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Are We Making Progress? New Evidence on Aboriginal Education Outcomes in Provincial and Reserve Schools

Federal action is required to address the persistently low high-school completion rates of Canada's First Nation children living on-reserve. Key steps include providing stable and transparent funding for reserve schools, and professionalizing reserve school organization.

John Richards



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THE STUDY IN BRIEF

This *Commentary* summarizes new evidence on Aboriginal education from the National Household Survey (NHS) that accompanied the 2011 census. There is some good news: young adults aged 20-24 at the time of the census who identified as North American Indian/First Nation and were living off-reserve, and those who identified as Métis, had considerably lower rates of incomplete secondary studies in 2011 than at the time of the previous census in 2006.

The good news needs to be qualified. First, the incomplete secondary studies statistic for the off-reserve Indian/FN population is still three times the rate for young non-Aboriginals (30 percent relative to 10 percent) and the Métis rate is twice as high (20 percent relative to 10 percent). The report card for the provincial school systems might be “making progress, need to do better.”

The second and more serious qualification is that the rate of incomplete secondary studies remains extremely high (58 percent) for young Indian/FN living on-reserve, and has declined little since 2006. While there is great variation in student performance among the 500 on-reserve schools across Canada, their overall report card is “inadequate, need to make major improvements.”

National averages hide provincial variations. The six provinces from Quebec to British Columbia are home to almost 90 percent of Canada’s Aboriginal population. In Manitoba, the incomplete rate among young Indian/FN adults living on-reserve is 12.3 points *above* the national average (which is 58.0 percent); the BC rate is 17.3 points *below* the national average – a 30 point range. Outcomes in British Columbia and Ontario are uniformly better than the national average for all Aboriginal groups; in the Prairie provinces they are generally worse. Outcomes in Quebec are mixed: worse than average for Indian/FN on-reserve, better than average for Indian/FN off-reserve.

In 2011, the federal government launched a major initiative intended to provide a legislative framework for organizing reserve schools and for enabling creation of reserve-based equivalents of provincial school districts. One motivation was the persistence of consistently low on-reserve high-school completion rates. BC’s policy innovations over the last two decades have not been a panacea, but the province’s above-average on-reserve education outcomes are another motivation.

At time of writing (April 2014), Ottawa has tabled legislation, the *First Nations Control of First Nations Education Act* (Bill C-33). The AFN has lent qualified support to the legislation; many chiefs have voiced opposition, and the bill’s fate is uncertain. In the author’s opinion, Bill C-33 is an important legislative advance and deserves broad Parliamentary support.

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In an industrial society, a few individuals succeed and prosper as adults without ever completing high school. Others consciously choose a life with little formal education and, if lucky, nonetheless realize middle-class incomes. For example, a resource boom offering many well-paying, low-skill jobs may induce some to abandon high school.

Still, members of any major community cannot expect in general to escape poverty without completing high school. To achieve what most Canadians consider a middle-class income requires some form of post-secondary education. At present, a disturbingly large share of Canadians identifying as North American Indian or First Nation (FN) are neither completing high school nor achieving post-secondary certification in trades, colleges or universities. Outcomes among Métis are less dire, but they should not inspire complacency.

This *Commentary* provides an initial look at new evidence on Aboriginal education from the National Household Survey (NHS), which accompanied the 2011 census. The youngest cohort for which it is reasonable to expect completion of high school was that aged 20-24 at the time of the census. There is some good news: young adults in this cohort who identified as North American Indian or First Nation and were living off-reserve, and those who identified as Métis, had considerably lower rates of incomplete secondary studies in 2011 than in 2006.

The census does not provide the location of schooling, but location at the time of the census is a proxy – albeit far from perfect – for where young adults attended school. Young Aboriginals living off-reserve (whether Indian/FN or Métis) probably received most of their primary and secondary education in schools of the relevant province. The increase in graduation rates for these Aboriginals indicates that provincial education ministries are taking more seriously than in past decades their obligation toward Aboriginal students.

As I discuss in more detail later, there is considerable variation in Aboriginal education outcomes among the provinces. In general, British Columbia outcomes are superior to those elsewhere – albeit Ontario results are also well above average. Other provinces should look closely at the initiatives pursued in BC over the last two decades. In far more detail than elsewhere, BC monitors Aboriginal student performance in provincial school, and annually publishes measures of Aboriginal student performance at the school level. BC provides school districts with additional

I acknowledge the enthusiastic support of Colin Busby for my writing this *Commentary* on Aboriginal education. Several internal C.D. Howe Institute analysts and anonymous external reviewers contributed valuable comments on earlier drafts. James Fleming and Michael Benedict undertook copy editing and preparation for publication. In the past, the author has provided advice to the federal government regarding Aboriginal education.

funds, based on the number of Aboriginal students, and requires school districts to consult with local Aboriginal leaders on appropriate education projects. The districts are expected to prepare agreements specifying short-term targets for improvements (in areas such as attendance, average scores in mathematics and writing).

But the good news needs to be qualified. First, the incomplete secondary studies statistic for the off-reserve Indian/FN population is still three times the comparable rate for young non-Aboriginals (30 percent relative to 10 percent) and the Métis rate is twice as high (20 percent relative to 10 percent). The report card for the provincial school systems might be summarized as “making progress, need to do better.”

The second and more serious qualification is that the rate of incomplete secondary studies remains extremely high (58 percent) for young Indian/FN living on-reserve and has declined little since 2006. As mentioned above, area of residence is an imperfect proxy for location of schooling but probably those living on-reserve at the time of the 2011 census received much of their education in a reserve school.

While there is great variation in student performance among the 500 on-reserve schools across Canada, their overall report card is “inadequate, need to make major improvements.”

As with provincial schools, Aboriginal performance in BC’s reserve schools is in general better than in reserve schools elsewhere in Canada. Uniquely, BC reserve schools have organized themselves into province-wide organizations to provide secondary services and assess performance,

as do provincial school districts. Here is an idea that should be replicated in other provinces. Furthermore, the regional office of Aboriginal Affairs and Northern Development Canada has played a productive role in encouraging these quasi-school districts.

