Fiscal Churning and Political Efficiency *

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July 1996

Abstract

This paper proposes churned transfers as a measure of political inefficiency. A transfer is churned when at least the same level of voter satisfaction could have been achieved by lowering the voter's tax burden by the amount of the transfer. Previous measures of political efficiency---Pommerehne and Schneider (1983)---depend on the researcher's assumptions about voter preferences. Churned transfers avoid this problem, but depend on the researcher's assumptions about government tax and spending incidence. This paper suggests fiscal churning as a supplement to measures of political efficiency that rely on assumptions about the preferences of the median voter. Churning measures promise to throw light on the Chicago-Virginia controversy over the efficiency of political systems.

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Introduction

The last twenty years has seen a rising interest in measures of political efficiency. Putting a number to political efficiency is important to settling a dispute that has come to be known as the Virginia-Chicago controversy. The Chicago view holds that politicians avoid sneaky methods of redistributing money between interest groups; methods that impose needless deadweight losses on citizens. A needless deadweight loss is one that does neither politician nor voters any good. From time to time politicians may carry on inefficiently, but, like a ten dollar bill on the sidewalk, the situation does not persist. Competition from other politicians sees to it. The Virginia view holds that politicians will favor sneaky methods of redistribution because of persistent biases in the beliefs of voters, government's stranglehold on information, or because of faults in democratic institutions. Deciding which view best suits the evidence is more than an academic quibble. As Rowley and Vachris (1994) have emphasized, the Virginia view leads to strong prescriptions about the type of democratic institutions a country should have. The Chicago view tends to minimize the importance of institutions---a result in keeping with other Chicago inspired "irrelevance theorems" such as the Modigliani-Miller theorem, and the Ricardian Equivalence theorem.

The present paper attempts to inject some empirical evidence into the debate on political efficiency. I propose that churned transfers be used as a measure of political inefficiency. A transfer is churned when the voter who receives it would have been just as well off or better off with a tax cut of the same size as the transfer. The familiar example of churned transfers is that of the middle class which is taxed, then given back a significant portion of those taxes in the form of social security benefits or unemployment insurance. This sort of transfer is inefficient in the sense that it destroys resources. The subsidy and tax that are at opposite ends of the redistributive process that may impose needless deadweight losses. Recently Browning (1993) has suggested that the marginal social cost of increasing net transfer by one dollar in a system where everyone qualifies for taxes and transfers, may be as high as $3.5. Part of these losses can be taken as a sign of political inefficiency if one believes that the state is a caretaker of the economy and should be judged by how it fosters the economy's development. The state will have to impose some deadweight losses when it raises taxes, but the money spent should raise the utility of at least some voters. Churned transfers may

do no one any good.

Churned transfers are a potentially useful measure of political inefficiency for two reasons. First, significant amounts of government spending are devoted to taking money from a given voter and spending that money back on the same voter. The amount of money that gets shifted to special interests has been the focus of research on political inefficiency. Even though the sums are impressive and merit attention, redistribution to farmers, defense contractors, and dying industries is a minor part of government budgets. The key to the question of political inefficiency may lie in asking whether the average citizen could be made better off by a simultaneous cut to his taxes and a cut to the government services he receives.

The second reason to focus on churned transfers as a measure of political inefficiency is that this measure does not rely on the researcher's opinion about what voters may want or not want. All that is required to identify inefficiency is to pinpoint how much each citizen pays in taxes and receives in transfers, and deduce how much of the transfer is churned with the tax. The contrasting approach has been to define inefficiency as a deviation from the wishes of the median voter. The study by Pommerehne and Schneider (1983) is in this spirit. They took a sample of Swiss municipalities with direct democracy and estimated parameters of the median voter's demand for government. Using these parameters they forecast what demand for government would have been in municipalities without direct democracy. They found that forecast spending was lower than actual spending in municipalities without direct democracy. They concluded that the lack of direct democracy allowed politicians to "overspend". The problem with theirs and subsequent approaches in the same vein is that one has to believe that the median voter model has a link to economic efficiency and that the political system is in the median-voter equilibrium. Roll (1977) has made a similar critique of tests of stock market efficiency, arguing that these tests are joint tests of the model and equilibrium. The measure of efficiency proposed in this paper does not suffer from these shortcomings. The central shortcoming of the measure, however, is that its validity depends on the assumptions made about tax and spending incidence. No measure of churning is possible without such assumptions. The reader who wishes to assess the efficiency of a political system must decide which assumptions he feels most comfortable with: those of the median voter model, or those of a model of tax and spending incidence.

