

# **Government Cutbacks: A Checklist**

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## Government Cutbacks - A Checklist

Governments, under fiscal pressure from a weak economy and with the urging of neo-conservative business leaders and politicians, are cutting their activities and services to the public. During the process, every attempt is made to portray the cutbacks as having minimum impact on the economy and on people.

The purpose of this report is to provide a more analytical framework to help in assessing the impacts of these cutbacks. It draws on the experience of Informetrica Limited and their studies of impacts on the Canadian economy of many different policies over the last twenty years.

### 1 INTRODUCTION

The "government" has just announced a cutback of a program. What questions should be asked (and answered) to determine the effects of this reduction?

In essence, it is most important to determine the direct effects - the full magnitude of the cutback, its duration, its impact on current "clients", and its effects on other activities. With these elements defined, it is then possible to estimate the effects on suppliers to governments (indirect effects), the effects on other sectors resulting from reduced income (induced effects), and the net consequences for government finances.

To illustrate these effects, assume that there is a decision to reduce community college spending in a particular province.

- o Direct Effects - The immediate effect is to reduce a public service to people seeking education, and to eliminate the jobs of a number of teachers and support personnel. With fewer students there will also be a loss of tuition revenue.
- o Other Direct Reactions - Some people will seek their education through private suppliers. This will increase the demand for such services, and possibly increase the number of teachers needed. To some extent this may partially offset the job loss among community college teachers. But the individual or parents will have to pay for this education. Thus it is analogous to an additional "tax" on those who choose to seek education. Some may seek to enter university, increasing pressures at that level.
- o Longer-term Direct Consequences - Lack of community college spaces may influence the location decisions of firms or workers in the private sector. Lack of education for those who do not move to private schools or universities may have an adverse effect on their entry into the labour market, and their eventual lifetime earnings.

- o Indirect Effects - The cuts in community colleges are not just in teachers and their salaries. Community colleges use supplies and purchased services from the community (heating oil, electricity, transportation services). (There may be a partial offset here from private schools.)
- o Induced Effects - The lower income of teachers, the reduced discretionary income for parents now paying for private education, and the reduced incomes of suppliers to community colleges, will all result in fewer purchases of goods and services across the full spectrum of consumer demands. Teachers may also depend for a time on Unemployment Insurance or Social Assistance. If they are not able to find a job in the region, then they move elsewhere in Canada.
- o Impacts on Fiscal Position of Governments - Although there may be an initial savings in the costs of running the community college program, the provincial government will receive lower income tax from the laid-off teachers and others who lose their jobs as a result of indirect and induced effects. There will be lower corporate income tax and lower sales tax revenue (if the province has a sales tax system). If social assistance is used by those losing their jobs, then this will entail higher costs to the province. If enrolment at universities increases, this will entail additional costs to the province (and higher tuition fees for the students).

Other levels of government will also be affected. The federal government will lose personal income taxes, sales taxes, and corporate tax revenue. It may incur higher Unemployment Insurance (UI) benefits and higher payments under the Canada Assistance Plan (CAP) if provincial Social Assistance payments rise. In subsequent years, the higher UI benefits will result in higher UI contribution rates or higher personal income tax rates as the federal government moves to offset its larger deficit.

If people move elsewhere as a consequence of the fiscal restraint, then municipal governments may lose revenue from property taxes and other user fees. In some cases, part of any Social Assistance may be paid by the municipality.

This example is only one of many possible cutbacks of government services. But other reductions will have similar kinds of effects. We have assumed that the reduced spending results in deficit reduction. If, instead, other program spending is increased or taxes reduced, then these actions would have to be included in the "direct effects" as well. To assess any cutback, the key is to identify the direct effects, including the direct reactions and longer-term direct consequences. Use of models or rules-of-thumb can then be a guide to the indirect and induced effects.

## 2 DIRECT EFFECTS

A program usually consists of a combination of people, purchased goods and services, and transfer payments designed to deliver goods or services, or to otherwise affect the outcomes of private decisions.

The dollar amount of a cutback is usually the total of salaries and purchased goods and services. In the case of a transfer payment (e.g., UI benefit) it is the dollar amount that is expected from the program change, without considering any induced effects on unemployment as a result of the action.

When there is a reduction in purchased goods and services as part of the cutback, these are usually separately estimated, since they will have to be analyzed as to import content and the impacts on employment of the domestic component considered. (See below in Indirect Effects Section.)

### 2.1 Number Of People Involved In Producing The Service

When a government program is curtailed, the first step is to identify the number of person-years of work that are lost by the government department delivering the program. This will usually be the smallest number quoted by the government doing the cuts.

The wage bill reduction is also a useful measure, and the implicit wage of those affected can be calculated to gauge the reasonableness of the employment estimates. Don't forget to include supplementary labour costs (employer portions of UI, CPP or QPP, Workmen's Compensation, along with pension and medical insurance contributions).

### 2.2 Associated Revenue

Governments at all levels now generate over \$15 billion through user fees or "sales" of government goods and services. Are any of these revenues lost through cutbacks? If so, then the total savings to the government will be less.

### 2.3 Number Of Service Recipients Affected

Identification of the number and location of persons served by the government program that is being cut can help in estimating the burden "off-loaded" onto other levels of government or the increment to household spending required to make up for the loss.

