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Declining Enrolment in Ontario Public Schools – Implications for the Teacher Labour Market

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The Declining Enrolment in Ontario Public Schools— Implications for the Teacher Labour Market

INTRODUCTION

As school boards approach the end of one school year and plan for the next, they attempt to project student enrolments in order to staff schools and determine program needs. In years when school boards have the luxury of rising enrolment, revenues increase and fixed costs such as facilities maintenance, transportation, and retiree benefits can be spread across more students. However, when enrolment declines, boards receive fewer dollars and fixed costs must be spread over fewer students. To cope with lower funding levels, boards must cut costs elsewhere in their budgets. This can lead to significant financial and policy implications for staff and students.

In the not-so-distant past, boards of education were tasked with responding to rising enrolments, overcrowding in schools and teacher shortages. Today the tides have changed, as school boards will face many challenges over the next several years that are a stark contrast to past eras of growth and expansion. Specifically, boards of education will be confronted with reacting to the societal shifts of aging populations, decreased fertility rates and other demographic shifts that are producing declining enrolments in many communities across the country. Since enrolment decline is expected to lead to a surplus of teachers, probable redundancies, and reduced recruitment, all of these will impact the age composition of the teacher workforce, the pace at which it ages, and the numbers of staff required.

Several factors are contributing to the waning enrolments. Certainly the lower birth rate is a prominent one, as is the overall trend of an increasingly aged population, but even increasing student pass rates are effectual at a macro level. Changes in local area economies result in microeconomic effects. For example, increased housing prices in urban and suburban areas can lead families with school-age children to move elsewhere in search of more affordable housing. Loss of jobs in resource-based economies and lack of job opportunities will also precipitate microcosmic population flows in and out of regions.

Regardless of the particular cause, declining enrolment is not a new phenomenon for boards of education. It has been a reality faced by many boards in past years but what is different with respect to today's dwindling enrolment is that other factors are complicating the response to it thereby presenting significant challenges for the education sector. Included are an aged workforce and corresponding retirement levels, more restrictive collective agreement language and pension solvency issues.

ELASTICITY OF DEMAND FOR TEACHERS

Teachers have more power to raise wages or employment in areas where the demand for their services is growing, all else being equal (Currie, 1991). As teachers are a unionized group, any annual wage increases are the result of negotiations through the collective bargaining process. The elasticity of demand is defined as the percentage change in employment in response to a 1% change in the wage rate (Chaykowski et al., 2004). The demand for teachers tends to be inelastic as an increase in the negotiated wage rate for teachers does not render a proportionate or even greater decrease in the teacher workforce, despite the associated costs. In typical competitive markets, such increases to salaries would result in adjustments to demand and

capital investments. However, in Ontario, an increase in teacher salaries does not result in boards hiring fewer teachers. As will be noted later, this is due to the influence of the provincial government in this market. The demand for teachers and associated funding is directly linked to student enrolments, but even so, changes in the levels over the short term do not necessarily trigger automatic and proportionate changes in staffing levels. To this end, Currie (1991) who studied employment determination of Ontario school teachers found that the estimated coefficients on the alternative wage and on the number of pupils was smallest in absolute value in her declining enrolments sample and largest in the increasing enrolment sample thereby suggesting that wage and employment outcomes are more responsive to alternative wages and to the number of pupils in school boards in which teachers might be expected to have greater bargaining power.

DECLINING ENROLMENT – YESTERDAY’S REALITY

With the baby boom generation, the education system in the sixties flourished. Children were abundant; enrolments were rising – even in the elementary grades – all through the decade. Elementary and secondary schools in Ontario expanded rapidly in the 1960s for two reasons: demographic shifts brought about by increased fertility rates (and to a lesser extent immigration), and social/economic factors such as increased youth participation in secondary school programs beyond the legally required age (Quazi & Watson, 1982). Teachers were in demand. In the early 1970s over 55% of the elementary teacher force was between 20 and 29 years old, and almost another 24% was between 30 and 39. Less than 8% were 50 to 59 and less than 2% were between 60 and 65.