The problem encountered when using churned transfers, is to define what churning means

and what link it has to efficiency. Measures of churning have been latent in the public finance literature for a long time. Gillespie (1964) was among the first of many to look at the incidence of government spending and taxes by income group. Neither he, nor subsequent researchers, though, gave a formal definition to churning or related their findings to political efficiency. This perhaps explains why they did not refine their analysis to ask by how much government could lower taxes and spending without hurting a single voter. The answer to this question depends on the degree to which a voter can substitute a refunded tax dollar for the government spending he loses. The present paper addresses this question and shows that multiple measures of churning must be considered.

I provide estimates of churning for Canada as a whole in 1990. I find that between 15.2% and 49.2% of government spending may be churned. Both upper and lower bounds give fuel to the point of view that large deadweight losses can persist in a political system even if they bring no special interest group or politician any advantage. This seems to weight against the Chicago view of political efficiency if one believes in the measures of churning developed here and in their link to political efficiency.

These "macro" results can be broken down by income deciles to identify the possible political causes of churning. I find that churning rises with income. This is a further strike against the Chicago view of political efficiency. There is ample evidence to suggest that the rich are more informed about politics than the poor. Under the Chicago view one would not expect to find a strong plurality of the most informed voters allowing themselves to be the central targets of fiscal churning.

The plan of the paper is as follows: Section 1 defines fiscal churning and relates it to political efficiency. Section 2 describes the methods used to measure churning, and presents estimates. Section 3 breaks down churning by different income deciles. The concluding part of this paper suggests possible applications of churning measures. One application is to develop churning measures at the municipal level and test whether different political institutions at the municipal level lead to different levels of political inefficiency.

1. Political Efficiency

What is the point in measuring the pattern of transfers and taxes? The exercise says

something about whether a political system is making transfers efficiently. An efficient pattern of transfers is one in which the *needless* deadweight losses a government imposes on its subjects do not persist. A needless deadweight loss comes about when government takes resources from one person and returns those resources to the same person in a fashion that leaves him worse off, or no better off, than before. Needless deadweight loss is a sign that either voters are poorly informed, or that they are informed but cannot use their information to discipline their leaders. This is an important insight because deadweight losses are not necessarily a sign that a government is politically inefficient. Deadweight losses may simply reflect the reality that taxes are difficult to raise without causing large shifts in consumption and effort. The funds raised at high cost though may be buying something useful to the public, such as roads or care for the poor. In this case one cannot speak of political inefficiency. Only when the funds provide no useful service can one begin to ask whether resources are being wasted.

It is important to measure efficiency because there is no generally accepted model that guarantees political equilibrium will maximize efficiency. As Rowley (1995) has explained in a recent treatise on social choice, when it comes to government there is no reason to believe we are living in the best of all possible worlds. The lack of a generally accepted model of political equilibrium is at the heart of the Virginia-Chicago controversy on political efficiency. A paper by Gary Becker (1983) has widely been quoted as an example of the Chicago view that political equilibrium is efficient. Becker has since tried to explain the limited nature of this claim. In his scheme efficiency does not mean politicians try to minimize the deadweight losses from government transfers and taxes. Efficiency means that interest groups only impose deadweight losses on others to the point where the benefit to the receiving group from imposing deadweight losses outweighs the costs that would provoke the paying group to a political counterstroke. Predatory groups have an interest to avoid transfer schemes that impose deadweight losses which are not in line with the gains such groups can expect to receive. Becker cautioned that minimizing deadweight loss is not the only road to power. Interest groups who impose large losses on others can dominate if they excel at manipulating election messages. Nothing says that democratic elections will produce leaders who take good care of a country's resources. Becker however believed that politicians will minimize the *needless* deadweight losses from political activity. Needless

losses are those that do no one any good. Wittman (1989) has used this as the basis of his claim that a political system is inefficient if all individuals can be made better off *given the instruments of redistribution that are available* . Coate and Morris (1995) have recently provided a theoretical basis for the opposing Virginia view. They have shown that "when voters have imperfect information about both the effects of policy and the predispositions of politicians, inefficient methods of redistribution may be employed." What we need to weigh the claims of these rival models is some measure of needless deadweight losses.

