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Constitutional Crisis, The Economics of Environment, and Resource Development in Western Canada*

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Ce texte examine l'application du concept d'efficacité économique au processus de décision collective et aux institutions du secteur public. Nous montrons que l'existence de coûts de transaction et de procédures de décision collective requiert un cadre d'analyse plus large que celui qui a été adopté jusqu'à maintenant afin d'évaluer les processus politiques et les institutions. Par la suite, nous développons le concept de réponse institutionnelle et montrons que plusieurs structures et institutions affectant les décisions publiques peuvent comporter des mécanismes de contrepoids visant à corriger les problèmes d'efficacité. Nous proposons ensuite une procédure de diagnostic afin de découvrir les problèmes potentiels d'efficacité en cherchant les situations où les preneurs de décision ne supportent pas tous les coûts ou ne capturent pas tous les bénéfices engendrés par ces décisions. Le texte identifie des exemples de décisions avec externalités dans trois processus de décision publique: les choix par les voteurs individuels, par les représentants élus dans les assemblées législatives, et par les membres de la bureaucratie. Nous introduisons un certain contenu empirique à la discussion en la mettant en relation avec les changements politiques et institutionnels récents qui sont survenus au Canada.

This paper examines the assignment of functions over natural resources and environment between the federal and provincial governments using the Breton-Scott (1978) approach to the optimal assignment of functions and, alternatively, studying the actual policy outcomes under the existing assignment of powers. On theoretical grounds, provincial control over natural resources is warranted as long as the external costs imposed on other jurisdictions are small, but the theoretical approach does not unequivocally assign powers to either the provinces or Ottawa. In practice, as illustrated by examples, natural resource policies are driven not by concern over social costs and benefits, but by political considerations that impose added costs on the economy.

Canada's federation is much less centralized and its regional disparities and population concentrations are more pronounced than in the United States. Along with this, Canada is characterized by two cultural identities – English Canada and Quebec – that have resulted from the concept of two founding nations as embodied in the constitution. Uncertain federalism,

regional discord and language/cultural conflict have created an atmosphere of constitutional crisis that led to a number of attempts to restructure Canada's constitution and political institutions, most notably the failed Meech Lake and Charlottetown agreements. While the purpose of constitutional restructuring is ostensibly to 'bring Quebec into the constitution,' a con-

sequence would likely be greater allocation of some central government powers or functions to the provinces. The purpose of the current paper is to examine economic efficiency aspects of greater decentralized decision-making on natural resources and environment.

We begin by considering the theoretical problem of allocating powers (e.g., over resources) among different levels of government. To investigate how powers are assigned to the respective government levels in Canada's resource sectors, we examine recent and existing policies (or lack thereof) in oil development, environmental assessment and agricultural land degradation as these have affected western Canada in particular. The purpose is to identify the strengths and weaknesses of existing institutional arrangements and to suggest how these might be affected by constitutional restructuring.

Assigning Expenditure/Regulatory Functions in the Constitution

Government is an institution that economists tend to accept as given, and relegate to the category of *ceteris paribus*, much as they do with most other institutions. Economists concentrate on analysing and criticizing the laws that a government makes and the policies it pursues, but they make few attempts to outline what would be the most efficient (ideal) assignment of powers among governments. Nor do economists consider the institutional background from which policy emanates, much of which is determined by the constitutional assignment of functions. Those economists who have made the attempt to consider these matters tend to study the ideal assignment of powers – of *all* powers. In this paper, we consider only the marginal assignment of powers – whether the re-assignment of one particular power constitutes an improvement in welfare. First, an ideal assignment based on efficiency arguments is examined, followed by one that examines constitutional change from the

perspective of procedures actually followed. Are the policies in place under the current constitution desirable from both an economic efficiency and equity point of view? How might a change in the division of powers affect such policies and their impacts upon the environment?

Ideal Assignment of an Expenditure or Regulatory Function

By considering only marginal assignment of powers over natural resources and environment, it is possible to avoid issues of how many levels of government, and how many countries, provinces (or states) and cities, there ought to be. One approach to the assignment of fiscal powers, suggested in the public-finance literature (Musgrave, 1959; Oates, 1972), is to determine whether a power properly belongs in Ottawa or in the provinces by considering which government function it is. Musgrave concluded that activities for redistribution, especially inter-regional redistribution, and also activities addressing problems of national stabilization (along with monetary policy) should be assigned to the centre. Lower levels of government can redistribute or stabilize outside their own borders only by inter-governmental co-ordination that amounts to the creation of a higher level of government (viz., European efforts).