In 1970 however, total enrolments in elementary schools began to decline, bringing to an end two decades of educational growth that was powered mostly by increasing student enrolments (Davis & Lewis, 1977). Between 1972 and 1978 Ontario’s elementary school boards lost 145,168 students, more than double than that projected between 1972 and 1992 (Chamberlin, 1980).

The challenges of declining enrolments were clear: when the baby boomers left the kindergarten to grade 13 system during the 1970s and 1980s they left steeply declining enrolments in their wake. For the first time, administrators in the mid to late 1970s were tasked with implementing strategies to respond to such declines. Such strategies resulted in large numbers of school closures, introduction of early retirement incentives, seniority-based teacher lay-offs, hiring freezes, increases to class sizes, service and other budgetary reductions. Can we expect the same during today’s reality of declining enrolment (Bailey & Pankake, 1986)?

While each of these strategies were feasible at that time, current realities render most of these solutions untenable as the declines in enrolment today are occurring under conditions different from the post-boomer retrenchment of the 1970s and 1980s.¹

DECLINING ENROLMENT – TODAY’S REALITY

Declining enrolment today presents challenges that were not faced by our predecessors. Such challenges include an aging workforce, early retirement eligibility, issues surrounding pension solvency, funding and program delivery, and collective bargaining constraints.

Changing Demographics

Demographic information is an important factor to consider in anticipating the demand for education services. At ages when schooling is compulsory (six to eighteen), trends in population size provide a direct indication of resource requirements of the education systems — from teacher hiring to investment in the construction and maintenance of buildings to program planning that meets the educational needs of particular sectors of

the population. The relationship between population change and capacity requirement is not linear, however. For instance, students can be transported from areas where demand exceeds capacity to areas where unused capacity exists; within certain legislated limits, ratios of students to teachers can vary; and schools can operate below capacity level (Roberston, 1999).

Probably the greatest contributing factor to declining enrolment is the lower birth rate prevalent in today's society. Canada's fertility rate of 1.59 live births per woman compares with an American rate of 2.1, putting us well behind population replacement levels. Our falling birthrate, now at a 26-year low, means that in seven of the ten provinces, fewer babies were born in 1996 than in 1921 – fewer babies and more grandparents. More Canadians are over the age of 65 than under the age of 15.

After a long period of slow but steady growth, the school-age population reached its peak and then started to decline due to decreasing birth rates. The population aged 5 to 13 years peaked at 3.7 million in 2001. That population has been projected to decrease by about half a million between 2001 and 2011 to about 3.2 million, as the smaller cohorts born in the late 1990s enter elementary schools. After 2014, it may start to slowly increase again if fertility rates remain constant from 2001 on, as assumed in the medium growth scenario of Statistics Canada's official population projections. Similarly, the population aged 14 to 18 years has been projected to peak in 2008 at 2.2 million, 14% above the 1991 level. It is expected to then drop between 2008 and 2020 remaining relatively stable at 1.9 million, assuming that the 2001 fertility rates remain constant throughout the projection period (Robertson, 1999).

Supply & Demand of Teachers

The number of teachers demanded by a particular school board depends on student enrolments, class size policies, curriculum requirements, the number of permanent and temporary teaching vacancies and the board's fiscal capacity. The supply of teachers – the number of eligible people willing to teach at a given wage – has always been a factor of workforce demographics, salaries, and opportunity costs. Supply and demand should not be viewed as separate entities as one is an adjunct to the other. At any point in time, in any geographic region, or in any area of specialization, imbalances can occur. Declining enrolment produces a positive imbalance as the supply of teachers exceeds demand (Press, 1997).

Teachers are a heterogeneous group who possess varied divisional and subject area qualifications. As will be discussed later, not only will there be a need to balance overall supply and demand for teachers but there will also be an increasing need to balance the overall composition of the teacher workforce.

Implications for Enrolment

Schools are not in or part of any kind of capitalist market exchange, but remain within a government system whereby the government remains the determinant and dominant player in dealing with all aspects of school activity, including funding formulae, funding levels, determining salary rates, controlling provincial curriculum and standardized testing. Thus, there is no "free-market" in schooling (Ironside, Seifert & Sinclair, 1996). To this end, changes in demand for teachers is not impacted by salary rates as would be the case in a free-market. Teachers are heavily unionized and annual salary increases are negotiated regularly. The decision to hire or not hire a teacher is therefore not based on salary, but rather enrolment and/or curriculum needs.