How should one measure a needless deadweight loss? Needless deadweight losses can be caused by several different types of government policy. Regulations that serve no one's interest but harm businesses are one example. Needless deadweight losses may also come about through churned transfers. It is these transfers I measure in the present paper, and take as a proxy for needless deadweight loss. The degree of churning is the point to which transfers and taxes could be reduced while increasing, or not decreasing, the individual's well-being. More formally, a transfer F_{before} is churned to the degree that the following difference can be maximized

$$U(X_{after}, T_{after}, F_{after}) - U(X_{before}, T_{before}, F_{before})$$

Where (T_{before}, F_{before}) are the tax and transfer levels before government reform, and (T_{after}, F_{after}) are the tax and transfer levels of the individual after a government reform that seeks to slice away all churned transfers. The variable X is the vector of privately purchased goods the individual consumes. The degree of churning is the difference $T_{before} - T_{after}$, which is the same as $F_{before} - F_{after}$. This definition is very general. It covers straight, guaranteed cash transfers, such as social security and baby bonuses. The definition also covers the case where there are government goods and services for which the individual could find perfect substitutes in the private market, provided by the market at equal or lesser cost. Education and health are two examples that spring to mind.

The first challenge to measuring the degree of churning is to justify the assumption that the government service in question is truly being churned. For example, it is arguable that a cash transfer program such as unemployment insurance is an insurance program for which there is no substitute in the private market. It would be wrong to count these cash transfers as churned, even if the individual on average pays in taxes what he withdraws in benefits.

One answer to this challenge is to take the line of Tanzi and Schuknecht (1995), and Roberti (1989). They believe that since the 1960's programs such as unemployment insurance, family allowances (so-called baby bonuses), and old age security, have mutated into guaranteed income support programs with no legitimate claim to acting as insurance. These programs are now straight income transfers falling out of a zero-sum game of fiscal churning. Mueller (1989) concurs and cites this churning as one of the central mysteries of public choice. My approach to the challenge is to provide several estimates of churning. The most extreme estimates count almost all government cash transfers and spending on public goods as open to churning. Less extreme estimates limit the types of government spending that may be considered churned.

The second challenge to my churning measure is whether to give different weight to different sources of churning. I am taking churning as a proxy for needless deadweight losses. But a dollar of churned cash transfers may entail more or less needless deadweight loss than a dollar of churned spending on education. This problem formed the basis of a debate by Aron and McGuire (1970), Maital (1979), and Meerman (1980) on how to value public goods. In countries where most government spending is financed through general revenues, it is probably less important to worry about this question. Providing citizens with a broad basket of subsidized goods and services financed through general revenues may mimic the effects of cash transfers financed through general revenues. In countries such as Switzerland, where a high proportion of public goods is financed through user fees, it may be important to treat churned transfers of public goods as an index of efficiency which is separate from needless cash transfers. In cases such as Canada, which we study here, such a distinction is less crucial, because user fees are a small part of government finances. If my conjecture is false, and public goods form a large part of government budgets, then the same level of churning in two different districts may represent two very different levels of needless deadweight loss. This limits the usefulness of my measure as a tool for assessing the efficiency of different political systems (though other more standard measures of efficiency, such as the level of taxes, suffer from the same problem).

2. Estimates of Churned Transfers

Incidence Assumptions

The way to measure efficiency is to look at the incidence of government spending and taxes. The pursuit of incidence has a long history dating at least as far back as Gillespie (1964). Efforts by Johnson (1968), Dodge (1975), Gillespie (1980), Piggott and Whalley (1987), and others have followed. Some researchers set out a formal general equilibrium model of the economy which they then solve for the final incidence of taxes and spending. Others, such as Browning (1978) who mistrust the long chain of assumptions lashing together the formal general equilibrium approach prefer to let their intuitions guide them. They make a few simple assumptions about how taxes and government spending get distributed among income groups. For example, if you believe that spending on education is proportional to income, then you will assign a higher fraction of education expenses to high income groups than to low income groups. If you believe that consumption taxes are proportional to factor income, you will find that the rich pay more consumption tax.