School Performance Matters, But Does Not Tell Entire Story

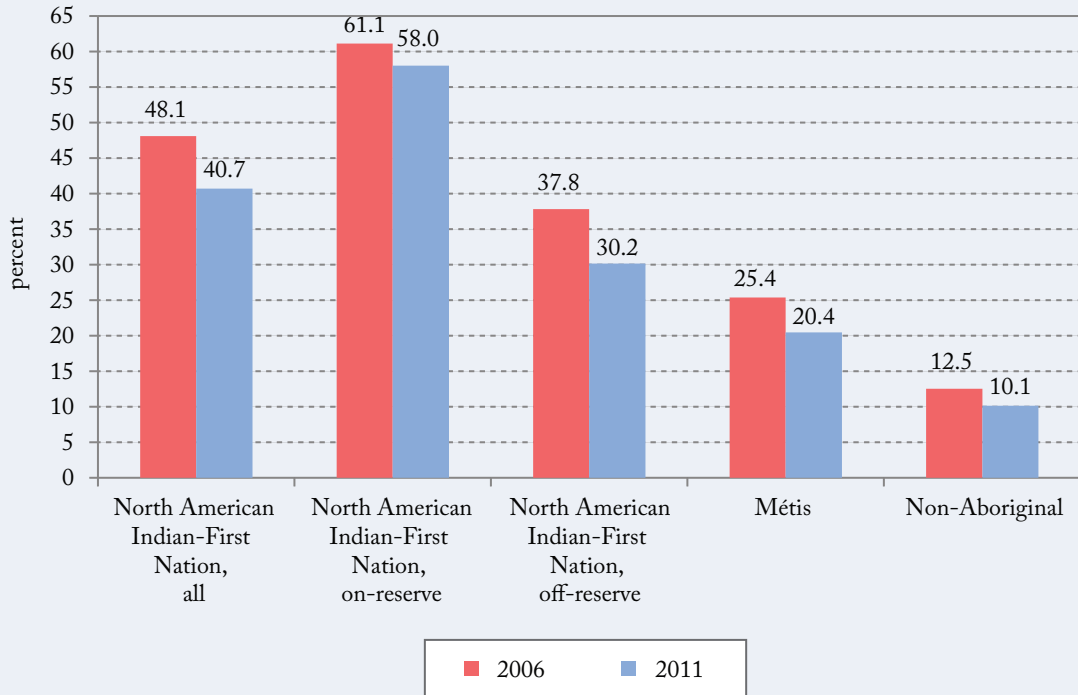
It is, of course, unfair to place the entire burden of low education outcomes on schools. The socioeconomic conditions of children’s families matter; the resources available to schools matter. But nor is it fair to exempt school systems from scrutiny. One goal of this *Commentary* is to analyze the extent to which NHS data confirm evidence from the 2006 census that some provincial school systems and some reserve schools are performing substantially better than others.

The nationwide statistics underlying Figure 1 refer to all who identified in the census as North American Indian or First Nation, whether or not they were also registered pursuant to the federal *Indian Act*. Only “registered Indians” have the right to live on-reserve. Hence, the on-reserve high-school completion statistics refer to those registered, whereas the off-reserve statistics refer to all identifying as Indian/FN, whether registered or not. (See Appendix 1 for details concerning the census definitions of the Aboriginal population.)

Provincial and reserve schools do not exist in watertight compartments. Aboriginal families, both Indian/FN and Métis, are more mobile on average than non-Aboriginal.¹ And, typically, about 40 percent of registered Indian children living on-

1 Based on the 2006 census (Canada 2008d), 13.9 percent of non-Aboriginals lived at a different address 12 months prior to the census date. Among Aboriginals, the equivalent statistic was 19.4 percent. The mobility statistics for Indian/FN and Métis are similar. Any change of family address probably implies a change of school for the children involved. These statistics do not capture interruptions in school attendance arising from family mobility within a school year.

Figure 1: Share without High-School Certificate, Selected Aboriginal and Non-Aboriginal Identity Groups, Ages 20-24, 2006 and 2011



Source: Canada (2008b, 2013b).

reserve are attending a provincial off-reserve school (Rajekar and Mathilakath 2009).

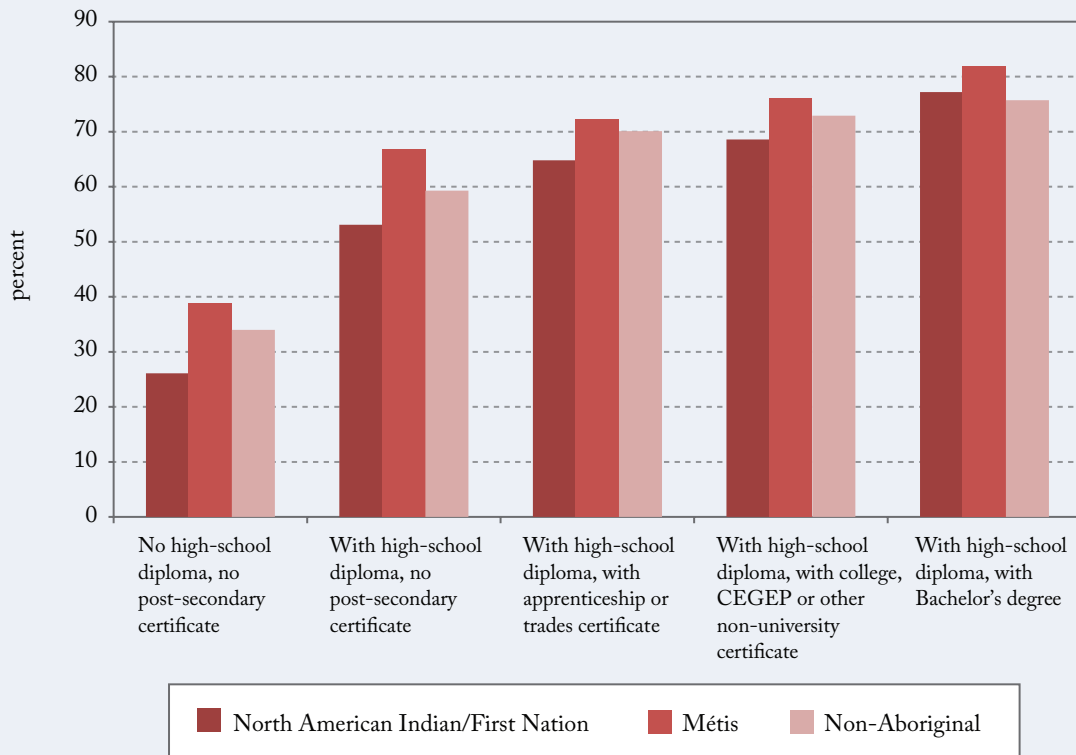
A final introductory observation. The incomplete high-school rate for all young Indian/FN adults (regardless of area of residence and whether registered) declined by over 7 percentage points between 2006 and 2011. Three-quarters of this decline can be attributed to changes in incomplete rates for two groups, on- and off-reserve, weighted by their share of the 2006 Indian/FN total. One-quarter of the improvement can be attributed to a decline in the share of young Indian/FN adults living on-reserve.²

COHORT PROFILES OF EDUCATIONAL ATTAINMENT

There is a strong link between highest education and employment levels on the one hand, and education and employment earnings on the other. Using NHS results, Figure 2 illustrates the relationship between highest education level and employment rates among Indian/FN, Métis and non-Aboriginals. The rate within each identity group is below 40 percent for those lacking high-school certification. Within each of the three identity groups, completing high school (while

² The share of young adults aged 20-24 who identified as Indian/FN (whether or not they were also registered) and were living on-reserve declined from 44.2 percent in 2006 to 37.9 percent in 2011 (Canada 2008b, 2013b).

