Municipal taxes were \$12.63 in 1928, \$18.04 in 1928, and reached \$38.85 in 1931. This last figure compares with \$4.48 for Kitchener, \$5.41 for Peterborough, \$5.65 for Ottawa, \$8.25 for Hamilton, \$8.40 for Brantford, and \$12.71 for Toronto.”<sup>24</sup>

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<sup>23</sup> Goldenberg (1939, 59)

<sup>24</sup> Bradshaw (1932, 192).

In 1931, these arrears represented 49 percent of per capita total taxes in Windsor, 11 percent in Kitchener, 13 percent in Peterborough, 11 percent in Ottawa, 20 percent in Hamilton, 21 percent in Brantford and 22 percent in Toronto. As arrears grew, the banks curtailed short-term loans as security was impaired and the risk of default increased.<sup>25</sup>

### ***Shared Tax Bases and Local Public Sector Expenditure Decisions***

Ontario municipalities in the 1930s were confronted by financial pressures and hemmed in by constraints on their ability to address their financial crises. Funding education expenditures were an unavoidable source of pressure on local property tax revenues. In both nominal and real terms, expenditures on elementary and secondary schooling were reduced through the 1930s, and in particular, capital expenditures were curtailed. While contemporary opinion and subsequent accounts have emphasized the role of debt service payments and rising relief expenditures as the principal drivers of the municipal financial crisis in Ontario in the 1930s, the interaction of municipal and school taxation on a common base and the relationship to local spending in the 1930s has only recently been re-examined.<sup>26</sup>

The Province could have taken on greater responsibility for the funding of education and in making decisions on spending in the 1930s.<sup>27</sup> At a minimum, increased transfers might have relieved pressure on the local tax base or made debt servicing less onerous in the supervised municipalities. Differences in the municipal fiscal capacity to deliver education services could have been reduced. The Province also did not place explicit controls on the level of taxation applicable to education. Whether, in fact, a

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<sup>25</sup> Ontario (1938b, 75) In the submission to the Rowell-Sirois Commission, the Province noted that: “Up to that time the municipalities’ bankers had made the necessary advances to meet their current requirements pending the collection of taxes. With the gradual falling off of tax collections during the depression, to all time lows, in many cases considerably less than 50% of the current year’s tax levy, the banks, feeling that their security was being seriously weakened and impaired, declined to make any further advances.” For an analysis of the pressures on the banking system, see Drummond (1991).

<sup>26</sup> Tassonyi (2010)

<sup>27</sup> See the discussion in Tassonyi (2011) related to Wildasin (2004) and the motivation of senior levels of government imposing hard budget constraints through supervision rather than providing assistance through transfer payments.

greater provincial fiscal presence would have resulted in an enhancement of the resources devoted to education or simply a redistribution from richer to poorer areas is, of course, unknown. Given the political landscape, such a result could have been possible had a centralizing policy been pursued. Instead, however, the Province chose to rely on the shared local tax base as the principal source of funding education.

School taxes per capita were higher in cities than elsewhere in the province and over twice as high as in rural areas by 1939. The coefficient of variation of this measure was also lower comparing intercity variations than a comparison of the school taxes per capita in smaller urban areas. While school taxation per capita was relatively stable in nominal terms in cities and urban areas, the peak is noticeable in 1933 in nominal terms in the supervised municipalities.

**Table 9. Average Per Capita Taxes, (Current Dollars)**

By Jurisdiction	School Taxes Per Capita			Total Taxes Per Capita		
	1921	1933	1939	1921	1933	1939
	\$	\$	\$	\$	\$	\$
<b>Cities</b>	11.81	13.27	13.62	35.66	42.64	38.29
<b>Std.Dev.</b>	2.64	2.39	2.50	8.89	6.67	6.29
<b>COV</b>	0.223	0.180	0.184	0.249	0.157	0.164
<b>Urban</b>	8.91	9.59	9.74	25.48	34.26	27.56
<b>Std.Dev.</b>	3.15	4.11	3.47	8.50	13.66	9.27
<b>COV</b>	0.353	0.429	0.356	0.334	0.399	0.336
<b>Supervised</b>	9.99	11.57	9.73	30.25	42.43	29.40
<b>Std.Dev.</b>	4.13	9.66	3.36	21.57	40.05	10.54
<b>COV</b>	0.414	0.836	0.346	0.713	0.944	0.359
<b>City+Urban</b>	9.85	10.73	10.95	28.75	36.87	30.89
<b>Std.Dev.</b>	3.27	4.03	3.66	9.82	12.52	9.79
<b>COV</b>	0.333	0.376	0.335	0.341	0.340	0.317
<b>By Total Pop.</b>						
<b>Rural</b>	7.46	6.25	7.23	20.69	23.01	21.07
<b>Urban</b>	8.79	9.41	9.80	23.64	31.73	27.28
<b>Cities</b>	12.70	15.45	15.31	41.91	49.93	44.96
<b>Province</b>	9.95	11.05	11.41	30.32	36.97	33.18

Measured in 1900 purchasing power, the peak in 1933 in the trough of the depression is discernible as real per capital school taxes fell by 14.5 percent in cities, 15.7 percent in towns and villages and nearly 40 percent in the municipalities under provincial supervision. (Table 10) Moreover, total taxes per capita in real terms which had been increased significantly from 1921 to 1933 in all jurisdictions fell even more drastically in real terms to 1939.