A representative study of Canadian tax and spending incidence in the intuitive mold is by Payette and Vaillancourt (1986). They used micro datasets on individual families for the province of Quebec in 1981 in combination with macro information on government finances. The present study takes Payette and Vaillancourt as its point of departure but broadens their perspective from Quebec to the whole of Canada. Why focus on Canada? This question needs to be asked because a international dataset known as *The Government Household Transfer Data Base* is made available by the OECD and presents itself as an obvious candidate for study. The Canadian dataset I use has the advantage of being more complete. As well as allocating straight cash transfers, it allocates the transfers implicit in health care, education, and public goods. The study also allocates taxes that no survey of family income can uncover, such as corporate taxes, natural resource levies, and the revenues of state alcohol monopolies. Allocation takes place in two steps. For example, to allocate corporate taxes the first step is to determine how much capital income each family earned. This information comes from *The Survey of Consumer Finances*. The next step is to divide the family's capital income by the sum of all families' capital incomes and to multiply the fraction by the total amount of corporate taxes collected in Canada. In this fashion corporate taxes are "allocated" to individual families. The methodology is based on Browning's (1978)

study of tax incidence. The *Survey of Consumer Expenditures* is used in a similar fashion, following Payette and Vaillancourt (1986), to allocate government spending. The appendix gives the assumptions used to distribute government spending and taxes to each family.

Estimates of the Degree of Churning

Table 1 shows the distribution of different types of benefits and costs of government by household income decile in Canada in 1990 (Table 2 gives some demographic information on the households in the sample).[1] The results here are in line with past studies that show taxes rising with income, and certain categories of benefits rising with income. The benefits that rise with income are health, education, culture, and certain types of social security such as old age pensions and unemployment insurance (the benefits of these latter two programs are mandated to rise with income up to a certain threshold). Other studies such as those of Gillespie (1964, 1980), and Davies et al. (1984) make different assumptions about how corporate taxes and certain categories of government spending are distributed. They tend to find slightly more of the tax burden borne by the lower income deciles and slightly less borne by the upper income deciles. If their analysis is more in line with reality than mine, this means that the present paper is underestimating the level of churning. If the poor are more heavily taxed than my measures indicate, then, because they are also heavy recipients of transfers, they are the target of heavy churning. This means that my results will be conservative compared to what other studies of incidence might find.

Table 1 is the basis for calculating the level of churned transfers. Table 3 is the central table of this paper. It shows the degree to which taxes and transfers could be reduced in each income decile, under six assumptions about what a churned transfer means. The first two rows show the percentage by which taxes and spending could be reduced for the average family in each of ten income deciles, under the assumption that all cash transfers are churned.

[1]I chose pre-transfer income to define deciles with the following example in mind. A poor family suffering from extreme physical disabilities may receive transfer payments which make that family appear to be middle or even upper-income. If there were many such families in the sample and I used post-transfer income to define deciles I might deduce from looking at the data that high income families also receive generous transfers. This would be a questionable deduction because for some families the causality runs in the opposing direction; they are high income *because* they receive large transfers.

All cash transfers include spending on pay-as-you-go government pension schemes for all citizens, unemployment insurance payments, family allowance payments for children, and other cash transfers. The total reduction in government spending possible from eliminating churning of cash transfers comes to 15.2% of spending by all levels of government in Canada in 1990.

The presence of certain the social services in my measure of churnable cash transfers can be criticized. Unemployment insurance may in fact be a form of insurance for which citizens gladly pay taxes. They would be dismayed by an equal drop in unemployment insurance payments and in their taxes, in the same way that a family man would be dismayed if forced to reduce his spending on life insurance. Even though a growing number of researchers (Green and Riddel 1995, Tanzi and Schuknecht 1995, Roberti 1989) view unemployment insurance, and other categories of social spending as a form of guaranteed income rather than as insurance, I have decided to further disaggregate my measures of churning and allow the reader to decide what measures best suit his views of political inefficiency. To this end, the last three sets of rows in Table 3 narrow the assumptions about churning. They show by how much taxes and government spending could be reduced if only pay-as-you-go pension schemes were subject to churning, and similarly for family allowances and unemployment insurance.