Consider now the allocative, spending and regulatory functions. Since many government policies call for regulation of private production and consumption, and since many of these cause varying good and bad spill overs or externalities into other provinces, the pure Musgrave-Oates logic dictates that allocative and regulatory powers be assigned to the nation. Lower levels of government will not successfully prevent spill-ins, or regulate the amount of spill-outs for the benefit of outsiders.

Thus, the Musgrave-Oates approach appears to point to centralized government over decentralization. What prevents it from awarding all allocation power to a federal government is that the services that citizens ask governments to provide differ

from one region to another. Furthermore, some benefits from what a national government supplies are not uniform across the country, either because they have a limited span, reaching only the citizens within a limited distance from some urban centre or government office, or because they exhibit diminishing returns with respect to scale or area. Others are liked in one region but not in another; more is desired in one region than another. To deal with these variations, governments provide different services in different places. To do this, a federal constitution provides for setting up regional groupings of citizens to satisfy their own preferences. In North America, these regional groupings are the provinces or states, and Musgrave-Oates conclude that many or most allocative powers should be assigned to them.

Hence, the Musgrave-Oates approach suggests the general rule that a constitution assign redistributive and stabilization powers to the nation, while allocative powers entailing spending and regulating be divided, most of them assigned to the provinces (or states) and their municipalities. Only those that call for the provision of wide-scope public goods, involve cross-border externalities, or entail large economies of scale should be assigned to the national government.

This advice is suggestive, if not clear, but its usefulness depends on the transactions costs of implementing it. Transactions costs (defined below) can make the advice wrong or perverse. This can be shown by examining how the original Musgrave approach was refined by Olson (1969), Oates (1972) and Breton (1987). Though none of these experts was prescribing how to assign a single governmental power, their ideal efficiency rule could have been adapted to that question. It would try to match the geographical area benefitting from public provision of a service with the government occupying the power and area, including that government's citizens. The former area was thought to be a technological or geographical fact. The rule also applied to the

'span' or reach of governmental regulation. For example, constitution makers should design regional governments and assign powers over rivers so that each river is entirely within the borders of one province or state. If the allocation of a power achieved such perfect mapping or correspondence, governments would produce efficient amounts of each public service, and industries would be regulated to provide efficient amounts of private goods – efficient in the sense of no spill overs. This would require as many jurisdictions as there are public plus private-but-regulated outputs (Breton and Scott, 1978).

This proliferation of jurisdictions might be possible if transactions costs were zero. If there were no costs of search, administration, bargaining and co-ordination within and between the jurisdictions, and no costs of signalling and mobility by their citizens, it would not matter how many jurisdictions there were. To keep production costs low, any jurisdiction could buy transportable public services from any low-cost producer to supply them to its own citizens. Indeed, a single government could do the same (Weldon, 1966). If transactions costs were truly zero, the number of levels and jurisdictions would be uninteresting and indeterminate.

When, to come back to the real world, they are not zero, different assignments of any single power, holding numbers of governments constant, would elicit different mixtures of transactions activities and costs. For example, assigning it to local governments would entail low internal government search costs and low citizen signalling costs, but high inter-government co-ordination and citizen mobility costs. Assigning it to a national government would entail lower co-ordination costs but higher search and protest (signalling) costs. The internal-plus-external total would be different for each assignment of that power, and so also for sets of powers. This changing total can be used to suggest a new rule.

When production costs, economies of scale, externalities, local preferences and

transactions costs are all taken into account, the advice given changes from Musgrave's and Olson's simple recipes for efficient government. When the assignment of a single power is changed, all these factors cause total costs to vary. Co-ordination expense, search cost and signalling cost will vary the most. The advice now given is to reassign each power until total transactions costs are minimized (Breton and Scott, 1978).

'Overlap,' or the assigning of a particular power to more than one jurisdiction (also known as concurrency), as recommended by the House of Commons' Standing Committee on Environment (MacDonald, 1992), is usually said to result in an increase in administration, co-ordination, search and signalling costs. Theoretically, the change could go either way. As argued below, it is unclear that the benefits from concurrency will exceed these costs.

Breton-Scott also argue that, in general, it is bad constitution-making to award legislative power to a jurisdiction whose government promises the best laws. The reason is that we do not know the policies that future governments will follow. Their laws can be made, and unmade, in a decade, but their constitutional powers will be held much longer. A better procedure is not to try to predict particular government policies, but, rather, to focus on a comparison of the likely organizational and transactions costs that such policies, whatever they be, will impose on the treasury and its citizens as the policy-making power is hypothetically assigned to different governmental levels.