**Table 10. Average Per Capita Taxes of Ontario Municipalities, (\$1900s)**

	School Taxes Per Capita			Total Per Capita		
	1921	1933	1939	1921	1933	1939
<b>By Jurisdiction</b>	\$	\$	\$	\$	\$	\$
<b>Cities</b>	5.16	7.99	6.98	15.57	25.69	19.64
<b>Urban</b>	3.89	5.78	4.99	11.13	20.64	14.13
<b>Supervised</b>	4.36	6.97	4.99	13.21	25.56	15.08
<b>By Total Pop.</b>						
<b>Rural</b>	3.25	3.77	3.70	9.03	13.87	10.79
<b>Urban</b>	3.83	5.68	5.02	10.31	19.13	13.97
<b>Cities</b>	5.54	9.31	7.84	18.28	30.10	23.02
<b>Province</b>	4.34	6.66	5.84	13.23	22.29	16.99

The share of school debt in total local debt averaged 17.1 percent (with a coefficient of variation of 5 percent from 1921 to 1939 with a peak at 19 percent in 1929). The significant increase in indebtedness per capita from 1921 to 1933 for local education purposes in nominal terms (Table 11) is also true in real terms (Table 12), especially in the municipalities that became supervised. The most drastic reduction from 1933 to 1939 occurred in the municipalities under supervision.

In 1921, the level of variance in school debt per capita by municipality was very high among towns and villages in contrast to the differences among cities. However, during the twenties and thirties, differences in borrowing levels for schools among the small urban jurisdictions decreased significantly as shown by the fall in the coefficient of variance as debt per capita increased until the depression and then decreased through the decade. At the same time, municipalities were also increasing their borrowing from 1921 to the early 1930s and then reducing debt levels in response to the crisis either as a

consequence of supervision or a protracted attempt to avoid an imposed hard budget constraint.<sup>28</sup>

**Table 11. Average Per Capita Debt, (Current Dollars)**

	School Debt Per Capita			Total Debt per Capita		
	1921	1933	1939	1921	1933	1939
<b>By Jurisdiction</b>	\$	\$	\$	\$	\$	\$
<b>Cities</b>	23.42	34.37	27.39	172.63	193.49	134.14
<b>Std.Dev.</b>	11.32	17.70	14.55	90.19	72.66	62.99
<b>COV</b>	0.483	0.522	0.531	0.522	0.375	0.470
<b>Urban</b>	17.66	29.25	16.75	79.99	134.43	86.88
<b>Std.Dev.</b>	20.68	20.63	11.67	71.58	102.57	67.24
<b>COV</b>	1.171	0.705	0.696	0.895	0.760	0.774
<b>Supervised</b>	21.87	34.18	19.33	107.62	214.65	126.83
<b>Std.Dev.</b>	24.04	25.59	15.79	103.79	166.54	77.92
<b>COV</b>	1.100	0.749	0.817	0.964	0.776	0.614
<b>City+Urban</b>	19.55	31.36	20.09	110.15	153.07	101.55
<b>Std.Dev.</b>	18.27	20.15	13.70	89.03	97.77	69.17
<b>COV</b>	0.934	0.643	0.682	0.808	0.639	0.681
<b>By Total Pop.</b>						
<b>Rural</b>	5.08	11.09	5.44	26.68	58.45	18.40
<b>Urban</b>	12.45	31.51	18.40	80.44	120.87	78.93
<b>Cities</b>	31.62	38.08	26.93	211.37	236.78	182.02
<b>Province</b>	17.84	26.01	20.64	115.98	151.78	112.75

**Table 12. Average Per Capita Debts of Ontario Municipalities, (\$1900s)**

	School Debt Per Capita			Total Debt per Capita		
	1921	1933	1939	1921	1933	1939
<b>By Jurisdiction</b>	\$	\$	\$	\$	\$	\$
<b>Cities</b>	10.23	21.57	14.05	75.38	116.68	68.79
<b>Urban</b>	7.71	12.77	7.31	34.93	58.70	37.94
<b>Supervised</b>	9.55	20.59	9.91	47.00	129.31	65.04
<b>By Total Pop.</b>						
<b>Rural</b>	2.22	6.68	2.78	11.64	35.24	21.02
<b>Urban</b>	5.43	14.94	9.42	35.09	72.87	40.41
<b>Cities</b>	13.79	22.96	13.78	92.21	142.75	93.19
<b>Province</b>	7.78	15.68	10.56	50.60	91.50	57.72

<sup>28</sup> For details, see Tassonyi (2011).