Another two sets of rows explore the more contentious claim that government spending on user benefit goods are subject to churning. User benefit goods are defined in the top half of Table 1. They include such items as government spending on hospitals, education, and housing. If we want to count these services as churned, we have to believe that households are indifferent between a dollar government spends on education, and a dollar the household would spend if it had the choice. To measure this broader sort of churning I looked at each family in the survey and asked if its non- public-goods benefits were above its taxes. If so, then I assumed that this group's taxes could be reduced to zero, and its benefits could fall by the same amount as the tax fall. If the group's taxes were greater than its non- public-good benefits then I set these benefits to zero and reduced the group's taxes by an equal amount. Overall spending could fall by 40.6% without hurting anyone. The most controversial set of rows are those labeled ``All Spending Churned.'' These rows were calculated on the assumption that every dollar of government spending is a perfect substitute for a dollar of tax

cuts. Under this broadest definition of churning all government spending could have fallen by 49.2%.

3. Churning and the Chicago-Virginia Controversy

Table 2 suggests that the level of political inefficiency in Canada is strikingly large, even under the weakest assumptions about what qualifies as a churned transfer. This seems to provide embarrassingly strong support for the Virginia view of inefficient transfers. A theory is needed to suggest under what circumstances churned transfers may serve a useful purpose. Such a theory might attenuate the results found here.

The type of dataset I have used allows me to ask what accounts or does not account for the level of churning in Table 3. Is lack of voter information to blame? Table 3 arranges churning by income decile. If, as some researchers contend, the rich are more informed about politics than the poor, the income deciles I have used may proxy as information deciles. Table 3 shows that for all but the last two sets of rows, the degree of churning rises with household income. It is particularly large for the top three family income deciles, who make up 37% of all eligible voters (see last row of Table 2). If we can infer that this means that churning worsens with the information level of households then the Chicago view of efficiency faces a challenge. How can a large proportion of informed voters accept to support a large and needless level of government spending?

In Palda (1996) I have suggested that churning may be a by-product of political ``insurance" that citizens take out against being sneakily expropriated of their wealth by other citizens. The universality of social benefits provides this insurance. Universality ties government's hands and limits the degree to which some groups can use government to profit at the expense of other groups. Even though I provide some evidence in Palda (1996) to support this claim, empirical research on this question is still in its infancy. Churning is a large question mark hanging over those who believe in the efficiency of current democratic systems.

Conclusion

This paper has used a standard model of fiscal incidence to pinpoint a potential political inefficiency known as churning. Political inefficiency is a vague term with wide room for

interpretation. My interpretation is that political inefficiency includes any government policy that leads to needless deadweight losses. A policy imposes a needless deadweight loss if no one profits from the policy and some may be set back by the policy. Churning of taxes and transfers may lead to such deadweight losses. A cash or in-kind transfer is churned when the individual who receives it could have been at least as well off with an equivalent reduction in his taxes. There is controversy though over what types of transfers qualify as churning. Is an old age security payment churned if it goes to a citizen who at the same time is paying taxes on other sources of capital income? Are unemployment insurance payments to citizens paying taxes churned? I developed different measures of churning based on these objections. I found that at one extreme Canadian governments in 1990 could have made a Pareto-improving reduction in its spending of 15.2%. At the other extreme, spending could have fallen by 49.2%. I find that evidence suggesting that churning may be highest for the most informed citizens in society, and that these highly churned groups form a large minority of voters. This seems to go against the notion that needless deadweight losses cannot persist in an climate of plentiful political information. This may suggest that the nature of Canada's democratic institutions are to blame for the churning I find. Future research should strive to develop a formal model of churning. It should also come up with churning measures across districts and try to relate the level of churning to the democratic institutions that govern those districts.

APPENDIX

Distribution of Government Spending and Taxes by Income groups

The method used in the present paper for distributing the tax burden can be found in the work of Browning (1978). The method for distributing the incidence of government spending follows Payette and Vaillancourt (1986), with some exceptions listed below. The trick in figuring out who benefited from government spending is to see who is consuming services and goods that are either provided directly by government or subsidized by government. If we find that a family sends twice as many of its children to university as its neighbor then we "allocate" twice as much government spending on university education to that family. To get the final allocation we have to go through two steps. First find out how much each family consumes of the government service relative to other families. In other words find out the shares of each family's consumption (most of this data comes from surveys). Next, multiply each family's share by the total amount spent by all levels of government (most of this data comes from government budgetary estimates).