Inter-Regional Bargaining: The Empirical or Policy Approach

In this section, we introduce an alternative approach to constitution-making. As every politician can understand, there are no constitution-making 'markets' or other institutions in which functions can be traded, and there is no constitutional 'Solomon' to dictate the allocation of functions. In many, probably most, federations there is not

even a working procedure for reassigning functions by a routine, nation-wide balloting procedure. Consequently, there is no process known to economists to explain why a Musgrave-Oates assignment of functions should even come about; and there is certainly no process to push a federation in the direction of the efficiency, or transactions-costs minimizing, assignment described by Breton and Scott (1978).

Instead, we observe various bargaining procedures between politicians. In Canada in particular, we observe explicit or implicit procedures and processes in which national and provincial politicians periodically engage in a sort of trade in powers and functions. The Meech Lake and Charlottetown Accords are two examples of such periods, where it was proposed to shift some powers over immigration, natural resources, and environment to the provinces.

The politicians participating in these procedures are at liberty, we imagine, to agree on reassignments of functions that would reap economies of scale or would minimize transactions costs. We do not know that they do not attempt to do so. However, it seems obvious that their behaviour can be better described as a process of treaty-making, in which the participants are driven mainly by the attempt to capture or retain such powers and functions as benefit themselves and their civil advisors. Most such benefits will be derived from decisions about powers and functions that distribute GNP toward citizens in their own regions.

Our main point here is that, to function on behalf of his/her region in these procedural circumstances, a representative bargainer *must* anticipate or forecast the policies that would be forthcoming.

This regional attitude is most often revealed in the electoral politics of existing federations. Voters in one region may support the federal party that favours those current policies directed toward them. The premier of another region favours the particular health scheme, for example, that brings the largest per capita federal grants.

The national governing party makes the regional policies that most improve its total chances of re-election. Politics do not necessarily divide along regional lines, but an atmosphere is created that carries over to constitution-making. The electoral rule is: when in doubt, support the politicians or constitutions that provide tax, spending and regulatory policies that most favour one's own region.

Such an attitude may also predominate when a new federation is being designed, or when an existing federation is re-shuffling its powers. Constitution makers may adopt it when they are confident about the differences between the regional balances of payments arising from the exercise of a power at alternative levels of government. Assignment to the centre is favoured if their region benefits (or at least does not lose) from such an allocation; assignment to the provinces is favoured in the opposite circumstances. However, the constitution maker must have a certain confidence that, under a given assignment of government powers, people in his/her region will always be in the same circumstances (e.g., always users or non-users, beneficiaries or benefactors, consumers or producers). Manufacturing regions are interested in where the tariff-setting power is assigned and how much control they subsequently have over that power, while resource-producing regions are concerned about government regulation over resource extraction and export controls. The specific labels attached to certain powers or functions are also important because they indicate to the population of a region whether they are likely to gain if the power is assigned to the centre. The point is: constitution-makers who believe that a different regional balance of payments goes with each assignment of powers will act as though any change in the favourableness of the balance is more important than any accompanying marginal gains in efficiency or reduced transactions costs.

In these matters people decide whether to take a national or local interest. They take a national interest if they, their child-

ren or their region are as likely to be gainers or losers along the future path of changes in national policy, or if they can easily change their behaviour, location or occupation so as to escape adverse consequences. An example is national criminal law powers, whose assignment is agreed to if the powers give rise to a uniform criminal code that does not discriminate against the special interests or activities in their region. But people take a local interest if they cannot move and so must always fall into the class of gainers or losers.

The basis for giving consent to an assignment of powers is also of relevance in, and is illustrated by, other situations where society must give consent to basic principles. They can be suggested by an example. An old question is: which party should bear the loss from an accident or nuisance? The answer, in damage suits, is that it should be whoever broke the rule. Then what should that rule be? The courts and parliaments have heard many suggestions about alternative rules of fault in dealing with drivers (polluters) and victims. Calabresi (1970) suggested that the traffic or pollution rule should be such as to minimize the total costs of preventative behaviour, of loss of value or health, and of legal and government administration. It is like the Breton-Scott proposal in that, depending on typical cost levels, it could assign rights either to pedestrians or motorists.