### *Education Finance in the Slump*

Given the institutional rules, public school board finances would be expected to have remained whole, in spite of the difficulties in collecting taxes faced by municipalities during the slump. Ontario municipalities in the 1930s faced falling revenues, rising debt service payments and in the worst case, increased supervision over their finances by the provincial government. In addition, demand for secondary schooling increased in the 1930s adding further pressure on the local tax base. The question that remains to be answered is what impact these pressures had on education expenditures in Ontario in the 1930s.<sup>29</sup>

In 1930, the Minister of Education hoped that the “check to material prosperity” was a “temporary depression” and acknowledged that “at a time like the present it is natural that the cost of education should be scrutinized more keenly than when public and private finances are flourishing.” By 1931, the tone was less optimistic and it was suggested that: “no step should be neglected to lessen the taxation of the people.”<sup>30</sup> In 1933, several legislative initiatives were taken. The Province changed the formula for the township contribution to rural salaries and suggested that the difference would be compensated by provincial transfers. Board estimates were to be provided to municipalities and boards were limited from building up surpluses. As well, counties were enjoined from intercepting transfers from the province to offset funds not received from their constituent townships. Provisions were also made to close rural schools with low enrolments. As well, where a township was sending its high school pupils to a school in an adjacent separated city or town rather than the county high school and having the charges borne by the county at large, the pupils would be subject to non-resident fees, which could by agreement be paid by the originating municipality.

During the late 1920s and the early 1930s in Ontario, personal income fell more than expenditures and revenues devoted to public education. Thus, the percentage share of income devoted to public education actually increased in the depths of the Great

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<sup>29</sup> For an analysis of the relative pressures on municipal spending, see Tassonyi (2011).

<sup>30</sup> Ontario Ministry of Education Annual Report (1931, v).

Depression and returned to pre-Depression levels at the end of the 1930s (see *Table 13*).<sup>31</sup> Municipalities were unable to radically redirect their taxing and spending efforts.<sup>32</sup>

**Table 13. Income and Education Expenditure**

	<b>Ontario</b>	<b>Total</b>			
	<b>Personal</b>	<b>Elementary</b>	<b>Op.Exp./</b>	<b>Total Edu.</b>	<b>Revenue/Income</b>
	<b>Income</b>	<b>Op.Exp.</b>	<b>Income</b>	<b>Revenue</b>	
	<b>\$ millions</b>	<b>\$ millions</b>	<b>%</b>	<b>\$ millions</b>	<b>%</b>
<b>1927</b>	1647	30	2.11%	56.5	3.43%
<b>1930</b>	1802	36	2.00%	71.8	3.97%
<b>1931</b>	1554	35	2.25%	67.0	4.31%
<b>1932</b>	1271	34	2.68%	58.8	4.63%
<b>1933</b>	1200	46	3.83%	53.4	4.45%
<b>1934</b>	1329			52.1	3.92%
<b>1935</b>	1419	29	2.11%	49.6	3.50%
<b>1937</b>	1679	31	1.91%	51.7	3.08%
<b>1938</b>	1693	32	2.01%	54.3	3.21%
<b>1939</b>	1773	32	1.92%	58.1	3.28%

Source: Historical Statistics of Canada F91-102 and Author's Calculations based on data from the Annual Reports of the Ontario Department of Education. See Chapter 6 in Tassonyi (2011).

Despite the economic circumstances of the 1930s, there is no evidence that the province allocated additional funds to relieve the pressure on the local tax base. (See *Table 1* for the absolute numbers.) Bradshaw (1932) recommended cuts to education spending as a solution to Windsor's financial crisis:

“In view of Windsor's heavy obligations, it is strongly recommended that consideration be given to a possible curtailment, commencing immediately, of expenditures by all the school boards in connection with their operations. As mentioned in connection with other Civic undertakings, it is urgent that a careful survey be made, with the object of endeavouring to effect, as from say 1<sup>st</sup>

<sup>31</sup> The indicators in *Table 13* are similar to those in Lindert (2004, 98).

<sup>32</sup> The Ontario Committee on Taxation writing some three decades later noted that given the legal entitlement to requisition funds from municipalities commented that: “The extent to which school spending is accordingly protected from the incursions of competing local functions need not be belaboured.” (1967, 380).

of July, a reduction of 10% on the unexpended amount of the budget of all schools.”<sup>33</sup>

Goldenberg, writing several years later, suggested that school expenditures were crowded out by other pressures in the 1930s:

“The impact of the depression with increased social service expenditures and decreased revenues has borne with special severity upon school budgets in many areas. School properties and equipment have been neglected, teachers’ salaries drastically reduced, and inequalities aggravated. Almost all schools have remained open, but the quality of education has necessarily suffered. The full effects of the foregoing may not be felt for some years.”<sup>34</sup>

The Ministry of Education’s data show operating expenditures including capital charges of \$35.5 million in 1930 on elementary schooling, falling to \$29.4 million in 1935 and then increasing to \$30.5 million in 1937 and to \$32.5 million by 1939. Capital outlays went from \$4.8 million in 1930 to \$525,000 in 1935 and then increased to \$1.4 million by 1939. By contrast total operating expenditures for secondary education remained stable (Table 2 above). Capital outlays on secondary schools were drastically cut from 1930 to 1938 falling from \$5.0 million to \$625,000. After accounting for price deflation in the 1930s, operating expenditures for elementary schooling fell marginally to 1937 and then increased to the level of 1930 in terms of constant purchasing power (1900 dollars).