Moreover, it is misleading to speak of a national teacher labour market as the market is localized in such a way that teachers in one geographic region typically do not compete for jobs in another region. Thus teacher shortages or surpluses are often specific to certain regions or even to specific districts or schools within a system.² This is evidenced in periods of declining enrolment whereby rural schools may have surplus staff while larger urban schools maintain the status quo. Similarly, subject-specific shortages, such as French, are more prevalent in identified regions.

The demand for teachers is formulated in terms of the number of school-age children, and the government's own desired pupil-teacher ratio. Clearly, if the government was willing to accept higher class sizes then it could cut the demand for teachers immediately by increasing its desired pupil-teacher ratio. However in Ontario, the government has implemented a large scale education reform over the past four years of which implementing primary class size caps was a key objective. By doing so, the government in effect created a temporary solution to declining enrolment by maintaining and adding teachers at the primary level in order to meet the desired pupil – teacher ratio of twenty to one. As well, teacher unions bargain hard to create working conditions that will offset the adverse impacts of declining enrolment on their membership.

The trend over the past few years indicates that we've experienced a peak in the 2002–2003 school year and a steady decline in enrolment thereafter, which is expected to continue into the foreseeable future. Specifically, between 1998–1999 and 2002–2003, the Average Daily Enrolment (ADE) grew by almost 50,000, which represents a cumulative growth of 2.5%. Conversely, between 2002–2003 and 2006–2007, the total ADE declined by over 50,000 thereby representing a cumulative decline of 2.5%. The current decline rests primarily in the elementary panel, while secondary enrolment continues to increase as the children of the baby boomers move into high school. Between 2007 and 2011, the total ADE has been projected to decline by about 50,000, which represents a cumulative decline of 2.6%. Elementary school age children are decreasing because the “baby boom” generation, as of 2000, was in the range of 34 to 53 years old. The children of baby boomers – the so-named “echo boomers” or “Generation Y” – are now five to 20 years old and are currently in elementary school. However, from 2000–2001 through to 2009–2010, this cohort will exit the elementary panel. This trend has materialized as school boards today are beginning to experience stability in elementary enrolment numbers, albeit at lower rates. However, the next four years will see significant declining enrolment in the secondary panel as the contracted elementary cohort moves through the system.

Declining enrolment is impacting a large number of school boards in Ontario and across Canada as a whole. Between 2002–2003 and 2006–2007, 52 school boards were faced with declining enrolment – 17 of which declined by at least 10%. Between 2006–2007 and 2010–2011, 56 boards are projected to decline in enrolment, 15 of which are projected to decline by a margin greater than 10%. The Greater Toronto Area is the only region projected to grow largely as a result of immigration patterns, while Northern Ontario will experience the largest decline. Since 2002, the overall enrolment in Ontario elementary and secondary schools has declined by nearly 90,000 students. Only nine English-language boards have had enrolment increases – all of which are in the greater Toronto region. According to Statistics Canada, the number of students in Canada's elementary and secondary schools will decline by as much as 500,000 in the next 10 years.³

Declining enrolments have meant decreased revenues and the need to reduce expenditures. This has resulted in school closures and consolidations as well as the transfer or lay-off of teachers and other personnel. The need for fewer teachers in most boards has and will continue to result in slow employment growth in the latter years of the forecast period. Employment is expected to grow at only 0.8% a year, which is slightly below the projected economy-wide average during the 2006 to 2015 period (Lapointe et al. 2006).

Whereas boards with increasing enrolment may respond rather quickly to increased demand, boards with declining enrolment take longer to adjust the size of their teacher workforce. To this end, Anderson & Mark (1979) studied the changing educational costs over the life cycle of public school districts in Missouri. They found a high correlation between the student-teacher ratios over a three-year period. Conversely, for boards facing declining enrolment, the correlation coefficient between the numbers of students in one year relative to the number of teachers in the same year, the following year and two years later, were generally smaller. Such decreases in the student-teacher ratio resulted in increased expenditures per student. This effect has also been evidenced in Ontario with the implementation of primary class size caps as the number of teachers needed to achieve a steady decline in class sizes has

not been linear. Costs have risen as class sizes have decreased. Therefore, factors such as school organization and school board expertise in staffing schools are extremely important.