## 2.4 Other Direct Reactions

If a service of government is reduced, then there are other direct reactions to be tracked. Three possibilities should be considered:

- o Another level of government picks it up in some form. What level of service is provided? How is it financed?
- o The service, or a substitute, is procured from the private sector. Is more or less of the service consumed? Who pays for it?
- o The service is not produced by anyone. What were the economic benefits being provided by the service? What are the effects of it no longer being available?

## 2.5 Longer-term Direct Consequences

More generally, if one region of the country undertakes fiscal restraint, it may find that some people leave the region or others go elsewhere rather than locating in the region, as a result of the lack of services or infrastructure.

The reduction in services may affect the human capital, physical capital, or information capital available to the private sector in the region. This will have an adverse effect on the private sector productivity and its relative competitiveness compared to other regions and countries.

## 2.6 Indirect Effects

At the same time that people are laid off there will also be reduced purchases of goods and services by government, as the overhead support required is less with fewer employees. This would include less paper, telephones, travel, etc. If the cut is sizable and long term, then there also may be a reduction in investment (computers, buildings, etc.) with fewer employees.

Independent of employee reductions, other purchases of goods and services may be the major part of the reduction, such as reduced social housing expenditures, where the reduction is in purchased construction activity, with few, if any, reductions in government employees. These cutbacks also cost jobs and reduce incomes of the companies supplying governments.

Canada is often described as an "open" economy, with substantial export and import activities. Many goods and some services consumed in Canada by individuals, companies, and governments are imported. Even if the goods are bought from a domestic supplier, the components may have been imported.

Governments purchase current goods and services for their ongoing operations, buy machinery and equipment, and purchase construction (e.g., buildings, highways, etc.). The "leakages" into imports varies by the type of spending. About 15 per cent of current goods and services are purchased abroad, either directly or as an imported component of a domestic purchase. Machinery and equipment purchases average about 55 per cent foreign content. Construction is similar to current purchases, averaging about 16 per cent.

Nor are the job losses just associated with the supplier to government. For example, a paper supplier loses sales to government. This could result in employment cutbacks by the supplier. In turn, the supplier orders less paper, which results in a loss of sales by the paper producer. The paper producer reduces employment, and cuts orders for logs or chips. Suppliers in the forestry industry face reduced demand, and reduce their employment and purchases of other supplies. And so on ....

Job Losses Resulting From Reduced Spending  
on Goods and Services  
(person-years per \$1 million)

|            | Payroll | Current G&S | Construction | Mach&Eqpt |
|------------|---------|-------------|--------------|-----------|
| Federal    | -21.0   | -14.6       | -14.9        | -11.3     |
| Provincial | -25.3   | -14.6       | -14.9        | -10.9     |
| Local      | -24.0   | -14.2       | -14.9        | -11.0     |

These indirect job losses are throughout the economy, and dominantly in the private sector. The lower number of job losses associated with machinery and equipment reflects the fact that over half of the value is imported from abroad. There are still job losses, but some of them occur in other countries.

How can this information be used? Assume that a provincial government announces a cutback of \$100 million, of which \$60 million is payroll, \$25 million in reduced purchases of current goods and services, \$5 million in construction, and \$10 million in machinery and equipment purchases. What are the direct and indirect job impacts?

If no number is provided in direct employment effects, we can use the approximation of about 25.3 person-years per \$1 million of provincial payroll. (This would imply an annual salary, including benefits, of about \$39,500.) If the actual number of people laid-off is known, then use it instead of the averages for all employees. If, for example, the average salary for the jobs cut was \$25,000, including all benefits paid by the employer (UI, CPP, pension, health, etc.), then \$1 million in cuts would mean 40 jobs (\$1 million/ \$25,000 per job).

## Worksheet for Direct and Indirect Job Losses

| Component       | Cut in \$Mn | jobs/\$Mn | Job Losses   |
|-----------------|-------------|-----------|--------------|
| <b>Direct</b>   |             |           |              |
| Payroll         | 60          | 25.3      | 1,516        |
| <b>Indirect</b> |             |           |              |
| Current G&S     | 25          | 14.6      | 364          |
| Construction    | 5           | 14.9      | 74           |
| Mach.&Eqpt.     | 10          | 10.9      | 109          |
| <b>Total</b>    | <b>100</b>  | <b>-</b>  | <b>2,063</b> |

The direct and indirect job loss of the reduction of \$100 million in provincial expenditure would be 2,063 person-years, of which 1,516 represent direct losses of public service employment and 547 are person-years lost among suppliers to government or their suppliers, mainly in the private sector.

Some reductions in government expenditure may have no direct or indirect job losses associated with them. If transfer payments are reduced there is no necessary change in employment in the government department managing the program. If the amount of the cheque is reduced, then the same number of cheques are still needed, and hence there is no indirect effect on suppliers. There will be an effect on jobs because of reduced income among the transfer payment recipients.

Similarly, a wage rollback has no direct or indirect job effects. Rather it is like a personal income tax hike, aimed at public servants. Again there will be job losses as a result of lower income.

The direct and indirect job losses from expenditure reduction, discussed above, also do not include any jobs lost because former public and private sector employees have less income, or as a result of business investing less. It is to this issue that we now turn.

### 3 INDUCED EFFECTS

The story is not complete without considering the effects of the reduced incomes of consumers, the behavior of business investment, inventory changes, and possible impacts on exports and imports. In the section above, we considered only the direct losses of employment and those "embodied" in the goods and services purchased by governments. Here, the additional impacts arise as a result of the losses of employee incomes or through business reactions to lower profit and weaker demand.