This kind of liability suggestion fails to get consent and/or is ethically objectionable in certain cases. Unanimous consent is most likely when all persons belong to the same class, one that alternates, say, between driving and walking (or between being polluter or victim). Then the rules will be Rawlsian, ones that individuals will consent to for themselves in advance (Rawls, 1971). Consent is least likely when the rules invariably lead to a distributional transfer from one social group to another. For example, each of the three kinds of costs mentioned by Calabresi may be borne by a different group. Then a liability rule

that is proposed because it leads to the lowest total costs has no particular attractiveness to a group whose share of the costs is always light. Consider a law calling for pedestrians to accept the costs of accidents, proposed under the Calabresi criterion because the opposite rule would impose much heavier precautionary costs on drivers of sports cars. This law would not be consented to by village councils that represented few in the sports car class. They would reject it because, in reducing the wealth of pedestrians, it hurts the voters to whom the councils look for support. (Another revealing illustration is to be found in the changing consent to a rule about who along a river should pay for pollution damages – the upstream polluter or the downstream victim?)

To summarize, the Breton-Scott and Calabresi criteria are both normative. They would be attractive and win consent if they led to random distributions of benefits and costs. Not only could the gainers over-compensate the losers, but they could easily at another time *be* the losers. They are not attractive when the federation's politicians perceive themselves as divided into permanent gaining and losing groups by each set of policies. True, they could be made attractive if the gainers compensated the losers, as indeed has sometimes happened under so-called National Policies. But if, in an elected government, the gaining group is in the majority, compensating policies are unlikely.

The normative approach to the constitution suggested here is the rejection of a distribution of powers that would lead to regional groups being coerced into permanent, unfavourable balances of payments. But the transfers that redress these balances can also be unacceptable; they might not be neutral with respect to the achievement of the goals of other policies. This means that we are forced to examine suspiciously even the policies that appear to be generous gifts to a specific region. In a country with disparate regions where redistribution of income is an important

aspect of a future constitution, policies for achieving the desired regional income goals could well be an additional source of inefficiency. If these policies result in negative externalities (environmental bads), then the policies constitute a source of inefficiency that would need to be taken into account.

In the remainder of this paper, we concentrate on powers over the 'environment' and over 'natural resources'. These powers are actually to be found divided between several federal and provincial portfolios – environment, agriculture, forestry, health, fisheries, lands, municipalities and others. Some of this division was discussed by Scott (1991) and by Kennett (1992). Second, we examine mostly those policies under federal powers that might, under another constitution, be assigned to the provinces. Third, we assume that, while legislative powers may be changed, lands and resources remain in provincial ownership. Fourth, we confine our scrutiny of pay-off, compensatory or transfer policies to those that are within federal environmental powers, ignoring those that show up in social, educational, health, highway, and other powers.

Fifth, we ask various questions about policy efficiency and cost-effectiveness. Do policies achieve their stated objectives, assuming they are stated to begin with? For every dollar transferred from one region to another, how much do the benefactors give up? Given the intended redistribution or compensation, does the distribution of powers and policies make these leakages as small as possible? (See Browning, 1987; Browning and Johnson, 1984; van Kooten and Taylor, 1989.) Do policies result in additional spill overs, or environmental costs?

In the next sections, we examine policies in the natural resource sector as they affect western Canada – petroleum, agriculture, and environmental assessment reviews of water-resource projects – to determine if there are lessons for constitutional restructuring. To do this, we imagine a world in which the western provinces have long had more exclusive powers over their resources.

Then, many of the oil and gas policies that redistributed rent would never have been enacted. If the federal government had less power over resource development projects, projects that were detrimental to the environment might not have been built. If Ottawa had no powers to help western farmers, agricultural policies that brought about land degradation might not have been implemented. Such a reassignment of constitutional powers might have resulted in environmentally-preferred policies.

A Tale of Two Countries: Federal Environmental and Resource Policy

Canada's provinces own their natural resources; coal, oil and gas are mostly owned by provincial governments, as are the majority of forest lands. Likewise, agriculture falls under provincial jurisdiction. However, the federal government exercises varying degrees of power in these sectors through its own powers over agriculture, over interprovincial and international trade, navigation and fisheries, and through other constitutional provisions – spending power, taxing power, the emergency power (Peace, Order and Good Government or POGG), and the declaratory power (over works stated to be for the general advantage of the nation). How the federal government uses such powers will determine the extent to which transactions costs are minimized. It will also determine the extent to which income is redistributed, and at what cost.

If we pose our constitutional question in such a way as to contrast resource policy with, and without, concern for income transfers, we feel that a few things can be said with confidence. When a resource is found only in the west, for example, we feel it is predictable that a central government will take a different attitude to its use or management than if it is found in every province of the country. The federal government is interested in redistributing wealth and it feels secure in disregarding local preferences about it. On the other hand, if

the question involves resources held by citizens in every part of the country, there will likely be an attempt to create policies that are neutral in their overall effect on incomes, because income redistributions will appear in all regions. We feel that energy policy illustrates the first proposition, while environmental and agricultural policies illustrate the second. The case of agriculture is somewhat muddled because of the large number of constituents in both eastern and western Canada that are affected by the plethora of federal agricultural policies, but these have resulted in negative impacts on the environment.

