

## Public Debt

FYI: let **bold print** denote definitions that are very important. Let *italics* denote definitions and terms that are somewhat important.

1. What is government debt?
  - a. **Deficit**==revenue - expenditure
  - b. **Debt**==last year's debt + deficit
  - c. **Balanced budget** is where deficit=0, or, equivalently, where revenue=expenditure.
  - d. Direct government debt is held by municipal, provincial and federal governments.
    - i. Federal government owes about 481 billion in *direct debt* in 2007. (32 million people—about \$15k per person)
    - ii. BC government *total tax-supported debt* is about 28 billion. (4 million people—about \$7k/person)
  - e. *Direct debt* is debt owed by the agency to creditors. Government of Canada issues bonds, which people buy. Government of Canada is the agency, bond buyers are the creditors.
  - f. *Indirect debt* is also held
    - i. Crown corporations (ICBC, BC Hydro, Canada Post) can hold debt.
      - (1) BC Hydro owes approx 8 billion
    - ii. Crown corporations are ultimately owned by the people, and their debts must be paid by the people.
  - g. The total of all debt that must ultimately be paid by the people if the agencies in question fail or go bankrupt is referred to as '*tax-supported debt*'.
2. Why do people borrow?
  - a. Borrowing and saving can help you *smooth* consumption over variation in income.
    - i. self-employed people can easily have very good months and very bad months (eg, commercial real estate agents). So, when times are good they sock money in the bank; when times are bad, they take it out of the bank.
    - ii. dissaving (taking money out of the bank) and borrowing are essentially identical.
      - (1) dissaving requires saving in advance.
  - b. Borrowing can help you finance *investment*. university is an investment. You pay now (in the form of money, time, effort, suffering); you get something later (money, fun, morose over-educated smirk, good job).
    - i. An *investment* is something that you pay for before you get all the benefits. The costs are front-loaded.
3. In what ways is government borrowing different from that of regular folks.
  - a. Governments try to smooth consumption, too.
    - i. Over the business cycle, for example. When there is a recession, we don't expect governments to raise tax rates to make ends meet; we expect them to use savings or to borrow money.
  - b. It may be less constrained. If you lose your job, nobody wants to lend you money ("you can only borrow if you can prove that you don't need it").
  - c. It may get better interest rates. Governments borrow through issuing bonds. Canada Savings Bonds are government debt.
  - d. It may be able to borrow for the very long term. Governments engage in all sorts of intergenerational transfers—pension promises now won't materialise into cheques for 40 years. Try getting an unsecured 40 year loan from your neighbourhood credit union!
  - e. It may be able to borrow money with less collateral, or less formal collateral.
  - f. Governments can also do things to decrease the value of what they have to pay back: they can decrease the prices of goods by printing a lot of money.

4. Is government borrowing just you borrowing from yourself?
  - a. Yes, and no. One can argue that government borrowing is equivalent (in the Ricardian sense) to personal borrowing. After all, if a government borrows, your descendants pay it back, and if you love your descendants, then that is just like you paying it back. Indeed, if you really love your descendants, and government is borrowing, you'll save money and bequest it to them so that they can pay it back.
5. Generational Conflict
  - a. One could also argue that if governments spend money on you, then you need not be the one to pay it back.
    - i. We started full benefits in the Canada Pension Plan in 1975, but full contributions had not been paid till this year!
    - ii. The repayment could be by a different generation of people, as above.
    - iii. It could be by a different class of people.
      - (1) eg, we write big cheques to farmers, and since farming will employ nobody in the long run, nonfarmers pay it all back.
    - iv. These sorts of issues of redistribution are only clouded by consideration of debt. After all, you can have nonfarmers subsidizing farmers even when the budget is balanced.
6. Why would we want to owe less (or more)?
  - a. For a person, debt capacity is related to income potential and to asset holdings. If you have a lot of assets, those can be traded for money to repay debt. If you can earn a lot of money, that is like owning a productive asset (yourself).
  - b. If you owe a lot relative to this, people want to charge you higher interest rates.
    - i. That is why a second mortgage has a higher interest rate than a first.
  - c. Similar for governments.
    - i. Asset holdings are typically in government corporations and agencies: buildings, dams, museums, roads, etc.
    - ii. BUT, what matters is the potential sale price of these assets or their ability to generate revenue.
      - (1) many government assets are not worth much to buyers; their value lies in their ability to generate revenue.
      - (2) often the ability to generate is indirect—roads enable us to be productive, and from our productivity and income, the government generates revenue.
      - (3) this is similar to the 'tax dividend' of education in that a government investment results in revenue.
      - (4) but it is different because, whereas education might be funded privately (because the returns are private), things like roads and the rule of law have large externalities that make private production inefficient. The government can step in, make the investment, and get the money back in taxes later.
  - d. If there is an effective ceiling on debt, then if you know deficits are coming in the future, you might want to make room for it.
    - i. Eg, baby boomers are gonna be costly, so make debt room.
  - e. There is in general an 'optimal' level of debt, but it is hard to know what it is. However, it almost certainly not zero. If it were, why not some other number? Why not some negative number (a government savings account).
    - i. If government holds debt in the form of fixed real return bonds (where the interest rate adjusts for inflation), then it might want to hold a positive amount of debt, so that people have such bonds available to buy.
7. Bad Investments and Investments not made
  - a. Sometimes governments make bad investments—they put resources in something that, looking forward, probably will not produce much as a return, or, they put resources into something that, looking back, does not produce much as a return.