The direct cuts, and the indirect cuts in purchased goods and services, result in income losses to government workers, employees in the private sector, and businesses in the private sector. These income losses in turn result in lower consumer expenditure and less investment. This lower activity in turn reduces employment and incomes in the industries supplying consumers and providing investment goods. And so on....

This accumulation of further losses through lower incomes as they spread through the economy is referred to as the "multiplier" effect of changes in government activities. This induced effect is in addition to the direct and indirect effects, reflecting the results of lower income from less activity.

One might wonder what limits the impact of a loss of income? It might seem that if someone spends \$30,000 less as a result of a layoff, that others will have \$30,000 less, and they will cut back by \$30,000, and so on ....

However, the process is slightly more complex. If people lose a job, then they will pay less income tax, receive UI benefits or social assistance, and draw down on their savings. In the first instance, the income decline may not be \$30,000, but, for example, could decline to \$15,000 after taxes. If the person was spending on consumption, \$20,000, with the balance going to taxes and savings before the layoff, then with the lower income, consumption might decline to \$14,000, with \$1,000 still being saved.

Thus the second-round impact on consumption is "only" \$6,000, (\$20,000 less \$14,000). As well, part of the reduced consumption may be of imported goods, which reduces incomes abroad, but not in Canada. Incomes of organizations supplying consumer goods and services will fall by the reduction in domestic spending. In turn, some of the reduction will initially be absorbed in lower profits and lower incomes for employees in the industries supplying consumer goods and services. After several levels of pass-through, the effects become relatively small.

It is not necessary to trace all of these steps. By using models of the Canadian economy it is possible to estimate the combined effects of a reduction in government activity. This is the topic of the next section.

## 4 COMBINED EFFECTS

The common rule of thumb is that 20,000 person-years of employment are associated with each \$1 billion in government expenditure on goods and services. (For those thinking about smaller cuts, the rule can be stated as 20 people for every \$1 million.) This includes the direct, indirect, and induced effects and the employment in all affected sectors. This is a good rule for purchases of goods and services from suppliers and fairly close for construction activity. However, there are quite different "rules" for other kinds of government expenditure. As well, the job losses are not instantaneous. Usually the first year impact is less than the impact in the second year. By the fifth year, the "longer-run", or "equilibrium" impact is reached.

In the table below, the number of jobs associated with a reduction of \$1 million in 1994 dollars is provided. These figures are approximations, using the average type of expenditure, and the normal relationships in the economy.

Employment Impact of \$1 Million Reduction in Government Expenditure  
Combined Effect (Direct, Indirect, and Induced)  
(number of people)

| Type of Reduction          | First Year | Fifth Year |
|----------------------------|------------|------------|
| Purchased Goods & Services | -19.0      | -21.6      |
| Construction               | -15.0      | -19.8      |
| Machinery&Eqpt             | -12.0      | -16.3      |
| Employees (federal)        | -24.3      | -26.9      |
| Employees (provincial)     | -28.7      | -30.0      |
| Employees (local)          | -30.0      | -31.6      |
| Employees & Associated G&S | -24.3      | -42.4      |
| Wage Rate                  | -4.0       | -8.8       |
| Transfers                  | -7.0       | -12.0      |

In the case of the reduction in purchased goods and services and construction, the rule-of-thumb of about 20,000 per \$1 billion is fairly close (20 jobs per \$1 million).

Reductions in the number of employees has a larger impact, since the first-round effects are concentrated on job losses. Reductions by the federal government result in 24.3 people per \$1 million of payroll in the first year, growing to 26.9 people in the fifth year. Because other levels of government have lower average salaries, the number of jobs lost are somewhat higher. Provincial cuts result in 30 jobs per \$1 million in payroll and local cuts yield 31.6 jobs per \$1 million.

But cuts of government employees can also imply other effects, since such cuts in employment also induce reductions in purchased goods and services and reduced capital spending by governments. These associated

costs are about 50-75% of the amount of the direct cut, and take place from the second year on in the estimate above. If an independent estimate of the reduced expenditures on goods and services and capital equipment is available use it directly.

The impact of a wage rate reduction for government employees has a much smaller impact on employment for several reasons. In such a case there are no direct job losses and no associated change in purchases of goods and services. Rather, the incomes of public servants are reduced. The total income loss is partially absorbed by reduced employer and employee payroll contributions and by lower personal income taxes. But the reduced income leads to reduced private sector spending and private sector job losses through the multiplier effects. Each \$1 million reduction through lower wage rates results in the loss of four private sector jobs in the first year, and grows to 8.8 private sector jobs by the fifth year.

A reduction in transfer payments is similar to the wage rate reduction, with the loss of spending power leading to a multiplier effect costing jobs in the consumer sectors in particular. The associated job loss is higher than the wage rate case, because there is a smaller offset from lower taxes, and those receiving transfer payments spend a larger share of their income on consumption. In the first year there is a job loss of 7 people per million and in the fifth year, about 12 people.

This table has not distinguished the level of government at which the change takes place, except for the payroll cut, since the differences are modest. Nor have governments been allowed to react to the cuts by altering their behavior unless there is an "automatic" rule in place. For example, employer contributions change if the number of employees or their wage rate changes. If the UI benefits change and alter the balance in the UI Fund, then UI contribution rates are changed in the next year to balance the Fund. Otherwise, income and other tax rates remain unchanged.

## 4.1 The Example Continued

In an earlier section, we calculated the direct and indirect job loss associated with a \$100 million cutback in provincial expenditure. A similar worksheet can be used to estimate the combined effects.