Canadian Petroleum Policy

The National Oil Policy of 1961 guaranteed western oil producers a market for oil by preventing consumers west of the Ottawa River valley from purchasing oil from sources other than western Canada. This resulted in Ontario prices for western crude that were 25 to 35 cents per barrel higher than they would otherwise have been (Scott, 1961; Norrie, 1978; Helliwell and Scott, 1981). However, when world oil prices increased dramatically in 1973 as a result of OPEC, the federal government responded by freezing the price of all oil at \$3.80/barrel. Taxes on exports and oil company profits were used to subsidize oil imports east of the Ottawa River valley, at least until the Trans-Canada pipeline could be extended. Although the oil producing provinces (Alberta, British Columbia and Saskatchewan) increased their royalty rates to capture a large portion of the resource rents, the low Ontario price and the export tax kept these rents well below their potential. Further, the federal government encouraged and subsidized exploration outside the producing provinces in northern and coastal areas. Finally, it established Petro-Canada in 1975 to provide a 'window' on the industry; by 1981, 'the window' had become the fourth largest oil company in Canada. These policies did not sit well with governments in the western provinces, whose citizens felt increasingly left out of

central decision-making. This heightened tension between westerners and the then-Liberal government in Ottawa, with almost no Liberal members voted into office at any level in the west.

The federal government was forced to back off its price freeze when Alberta decided to reduce oil production in 1980. Subsequently, the National Energy Program (NEP) was introduced in 1980 with the objective of slowly increasing domestic prices to the world level via phased-in price increases. The producing provinces and the primarily foreign oil companies continued to object to this policy because the resource rents available to them remained lower than under a free market. This redistribution of resource rents was objected to as a matter of unfair income redistribution. Further, when western provinces were seeking to increase their value added in all resource sectors, these policies, by first providing a secure source of supply and then below-market prices, were also thought to be factors giving rise to refining capacity in central Canada that was coveted in the west. But that was not all. Through-out Canada the low-price oil policy weakened concurrent incentive policies to conserve energy, adopt energy efficient technologies and alternative fuels, and reduce polluting activities in general. Later, when domestic and falling world prices converged, these conservation policies inadvertently were to give Canada's industry a competitive disadvantage relative to its trading partners who had already adopted energy-saving technologies. Further, economists questioned the need for a large, crown corporation with a political mandate, although there is no reason to suspect that Petro-Canada would be less efficient or even more political than the large multinational oil companies already operating in Canada.¹

To some extent, the federal 'Ottawa Valley' high-price policy of 1961, which helped the west develop and profit from its oil production capacity, can be used to justify its post-1973 low-price policies. Both redis-

tributional policies were deeply political; the 'Ottawa Valley' policy was implemented by a Conservative government with a western Prime Minister, while the later low-price policy was implemented by a Liberal government with a Quebec Prime Minister.

The point of this discussion is that, in the case of petroleum, and unlike environment and the other resource sectors, the federal government did not hesitate to implement a national redistributive policy, first to the benefit and then at the expense of the west. While motives are unclear, it is clear that the market was circumvented in 1961 and again in the 1970s. Over the whole period, the west paid the larger price (Mansell and Percy, 1990; Mansell, 1991). Further, the federal government, by virtue of its control over transboundary movement of oil and gas, first impeded the import, and then the export, of energy.

If constitutional revisions (see Government of Canada, 1991) gave wider powers to the provinces of western Canada – that is, greater autonomy over their disposition and pricing of petroleum resources – it is not clear that the west would be a net beneficiary. Based on past events, the west would benefit, but that does not necessarily imply that the balance would work out that way in the future. If world prices are high, oil-producing provinces can force other Canadians to pay these prices in competition with US and offshore consumers. It is possible that the rents would assist the west to develop refining capacity, for example, by preferential pricing to Alberta plants. If world prices are low, however, other Canadian regions would now be free to shop around for the cheapest imported fuel. They could shut out western fuel and possibly expand refining capacity at eastern ports instead of in Alberta. It is also possible that the oil-producing regions would enter into contracts with other regions in North America (viz., other provinces) that would again give them little freedom in the event of unanticipated price rises (similar to those that occurred in the

early 1970s). In other words, freedom from federal interference may not necessarily benefit the west over the long haul.