Goldenberg’s numbers show the drastic impact of the Depression on school finances in Manitoba, Saskatchewan and Alberta. In Ontario, the aggregate revenue decline is relatively less than elsewhere, but on a per pupil basis the decline is more comparable in magnitude to the other provinces. This is consistent with the evidence from the departmental information that the number of pupils increased from 1930 to 1936. In 1930, education revenue from taxes and grants was estimated at \$47.4 million, falling to \$43.4 million by 1933 and to \$40.5 million in 1935; in Ontario, this translated

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<sup>33</sup> Bradshaw (1933, 202). Thomas Bradshaw was the President of the North American Life Assurance Company.

<sup>34</sup> Goldenberg (1939, 51).

into a decline in revenue per pupil in average daily attendance from \$80 in 1930 to \$67 in 1935.<sup>35</sup> In 1900 purchasing power, however, per pupil expenditures remained nearly constant around \$30 for elementary pupils between 1930 and 1939 and falling from \$43 to \$37 for secondary pupils. In 1900 purchasing power, total revenues in 1935 were lower than 1930 revenues, but higher than in 1925. The decline measured in current dollars was also reflected in a per pupil decline in revenues after 1930 and only in 1939 is there a measurable increase in per pupil revenues (*Table 5* above).

In 1930, the total of teachers' salaries was estimated at \$29.4 million. By 1933, this had fallen to \$27.4 million.<sup>36</sup> By 1939, the Ministry data show a total of \$29.8 million, just reaching the level prevailing at the beginning of the decade. In constant purchasing power terms, however, expenditures on teachers' salaries increased between 1930 and 1933 declining only slightly by 1938. Other expenditures totalled nearly \$18.5 million in 1939 having increased from a 1920 base of \$14.0 million. In 1920, salaries totalled \$16 million. This aggregate picture may largely reflect the level of teachers' salaries in urban Ontario. Goldenberg shows that rural schools in Ontario drastically reduced salaries per teacher as compared to urban schools. Secondary salaries were also substantially reduced per teacher compared to the reductions in urban elementary schools (see *Table 14*).

**Table 14. Annual Salary Per Teacher in Current Dollars**

	Rural			Urban		
	1930	1936	%	1930	1936	%
<b>Public Schools</b>	1036	740	-29.0	1499	1471	-1.0
<b>Separate</b>	889	760	-15.0	762	715	-6.0
<b>High Schools</b>				2188	1759	-20.0
<b>Collegiate Institutes</b>				2688	2449	-9.0

Source: Goldenberg (1939, 54).

<sup>35</sup> To put these numbers into perspective, Ontario's numbers per pupil were twice the level prevailing in the Maritimes and equal to those in Alberta. Saskatchewan experienced a decline from \$80 per average daily attendance in 1930 to \$45 by 1935. However, by 1938, the Ministry data show tax and grant revenues totaling \$46.1 million.

<sup>36</sup> Goldenberg (1939, 53).

While the number of teachers remained relatively stable; from 1925 to 1935, primary salaries in total had risen and fallen from \$18.5 million to \$20.5 million and back again; secondary salaries on the other hand had increased from \$6.1 million in total to \$9.0 million during the same period (see Table 2 above).

Ministry data shows a decline of 18 percent in the average annual salary for all male teachers in public schools from 1931 to 1938 and 11 percent in the average annual salary for all females. Generally, the percentage reductions in average annual salaries were greater for male teachers in all parts of the province (Table 15). However, by 1937, the average salary of a female teacher in the cities was greater than the average salary of a male teacher outside cities.

**Table 15. Average Salary Per Teacher in Current Dollars**

		1931	1937-38	Reduction
		\$	\$	%
<b>Province</b>				
	<b>Male</b>	1689	1393	-17.5%
	<b>Female</b>	1178	1049	-11.0%
<b>Cities</b>	<b>Male</b>	2237	2217	-0.9%
	<b>Female</b>	1526	1546	1.3%
<b>Towns</b>	<b>Male</b>	1790	1361	-24.0%
	<b>Female</b>	1106	982	-11.2%
<b>Villages</b>	<b>Male</b>	1409	1218	-13.6%
	<b>Female</b>	1015	858	-15.5%
<b>Rural</b>	<b>Male</b>	1152	778	-32.5%
	<b>Female</b>	943	675	-28.4%
<b>All Urban</b>	<b>Male</b>	2080	1922	-7.6%
	<b>Female</b>	1401	1397	-0.3%

Source: Annual Reports of the Minister of Education and Author's Calculations. See Chapter 6 in Tassonyi (2011).