Worksheet for Combined and Induced Job Losses  
(person-years)

| Component       | Initial<br>Cut in \$Mn | Combined<br>Job Losses | Direct+Indirect<br>Job Losses | Induced<br>Job Losses |
|-----------------|------------------------|------------------------|-------------------------------|-----------------------|
| <b>Direct</b>   |                        |                        |                               |                       |
| Payroll         | 60                     | 1,800                  | 1,516                         | 284                   |
| <b>Indirect</b> |                        |                        |                               |                       |
| Current G&S     | 25                     | 475                    | 364                           | 111                   |
| Construction    | 5                      | 99                     | 74                            | 25                    |
| Mach.&Eqpt.     | 10                     | 163                    | 109                           | 54                    |
| <b>Total</b>    | 100                    | 2,536                  | 2,063                         | 473                   |

The first column is simply the distribution of the \$100 million in cuts from the earlier section. The second column is based on applying the multipliers from the previous table for the four types of expenditure to the values in the first column. For example, the direct cut of \$60 million in payroll results in a combined job loss of 1,800 people (60x30). The cutback in construction of \$5 million implies a job loss of 99 people (5x18.3).

The third column repeats the direct and indirect effects from the earlier worksheet. The induced job loss (column 4) is the difference between the combined effect (column 2) and the total of direct and indirect (column 3).

The total job loss is 2,536. This includes the 1,516 provincial employees directly laid-off, the indirect job losses in the suppliers to government and their suppliers of 547 people (2,063 - 1,516), and induced losses (from weaker personal and business income resulting in less consumer expenditure and lower business investment) of 473 people.

Actions by one level of government will impact the revenues and expenditures of other levels of government. In the next section, estimates of the linkages between governments are provided. In some cases, it may be desirable to consider the reactions of other levels of government to the induced effects on their fiscal balances resulting from a direct action by one level of government. We will consider this issue as well.

5 IMPACTS ON THE FISCAL POSITION OF GOVERNMENTS

If a provincial government reduces expenditure, then its fiscal balance will be improved, although perhaps not as much as the expenditure reduction since it will lose tax revenue and have increased obligations for some transfers (e.g., Social Assistance). But cuts at one level also affect the fiscal balances of other levels of government adversely. For example, a layoff of people by a provincial government will result in higher UI benefits for the federal government, less income tax revenue for both the federal and provincial governments, and higher federal CAP payments to the provinces (unless limited by the cap on CAP). Municipal governments may also find themselves with higher spending requirements (e.g., Social Assistance) and lower property taxes if people move or businesses close.

In the next table, the impact on the balances of each level of government as a result of reduced spending of \$1 billion by the indicated level is shown. These estimates are after five years, which provides for lagged responses of taxes, UI contributions, etc. As well, interest payments on debt become a source of savings to the government. (The \$1 billion is also increased over time to maintain the same real value as in 1994.)

Impact on Government Balances by Level of Government  
Resulting from a \$1 billion Cut in Expenditures on Goods and Services  
(billions of \$)

| CUT BY:    | IMPACT ON: | Federal | Prov. | LHP*  | Total |
|------------|------------|---------|-------|-------|-------|
| Federal    |            | +947    | -254  | -94   | +598  |
| Provincial |            | -421    | +1063 | -88   | +553  |
| Local      |            | -492    | -12   | +1123 | +539  |

\* LHP is "local, hospitals, and CPP/QPP".

Restraint by the federal government improves their situation, but worsens the balances for the provincial government and local, hospital, and pension plans (LHP). (Most of the effect on LHP is on local governments.) Recall that the cutback is not "aimed" at the provincial government. If the federal government cuts transfers to the provincial government then the impact is totally "down-loaded" to the provincial government.

In the case of provincial restraint, federal government balances are worsened since personal income taxes and corporate taxes are lower. As well, federal transfers to provinces are slightly higher. Indeed, there is also an effect across provinces. The province making the cut will be better off than indicated above, with all other provinces suffering losses of tax revenue and higher transfer payments. (The effects of people moving across provinces are not included.)

For local government cuts, the other levels of government carry the brunt of the tax losses associated with the reduced economic activity. We have also assumed that provincial transfers to the local government will be cut back by about 20% of the cut made by the local government. This serves to partially offset the provincial losses.

Why do we care about these interactions? If the other levels of government do nothing, then there is little to worry about. There are no additional fiscal actions by other governments in the job impacts above. Thus these losses should be thought of as a lower bound on the impacts of fiscal restraint by governments.

But what if the reactions of other governments to these losses is to introduce additional cutbacks to target their fiscal balance? In such a case, then the total direct cuts are compounded and associated "multiplier" effects are increased.

### 5.1 Reactions Of Other Levels Of Governments

As revenues weaken and some expenditures run above budget, other levels of government may well react, although not usually explicitly to a specific policy move by another level of government. The exception may occur when one level of government reduces transfers to another level, such as the downloading through reductions in EPF and the cap on CAP, implemented by the federal government in recent years. In such a case, the provincial government is likely to make explicit reference to the downloading as the justification for a tax increase or expenditure reduction.

The additional job loss will depend on what instruments are chosen by the other level of government to restore their fiscal balance. In the following table we have selected instruments that have relatively low impacts on jobs. This can be taken as a lower bound if other levels of government react at all.