Resource Development and Environment

In contrast to the petroleum policies that were popular in the west in the 1960s but unpopular in the 1970s, the federal government was reluctant to use its various powers to legislate one national environmental policy for resource developments. While the effects of the 1970s' federal oil policies were felt mostly in central and eastern Canada (where prices were kept low), environmental effects of resource development projects tend to be felt only at the local or regional level. The spill overs do not extend very far. For example, water pollution in the Athabasca River in northern Alberta due to resource development (pulp mills and tar sands projects) is not experienced, or even recognized, by those living in central Canada. Stopping development projects in western Canada on environmental grounds is not likely to 'buy' many votes in the rest of Canada, despite expressions of concern about the environment by those voters. Our point is that voters in central Canada are more concerned about things such as acid rain and the quality of their own drinking water than about environmental degradation from projects favoured in the west.

Resource development projects are often undertaken with the consent and even at the initiative of a provincial government. Natural resources are owned by the provinces and they jealously guard their right to develop these resources, although with subsidies from, and without benefits to, the rest of the country. Even environmentalists are unwilling to recommend transfer of resource *ownership* to the federal government, although they do want the ability to appeal project approval to a higher authority than the province, and thus to weaken provincial ownership powers.

The federal government exercises authority over the environmental impacts of resource development through a number

of mechanisms. (1) Since resource development projects often rely on some federal funding (the spending and taxing powers), the federal government is able to require some standard with respect to their impact on the environment. As well, the federal government is responsible for (2) transboundary movement of resource products (control over exports of pulp, electricity, uranium, etc., as exemplified in the restrictions placed on energy exports), (3) fisheries, (4) migratory species and (5) navigation and shipping.² Finally, the federal government can invoke its declaratory power in matters dealing with the environment, although this power is rarely exercised and is used primarily in cases of emergencies. It would seem, therefore, that the federal government can have a large say in the development of water resources, for example, to the extent that these will affect fisheries and/or have international or inter-provincial aspects. While the federal government may lack a jurisdictional basis for intervention in agricultural and forestry practices that are ecologically objectionable, its powers to offer and withdraw financing ((1) above) give it considerable control over the environmental impacts of these practices (see next section), as well as those of resource development projects. For a while, it seemed to be finessing this responsibility with regard to major resource development projects, but judgements in the Federal Court of Canada in 1991 gave it no choice but to apply its own regulations.

These called on the federal government to review resource development projects on the basis of the Environmental Assessment Review Process (EARP) Guidelines Order of 1973.³ EARP provided for a halt to ongoing construction during an environmental review, but no means to enforce compliance with that review's findings. In 1992, the *Canadian Environmental Assessment Act* (CEAA) superseded EARP. Now federal intervention in resource development projects is less ad hoc, but the federal government is still constrained to the afore-

mentioned jurisdictional bases. Thus, the result remains: for similar resource development projects in different provinces, an environmental review may be required for different reasons, or not at all, depending on the federal government's constitutional or financial role in the project. For the provinces, environmental review creates uncertainty and delay that can reduce economic efficiency, and is often opposed when provincial governments consider provincial review to be adequate. The resulting conflict can be illustrated by briefly considering the Rafferty-Alameda project in Saskatchewan and the Kemano Completion Project (KCP) in British Columbia.

The Rafferty-Alameda affects the Souris River that, upon leaving Saskatchewan, flows through North Dakota and then back north into Manitoba. Its normal stream flow is small, though it has caused flooding in Minot, North Dakota. The State of North Dakota had tried to control stream flow in that state for flood-control purposes, but was prevented by local environmentalists. Subsequently, it offered to contribute \$40 million to the Rafferty-Alameda project. Saskatchewan required a reservoir for cooling a thermal power plant, and also for irrigation of a small area. The dams were to be built in the ridings of the then premier and deputy premier of Saskatchewan. The original Ottawa permits to begin construction (as required by the *International Rivers Improvement Act*) were obtained by the Saskatchewan government in exchange for a commitment to translate the province's statutes into French (see May, 1990). When construction of the Rafferty Dam was well underway, a suit by the Canadian Wildlife Federation caused the Federal Court to order a halt to construction until an environmental review could be conducted. The federal government offered to pay the province \$1 million per month in compensation for the delay, to a maximum of \$10 million. Saskatchewan not only accepted compensation, but continued work on the Rafferty Dam until completion. It

then started work on downstream channelization and on the Alameda Dam (Stolte and Sadar, 1993; May, 1990). The subsequent federal environmental assessment review came to the same conclusion as the earlier provincial review; it found no negative environmental impacts (Stolte and Sadar, 1993:12).