- i. They might make these bad investments because they are dumb (don't recognize the badness) or wicked (don't care about the badness).
      - ii. They might make these bad investments because they operate on short time horizons (4 year election cycle in the USA and in BC now). Short time horizon affects all types of government decision-making, not just investment problems.
    - b. You can assess bad investments just the way you would as a person.
      - i. Fast Ferries cost \$500 million, but returned about zero. This \$150 per resident of BC.
        - (1) Is that a lot or a little? Have you spent \$150 badly, even suspecting that it might turn out badly, perhaps because you were in a hurry, or tired, or just dumb that day?
    - c. Sometimes governments don't invest in things they should invest in.
      - i. Same reasons as for making bad investments.
      - ii. The government of BC recently (2002) reduced the number of teachers in K-12 by approximately 2500, which is about \$125 million per year (another 1500 teachers were shed in 2003). This is an investment not made in K-12 education. If you think we were not previously overinvesting in K-12, then this is a good investment not made.
        - (1) Is that a lot or a little. Have you ever been offered something for \$40 per year that you refused, but might in fact have been a good deal.
    - d. You can assess investments not made just the way you would as a person.
8. Cyclical and Unexpected Borrowing (Deficit)
- a. As noted above, governments should borrow to invest in things that cost resources now and create resources later. This is a **long-term** strategy.
  - b. Governments borrow for **short-term** reasons, too. (*Business Cycle* refers to the ups and downs of the economy over 5-10 year long periods. Sometimes people use the phrase *boom/bust cycle* or *recession cycle*.)
    - i. If the economy is doing well, then peoples' and firms incomes are, so tax revenues are high.
    - ii. If the economy is doing well, then peoples' needs for government funding are less—less welfare, unemployment insurance and social services.
    - iii. These imply that in good times, governments should save to finance bad times, (in bad times, they should borrow and pay it back in good times).
  - c. Governments also get surprised. Who knew about the mad cow; who knew about SARS. These are negative surprises that, over the long-term, will be compensated for with positive surprises like high oil prices for Alberta and NF oil.
    - i. So, when governments get a negative surprise, rather than sacrificing current programs to finance the response to the surprise, governments should borrow.
    - ii. When a positive surprise comes they should save the surprise revenue.
9. **Structural deficit**
- a. 'Structural' is in contrast to 'cyclical'. We know that government revenue and expenditure is very dependent on how well the economy is doing.
    - i. In good times, revenues are high and expenditures are low.
    - ii. In bad times, the opposite is true.
    - iii. We call this the deficit/surplus cycle.
    - iv. If the average of deficits over good and bad times is zero, then we say that there is no 'structural deficit'.
    - v. If the average of deficits is not zero, we say that we have a structural deficit or structural surplus.
  - b. The government of Canada has a structural surplus, and has had for about a decade. Good times or bad, they pull in more than they spend. They use the extra to pay down debt.
  - c. The federal government of the USA is facing a large structural deficit. Good times or bad, they will spend more than they pull in.
10. There are three items: revenue, expenditure, deficit.

- a. They are tied together with an equality (see (1)).
    - i. Thus, you cannot control all three. If you control any two, then the third is given by the equality.
    - ii. To deal with a problem in any one, you always have two choices (the other two).
  - b. If it is felt that taxes are too high (eg, because our southern neighbour keeps cutting income taxes on rich people), then we have two choices: cut spending or increase deficits.
    - i. Which is better?
      - (1) borrowing is better if: you are running a structural surplus; and/or your level of debt is 'too low'.
      - (2) cutting spending is better if: you are spending too much on something or the other.
    - ii. Cutting taxes without doing something else is typically not feasible.
      - (1) Arthur Laffer got famous in the 1980s by convincing a group of crazy people surrounding Ronald Reagan that if tax rates were cut, then people would work harder, earning more, paying more taxes, so that tax revenue would actually rise.
      - (2) Reagan acted on this with the Omnibus Tax Reform of 1981. The Laffer idea (aka "*Laffer Curve*") turned out not to work. Reagan presided over eight consecutive 200 billion dollar deficits.
      - (3) The flip side of the Laffer idea is that if you raise tax rates, you might not raise revenue much (or might even lower it) if people work less, earn less and pay less taxes in response.
      - (4) In a big jurisdiction with 'normal' tax rates (ie. tax rates well below 100%), these kinds of things don't happen.
      - (5) But, in small jurisdictions, they might. Imagine what would happen if the City of Vancouver announced that they were going to impose a 50% sales tax. Who would buy there stuff in Vancouver when it is so cheap to drive to Richmond to shop?
      - (6) Similarly, if it is cheap to move to the USA, then Canada cannot raise tax rates too much in excess of US tax rates because people will move.
        - (a) This is a 'Brain Drain' argument.
        - (b) However, empirically, the Brain Drain that was observed in the 1980s and early 1990s was driven not by tax rates but by gross (pre-tax) salary differences.
11. Governments get revenue from taxes. How do taxes work?
- a. Lots of different types.
  - b. *Consumption taxes*—tax goods at point of sale. GST is a *value-added tax*, where the seller collects the GST, and gets a rebate for all the GST s/he paid. Liquor and cigarettes are subject to *excise taxes* in addition to the GST.
  - c. *Income taxes* —progressive taxation of the reported net income of people.
    - i. *Reported* income is income that Canada Customs and Revenue Agency hears about, self-employed people have an easy time earning lots of income that is enjoyed but not reported, but salaried people pretty much report all their income.
    - ii. *Net* income nets out the deductions that one can make while filling out your tax form. The largest deductions are: expenses (for self-employed people); sheltered savings (for all people).
      - (1) sheltered savings can be big—18% of income up to a ceiling of about \$14k per year.
      - (2) sheltered savings allows you to put money in various forms of investments, earning returns over time, and only paying tax on the money when you want to pull it out of the account and spend it.
    - iii. Progressive means that different chunks of income are taxed at different rates, and that the rate rises with income.