By 1939, the Premier of the Province in his Budget Address was claiming that the Province was reducing the pressure on the local tax base: "If there is any doubt in the mind of anyone as to whether this Government has been sympathetic and considerate of

the problems of the school tax-payers the figures show an increase of \$2,133,973 over a period of three years carrying a corresponding reduction in direct taxation on real estate.”<sup>37</sup> There is however no evidence of any significant shift in the proportion borne locally vs. provincially (see Table 16). The Department of Education’s own calculations of the share of expenditures borne by the two levels of government show the Provincial contribution staying almost constant in percentage terms after 1920.

**Table 16. Provincial Share of Education Expenditures**

<b>Expenditures for Public and Separate Elementary Schools</b>				
	<b>1910-11</b>	<b>1920-21</b>	<b>1929-30</b>	<b>1936-37</b>
	<b>\$ 000's</b>			
<b>Municipal</b>	8,340.6	22,292.5	33,315.7	26,450.9
<b>Provincial</b>	1,002.5	3,397.1	4,896.3	4,054.4
<b>Total</b>	9,343.1	25,689.6	38,212.0	30,505.3
<b>Prov.Share</b>	10.7%	13.2%	12.8%	13.3%
<b>Expenditures for Total System</b>				
	<b>1910-11</b>	<b>1920-21</b>	<b>1929-30</b>	<b>1936-37</b>
	<b>\$ 000's</b>			
<b>Municipal</b>	9,809.4	26,513.9	44,298.5	38,459.5
<b>Provincial</b>	1,855.7	7,807.5	11,773.7	10,067.6
<b>Total</b>	11,665.1	34,321.4	56,072.2	48,527.1
<b>Prov.Share</b>	15.9%	22.7%	21.0%	20.7%

Source: Report of the Committee of Enquiry Into the Cost of Education (1937, 34, 74)

Thus, the data shows that school board funding continued to be largely locally funded despite the protestations of Premier Hepburn.

### ***The Per Pupil Issue***

The question then arises as to whether fiscal distress resulted in the under-funding of education at the local level. Using Ministry data for municipalities for 1938-1939, several tax, grant and expenditure per average daily attendance (ADA) indicators for municipalities that were under supervision are compared to those that avoided that fate on Table 17.

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<sup>37</sup> Ontario (1939, 15).

**Table 17. Education Taxes and Grants in the Crisis (1939)**

		<b>Total Tax</b>	<b>Elem. Grants</b>	<b>Sec.Grants</b>	<b>ElemExp.</b>	<b>Sec.Exp</b>
		<b>Per ADA</b>	<b>Per ADA</b>	<b>Per ADA</b>	<b>Per ADA</b>	<b>Per ADA</b>
		\$	\$	\$	\$	\$
<b>NonSupv</b>	<b>Mean</b>	77.06	6.34	18.94	61.54	131.92
<b>Mun.</b>	<b>Std.Dev.</b>	42.02	6.58	8.87	17.48	27.46
	<b>COV</b>	0.55	1.04	0.47	0.28	0.21
<b>Supv</b>	<b>Mean</b>	57.55	8.23	24.88	56.30	129.04
<b>Mun.</b>	<b>Std.Dev.</b>	20.78	5.74	20.16	16.00	69.13
	<b>COV</b>	0.36	0.70	0.81	0.28	0.54
<b>NonSupv</b>	<b>Mean</b>	68.04	3.95	22.45	64.12	143.41
<b>Cities</b>	<b>Std.Dev.</b>	14.93	0.95	9.07	10.53	25.46
	<b>COV</b>	0.22	0.24	0.40	0.16	0.18
<b>NonSupv</b>	<b>Mean</b>	84.53	8.39	14.72	59.33	118.13
<b>Urban</b>	<b>Std.Dev.</b>	39.50	2.26	9.86	16.64	26.25
	<b>COV</b>	0.47	0.27	0.67	0.28	0.22
<b>Supv</b>	<b>Mean</b>	69.19	3.76	18.15	64.80	136.92
<b>Cities</b>	<b>Std.Dev.</b>	2.44	0.74	7.74	3.99	10.75
	<b>COV</b>	0.04	0.20	0.43	0.06	0.08
<b>Supv</b>	<b>Mean</b>	55.72	8.94	26.23	54.96	127.46
<b>Urban</b>	<b>Std.Dev.</b>	21.84	5.88	21.76	16.82	75.96
	<b>COV</b>	0.39	0.66	0.83	0.31	0.60

Notes: ADA= Average Daily Attendance; COV=Coefficient of Variance= Std.dev/Mean;  
Source: Author's calculations.

The education tax per ADA reflects tax for both elementary and secondary schooling. The sample includes both cities with populations above 25,000 and other urban municipalities above 5,000 people. While the average supervised city (only three) had slightly higher taxes than the non-supervised cities, the mean tax per ADA for non-supervised urban municipalities was one and half times greater than in the supervised urban areas. This component dominates the difference in the comparison of all supervised versus non-supervised municipalities on the tax side. Elementary grants per ADA were similar when the population categories are compared. Supervised cities received a higher secondary grant per ADA on average. The mean level spending on elementary education cities is also virtually the same (as was the tax comparison) while

non-supervised municipalities invested more in secondary schooling. By contrast, the gap in the urban municipalities in average elementary spending is evident but smaller than the tax gap and, in secondary spending the supervised urban municipalities spent a higher amount per ADA. Briefly, these numbers suggest that smaller supervised municipalities may have under-funded elementary spending in the absence of any additional provincial support related to fiscal need. By contrast, it seems probable that the higher grant entitlement per secondary pupil in the distressed municipalities enabled more secondary spending.