Figure 2: Employment Rates, Selected Identity Groups, by Highest Education Level, 2011



Note: Employment rates in Figure 2 and median earnings in Figure 3 refer to all individuals within an identity group ages 15 and over.

Source: Canada (2013b).

pursuing no further formal education) increases the group employment rate by more than 25 percentage points. At higher education levels, employment rates for all identity groups continue to rise. Worth noting is that, at each education level, the Métis employment rate is the highest.

2010 median employment income among identity groups show that, at each of the three highest education levels, the Indian/FN median

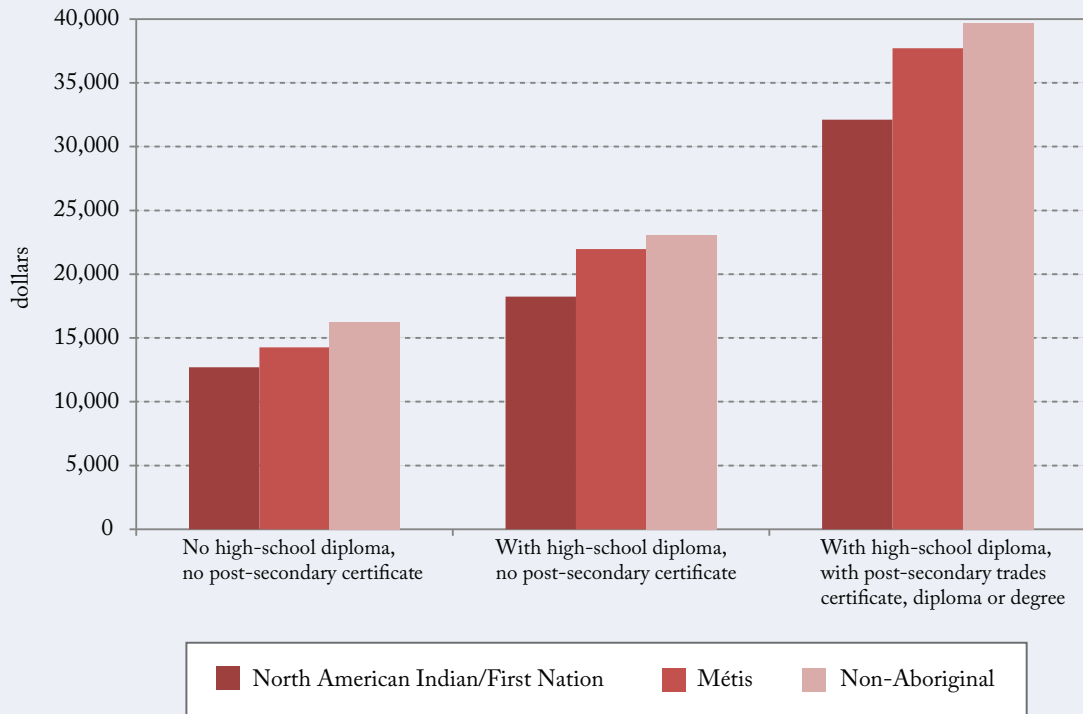
is roughly 80 percent of the corresponding non-Aboriginal median; the Métis median is roughly 90 percent (Figure 3).³ The gaps may reflect, in part, discrimination in wages paid.⁴

NHS results from four age cohorts – ranging from ages 20-24 to 45 and over – profile by age those without high school or other post-secondary certification (Figure 4a). Those in the oldest cohort illustrated were born prior to 1965, and all but a few

3 The statistics are calculated for all who reported at least some employment earnings.

4 However, the gaps may also reflect factors other than discrimination: for example, average weekly Aboriginal hours worked were lower than for non-Aboriginals.

Figure 3: Median Annual Employment Income, Selected Identity Groups, by Highest Education Level, 2010



Source: Canada (2013c).

in this cohort can be expected to have completed high school (if they did complete) before 1980. Even within the non-Aboriginal population, more than one in five (21.6 percent) of those in the oldest cohort did not graduate. Among the three younger non-Aboriginal cohorts, the did-not-complete statistic is under 10 percent, demonstrating that, for working-age Canadian adults, near-universal high-school completion has become the norm.

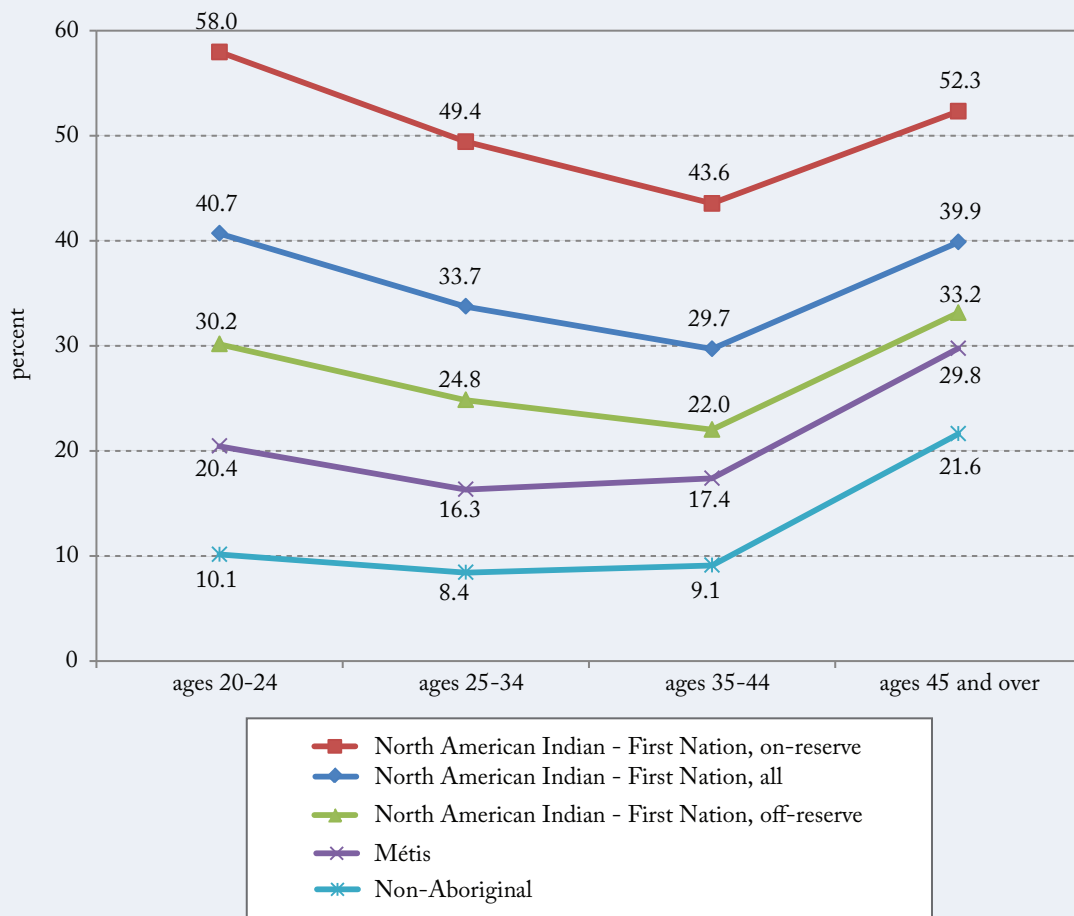
Among Métis, a similar inter-cohort profile exists, albeit it lies above that for non-Aboriginals. The gap between the two profiles is roughly 10 percentage points for all age cohorts (Figure 4b). As measured by this gap, Métis high-school completion, while not converging on that for non-Aboriginals, has kept pace with the rise