Government spending shares are allocated across families by using two Statistics Canada surveys, the Survey of Consumer Finance and the Family Expenditure Survey. The Survey of Consumer Finances covers 45,580 individual families (each is weighted so as to obtain the total number of families in the ten provinces), and details socio- economic family characteristics. The Family Expenditure Survey gives information on family expenditure for 4,856 families, including spending on automotive fuel, recreation, and medicines among others. The series are merged using a technique pioneered by Payette and Vaillancourt. Here is how these series are used to allocate government spending:

Cash Transfers These include Canada Pension Plan and Quebec Pension Plan payments, unemployment insurance payments, family allowance payments, old age security payments and other transfers. The incidence assumption with these transfers is that they should be completely allocated to the direct recipients. This is implicitly assuming that supply of the goods that recipients buy is perfectly elastic, so that none of the transfer is passed on to producers in form of higher prices.

Health The assumption here is that expenditures on health are made on behalf of those who consume health services (this of course neglects the possibility that health has public goods features which also benefit those who do not directly consumer health services). Who consumes these services is catalogued in part by a Statistics Canada study of hospital expenditure by age group (Statistics Canada, catalogue 83-522E "An Analysis of Hospital expenditures in Canada") which is then merged with the population data from the survey of consumer finances.

Education It is assumed that education expenses are proportional to the number of people in the family who are attending school. The surveys used show the number of students attending a elementary, secondary, and post-secondary school and these data are used to allocate total government spending on schooling. This of course neglects the possibility that schooling has public goods features which also benefit those who do not have children attending school.

Regional Planning and Development and Resource Conservation and Industrial Development (specifically Agriculture, Tourism, and Trade and Industry) Expenditures on agriculture are assumed to be made on behalf of farmers and are allocated equally to all families reporting net farm self-employed income in the Survey of Consumer Finances. Regional planning and development chiefly covers municipal public works and could be distributed on a per household basis. Trade and industry is a more direct help to business and could thus be distributed by a series on dividends. Fifty percent of the sum of regional planning and development and trade and industry (including tourism) is allocated by capital income and the remaining fifty percent is allocated across families by the series on total consumption. The first series come from the Survey of Consumer Finances and the second is derived from the Family Expenditure Survey.

Labour The assumption is that expenditures in this category are made on behalf of labour and thus are allocated directly to labour using a series on wages and salaries from the Survey of Consumer Finances. To the extent that these expenditures are made to trainees and the unemployed, this series will understate expenditures made on behalf of the lower income groups.

Housing Government housing expenditures are distributed by the series "Other Government Transfer Payments" from the Survey of Consumer Finances.

Culture and Recreation The assumption is that culture and recreation expenditures are made on behalf of those people who consume culture and recreation services. Thus, these expenditures should be allocated directly to them. Expenditures are distributed across families by the series, "Consumption of Recreation," derived from the Family Expenditure Survey, which covers everything from movies and ballets to camping equipment and stereos.

Transportation and Communications Expenditures under transportation and communications are broken down into two categories: highway and other. Highway expenditures are on highways, roads, and road maintenance. Other expenditures are on air, rail, and water. Who benefits from these expenditures? Four groups are identified under the sub-function highway. Two per cent of highway expenditures are allocated to national defense as that is approximately the expenditure on defense as a percentage of Gross Domestic Product. National defense is distributed proportionately across individuals. Following Gillespie (1980) two other groups are non-users and road-users. He allocates one third of government expenditures to non-users and two thirds to road-users. The logic is that the non-user group that benefits are property owners, that is their property values are enhanced by access to roadways. These non-user beneficiaries can be identified by their capital income as listed in the Survey of Consumer Finances. The other group road-users can be further sub-divided into two groups: those who benefit from the lower prices of goods transported via roads and those who consume road services to travel, to go to work. One third of the two thirds set aside for road-users is allocated to those benefiting from the lower price of transported goods by a series on total consumption from the Family Expenditure Survey. The remainder is allocated to consumption of road services, which is proxied by the consumption of automotive fuel.

This series is derived from the Family Expenditure Survey. Other transportation is distributed equally across individuals.