### *Description of Model*

Ladd (1975) argues that: “the composition of the property tax base affects local decisions to provide educational services” and that the separate components of the base consequently deserve greater attention in the determination of local fiscal capacity for education. Her work used data from 78 communities in the Boston area in 1970. A variant on Ladd (1975) model of the determinants of local expenditures on education is constructed using Ministry of Education expenditure and attendance data. The definitions of the variables used to test a simplified version of the model described in Ladd (1975) are given in Box 1.

The basic equation following Ladd tests the impact on education expenditures per average daily attendance (EDUEXP) of the following: INCOME, using the average annual income of a household headed by a wage earner, residential assessment per average daily attendance (RESASSMT), the share of commercial and industrial assessment in the local tax base (CIB SHARE), the median voter’s tax share (TAXSHARE), the local share of education expenditures (LS), the share of pupils in the population (PUP) and the proportion of the population in receipt of relief for municipalities with a population greater than 5,000 in the year 1938-39 (RELIEF). The equation can be expressed more formally as:

$$EDUEXP = \beta_0 + \beta_1 INCOME + \beta_2 RESASSMT + \beta_3 CIB SHARE + \beta_4 TAXSHARE + \beta_5 LS + \beta_6 PUP + \beta_7 RELIEF + \varepsilon \quad (1)$$

The equation was also estimated using a lagged dependent variable, 1933EDUEXPOP.

**BOX 1**  
**EMPIRICAL DEFINITIONS OF THE VARIABLES (EDUCATION EXPENDITURES)**

1939EDUEXP is education expenditures per average daily attendance computed from data in the Annual Report of the Department of Education for elementary and secondary schools:

INCOME is the average annual earnings of wage-earner headed households in the community adjusted for imputed rental income. The earnings are from the 1941 Census and imputed rental income is calculated as 10 percent of the average-valued house.

RESASSMT is the residential assessment per average daily attendance, based on taking total assessment net of the CIB SHARE and dividing it by average daily attendance in each municipality;

CIB SHARE is the proportion of the local property tax base that consists of non-residential property. Data used in this calculation are estimated from the Annual Reports of Municipal Statistics taking the total of business assessment and income assessment as a portion of total assessment.

TAXSHARE is the average valued residential assessment divided by the total assessed value in the community. The average-valued dwelling unit is from the 1941 Census. The total assessment in the community is computed from the Annual Report of Municipal Statistics, including land, buildings and income.

LOCSHARE is the local share of expenditures defined as  $(1 - \text{Grants} / \text{Total Expenditures})$  from data in the Annual Report of the Department of Education for elementary and secondary schools;

PUP is the average daily attendance divided by the assessed population;

RELIEF is the percentage of the population on relief in each municipality as obtained from the Annual Report of Municipal Statistics; and,

1933EDUEXP is education expenditures per average daily attendance computed from data in the Annual Report of the Department of Education for elementary and secondary schools in 1933.

*Table 18* contains the summary statistics of the variables used to estimate *equation (1) above*. The sample was reduced to 68 municipalities to estimate the equation when the lagged dependent variable was included, as less information is available for 1933 for the rural municipalities in the sample. The results of the test of the significance of the determinants of education expenditures per average daily attendance (ADA) are shown on *Table 19*.

**Table 18. Determinants of Education Expenditure Per Average Daily Attendance**

	<b>EDUEX</b>	<b>INCOME</b>	<b>RES</b>	<b>CIB</b>	<b>TAX</b>
	<b>/ADA</b>		<b>ASSMT</b>	<b>SHARE</b>	<b>SHARE</b>
	<b>(1939)</b>		<b>/ADA</b>		
	<b>\$</b>	<b>\$</b>	<b>\$</b>		
<b>Mean</b>	75.70	1816.14	4147.26	0.089	0.0005
<b>Median</b>	74.50	1776.60	2279.50	0.092	0.0004
<b>Std.Dev</b>	18.42	436.97	9388.62	0.062	0.0004
<b>Range</b>	90.70	3526.10	80030.77	0.398	0.0020
<b>Min.</b>	37.54	1239.00	186.92	0.006	0.0000
<b>Max.</b>	128.24	4765.10	80217.69	0.404	0.0020

  

	<b>LOC</b>	<b>PUP</b>	<b>RELIEF</b>	<b>EDUEX/</b>
	<b>SHARE</b>			<b>ADA</b>
				<b>(1933)</b>
				<b>\$</b>
<b>Mean</b>	0.88	0.18	0.074	85.44
<b>Median</b>	0.90	0.19	0.064	74.54
<b>StdDev</b>	0.07	0.06	0.053	40.00
<b>Range</b>	0.41	0.31	0.285	235.36
<b>Min.</b>	0.56	0.01	0.005	13.54
<b>Max.</b>	0.96	0.32	0.290	248.91
<b>Count</b>	76	76	76	68

Source: Author's calculations based on Annual Reports of the Department of Education.