in high-school completion among younger Canadians overall.

As with Métis and non-Aboriginals, the rates for Indian/FN who do not complete high school are about 10 percentage points lower for those aged 35-44 than for those aged 45 and older. The on-reserve Indian/FN is the only group for which the high-school incomplete rate among young adults aged 20-24 exceeds that for the 45-and-older cohort. The older cohort encompasses no doubt a majority of the parents of the younger cohort.

Meanwhile, some convergence in outcomes between the three Indian/FN cohorts and non-Aboriginals is taking place between ages 25 and 44. Based on the profile for all Indian/FN, about 60 percent in the 20-24 cohort have completed

Figure 4A: Share without High-School Certificate, Selected Aboriginal Identity Groups and Non-Aboriginals, by Selected Age Cohorts, 2011



Source: Canada (2013b).

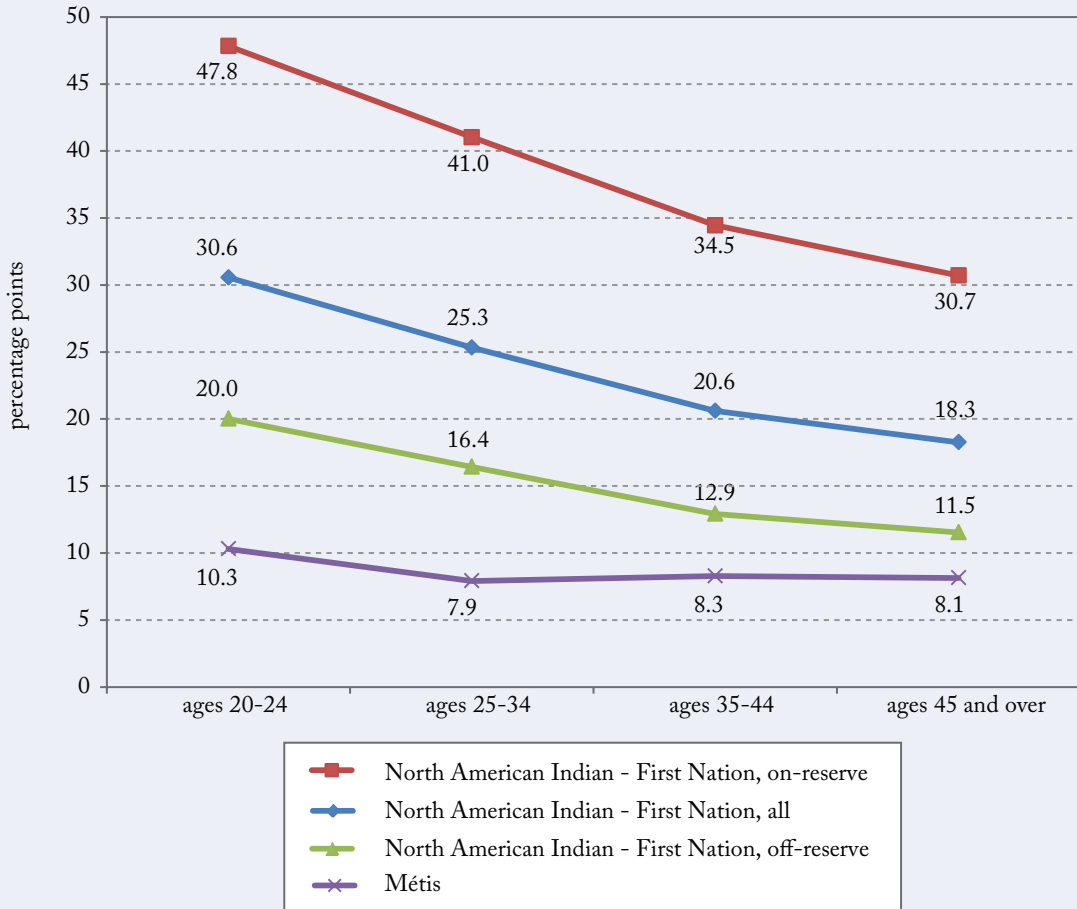
high school; among the 35-44 cohort, some 70 have done so.⁵

The implications of all this is clear: to reduce Aboriginal poverty, a higher employment rate is crucial. And to realize a higher employment rate requires, at a minimum, near-universal high-school completion.

True, high school is a low rung on the education ladder. For the majority in a community to achieve what most Canadians consider middle-class incomes requires that the majority achieve some form of post-secondary education – a trades certification, college diploma or university degree.

⁵ The incomplete high-school rate for all Indian/FN in the age 20-24 cohort is 40.7 percent. This statistic declines to 29.7 percent for the age 35-44 cohort.

Figure 4B: Share without High-School Certificate, Aboriginal Gaps Relative to Non-Aboriginals, by Selected Age Cohorts, 2011