Environment, Foreign Affairs and International Assistance, General Services, Other, Protection of Persons and Property, Research Establishments, Resource Conservation and Industrial Development net of Agriculture, Tourism, and Trade and Industry These categories of expenditure about as close as one can get to pure public good spending. So the approach here has been to allocate spending on these categories proportionally across families.

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TABLE 1

WHAT CANADIAN HOUSEHOLDS IN DIFFERENT INCOME DECILES ON AVERAGE GOT OUT OF SPECIFIC GOVERNMENT EXPENDITURES IN 1990 (DOLLARS)

Decile	1	2	3	4	5	6	7	8	9	10
User Benefit Goods:										
Cash Transfers	**13,123**	**11,360**	**9,613**	**7,370**	**6,772**	**5,786**	**5,776**	**5,599**	**5,248**	**6,078**
of which:										
Unemployment Insurance	342	1,586	1,967	1,648	1,616	1,349	1,251	1,060	1,002	668
Canada and Quebec Pension Plans	1,676	1,735	1,633	1,202	1,084	984	1,010	1,073	991	1,379
Family Allowances	143	136	169	229	251	291	347	352	340	321
Old Age Security	4,480	2,908	1,865	1,183	1,000	782	805	842	807	1,284
Other Transfers	1,736	1,310	1,022	813	705	609	591	562	516	582
Health	4,090	3,695	3,475	3,410	3,583	3,697	4,092	4,287	4,397	4,883
Education	1,973	2,515	2,283	2,701	2,949	3,533	4,040	4,333	4,600	4,612
Resource Conservation & Industrial Development	423	704	950	1,059	1,193	1,242	1,307	1,454	1,479	2,143
Labor	5	51	144	244	329	426	506	601	718	822
Housing	379	365	353	336	299	278	252	236	217	224
Culture & Recreation	157	204	295	398	507	626	738	864	1,049	1,413
Transportation & Communication	624	764	949	1,100	1,245	1,402	1,578	1,766	1,962	2,911
Sub Total Benefit Goods	**21,535**	**20,076**	**18,547**	**17,168**	**17,474**	**17,652**	**19,028**	**19,938**	**20,518**	**24,190**
Public Goods:										
Environment	436	457	497	570	615	691	756	805	833	869
General Services	1,196	1,258	1,378	1,564	1,681	1,863	2,024	2,131	2,167	2,233
Other (excluding interest charges)	312	331	362	409	447	499	554	589	619	654
Protection of Persons & Property	1,474	1,570	1,730	1,931	2,134	2,342	2,617	2,736	2,838	2,995
Research Establishments	112	120	131	148	162	180	197	209	215	223
Foreign Affairs & International Assitance	220	236	257	290	317	351	387	409	422	440
Subtotal Public Goods	3,751	3,972	4,355	4,913	5,356	5,927	6,534	6,879	7,094	7,414
Total Benefits	**25,311**	**24,047**	**22,903**	**22,080**	**22,830**	**23,578**	**25,562**	**26,817**	**27,612**	**31,604**
Tax	343	2,476	6,786	10,900	15,378	20,130	25,493	31,725	41,385	74,061
Net Benefits	24,957	21,572	16,117	11,180	7,452	3,448	69	-4,908	-13,772	-42,457

Note: There are a total of 45,580 families in the sample. Statistics Canada has assigned a weight to each to make the sample representative of the total population. Cash Transfers are a subset of all benefit goods. The category "Total Benefits" includes government spending on public goods, cash transfers and benefit goods. The values are dollar value averages for households in each decile.

TABLE 2

DEMOGRAPHIC PROFILE OF HOUSEHOLD AVERAGES BY INCOME DECILE (CANADA 1990)

Decile	1	2	3	4	5	6	7	8	9	10
Age of Head	54.9	48.4	45.7	43.8	43.2	43.7	43.7	44.6	46.5	50.3
Number of Children	0.34	0.45	0.46	0.62	0.70	0.87	1.08	1.03	1.23	1.00
% of Household where Head is a Student	10%	9%	10%	3%	4%	3%	1%	3%	4%	0%
% of Households where Head is Male	39%	58%	64%	66%	78%	86%	87%	89%	93%	98%
% of Households where Head is an Immigrant	15%	13%	15%	14%	15%	16%	12%	22%	17%	18%
% of Households where Head is over 65	48%	44%	32%	26%	20%	18%	15%	21%	15%	23%
% of Eligible Voters in Decile	7%	8%	8%	9%	9%	10%	11%	11%	13%	13%

Note: There are a total of 45,580 families in the sample. Statistics Canada has assigned a weight to each to make the sample representative of the total population. The percentage of eligible voters is not the same in each income decile because higher deciles have more voting age members in each household. The percentage of voters does not sum quite to 100% due to rounding.