Personal income taxes are assumed to be increased by the federal government, in reaction to the federal fiscal effects of provincial or local governments. Provincial governments are assumed to use the retail sales tax, in reaction to the provincial fiscal effects of actions taken by the federal or local governments. Local governments are assumed to increase property taxes, in reaction to the side effects of federal and provincial actions. If instead of these instruments, expenditure reductions were used, then the earlier rules could be used.

**Employment Impact of \$1 Million Increase in Taxes  
Direct, Indirect, and Induced Effects  
(number of people)**

| Type of Reduction           | First Year | Fifth Year |
|-----------------------------|------------|------------|
| Federal Personal Income Tax | -5.97      | -9.80      |
| Provincial Retail Sales Tax | -8.00      | -15.00     |
| Local Property Tax          | -5.00      | -16.00     |

As an example, assume that a provincial government reduces expenditure by \$1 billion, resulting in a higher federal deficit of \$421 million and a higher deficit for local governments of \$88 million. If these other levels of government react by increasing taxes, then the federal government actions would reduce employment after five years, by 4,126 jobs [421x(-9.80)]. Local governments by increasing property taxes would reduce employment by 1,320 jobs [88x(-15.00)].

Thus the provincial cutback of \$1 billion would result in about 20,000 jobs lost. If other levels of government reacted this would add a further loss of 5,446 jobs, or about 25,000 in total. Nor would this be the end of the story, since these actions by other levels of government would adversely affect the fiscal balance of the provincial government which initiated the cuts, possibly generating further provincial cuts.

## 6 BOUNDARIES

With international and interregional trade, losses of jobs may occur outside the specific region or jurisdiction in which the cuts are being made initially. This will reduce the adverse effect within the region, but not necessarily the total impact.

The converse is also true. A particular region may be affected by cuts initiated elsewhere, for which its residents had no vote. This does not make them any less harsh.

In assessing the effects of government actions, it is important to clearly specify the boundaries of the region being discussed. In the sections above we focused on Canada, ignoring the job losses outside of Canada. Although weakness abroad hurts our export markets, the linkage is not direct and generally is ignored.

The analysis of provincial cutbacks requires more careful attention to possible feedbacks from weakness elsewhere in Canada onto the province. As well, cuts at the municipal level can affect suppliers in other cities in the same province, who, in turn, may reduce their purchases from businesses in the city where the cuts occur.

### 6.1 Regional Effects

Rules-of-thumb are more difficult to develop at the provincial or municipal level. Each province and municipality is of different economic size. Each has a different economic base, some able to supply most needs within the province, while others "import" many goods from other parts of Canada.

**What do we know?** Most direct effects on employment will occur at the location of the cut. In some municipalities, even the direct employment cuts may affect people in other towns and cities where they live and commute to work.

The indirect job losses will occur at the locations where the goods and services are produced. If the province or municipality had followed a provincial or local preference policy, then a larger proportion of the suppliers are likely to be in the same region. But this applies only to the first round of the indirect effects. The industries providing the goods and services to the "front-line" suppliers may be located elsewhere in Canada or abroad.

For induced losses resulting from lower incomes, the effects will be felt throughout the country and abroad. Some will be "local", particularly for the wholesale and retail trade margins and locally-delivered services (e.g., recreation, personal care) adversely affected by the direct losses of income associated with the direct employment cuts.

But retail trade in other parts of the country will also be affected by the lower incomes among the supplying industries in the chain. Consumer durables production tends to be concentrated, particularly in Ontario and Quebec. Thus weakness in automobile demand, furniture, household goods, and electronic equipment will be felt in Central Canada, regardless of where in the country the cuts occurred.

When considering the jobs impact on a particular region, the starting point should be to:

- o Count all of the jobs directly eliminated in the region.
- o Include about 40% of the indirect jobs lost as occurring in the region, plus the region's share of total Canadian employment for the balance of the indirect jobs lost.
- o Include about 25% of the induced jobs lost as occurring in the region, plus the region's share of total Canadian employment for the balance of the induced jobs lost.

With such an approach, more of the job losses will stick with the province or municipality for the larger provinces and cities. In smaller areas, the effects will "leak out" to other regions.

If specific information is available about the location of suppliers, then by all means use it to sharpen the estimates. Usually the "front-line" suppliers will be able to provide some sense of the adverse effect of a government cutback. Suppliers further down the chain may not know the source of the weakness in their demand, and will have greater difficulty in identifying the employment impacts linked to a particular government action.

## 6.2 Example Continued

If we assume that the provincial cutbacks discussed in the example above occurred in Alberta, then all of the direct job losses, 40% of the indirect job losses, and 25% of the induced job losses would occur in the province. In addition, since Alberta has 10% of the total employment in Canada, this fraction of indirect and induced job losses, not already allocated, would occur in Alberta. This would mean that 1,922 people would lose their job in Alberta, with the balance of job losses (615 people) occurring in the rest of Canada. Alberta represents about 76% of the total number of job losses. Ontario would experience about 266 lost jobs, Quebec about 162, and British Columbia, 86.

The regional distribution of job losses depends on the particular package of cuts. To provide some sense of provincial differences, due to the respective size of each province, the following table shows the provincial share of employment (1994) used to distribute the unallocated indirect and induced effects. The second column shows the percentage of the total job loss that "sticks" to the province making the cuts.