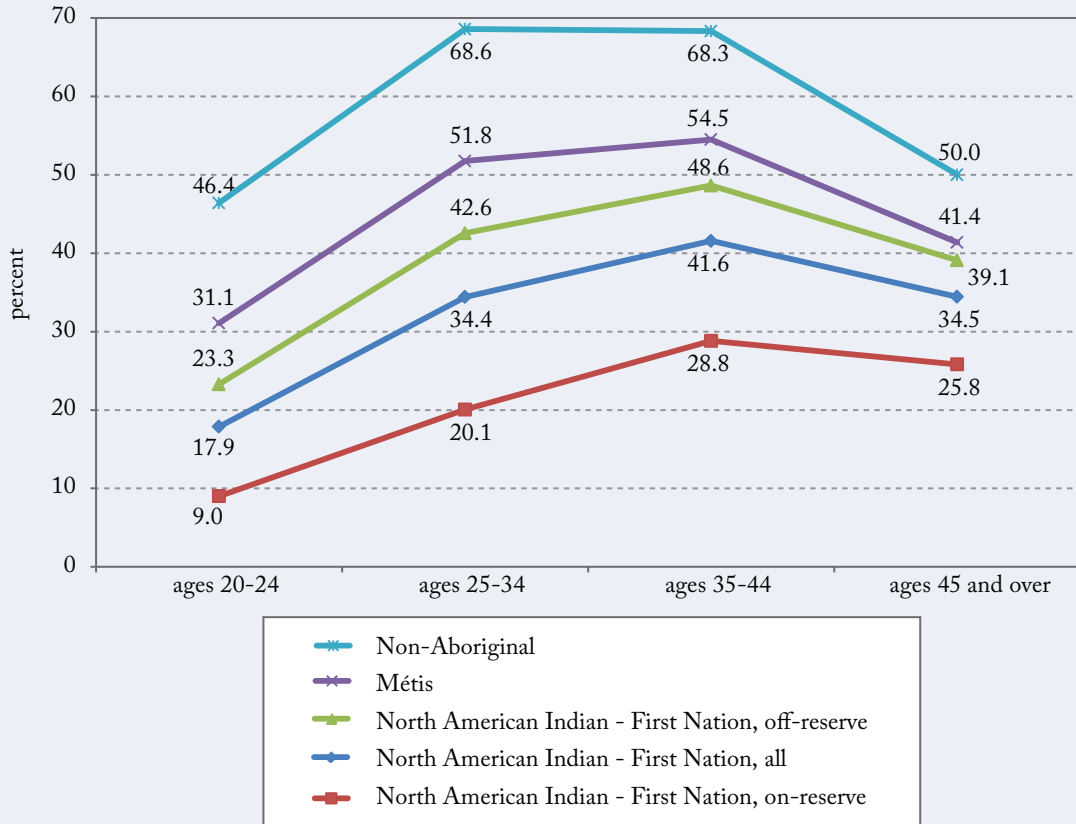
Source: Author’s calculations from Canada (2013b).

The non-Aboriginal profile in Figure 5 illustrates two features of post-secondary education among non-Aboriginal Canadians. First is the much higher post-secondary education rate among the age 25-44 cohorts relative to those aged 45 and older. Second, post-secondary educational attainment is nearly

identical for the 25-35 and 35-44 cohorts. On the assumption that education progression for non-Aboriginal cohorts has become relatively stable, the census implies that those who do realize post-secondary certification are doing so by age 35.⁶

6 Those aged 35-44 in the 2011 census were 25-34 at the time of the 2001 census. On the assumption this cohort’s post-secondary education (PSE) between ages 25-34 was similar to that of the younger cohort aged 25-34 in 2011, then significant PSE training after age 35 should be reflected in a higher aged 35-44 profile than the census revealed.

Figure 5: Share with Trades Certificate, College Diploma or University Degree, Selected Aboriginal Identity Groups and Non-Aboriginals, by Selected Age Cohorts, 2011



Source: Canada (2013b).

The Métis and off-reserve Indian/FN education profiles in Figure 5 are obviously below that for non-Aboriginals. Unlike the non-Aboriginal profile, there is also some incremental acquisition of post-secondary training by those in the age 35-44 cohort relative to those aged 25-34.

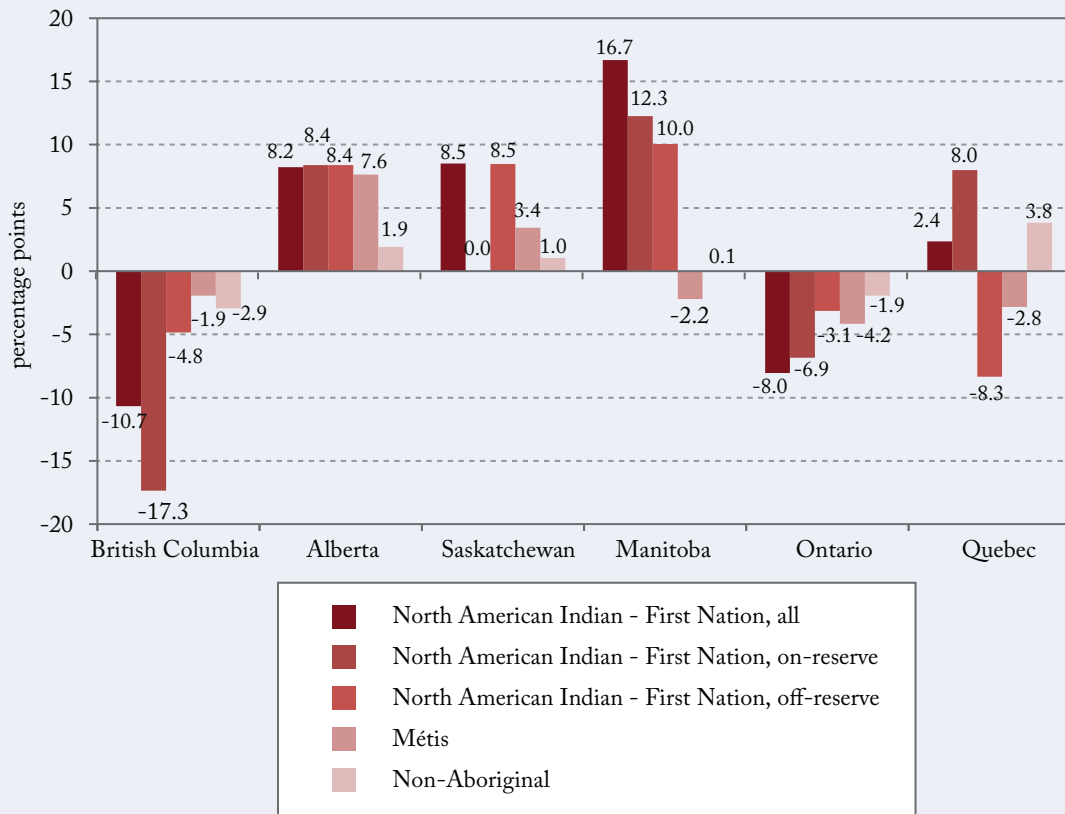
The differences between the non-Aboriginal and on-reserve Indian/FN profiles are more pronounced. Post-secondary certification in the age 20-24 on-reserve cohort (9 percent) is very low, and is less than one-third of the maximum, realized among mature adults, those aged 35-44 (28.8 percent). Acquisition of post-secondary training, to the extent it occurs among those living

on-reserve, is delayed relative to those in the other identity groups.