In BC, Alcan had already by 1991 spent about \$500 million on the Kemano Completion Project in the west-central part of the province. The project would divert water from the Nechako River to generate power for a new pulp mill and for eventual expansion of the aluminum production facility in Kitimat. Despite a September 1987 'Settlement Agreement' between Alcan, the province and the federal government that permitted the project to proceed, in May 1991 the Federal Court ordered a halt to the project for the purposes of an environmental review. In May 1992, the Federal Court of Appeal unanimously overturned the lower court decision, ruling that the project was beyond the scope of EARP, a decision that was upheld by the Supreme Court in late 1993 when it refused the Carrier-Sekani Tribal Council and Rivers Defense Coalition leave to appeal (Rich, 1994). In early 1993, the province decided to conduct its own public review, under mandate of the BC Utilities Commission. The Commission's report is not available at the time of writing. However, as a result of the delay and subsequent negative publicity, unrelated to any actual finding of adverse environmental consequences, Alcan seems likely to cancel the project unless the provincially-owned BC Hydro Corporation is willing to pay more for the power to be generated than originally agreed to. Funds already expended by Alcan, workers' relocation costs, investments made by the pulp mill, and other such expenditures all constitute a welfare loss to society, a loss that could have been avoided by a more definitive environmental regime.⁴

The Supreme Court had entered the environmental fray in 1988 confirming federal emergency powers (the Peace, Order

and Good Government or POGG power) to be applicable (MacDonald, 1992). Although this intervention came in a case involving marine pollution by a forest company in provincial waters, there is now no reason why such POGG powers cannot be used by Ottawa in the future in other cases dealing with the environment, perhaps to enforce CEEA recommendations. This introduces even more uncertainty and an interesting question: would the federal government bring a POGG suit against Quebec's further James Bay development if such intervention was considered a violation of Quebec's 'national rights'?⁵

Current Canadian institutions have resulted in a high degree of uncertainty about environmental provisions in resource development and, in some cases, cynical disregard for these institutions. In some cases, appeal to a higher level of government resulted in inefficiency since there were no adverse spill overs into other jurisdictions. As noted above, this was the case for the KCP and Rafferty-Alameda projects, even though the latter affected the flow of the Souris River into North Dakota. Rather, it appears federal environmental review provides one group in society with additional means to pursue (but not always successfully) redistribution of welfare in its direction (via protection of an environmental resource). This results in a potentially perverse redistribution of welfare since those claiming environmental benefits are generally wealthier than those looking forward to benefits from resource developments that are postponed or halted (Castle, 1993:288).

From a constitutional perspective, federal environmental review should result in improved economic efficiency by reducing adverse spill overs, but it is not clear that the current allocation of functions, as judged by the policies that are derived therefrom, meets this criterion. Rather, it appears that provincial reviews are all that is needed to ensure that environmental objectives are achieved. The evidence favours the assignment of powers over environ-

ment to the provinces.

Agriculture and Land Degradation

Agriculture is important to the economies of the three prairie provinces, particularly Saskatchewan, and the federal government has established a strong presence in this sector through its spending powers. Arguments in favour of concurrency or shared jurisdiction in environment and sustainable development have cited agriculture as a model (see MacDonald, 1992; Scott, 1991). There has been increasing concern, however, about land degradation and the sustainability of agricultural production (Science Council of Canada, 1986). In addition to soil erosion, which is a problem in all regions, degradation of agricultural lands on the prairies has occurred through increased salinization of soils, depletion of organic matter and expansion onto marginal lands. Cultivation of marginal lands is important because it results in removal of wildlife habitat, decreased biodiversity and loss of scenic amenities.

Government agricultural subsidies are designed to keep farmers on the land and, at the same time, enable them to keep pace with the standard of living enjoyed by the rest of society – the so-called 'farm problem' (Batie and Sappington, 1986). But subsidies are at least partly to blame for land degradation. They have encouraged monoculture by reducing the risk of single-enterprise farms, thereby reducing the number of farms with cattle while increasing the susceptibility of the rural economy to exogenous shocks. Subsidies, transportation policies and marketing programs, such as the Canadian Wheat Board marketing system, have also encouraged the cultivation of unimproved or marginal land (viz., loss of wetlands and wildlife habitat) because they have resulted in reduced cattle numbers, higher farm-gate prices and input subsidies (Buttel and Gertler, 1982).