**Regional Impacts of Cutbacks  
Total Job Loss Remaining in Province**

| Province of Cut  | Share of<br>Employment % | % of<br>Total Loss |
|------------------|--------------------------|--------------------|
| Newfoundland     | 1.5                      | 73.7               |
| PEI              | 0.4                      | 73.2               |
| Nova Scotia      | 2.8                      | 73.8               |
| New Brunswick    | 2.3                      | 73.7               |
| Quebec           | 23.7                     | 79.4               |
| Ontario          | 38.9                     | 83.5               |
| Manitoba         | 3.9                      | 74.1               |
| Saskatchewan     | 3.5                      | 74.0               |
| Alberta          | 10.0                     | 75.8               |
| British Columbia | 12.6                     | 76.5               |
| Territories      | 0.2                      | 73.1               |

The smaller provinces have more of the impact "leaking" out to other provinces. Keep in mind that the direct job losses are kept in the province (84% of them in our example) as well as some of the indirect and induced job losses. These estimates are sensitive to the package of cuts.

A "short-cut" method is provided at the end of this report, designed for quick application of announced cuts in a particular province, which allows for a close approximation of the job losses in the region.

### 6.3 Reallocations Of Spending

Certain cutbacks by governments require a different framework for determining their effects. If a government moves a facility from one location to another, but does not alter employment, then the impact nationally is likely to be quite small. If there is reduced employment overall, then the net change could be used for the national impact.

But that does not mean that the local or provincial impact is also negligible. For example, if a military base is closed in one region, and the people and activity moved to another, there is still a direct and indirect impact on the region. And, at the same time, there is a positive impact on the receiving region.

Any national impact will be limited to the net change in resources used, additional capacity that needs to be put in place in the new location, and the resources required to make the move.

The local impacts will also depend on whether alternative uses for the facility can be developed, and the length of time it takes to implement such new uses.

**7 BUT THE DEFICIT IS SMALLER!**

The net effect of a cut in government expenditure is likely to reduce the deficit or increase the surplus for the level of government making the cut. But even the net effect for that level of government is likely to be less than the total cut. And other levels of government will be worse off, as we illustrated in the section on impact on fiscal balances.

There is little evidence to support great benefits associated with a reduced deficit. Yes, the number is lower, but to what end? Meanwhile the costs to taxpayers are higher, in the form of reduced services and possible increases in UI contributions or tax increases from other levels of government. Debt servicing costs will be lower, but this is small solace for those unemployed by the actions.

Some claim that the improved deficit will lower interest rates, producing thereby an offsetting stimulus. But there is little evidence to support this view. Some anticipate that cuts in government expenditures will produce tax cuts at a "later" time. There is little evidence to support this view.

Others will claim that cuts in one area free up resources for spending in another area at a later time. But who gets to "vote" on that? In the meantime, there are job losses until the new spending occurs.

This does not mean that government expenditures should never be reduced. If the need currently being met disappears, or if a more efficient way can be found for meeting that need, then of course there is every reason to reduce the government spending in that area.

Let us say we no longer needed a particular government service, or have found an innovative way of delivering a service that saves \$100 million. The question that should be asked is, "What is the most effective use of this savings of \$100 million?". Should borrowing be reduced, or a tax cut implemented? Or are there other activities with a higher social return than the money saved on interest?

If benefit-cost studies were used as the basis for government spending activities, then the question would be answered directly. If a project or activity has a positive net present value, having considered all of the benefits and costs, and discounting the streams at the borrowing rate or the higher social discount rate, then the project should proceed. If the net present value is negative, then this is a clear signal to reduce borrowing or taxes.

Critics of government are usually implicitly making the assumption that all government spending is of no value or, that any additional spending has less value to society than that associated with private incomes. Rarely is this view backed up by any analysis. The rationale for government services is our next topic.

## 8 RATIONALE FOR GOVERNMENT SERVICES

**Why do government services exist?** Society has organized itself to have governments and to have them perform services on society's behalf.

In the sections below a breakdown of expenditures by the functions of government is provided along with the relative distribution by function of federal, provincial and local governments.

This is based on the Statistics Canada **Financial Management System** or **FMS** functional breakdown. Expenditures include transfers to other levels of government, capital spending, transfers to persons, as well as the wage and material costs for operating the programs in each area. The table also shows general-purpose transfers to other levels of government, transfers to Crown corporations, and debt interest. The percentage distributions, however, are based on shares of total program spending.

### 8.1 Distribution Of Federal Spending

The federal government spends almost half (47%) of its program budget on **social services**, which include UI benefits, Canada Assistance Plan, OAS/GIS, etc.

**Protection of persons and property** account for over 14% and include Defence, the RCMP, and the Solicitor General.

**General services** such as Parliament, accounting, and contributions to employee benefit plans account for about 7% of program spending.

**Health** also is about 7%, including the transfers to the provinces.

**Resources and industrial development**, including agriculture, industry, oil and gas is about 6%.

All other categories are less than 4% each, and together amount to about 17% of program spending.

Across all governments, the federal government is the largest supplier of protection (mainly defence), social services, employment and immigration services, and research. It is the only level of government with expenditures for **foreign affairs and international assistance**. As well, it ties the federation together, and speaks "nationally". This takes resources.

What is behind these numbers? Canadians "see" the federal government in the form of the military, at the border as Customs officers and Immigration officers, at airports with Transport Canada personnel, and at the Canada Employment Centres providing assistance with UI claims and job counselling to those seeking work. In many provinces, the RCMP provides local police services.

The less visible federal public servants are working in the research laboratories, providing air traffic control services, inspecting goods, counselling farmers, developing and enforcing laws and regulations, maintaining public facilities, and monitoring and guiding the Canadian economy.