**Table 19. Determinants of Education Expenditure Per Pupil in Daily Attendance (1938/1939)**

	1938/1939		1938/1939/1933	
Variable	(1)		(2)	
<b>INCOME</b>	<b>0.5233</b>		<b>0.3207</b>	
	<b>(0.1368)***</b>		<b>(0.1326)**</b>	
<b>RESASSMT</b>	0.1136		0.0932	
	<b>(0.0655)*</b>		(0.0583)	
<b>CIB SHARE</b>	<b>0.0896</b>		<b>0.0979</b>	
	<b>(0.0398)**</b>		<b>(0.0390)**</b>	
<b>TAXSHARE</b>	-0.0240		0.0001	
	(0.0291)		(0.0263)	
<b>LOCSHARE</b>	<b>0.8412</b>		<b>0.7697</b>	
	<b>(0.0524)**</b>		<b>(0.2696)***</b>	
<b>PUP</b>	-0.0560		-0.0833	
	(0.0777)		(0.0778)	
<b>RELIEF</b>	0.0217		-0.0016	
	(0.0345)		(0.0312)	
<b>EDUEX/ADA(1933)</b>			<b>0.2384</b>	
			<b>(0.0533)***</b>	
<b>Intercept</b>	-0.3808		0.3631	
	(0.9724)		(0.8623)	
<b>R Square</b>	0.4614		0.5903	
<b>Adjusted R Sq</b>	0.4060		0.5348	
<b>Observations</b>	76		68	

(standard errors in parenthesis)

For (1): \*denotes P-value less than 10%; \*\* denotes P-value less than 5%; \*\*\* denotes P-value less than 1%.

The coefficients on INCOME , CIB SHARE and LOCSHARE are all positive and significant at the 5 percent level while RESASSMT is significant at the 10 percent level. The other variables are not statistically significant. The coefficients on INCOME and CIB SHARE were also positive and significant in the analysis done using municipal data and expenditures per capita in an alternative model of interaction between municipal and school expenditures discussed in Tassonyi (2011). It would seem that municipalities with higher levels of income and assessment were likely to spend more on schooling. This finding is consistent with Ladd (1975) and Fischel (2010). It is reassuring that the variables measuring the influence of the separate components of the assessment base are both statistically significant in the first test.

To estimate the impact of a lagged dependent variable, education expenditures per pupil in 1933, in this equation, eight small municipalities for which data was not available were dropped from the sample. Dropping the smaller municipalities has improved the adjusted R squared from 0.4060 to 0.5348 (Table **19**). The lagged dependent variable has a positive and significant coefficient, suggesting that prior expenditures are related to the expenditures in a subsequent year. Adjusting the sample also had some impact on the coefficient estimates of the first test. The p-value on the INCOME coefficient increased from 0 to 1.9 percent and the p-value on RESASSMT's coefficient went to 0.1152 from 0.0875 and the coefficient on CIB SHARE increased slightly. The significance of the coefficient on LOC SHARE measuring the local contribution to education finance also improved with a p-value falling below 1 percent. These changes in the variables that had significance in specification (1) are plausible results of the sample reduction. In general, the townships removed from the sample had lower average incomes, higher residential assessment per pupil, lower levels of commercial and industrial assessment and a lower level of local share in education finance than the rest of the sample. An estimate using a dummy variable for supervision was also estimated but the coefficient was statistically insignificant and the results of specification (2) were not affected. These results confirm that income and a relatively strong local assessment base have a positive impact on education spending. Municipalities generally maintained education spending in the face of adversity and those in a relatively stronger fiscal position were able to spend more on education services per pupil.

### ***Conclusion***

Financing the provision of public education was quintessentially an intergovernmental issue. The parameters governing structure and finance were set by the province and the implementation was carried out locally. Most of the decisions required to adapt to changing circumstances were made locally.

In both nominal and real terms, expenditures on schooling fell during the 1930s as revenues fell. Even by 1939, expenditures per pupil in supervised municipalities

remained below the levels of per pupil expenditure in solvent municipalities. Local boards cut salaries and capital expenditures.

In particular, in the decade after the end of World War 1, the local property tax base met the pressure to fund secondary schooling as well as continuing to fund between 60 and 75 percent of the costs of operating the elementary system. However, the pressure of external events on the capacity of the local tax base proved to be overwhelming.

Despite the pressure on local finances, the province did not enhance transfer payments but rather relied on the imposition of harder legislated constraints on municipal decision-making. The evidence suggested that local governments adapted their behaviour by reducing their borrowing, forcing reductions in other expenditure categories and increasing the real tax burden on ratepayers in a position to make their contribution to local revenues and the maintenance of locally funded services.