TABLE 3

DEGREE TO WHICH GOVERNMENT SPENDING AND TAXES COULD BE REDUCED AND LEAVE HOUSEHOLDS IN EACH DECILE AT LEAST AS WELL OFF AS BEFORE UNDER DIFFERENT ASSUMPTIONS ABOUT WHAT QUALIFIES AS FISCAL CHURNING (CANADA 1990, MILLIONS OF 1990 CANADIAN DOLLARS)

Decile	1	2	3	4	5	6	7	8	9	10
Cash Transfers Churned										
% Fall in Benefits	3.3%	8.7%	18.4%	18.3%	18.8%	16.8%	15.9%	15.3%	14.0%	14.4%
% Fall in Taxes	97.6%	78.6%	62.9%	44.3%	35.3%	25.6%	21.0%	16.5%	12.2%	8.6%
Total Fall in Benefits and Taxes (millions 1990 $'s)	256	2,085	4,724	5,288	5,889	5,557	5,724	5,731	5,452	6,343
Benefit Goods Churned										
% Fall in Benefits	4.8%	14.3%	37.1%	48.5%	56.1%	61.8%	65.1%	68.2%	70.5%	74.0%
% Fall in Taxes	99.9%	99.6%	91.1%	78.5%	73.5%	69.2%	64.9%	58.7%	49.4%	36.4%
Total Fall in Benefits and Taxes (millions 1990 $'s)	339	2,549	6,424	8,864	11,655	14,273	16,886	19,135	20,750	25,082
All Spending Churned										
% Fall in Benefits	4.9%	14.7%	43.9%	62.1%	71.0%	79.2%	85.0%	91.7%	96.3%	99.0%
% Fall in Taxes	100.0%	99.9%	97.2%	87.5%	82.3%	79.8%	77.2%	73.6%	64.0%	47.5%
Total Fall in Benefits and Taxes (millions 1990 $'s)	349	2,571	6,850	9,860	13,049	16,496	20,174	24,031	26,908	32,366
Family Allowances Churned										
% Fall in Benefits	2.0%	0.3%	0.5%	0.7%	0.8%	0.9%	1.1%	1.1%	1.0%	0.9%
% Fall in Taxes	23.9%	8.8%	3.5%	2.7%	2.0%	1.6%	1.5%	1.2%	0.9%	0.5%
Total Fall in Benefits and Taxes (millions 1990 $'s)	47	120	175	239	262	304	362	368	355	334
Unemployment Insurance Churned										
% Fall in Benefits	2.0%	2.6%	6.0%	5.1%	5.1%	4.1%	3.6%	3.0%	2.6%	1.6%
% Fall in Taxes	11.6%	22.1%	20.8%	13.5%	10.1%	6.6%	5.0%	3.4%	2.5%	1.1%
Total Fall in Benefits and Taxes (millions 1990 $'s)	41	608	1,497	1,556	1,622	1,394	1,302	1,107	1,047	695
Canada and Quebec Pension Plans Churned										
% Fall in Benefits	2.6%	3.0%	4.8%	3.8%	3.3%	3.0%	2.9%	2.9%	2.7%	3.3%
% Fall in Taxes	41.3%	29.9%	18.6%	9.0%	6.0%	4.3%	3.5%	3.0%	2.1%	1.8%
Total Fall in Benefits and Taxes (millions 1990 $'s)	105	911	1,547	1,228	1,129	1,026	1,053	1,122	1,035	1,441

Note: This table shows the average reduction in taxes and spending possible within each household income decile under different assumptions about what sorts of government spending qualify as fiscal churning. Perhaps the least controversial assumption is that cash transfers can are subject to churning. Benefit goods, and then all categories of government spending follow in generality, and contentioussness, as spending that may be churned. For those who question cash transfers as capable of being churned I have broken these transfers into their components (family allowances, unemployment insurance, and state pensions among others.