Education and Fiscal Federalism

Economics 325

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Government Involvement in Education

• Canada spends (govt plus individuals) around 6% of GDP on education (all levels)

• Provinces have authority over most education spending in Canada
  – 15.2% of total government expenditures goes to elementary, secondary, and post-secondary education
  – Federal government affects ed spending by provinces through Canada Social Transfer (CST) (which has string attached) and Equalization transfers (which don’t have strings attached)
  – Federal govt provides significant vocational training
Government Involvement in Education

• Primary and secondary education expenditures come mostly from provinces (52%), then from local taxes (43%)
  – Some provinces support private schools, religious schools
  – In BC, costs about $9,000/yr/student to provide primary-secondary education

• Post-secondary education funded by mix of federal and provincial support and tuition
  – Cost of a 4 year degree in Canada is around $50,000 (leaving aside residence costs); note gap between your tuition and that cost.
Rationale for Government Intervention

• Why does government provide public education? At first glance, it is a private good.
  – Significant positive externalities may be involved
  – Public education may serve a redistributive role
  – May undo errors by myopic parents (paternalism)
  – May address capital market imperfections (inability to get loans to pay for education) that limit access to education

• Less good reasons
  – Schools are great forums for indoctrination.
Education Externalities

• Education enhances social cohesion by bringing mixed races and classes of children together on extended basis (to the extent that neighbourhoods are integrated)
  – Contributes to educated electorate, which hopefully leads to better policy
  – Lowers crime, poverty, other sources of social instability
  – Yet these justifications do not necessarily imply government should provide education for free; just argue for subsidizing it
Redistribution and Education

• Education is vital to provision of equal opportunity
  – Good universally available education helps to level playing field for children (equalize lifetime opportunity)
  – Promotes intergenerational mobility (ability of the kids of poor to become rich, etc.)
  – Relatively non-distortionary way to redistribute income
    • Straight income-redistribution provides incentives for people to reduce (or hide) their incomes.
    • Redistribution through education is less likely to change behavior of non-targeted population.
Redistribution Goals May Conflict with Desire for Local Control

• If province administers K-12 education, can ensure equal resources to all schools
• If local school districts raise their own taxes, rich districts can give lots of resources to their students; poor districts will likely give less
  – Those who favor local control argue it allows districts to tailor program to local needs; why shouldn’t rich be allowed to spoil their kids?
  – Those who favor redistribution will prefer provincial control; redistribution can’t really happen under local control (unless rich and poor are mixed within districts)
Local vs. Provincial Control

• Advantages of local control
  – Parents have control over the level, quality, and focus of their kids’ education
    • Different needs in different communities may be best addressed by different levels of spending or different curricula
  – High degree of accountability; parents likely to monitor spending of their tax dollars carefully; keep pressure on district for quality improvements
  – Gives consumers choice (if you don’t like your school district, can move to a different one)
Local vs. Provincial Control

• Advantages of provincial control
  – Allows for more complete redistribution
  – Allows for standardized curriculum (may make hiring easier for employers since they don’t have to investigate school district background of job candidates to determine whether they have sufficient education in key areas)
Provincial Finance of Schools

• Provinces use different means of contributing to local school finances
  – Foundation grants
    • Try to assure minimum expenditure per pupil, regardless of local property wealth
  – Percentage equalization grants
    • Grants that vary inversely with local tax base wealth
    • Poor districts receive larger grants
    • Grant increases with local “effort” (districts that choose to spend more get bigger grants)
Foundation Grants

• Province gives per pupil grant that varies with district wealth
  – Poorer districts get bigger grant
  – All income effect
  \[ G_i = (E_p - t_p B_i) \]
  – Grant is lower if tax base, \( B \), is big for district; could be zero
  – Grant is independent of school district’s choice of spending
Percentage Equalization Grants

• Province’s share of a district’s spending is decreasing in per pupil tax base
  – Province gives more to poor districts

• Size of grant increasing in local “effort”
  – If district sets its local tax rate higher, province will give it more money (province pays a percentage of whatever total spending level is chosen)

\[ p_i = 1 - [L \times (B_i/V)] \]
  – L: spending share that province requires of district with average property tax base
  – B: district’s tax base per pupil
  – V: average tax base per pupil across province
  – \( p_i \): province’s share of spending for district \( i \)
Percentage Equalization Grants

• Province gives subsidy that varies with district wealth
  – Poorer districts get bigger subsidy
  – Both income and substitution effects.
  – Grant depends on school district’s choice of spending

• Pct. Equal. Grant

Diagram:

- Cons.
- Educ.
Federal Funding of Education

• Justification
  – Poorer provinces may have disincentive to provide post-secondary education
    • If you educate your best and brightest, they may move away (to Calgary, or wherever job market is stronger)
    • This means province doesn’t get much return back on its investment in the student
  – If subsidization of post-secondary education is warranted, spillover of such benefits to other provinces may warrant federal provision.
  – Externalities are often better managed at higher levels of government
Return on Educational Expenditures

• Does more money spent increase the quality of education?
  – One would think so
  – Evidence is surprisingly thin
    • Hanushek (1986) finds essentially no relationship between purchased inputs and educational attainment
    • Class size appears not to matter, in many studies
    • Biggest determinant of student outcomes appears to be family involvement
  – Probably still true that money matters, but other things matter as well
    • Especially parental inputs (making kids do homework, attend class, teaching them at home, etc.)
Role of Non-Cognitive Skills Development