INTERPROVINCIAL VARIATION IN HIGH-SCHOOL COMPLETION RATES AND DISTRIBUTION OF ABORIGINAL POPULATION

Figure 1 illustrates, at the national level, rates for young adults who have not completed high school, by five identity groups. National averages hide some large provincial differences. For the six provinces from Quebec to British Columbia – home to almost 90 percent of Canada’s Aboriginal

Figure 6: Provincial Deviations from Respective Canadian Average Identity Group Share with Neither High-School nor Post-Secondary Certificate, Ages 20-24, by Selected Provinces, 2011



Source: Author’s calculations from Canada (2013b).

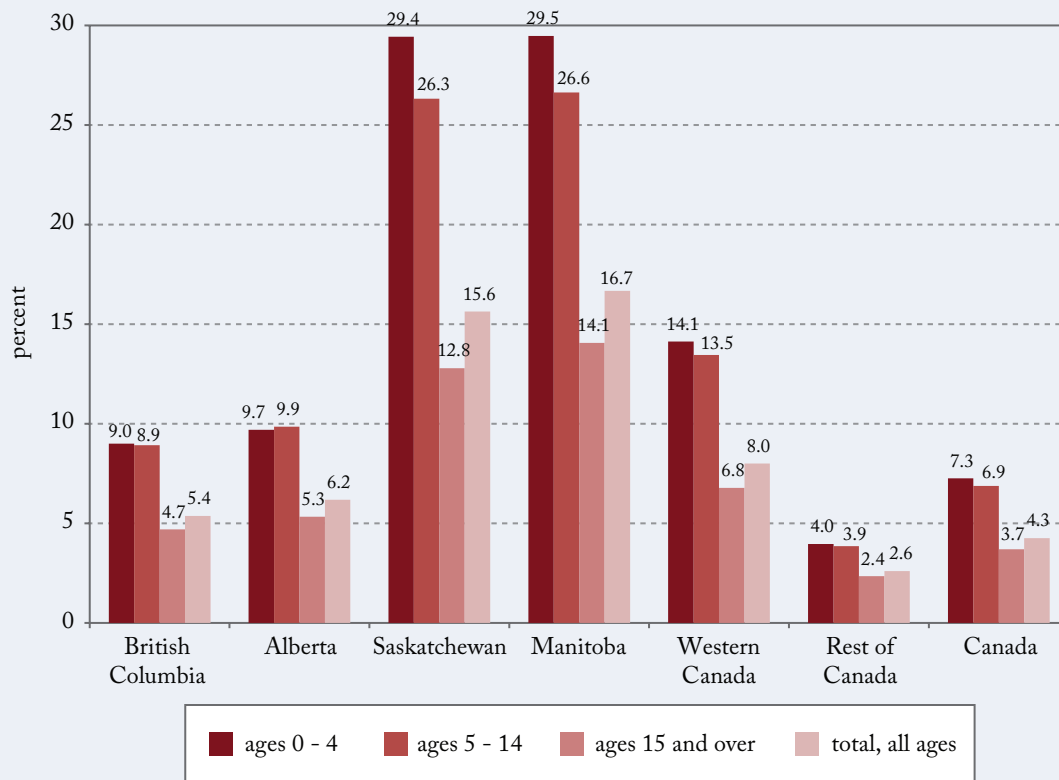
population – provincial deviations from the relevant national averages, at ages 20-24 highlight important information (Figure 6). (Negative deviations imply superior performance relative to the national average, while positive deviations suggest inferior outcomes.)

The largest interprovincial range is within the on-reserve Indian/FN population, at nearly 30 percentage points. In Manitoba, the incomplete rate is 12.3 points *above* the national average (58.0 percent); the BC rate is 17.3 points *below* the national average.

The Métis interprovincial range is much smaller, slightly less than 12 points. The Alberta rate for Métis who lack a high-school graduation certificate is 7.6 points above the national average; the Ontario average is 4.2 points below it.

Outcomes in British Columbia and Ontario are uniformly better than the national average for all five identity groups; in the Prairie provinces they are generally worse. Outcomes in Quebec are mixed: worse than average for Indian/FN on-reserve, better than average for Indian/FN off-reserve.

Figure 7: Aboriginal Share of Population by Selected Age Cohorts, Canada, Selected Provinces and Regions, 2011



Source: Canada (2013a).

Aboriginal Population Highly Concentrated in Prairie Provinces

Canadians living east of Manitoba might be excused for thinking poor Aboriginal education outcomes is a social problem that affects only a small minority. Aboriginals constituted less than 3 percent of the east-of-Manitoba population at the time of the 2011 census (see Figure 7). But in the four western provinces, home to 58 percent of the Aboriginal population, there are compelling arguments that continuation for another generation with weak Aboriginal education outcomes will adversely affect everyone in the region.

In projecting future regional prospects, what is relevant is the Aboriginal share of school age

cohorts (ages 5-14 in 2011). The Aboriginal share for this cohort east of Manitoba was only 4 percent in 2011. It was 14 percent in the four western provinces combined; in Manitoba and Saskatchewan, it was 26 percent.

As post-Second World War baby boomers reach age 65 over the next two decades, the population share in the active labour market age cohort (ages 18-64) will inevitably decline. This trend accentuates the importance of Aboriginal youth, especially Indian/FN youth, achieving higher education levels and employment rates than their parents.

The pursuit of better Aboriginal education outcomes is more than a matter of economic

productivity; it should also be seen as an appropriate societal response to the aspirations of many Aboriginal families. Young Aboriginals are “going to town” in search of better education opportunities for themselves and their families. This is the case even among “registered Indians” who have the right to live on-reserve.⁷ An ambitious survey of 2,500 urban Aboriginals, conducted by The Environics Institute in 11 Canadian cities in 2009, provides evidence that the weak performance of on-reserve schools is an important reason for the increase in the off-reserve population (Environics 2010). Among participants in the survey who were first-generation urban Aboriginals and who identified as Indian/FN (as opposed to Métis or Inuit), the most important reason given for migrating to their city was access to education, followed closely by a desire to be closer to family members in the city and employment opportunities.⁸

WHY IS BRITISH COLUMBIA BEST?

This *Commentary* has used recently released NHS results to emphasize the links, first between education and employment, and second between education and expected earnings. It has not attempted to explain why Aboriginal education levels are disturbingly low in many provinces and are (somewhat) better in British Columbia.

A simple statistical exercise, undertaken in a previous *Commentary* (Richards 2013), assesses the incremental impact of better socioeconomic conditions, proxied by regional Aboriginal

employment rates (see Appendix 2). Analysis of the data shows that a 10 percentage-point increase in a regional Aboriginal employment rate boosts projected regional high-school completion among those ages 20–24 by 5 percentage points. The gap between actual and projected high-school incomplete rates for an individual province is indirect evidence of superior and inferior school performance.