Accordingly, although Ontario has experienced significant decline in enrolment in primary grades over the past five to 10 years, this has not lowered the projected number of teachers required proportionately, as the number and/or grade composition of schools has not changed significantly in this period of time. However, now that the primary class size cap has been fully implemented as of the start of the 2007–2008 school year, many boards are now faced with surplus staff for the 2008–2009 school year as enrolment continues to decline, particularly in rural districts. Teachers in these boards are being laid off at increasingly significant rates. In response, the Federation may actively pursue further class size restrictions in higher grades. Whether the Ministry of Education initiates further class size caps in both the junior and intermediate divisions remains to be seen. If so, the effects of declining enrolment will be minimized further, at least on a temporary basis.

What does this mean for the teaching profession? The implications of declining enrolment for school boards are increasingly being referenced and promoted in the media, which raises the question as to whether high school and/or university graduates will pursue a career in teaching when employment prospects appear bleak. Retirement trends may offset some of the hesitancy. Adding to the uncertainty is the fact that boards are about to begin negotiations during which the Federations sensationalize what they perceive to be the injustices and adverse conditions of teaching. Thus, those contemplating a career in teaching will have to assess and weigh the opportunity costs if choosing to be in this profession. Although salary is important, working conditions are also influential on an individual's choice to pursue and/or remain in teaching.

Revenue Implications

Education is fundamentally a public service and, as a result, the majority of board expenditures are linked to the number of staff and their respective compensation. Approximately 80%-85% of total costs are directly related to compensation. Moreover, due to the nature of the government funding formula, revenue is closely tied to student enrolment. Taken together, funding is linked to enrolment which in turn determines staffing levels.

Under the current Student Focused Funding formula, enrolment growth or decline is the most significant cost driver in future school board allocations. Of significance is that as the number of students decrease, the cost per student increases. When fewer students enrol, schools receive less funding but they do not incur proportionately lower costs⁴ as the provincial funding does not match the fixed/variable cost ratio inherent of school boards. Thus, fixed costs such as heating and lighting remain the same irrespective of the number of students enrolled, just as administrative costs and instructional costs may remain the same if the enrolment change does not merit the cancellation of classes or eliminating the need for administrative support. Statistics Canada reported that between 1997-1998 and 2003-2004, per student expenditures across Canada increased by 24% while inflation increased by 14%. Thus, for schools with moderately declining enrolments, increased per student costs were only partially alleviated by increased per student funding. For schools with rapidly falling numbers however, rising per student costs are more severe and present additional challenges.⁵ Because teacher demand is directly tied to enrolment numbers, in the short run, boards may respond more quickly to fluctuations in student enrolment through the staffing process, but this is not always possible.

Although the provincial government has provided some additional funding in an effort to mitigate losses over a two to three-year period, the cumulative impact of the Student Foundation Grant for boards is significant. For example, the Limestone District School Board lost \$1 million in funding for the 2007-2008 school year as a result of a decrease in enrolment of 600 students. Although the province mitigated half of that amount in additional grants, there was still a requirement to adjust the teaching complement across the system. In future years, the loss of funding to the board based on declining enrolment will extend beyond the teaching workforce and into administrative and support staff such as secretaries, maintenance staff,

educational assistants and bus drivers. The labour demand challenge with these groups will be the terms and conditions negotiated in their collective agreements, in particular those related to job security.

As fewer students result in reduced funding as well as fewer programs and in some cases closing schools, smaller schools will feel the greatest impact as they are unable to sustain specialized positions such as teacher-librarians, guidance counsellors, music and physical education teachers and/or special education support staff. For example, it takes 763 elementary students to generate funding for one teacher-librarian, but the average enrolment in elementary schools is now only 331 students.⁶

In addition, because not all staff positions are tied to enrolment, a significant obstacle becomes one of adjusting overall staffing levels within the confines of a regulated budgetary process as boards of education are not permitted to carry a deficit and must pass a balanced budget every year. Within this context, the board must balance the need to deliver quality education against defined budgetary constraints which also include negotiated collective agreement provisions such as salary, benefits, class size maximas, preparation time allotments and supervision caps as well as other workload and staffing/layoff provisions that restrict operational flexibility and performance optimization. Although seniority provisions are designed to protect experienced teachers, they do not protect quality education. The economics of declining enrolment are therefore very challenging as revenues decrease at a much faster rate than expenditures can be reduced.