## 8.2 Distribution Of Provincial Spending

The provincial governments allocate about 32% of their program spending to Health, 23% to Education, and 19% to Social Services.

Other major activities include General Services (6%), Resources and Industrial Development (6%), Transportation and Communications (6%), and Protection of persons and property (4%). Other activities each account for less than 2%, and together are about 4%.

Provinces are the dominant providers of health, education, resources and industrial development, and transportation. As well they are major partners in social spending and protection.

The provincial public servants are at work in the hospitals, universities and community colleges, providing social assistance, building and maintaining roads, and conserving the resources of the province. Others are working with businesses to foster the economic development of the province. Judicial and correctional services are also an integral part of provincial governments. The management of payments to physicians, pharmacists, and other health providers is another major activity.

## 8.3 Distribution Of Municipal Spending

For municipal governments, the largest part of their program spending is Education (43%). Transportation and communications is the second largest component (12%).

Other major activities include: Environment (11%), Protection (9%), Recreation and Culture (7%), Health (6%), General Services (6%), and Social Services (5%).

Municipal governments are the dominant supplier of environment and recreation and culture. They are major suppliers of education, local protection of persons and property (police and fire) and transportation.

Perhaps municipal employees are most visible to the people of Canada. They teach their children, maintain their roads, recreational facilities, and parks. In many cities they provide police services and protect property and life through firefighting and other emergency services. Water and other utilities may be part of local services, along with snow removal and waste collection.

**Government Spending by Function and Level, 1990-91**  
millions of dollars

| FUNCTION                           | Federal        | % of Program   | Provincial     | % of Program   | Municipal     | % of Program   | Consolidated % of Program |
|------------------------------------|----------------|----------------|----------------|----------------|---------------|----------------|---------------------------|
| General Services                   | 7,470          | 7.19%          | 7,703          | 6.07%          | 3,130         | 5.73%          | 18,668                    |
| Protection of persons and property | 14,985         | 14.42%         | 5,176          | 4.08%          | 4,822         | 8.83%          | 23,557                    |
| Transportation and communications  | 3,640          | 3.50%          | 7,220          | 5.69%          | 6,318         | 11.57%         | 15,136                    |
| Health                             | 7,444          | 7.16%          | 40,128         | 31.61%         | 3,461         | 6.34%          | 41,570                    |
| Social services                    | 48,976         | 47.14%         | 23,891         | 18.82%         | 2,657         | 4.87%          | 67,128                    |
| Education                          | 3,874          | 3.73%          | 28,455         | 22.42%         | 23,218        | 42.53%         | 36,768                    |
| Resources & industrial development | 6,130          | 5.90%          | 7,643          | 6.02%          | 614           | 1.12%          | 12,787                    |
| Environment                        | 707            | 0.68%          | 1,765          | 1.39%          | 5,765         | 10.56%         | 6,884                     |
| Recreation & culture               | 1,176          | 1.13%          | 1,690          | 1.33%          | 3,804         | 6.97%          | 6,617                     |
| Labour, employment & immigration   | 2,124          | 2.04%          | 596            | 0.47%          | 0             | 0.00%          | 2,620                     |
| Housing                            | 1,988          | 1.91%          | 1,457          | 1.15%          | 268           | 0.49%          | 3,115                     |
| Foreign affairs & int'l assistance | 3,495          | 3.36%          | 0              | 0.00%          | 0             | 0.00%          | 3,495                     |
| Regional planning & development    | 507            | 0.49%          | 820            | 0.65%          | 532           | 0.97%          | 1,601                     |
| Research establishments            | 1,384          | 1.33%          | 398            | 0.31%          | 0             | 0.00%          | 1,780                     |
| <b>Subtotal</b>                    | <b>103,900</b> | <b>100.00%</b> | <b>126,942</b> | <b>100.00%</b> | <b>54,588</b> | <b>100.00%</b> | <b>241,726</b>            |
| Transfers to other governments     | 10,179         | 9.80%          | 2,238          | 1.76%          | 0             | 0.00%          | 0                         |
| Transfers to own enterprises       | 2,376          | 2.29%          | 2,086          | 1.64%          | 1,072         | 1.96%          | 4,682                     |
| Debt charges                       | 42,630         | 41.03%         | 17,589         | 13.86%         | 3,696         | 6.77%          | 62,682                    |
| Other expenditures                 | 201            | 0.19%          | 0              | 0.00%          | 333           | 0.61%          | 410                       |
| <b>Total</b>                       | <b>159,286</b> | <b>153.31%</b> | <b>148,855</b> | <b>117.26%</b> | <b>59,688</b> | <b>109.34%</b> | <b>309,500</b>            |
| Sales of Goods and Services        | 3,359          | 3.23%          | 2,426          | 1.91%          | 6,946         | 12.72%         | 11,110                    |
|                                    |                |                |                |                |               |                | 4.60%                     |
|                                    |                |                |                |                |               |                | 128.04%                   |



## 9 THE UBIQUITOUS NATURE OF GOVERNMENTS

A nation state is defined by its governments, the activities of its people, the output of its businesses, and the traditions of the society. The roles of government in a modern state are many. It provides the legal structure defining the rights of its citizens, the legal basis for contracts and property rights, regulates the workplace, and ensures the framework for the market place.

In some countries it provides social services such as health and education, social assistance to those in need, public health measures, and the protection of people and property through police and fire-fighting services.