The simple analysis discussed in Appendix 2 and the deviations discussion above are broadly consistent: BC on-reserve high-school incomplete rates are dramatically lower than in the five other provinces under review and BC Aboriginal results off-reserve are in general also better than elsewhere. Precisely why British Columbia is doing better than other provinces is not clear, but there are four differences – in degree, if not in kind – between it and the five other provinces.

For Aboriginals attending provincial schools, the BC education ministry has for over two decades provided school districts additional funds based on their numbers of Aboriginal students. In return, the districts are to prepare Aboriginal education enhancement agreements in consultation with local Aboriginal education leaders. The intent is that districts use their incremental funds for Aboriginal education projects, and that the agreements define proximate goals such as targets in future provincial Aboriginal test scores or attendance rates.

Furthermore, relative to other provinces, the BC education ministry has a much stronger tradition of publishing detailed Aboriginal student performance

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- 7 The proportion of young adult registered Indians living on-reserve declined between the last two censuses. In 2006, 48.2 percent of those aged 20–24 lived on-reserve; in 2011, the share was 45.2 percent (Canada 2008a, 2013a). The trend in on-reserve statistics is probably accurate, but the on-reserve share may be underestimated in both censuses due to incompletely enumerated reserve populations. Based on previous Statistics Canada adjustments for incomplete enumeration, the on-reserve share of the 2011 “registered Indian” population was probably close to 50 percent.
- 8 The survey asked, “What is the most important reason why you first moved to your city?” Pursuit of education for themselves or family members was cited by 43 percent, followed closely by a desire to be closer to family members in the city and employment opportunities (Environics 2010, 32).

statistics, disaggregated to the school level. What is measured is more likely to improve than what is not.

As well, BC reserve schools have organized themselves into province-wide agencies to provide secondary services and assess reserve school performance in reading, arithmetic and other basic metrics. These agencies help set goals in core academic subjects (reading, science, mathematics) as well as objectives for cultural education (Richards 2013). Arguably, the regional office of the federal Aboriginal Affairs department has played a productive role in encouraging formation of province-wide organizations, such as the First Nations Schools Association and the First Nations Education Steering Committee.

CONCLUSION

In 2011, the federal government launched a major initiative intended to provide a legislative framework for organizing reserve schools and for enabling creation of reserve-based equivalents of school districts in provincial systems. One motivation was the persistence over many censuses of consistently low high-school completion rates on-reserve. While BC's policy innovations over the last two decades have not been a panacea, the province's above-average on-reserve education outcomes were another motivation. Initially, the initiative enjoyed support from the Assembly of First Nations (AFN). However, many of the chiefs have been sceptical of the government's intention. They have emphasized the case for additional funding and minimized the case for professional school organization.

At time of writing (April 2014), the federal government has tabled legislation, the *First Nations Control of First Nations Education Act* (Bill C-33). The AFN has lent qualified support to the legislation; many chiefs have voiced opposition, and the fate of Bill C-33 is uncertain (Mas 2014). In my opinion, Bill C-33 deserves broad Parliamentary support.

One purpose of Bill C-33 is to assure a more stable and transparent basis for funding reserve schools, by legislating the principle that per student funding be at a level comparable to similarly situated provincial schools. But money alone will not bring improvements. Legitimately, a second purpose of Bill C-33 is to professionalize reserve school organization and to enable creation of reserve equivalents of provincial school districts.

Finally, Bill C-33 has a symbolic importance. While it affirms First Nation control of primary and secondary education, it implicitly acknowledges that Parliament cannot abandon its responsibility to legislate so that Indian/FN children enjoy better options for a decent education.

APPENDIX 1: DEFINING THE ABORIGINAL POPULATION

As with all identity issues, choice of defining criteria is debatable. The Canadian census defines the Aboriginal population in several ways. One is Aboriginal ancestry. The most widely used is based on self-identification. Individuals can self-identify as belonging to one of three Aboriginal groups: (i) North American Indian/First Nation (Mohawk, Ojibwa, Cree and so on); (ii) Métis (descendants of communities formed from the intermarriage of Indians and *coureurs de bois* engaged in the fur trade); or (iii) Arctic Inuit. Self-identification as an Aboriginal does not necessarily mean an individual has Aboriginal ancestry.

Another census definition is based on an individual indicating that he or she is a “registered Indian” under provisions of the *Indian Act*, a Canadian statute dating from the late 19th century. The great majority of those who self-identify as Indian/First Nation are also registered Indians. Only registered Indians have the right to live on designated reserve lands and receive the associated benefits. The census defines the Aboriginal population as those who self-identify as Aboriginal or indicate that they are “registered Indians.”

Most of the statistics discussed in this *Commentary* are from the National Household Survey (NHS) that accompanied the 2011 census. The census is by far the most important source of consistent information about Aboriginal social conditions across Canada. For many decades up to and including 2006, the census included a 20 percent random sample required to complete the “long-form” questionnaire. Since participation was mandatory among those selected, the reported results on many social conditions among Canadians were as accurate as a census could provide.

For the 2011 census, the government made the controversial decision to abolish mandatory participation in a long-form and substituted voluntary participation in a larger 35-percent sample, the source for that year’s NHS data. While the sample was larger, those who rely on census Aboriginal data have expressed serious concerns about bias. Those Aboriginals who chose not to respond may well have been poorer, less educated and more alienated from mainstream Canada than one would conclude from a representative sample.

A final caveat on the census is that the data are self-reported. This results in somewhat higher estimates of education levels than one would conclude from administrative data.

Based on the NHS, the Canadian Aboriginal identity population in 2011 was 1,401,000. Of the total, 852,000 (61 percent) identified as North American Indian/First Nation, 452,000 (32 percent) as Métis and 59,000 (4 percent) as Inuit. The remainder designated multiple identities. The registered Indian population comprised 697,510 (82 percent of the Indian/FN identity population).

APPENDIX 2: EXPLAINING INTERPROVINCIAL VARIATION IN HIGH-SCHOOL INCOMPLETE RATES

Throughout, this *Commentary* attributes education outcomes to two factors. The first is cultural differences – including the potential for discrimination – between non-Aboriginals on the one hand and the two Aboriginal groups, Métis and Indian/FN.

The second factor is the quality of six provincial school systems, Quebec to British Columbia, and the average quality, within each of these six provinces, of on-reserve schools. While these two sets of variables are relevant, it is important to introduce a third set, socioeconomic characteristics (such as parental education and income) that bear on children's academic performance.

How important is each of the three sets of factors? The ideal answer requires a sophisticated regression analysis on a large national sample of young adults, identifying all relevant factors for each individual. This Appendix does not attempt such an exercise. Instead, it presents a simple analysis based on 18 Indian/FN subgroups defined from tabulated 2006 census data, three for each of the six provinces from Quebec to British Columbia:

- an on-reserve subgroup, one for each province;
- an off-reserve subgroup living in a census metropolitan area (CMA) within a province; and
- an off-reserve subgroup living in a rural or urban non-CMA community within a province.