The Aging Workforce & Retirement Implications

Declining enrolment is only one aspect of the demographic shift school boards are experiencing across the province. Increasingly, “Canadian teachers are a bifurcated group – either relative newcomers to the profession or experienced veterans.” In 1981, teachers under the age of 35 comprised 42% of the total teaching population in Canada. By 1991, the number of teachers under the age of 35 decreased to 20% and by 1996 this age group decreased to less than 10%. In 1971 there were three teachers between the ages of 20 and 24 for every one between the ages of 50 and 54; by 1995 there were 10 teachers over the age of 50 for each one younger than 25. The teaching profession depicts the evolution of the baby boomers (Roberston, 1999). By 2001, the proportion of employees over the age of 45 was 44%, with 13% over the age of 55.

Consequently, teacher costs are increasing despite declines in enrolment as older teachers are paid the maximum salary. This dominance on the profession by those over age 50 has been somewhat lessened by the negotiation of early retirement windows, which has led to an increased departure of older teachers thereby enabling opportunities for younger teachers to enter the profession. The Education sector has seen one of the most significant declines in its median retirement age, dropping by 3.3 years over the last decade to reach a low of 57.4 years.

Elementary and secondary school teachers are one of the main occupations leading the above-average retirement rate. Between 2006 and 2015, it is projected that there will be 159,000 retirements, with a median retirement age of 57 (Lapointe et al., 2006).

Because the education sector has one of the lowest youth representation rates at only 7.5% of the workforce, the industry will be greatly affected by the aging of its workforce, not only because of the smaller proportion of young workers, but also because the sector has a relatively high proportion of older workers and one of the lowest median retirement ages. The large number of impending retirements will represent a significant burden to practising teachers whose contributions will be maintaining the teacher superannuation funds.

Additionally, the age distribution of teachers by subject is not uniform. Therefore in the secondary panel, the retirement flow eventually will become more serious in some disciplines than others. The difficulty is that most of the academic subjects expanded their services at about the same time, recruited young teachers during the same years, and have an almost identical age distribution of teachers (Quazi & Watson, 1982). At the secondary level, using English as an example, it is a compulsory subject in all grades and therefore the balance of supply and demand of teachers is important. Although an increase in demand generally results in either

new hires or an assignment of teachers to their secondary area of qualification, or a transfer of less qualified teachers from other subject areas, a sharp decline in demand due to declining enrolment would necessitate a significant lay-off of this group of teachers. As teachers are laid off in order of seniority, the youngest will be surplus, thereby leaving the system with older teachers. Applying another example, there will be a greater loss of vocational teachers through retirement as the age at recruitment for this group is considerably higher since vocational teachers must first qualify and gain experience in their trade before they enter the teaching profession.

In an era of declining enrolment, the surpluses of teachers by subject will be sensitive to changes in student selections whereby young teachers teaching subjects that are declining in popularity will be most susceptible to redundancy. On the surface, an aging workforce might be viewed as a simple problem or even a viable solution to the decline in enrolment as increased retirements create a natural attrition to excess staffing levels. It is a natural organizational response to the supply versus demand for teachers and would also facilitate a better balance between a younger and older workforce. It is in this manner that our predecessors responded to the shifting tides between rising and declining enrolments in the 1960s and 1970s. What is confounding a similar solution today as boards once again face the challenges of declining enrolment is that early retirement incentives are in jeopardy as a result of the unintended shortfalls in the teacher pension plans' finances.

Teacher Pension Shortfalls

The trend over the past 10-20 years for educators to respond favourably to early retirement incentives has resulted in a smaller population in the typical working age, which has raised concerns about the solvency of pension plans, particularly as the large baby boom cohorts are at or nearing retirement age.