- A hot new area of research in the economics of education literature is the role of “non-cognitive skills development”
  - People like James Heckman (a Nobel winner) argue that the biggest gains from schooling aren’t the high level skills like math and science, but basic “soft skills” like motivation, sociability, attention, self-regulation, patience, and health/mental health. If these skills are developed early, kids develop good cognitive skills (a good ability to learn) and the hard skills follow.
  - See [http://www.heckmanequation.org/content/resource/day-slides-lecture-given-professor-heckman-spertus-institute](http://www.heckmanequation.org/content/resource/day-slides-lecture-given-professor-heckman-spertus-institute) for an interesting presentation by Heckman (Chicago economist goes softie liberal)
Role of non-cognitive Skills Development

• Heckman argues that large skills gaps in kids have already developed by the age of 3
  – He argues that the return to pre-school investments in child skills development is 7-10% per year (higher than US stock market returns 1945-2008)
  – These returns are positive but smaller for higher levels of education
  – Famous study called “Perry Preschool Experiment” provides much evidence in support of Heckman’s claims
    • Kids in a poor Michigan neighbourhood were randomly assigned to receive high quality preschool education; kids have been followed for 40 years
    • Those kids had much higher HS graduation rates, much lower crime rates, higher test scores and earnings, than other kids from the neighbourhood who were randomly assigned to a control group (no special pre-school)
Why don’t parents do these things for their kids?

• If much of the return to education is private, parents (arguably) should recognize the great benefits of developing these skills
  – In reality, poor parents don’t (due to lack of information, lack of ability, etc.)
  – Given that some poor kids are likely to become a major burden on society (i.e. there’s a big externality) it makes sense for government to step in and support these programs.
  – Note that some have concerns that programs like Perry will be hard to scale up to the national level, \textsuperscript{17}
University Education

• Public university education is not provided for free
  – Tuition is heavily subsidized
  – Subsidies vary by field
    • Cost of training a science major is higher than that of training a humanities major, yet tuition is equal
  – Should society be subsidizing university students?
    • You all are likely to become among the richest Canadians; this is essentially a transfer from the middle class to the upper class
      – Exceptions are those poorer students convinced to attend by the subsidized tuition
University Education

• One argument given for subsidized education is that you are poor now; may not have access to capital
  – But in this case government should provide loans, not tuition subsidies
Return on Educational Expenditures

• Calculated external rates of return to education tend to be high for pre-school, elementary and secondary education; relatively low for post-secondary
  – For example, the Perry experiment showed that going to a good pre-school may stop you from becoming a criminal; but going to UVic probably isn’t tipping a lot of you away from a life of crime.
  – If social rates of return are higher for lower levels of education, suggests that justification for government involvement is greater for pre-school, elementary and secondary education than for university

• What’s your take on tuition rates at UVic? Can you justify your subsidy? Justify an even bigger one?
Introducing Competition into School System

• Rising expenditures coupled with lackluster performance have caused some to push for more competition in K-12 schools
  – Some feel schools would perform better if they had to compete for students
    • Elimination of neighborhood schooling might do this
    • Could be combined with school vouchers, so that instead of government directly funding school, students would receive voucher from government and spend it at preferred school
    • Bad schools would lose students, be forced to close
    • Good schools would thrive, and be well funded by vouchers
    • Requires that parents be well-informed; able to drive their kids long distances to best school if necessary
School Competition

• Private schools contribute to competition
  – Some feel a voucher program should allow for funds to be spent on private schools
  – Others oppose this
  – Hoxby finds evidence in US that districts with greater school competition produce better educational outcomes

• Charter Schools (Alberta) also provide competition
  – Set up by parents
  – Report directly to province, rather than to local school district
  – Heckman argues these haven’t yielded improvements in education in the US
School Competition

• Competition can leave poor kids stranded in lousy schools (if best students take their vouchers and move out)
  – Might increase educational inequality, which is already pretty high.

• It can have some interesting effects on property values
  – Reback study showed that property values in rich (usually good) districts fell while values rose in poor (usually bad) districts when open enrollment was allowed in Minnesota (i.e. when parents were told they could send their kids to any public school regardless of where they lived); this is because the rich neighbourhoods lost their exclusive access to good schools
Fiscal Federalism

• Stepping back from the specific question of education--note that different government interventions in the economy occur at different levels
  • Revenues raised at Federal level for things like national defense
  • Provinces do redistribution, but with heavy involvement of Federal funds
  • Local governments make decisions about trash collection; some decisions about local schools

• What is the optimal level of government when it comes to policy interventions in the economy?
  – Fiscal federalism is the study of which level of government should perform which policy function
Fiscal Federalism

- There is a tradeoff involved in shifting policy decisions from the local level to higher levels of government
  - Local government can cater more effectively to the demands of local community members
  - But externalities and redistribution is generally handled more effectively by higher levels of government.
    - Example Redistribution: If local towns handled redistribution, then rich would all locate together and exclude the poor; then they would vote locally against redistribution
    - Poor would end up isolated, with no means of raising revenues for redistribution (because there would be no rich to tax)
Fiscal Federalism

• Example: Local externalities
  – Development in one community increases tax revenues for that community, but causes congestion that spills into other communities
    • Local communities don’t take into account the negative externality on neighboring communities
    • If we leave decisions on development to individual communities, “too much” development may occur
    • This presents an argument for having the province approve local development plans, or for regional government oversight (for example, the Capital Regional District could have oversight over Langford development policy)
Fiscal Federalism

• Current election issue: Amalgamation
  – Does the CRD have too many municipalities?
    • Pro: Yes, there are 13 municipalities in the Greater Victoria area, which mostly fail to coordinate policies, and therefore fail to deal with issues such as providing transportation and limiting congestion/urban sprawl.
    • Con: No, having lots of municipalities gives local area residents choice of fiscal policies. If they want to live in a low-tax low-service community they can, or they can select a high-tax high-service community. Choice is good!
    • The true answer probably lies somewhere in between