In Canada, governments own, on behalf of the people, most of the natural resources - oil and gas, minerals, forests, and water. As well we have asked them to manage these resources, regulate their use, and to obtain an economic return from them.

Much of the infrastructure used by business and individuals is provided by governments. This includes the highways and roads, the ports and waterways, water and sewage treatment plants, irrigation systems, and other physical infrastructure.

It collects and publishes the "information infrastructure", with data on economic activity, the Census, health statistics, geological resources, and the state of the environment.

Government research laboratories work on improving the knowledge base of business activity and the technology for the health and education of its citizens.

Indeed, almost every activity of Canadians and businesses operating in Canada are interwoven with the activities and regulatory frameworks of their governments. The federal government also represents Canadian interests through negotiations with other countries and with international institutions (e.g., the UN, IMF, OECD, etc.).

If there is a desire to curb government activities at present, it may flow from the poor performance of the Canadian economy in recent years. Citizens, worried about their own incomes and job security, begrudge paying higher taxes and are prepared to cut others off from social assistance or other government services. Businesses trying to survive in an increasingly competitive world see the taxes of governments, but fail to see the "invisible" web of infrastructure, regulations, and other services that secure their marketplace.

For politicians it is easier to respond to the calls for "less government" than to show the leadership necessary to improve macroeconomic performance. Perhaps the turnover of politicians of all parties will eventually awaken them to focus on the real problems of Canada.

10 A "SHORT-CUT" WORKSHEET

Although this study has taken a fairly simple approach, it is possible to assess government cuts even more easily, without great loss of precision. The two-step procedure is to first estimate the job loss for each type of cut, and then to use a particular province's "retention rate" for each type of job loss to obtain an estimate of the total job losses in the province.

10.1 Step One

Government cutbacks can be grouped into three classes:

- o Cuts in People - reductions in government employment
- o Cuts in Spending on Goods and Services - reductions in spending on construction, machinery and equipment, or current purchases of goods and services.
- o Cuts in Transfers or Wage Rates - lower social assistance payments, reduced salaries for public servants, or reductions in salaries for elected officials. These cuts affect incomes of recipients, but do not directly or indirectly result in job losses. All job losses result from lower spending in response to lower incomes.

Rules-of-Thumb for Expenditure Cuts  
Jobs per \$1 Million in Cuts

| -----                |    |
|----------------------|----|
| Jobs per \$1 Million |    |
| -----                |    |
| Income cuts          | 10 |
| Spending Cuts        | 20 |
| People Cuts          | 30 |
| -----                |    |

The calculation of job losses by category simply requires a multiplication of each type of expenditure cut (in millions of \$) by the job multipliers in the table above.

In our earlier example, we had used a payroll (people) cut of \$60 million, spending cuts of \$40 million (\$25 million on goods and services, \$5 million on construction, and \$10 million on machinery and equipment), with no income cuts. This would result in a job loss of 1,800 associated with the payroll cut (60x30), a job loss of 800 associated with the reduced spending (40x20), and a total of 2,600. (Our more refined estimate was 2,536.)

If wage rates were frozen or rolled back to "save" \$50 million, then the associated job loss would be 500 (50x10).

Given that the job losses have been identified, the next calculation determines how many of the jobs are lost in the province in which the cut is made. The next table provides the percentage of job losses that stay in the province, for each of the three types of expenditure reductions. These "retention ratios" are then applied to the number of jobs lost nationally for each type of reduction.

**Regional Impacts of Cutbacks**  
**Total Job Loss Remaining in Province**  
**(percentage of total)**

| Province of Cut: | People | Goods&Svcs | Incomes |
|------------------|--------|------------|---------|
| Newfoundland     | 88     | 37         | 26      |
| PEI              | 88     | 37         | 25      |
| Nova Scotia      | 88     | 38         | 27      |
| New Brunswick    | 88     | 38         | 27      |
| Quebec           | 90     | 51         | 43      |
| Ontario          | 92     | 61         | 54      |
| Manitoba         | 88     | 39         | 28      |
| Saskatchewan     | 88     | 38         | 28      |
| Alberta          | 89     | 43         | 33      |
| British Columbia | 89     | 44         | 34      |
| Territories      | 88     | 36         | 25      |

If the cuts occurred in Alberta, then 89% of the people cuts would stay in the province, 43% of the expenditure cuts, and 33% of the income cuts. From our example, this would mean (1,800x89%) or 1,602 jobs lost in Alberta as a result of the \$60 million in payroll cuts, and (800x43%) or 344 jobs from the \$40 million in spending cuts. The total job loss in Alberta would be 1,946, similar to our more precise estimate of 1,921.

For the wage cut example, which resulted in 500 jobs lost, the number that would "stick" in Alberta would be (500x33%) or 165 jobs. If the same cut occurred in Nova Scotia, the job loss in the province would be 135 jobs (50x27%); in Ontario it would be 270 jobs (500x54%). The variation in the "retention ratio" by province is determined by the size of the province and the likelihood that it will produce the consumer and investment goods that are part of the "multiplier" and spending out of incomes.

Do not hesitate to use these "rules-of-thumbs". For any specific program cuts the specifics may alter the numbers, change the leakage outside the province or abroad, or otherwise affect the result. But these estimates should provide you with a good starting point.

If the cuts are permanent, then the job losses are also permanent. Report them as 1,000 jobs per year. If the cut is for two years, for example, and you are using the aggregate cuts over the two years, then report the result as 1,000 person-years.