In the discussion here, the average employment rate for all subgroup members (ages 15 and over) serves as a proxy for the socioeconomic family variables likely to bear on children's education outcomes.⁹ The scatterplot in Figure A2.1 illustrates the 18 Indian/FN education outcomes and associated average employment rates.

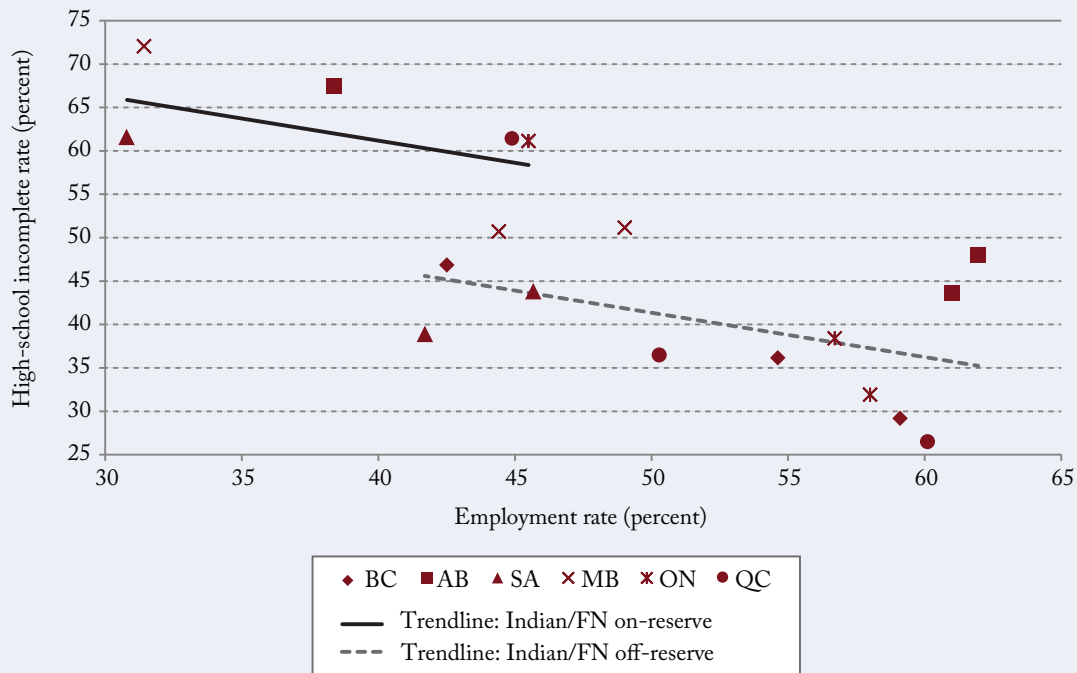
Incidentally, the range of variation in employment and high-school completion rates among analogously defined subgroups for Métis (not shown) is much smaller than for Indian/FN subgroups. The relatively small variation in Métis employment rates has no statistical significance in explaining variation in Métis high-school completion rates.

The Figure A2.1 trendlines illustrate the result arising from a regression of incomplete high-school rates for the 18 subgroups on the relevant average employment rate for each subgroup, along with an index variable to identify on-reserve observations.¹⁰ The rationale for including the index is to accommodate the difficulties of on-reserve schools graduating their students in the context of their isolation and small size. We would expect a statistically significant negative relationship between a subgroup's overall employment rate and its incomplete high-school rate among young adults. We would also expect that, for a given

9 The employment rate is a reasonable proxy for income and education. It is highly dependent on completion of K-12, and average incomes are in turn highly dependent on presence of employment earnings. See Sharpe et al. (2009) for a decomposition of the relative importance of socioeconomic and family characteristics in determining Aboriginal incomes.

10 For the 18 Indian/FN subgroups, the regression result is $y = 66.9 - 0.51x_1 + 14.7x_2$ where y is the projected incomplete high-school rate, x_1 is the employment rate and x_2 is the index designating a reserve location. The adjusted R^2 is 0.67. The employment rate is significant at 5 percent one-tail, the on-reserve index at 1 percent one-tail. The regression could be re-specified to add an index distinguishing CMA from rural/urban, non-CMA Indian/FN subgroups. Such an index has the appropriate sign (implying higher rural than CMA incomplete rates) but is insignificant. The small number of observations means the trend lines are indicative only.

Figure A2.1: High-School Incomplete Rates of Young Indian/First Nation Adults, Selected Subgroups, Ages 20-24, by Employment Rate of All Members of Identity Subgroup, 2006



Source: Canada (2008b, 2008c).

employment rate, the incomplete rate would be higher for on-reserve subgroups. Such are, indeed, the results of the regression.

Several observations are worth noting. The employment rate range is large, indicating considerable interprovincial variation in average prosperity and projected education levels of the subgroups. For the Manitoba and Saskatchewan on-reserve subgroups, the employment rate is close to 30 percent. For three off-reserve subgroups, one in Ontario and two in Alberta, the employment rate exceeds 60 percent.

If we project expected high-school incomplete rates in terms of this simple regression, we can interpret deviations from projected outcomes as a measure of the performance of provincial school systems and of average quality of reserve schools in the relevant province. A positive deviation implies the actual high-school incomplete rate is higher than projected and the relevant school system is underperforming relative to expectation; a negative deviation implies superior performance.

Adjusting for socioeconomic conditions using 2006 data does not alter the basic ranking of provincial school systems reported in this *Commentary*, based on 2011 data. The incomplete rates are lowest in British Columbia, highest in the Prairie provinces. The on-reserve subgroup observations fit the trend line reasonably well – except for British Columbia, where the on-reserve high-school incomplete rate (46.9 percent) is 13 points below the trend line projection. While the deviations from trend for the two BC off-reserve subgroups are smaller, both also lie below the trend line.

By contrast, the on-reserve Manitoba high-school incomplete rate (72 percent) lies 6.4 points above the trend line. The incomplete rates for the two Manitoba off-reserve subgroups also lie well above trend and are higher than the BC on-reserve incomplete high-school rate.

The employment rate may well incorporate factors beyond parental socioeconomic status. The large positive deviations of Alberta off-reserve incomplete rates may reflect the relative quality of Aboriginal education in the province; they may also reflect a below-average demand for high-school certification due to a provincial resource boom and a correspondingly high market demand for workers, including those with low education levels.

Aggregating data into the 18 subgroups and assessing family socioeconomic characteristics in terms of employment rates is admittedly a “back-of-the-envelope” exercise. But if we accept the employment rate as a proxy for socioeconomic characteristics among Indian/FN subgroups, the characteristics explain a good deal of the interprovincial variation in incomplete high-school rates – but certainly do not negate the conclusion that the quality of provincial school systems also matters.

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