## *Appendix*

In order to derive an appropriate long-run Ontario based index of purchasing power, the work of two earlier studies was used. The price index used to convert current dollars to 1900 purchasing power throughout this study was derived as follows. From 1886 to 1900, the index numbers are the Consumer Price Index (CPI) for Kingston from Table 5B, p.546 as calculated by McKinnon and Minns (2007). For the remaining years, the cost of living index for Toronto as calculated by Emery and Levitt (2002) has been rebased to 1900=100 and simple average interpolations have been used for missing annual data.

**Table A1. 1900 Purchasing Power Index**

<b>Year</b>	<b>Index</b>	<b>Year</b>	<b>Index</b>	<b>Year</b>	<b>Index</b>	<b>Year</b>	<b>Index</b>
	<b>Number</b>		<b>Number</b>		<b>Number</b>		<b>Number</b>
<b>1886</b>	120	<b>1901</b>	102	<b>1916</b>	188	<b>1931</b>	<b>183</b>
<b>1887</b>	120	<b>1902</b>	105	<b>1917</b>	231	<b>1932</b>	<b>165</b>
<b>1888</b>	119	<b>1903</b>	107	<b>1918</b>	241	<b>1933</b>	<b>166</b>
<b>1889</b>	119	<b>1904</b>	110	<b>1919</b>	259	<b>1934</b>	<b>174</b>
<b>1890</b>	115	<b>1905</b>	112	<b>1920</b>	248	<b>1935</b>	<b>183</b>
<b>1891</b>	112	<b>1906</b>	115	<b>1921</b>	229	<b>1936</b>	<b>184</b>
<b>1892</b>	112	<b>1907</b>	118	<b>1922</b>	225	<b>1937</b>	<b>190</b>
<b>1893</b>	99	<b>1908</b>	121	<b>1923</b>	238	<b>1938</b>	<b>186</b>
<b>1894</b>	103	<b>1909</b>	123	<b>1924</b>	225	<b>1939</b>	<b>195</b>
<b>1895</b>	99	<b>1910</b>	129	<b>1925</b>	238	<b>1940</b>	<b>200</b>
<b>1896</b>	99	<b>1911</b>	134	<b>1926</b>	225	<b>1941</b>	<b>219</b>
<b>1897</b>	99	<b>1912</b>	149	<b>1927</b>	222		
<b>1898</b>	99	<b>1913</b>	152	<b>1928</b>	223		
<b>1899</b>	100	<b>1914</b>	140	<b>1929</b>	231		
<b>1900</b>	100	<b>1915</b>	148	<b>1930</b>	212		

Source: McKinnon and Minns (2007) and Emery and Levitt (2002) as adjusted by author.

**Table A2. Share of Elementary Education Revenue**

	Prov	Mun	Other		Prov	Mun	Other		Prov	Mun	Other
	Grant	Tax			Grant	Tax			Grant	Tax	
1871	0.084	0.715	0.200	1901	0.067	0.672	0.261	1931	0.088	0.635	0.277
1872	0.089	0.697	0.214	1902	0.067	0.687	0.247	1932	0.092	0.654	0.253
1873	0.076	0.688	0.236	1903	0.064	0.703	0.232	1933	0.092	0.699	0.209
1874	0.076	0.684	0.241	1904	0.063	0.690	0.247	1934	0.091	0.717	0.192
1875	0.074	0.685	0.241	1905	0.057	0.682	0.261	1935	0.090	0.719	0.191
1876	0.074	0.692	0.235	1906	0.064	0.698	0.238	1936	0.090	0.749	0.161
1877	0.074	0.711	0.215	1907	0.071	0.664	0.265	1937	0.107	0.760	0.133
1878	0.080	0.702	0.219	1908	0.077	0.660	0.263	1938	0.121	0.754	0.125
1879	0.078	0.715	0.207	1909	0.078	0.632	0.290	1939	0.119	0.718	0.163
1880	0.081	0.713	0.206	1910	0.069	0.626	0.305				
1881				1911	0.071	0.626	0.302				
1882	0.077	0.705	0.218	1912	0.059	0.665	0.276				
1883				1913	0.053	0.672	0.275				
1884				1914	0.044	0.723	0.233				
1885				1915	0.051	0.705	0.244				
1886				1916	0.052	0.685	0.264				
1887	0.062	0.712	0.226	1917	0.053	0.706	0.241				
1888				1918	0.053	0.714	0.233				
1889				1919							
1890				1920	0.055	0.630	0.315				
1891				1921	0.070	0.604	0.326				
1892	0.059	0.686	0.255	1922	0.077	0.591	0.332				
1893	0.061	0.688	0.251	1923							
1894	0.060	0.697	0.243	1924							
1895	0.061	0.685	0.254	1925	0.083	0.606	0.311				
1896				1926							
1897	0.073	0.674	0.253	1927	0.082	0.616	0.302				
1898				1928	0.082	0.614	0.305				
1899				1929	0.083	0.616	0.301				
1900	0.067	0.698	0.235	1930	0.078	0.612	0.309				
			<b>1900-1939</b>								
		<b>Mean</b>	0.074	0.672	0.333						
		<b>StDev</b>	0.019	0.046	0.053						
		<b>COV</b>	0.249	0.069	0.158						

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