...The boom-bust sequence has had marked effects on aging distribution. Until 1971, about two-fifths of the population were 'young' (defined here as under age 20), but by 1996, that proportion had declined to little more than one-quarter. The reduction in the young population was offset by increases in the 'working age' population (20 to 64), which rose from just over 50% of the total in the early 1960s to 61% in 1996, and in the 'old' population (65 and older), which increased from less than 8% of the total in 1951 to more than 12% in 1996."

Not only does this statistic adversely impact enrolment, but it has serious implications for the sustainability of pension plans which depend on more contributors than beneficiaries (Robertson, 1999). This change in demographics toward an aging population creates many challenges for pension plans. Not only is the population aging, but pensioners are living longer, there are fewer contributors for each retiree who is drawing a pension and benefits payments are approximately double the amount the plan receives in contributions each year.

Members of the Ontario Teacher's Pension Plan are promised defined retirement benefits for life. The changing nature of demographics, however, is putting pressure on pension funding and constraining the amount of risk the pension fund can take to earn returns required to cover the cost of future benefits. Specifically, there are only 1.6 working teachers for every retiree; there were \$1.9 billion more in benefits paid to retirees than contributions received by working teachers in 2007; a typical new retiree in 2007 will have worked for 26 years, and is expected to collect a pension for 36 years, which also includes the pension paid to a survivor; and, the pension plan is faced with a \$12.7 preliminary funding shortfall under the current Funding Management Policy.⁷ As a result, if the pension fund is unable to match demand from investments, the plan may need to revisit the early retirement incentive and either increase the eligibility factor from eighty to ninety, for example, or eliminate the opportunity altogether. In the interim, until a final resolution is identified, teachers eligible for early retirement will continue to capitalize on this opportunity as the teaching profession has not generally worked beyond their eligible retirement date.

CONCLUSION

For the foreseeable future, Ontario, as well as most other provinces, will be faced with a shrinking school system, staffed by an aging and static teaching workforce. In these circumstances the need to train new teachers generally diminishes as supply must match demand. As was evidenced by the 1970s at the secondary level, as the number of available curriculum options decrease, there are likely to be serious imbalances between teachers' initial training and job expectations as a result of declining enrolment and the aging teaching workforce. It will therefore become exceedingly rare for a teacher to be able to specialize in one subject area and the need to teach a second or even third subject may be critical to employment longevity, as will be the ability to teach stacked classes that consist of diverse grade levels. At the elementary level, the trend over the past several years has also mirrored the 1970s, and teachers have been increasingly required to cope with split classes and to take on duties previously assigned to specialist teachers, such as art, music and physical education.

Although declining enrolment can and will be offset by increased teacher retirements, the manner in which the Ontario Teacher Pension Plan addresses its funding shortfall will dramatically impact the retirement trend. For example, if the 80 factor is eliminated, teachers will no longer be able to retire early without a significant penalty to their pension. As this is not a preferred course of action based on teacher preferences, a 90 factor, for example, may be re-instituted as a compromise so long as alternative and sufficient funding is made possible. The source of the funding will be important as younger teachers may not support increased pension contributions since retirement planning is not generally a priority for this group. What is ultimately most desirable is some form of variable retirement. This may be possible through graduated retirement options whereby those teachers who are approaching retirement are permitted to gradually reduce their entitlement over a period of time. However, in order for this to be successful, the pension plan would have to change as currently teachers pensions are based on their salary in their last five years of teaching. Reduced entitlement would therefore significantly impact one's pension.

As has been demonstrated, there are many influences on the teacher labour market, each of which is inextricably linked in terms of consequence. Because funding is directly tied to number of students, the teacher labour market is impacted by declining enrolment and regardless of how a board responds to such declines, teachers and administrators will be greatly affected. The retention of older, more experienced, and higher-paid teachers will raise per pupil costs. Retention based on seniority will reduce the relative percentage of teachers from minority groups as these teachers have generally tended to be hired more recently. Bargaining will become increasingly difficult and fixed costs per pupil will increase (Dede & McMeekin, 1980). Developing strategies to minimize the adverse impacts on all stakeholders will continue to be a priority for the provincial government and local boards.

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