In particular, agricultural support policies for western Canada have generally ignored their impact upon the environment. Canada has no cross-compliance provisions

in its farm programs (as exist in the US), which would require farmers to meet certain environmental standards to be eligible for federal subsidies. These provisions prevent ploughing of unimproved lands ('sodbuster') and draining or in-filling of sloughs ('swampbuster'), and require certain management practices (e.g., strip cropping, leaving pre-set amounts of crop residue on land at different times of year) that reduce soil erosion. Rather, Canadian soil conservation and wildlife habitat programs have relied on subsidies and education to achieve their objectives (Stonehouse and Bohl, 1990). While the federal government is considering a cross-compliance requirement as part of its farm programs (Leblond, 1990), support for it appears weak. Some reasons for this are briefly discussed in the next paragraph.

Land degradation is perceived by physical scientists in Canada to be an on-farm problem – farmers are the ones who are hurt via lower yields and they are the only ones who can prevent such damages. Consequently, they argue that policy should be directed towards providing financial or technical assistance to farmers to encourage adoption of reduced tillage systems, more soil conserving crop rotations and the planting of shelterbelts. What is not recognized is that agricultural subsidies and stabilization policies contribute to soil degradation; therefore, financial and technical assistance for on-farm soil conservation is often inadequate and ephemeral, and counter-productive in the long term (Kirby and Blyth, 1987). Further, the education argument is paternalistic and implies that farmers are unable to take into account the effects of land degradation on future yields. Perhaps their losses from land degradation should not be the major concern, but only their spill overs. Spill overs from wind erosion are estimated to be between \$200 and \$350 per person per year in affected areas (Huszar and Piper, 1986), such as southern Alberta and Saskatchewan. It is such externality effects of land degradation and not the on-farm effects

that have led to cross-compliance provisions in US farm legislation.

Farmers generally oppose cross compliance because it increases on-farm production costs (not only reduced yields and profits, but also the burden of filling out forms and increased planning costs). On the other hand, the urban population in Canada has not been as vocal as citizens south of the border in pointing out the external costs of land degradation, perhaps because population densities in US agricultural regions are higher. There also remain doubts as to whether or not cross compliance can work in Canada because the necessary institutions and personnel to administer, monitor and enforce compliance are absent. Finally, the public's power to intervene in use of private land resides with the provinces, not the federal government.

Why has there been no federal environmental assessment review of agricultural programs? The government provides subsidies to farmers, and thus federal intervention regarding the environment can be justified on the basis of the tax and spending powers, transboundary trade, or migratory species (the prairie pothole region is a major 'duck factory' for North America). Perhaps it is because farmers have opposed environmental compliance provisions, while the federal government is not keen on implementing any form of compliance for a number of reasons that include lack of infrastructure (e.g., qualified personnel to administer and monitor programs), the sanctity of the farm community, and misperceptions about the problem (e.g., that farmers simply need to be educated to solve the problem).

Given the spill overs that agriculture causes, it is surprising that environmental groups have not lobbied to enforce environmental guidelines with respect to agriculture.⁶ These groups may not fully understand the problem of land degradation, although that would be surprising given the prominence of this issue in the US. Rather, it may be that environmental groups recognize the need for agricultural subsidies,

preferring that land degradation problems be dealt with through education and additional subsidies aimed specifically at alleviating the problem. That such policies are unable to prevent environmental degradation is less well-known.

This brings us to our constitutional question: are constitutional changes likely to induce continued government transfers to agriculture? It is difficult to imagine major constitutional changes, such as western sovereignty, that would provide an equivalent level of support to farmers, particularly western grain producers. The reason is that government agricultural programs are expensive. With federal government debt an increasing concern, it is difficult to imagine continued income transfers from taxpayers to farmers who are, on average, better off (see van Kooten and Taylor, 1989; Browning, 1987; Browning and Johnson, 1984; Mathias, 1971:6).⁷ The problem is that the instrument (agricultural subsidies) is inefficient and harms the environment.

Examining agricultural policies as they apply to western Canada indicates that they have failed on two counts. They have reduced economic efficiency, although it is not clear that the spill overs affect areas outside the grain belt, and they have redistributed incomes towards those who, on average, are wealthier than taxpayers (although their actual income might be lower in a given year). The allocation of functions under the current constitution is not desirable if agricultural policies are to be used as the basis for making a judgement.

Discussion

Our discussion raises a more general issue: why are federal environmental standards and federal review required to begin with? Are federal environmental standards likely to be tougher than average provincial standards? Casual observation of the US, for example, indicates that federal environmental standards are *below* those set by some states' legislatures (e.g., automo-

bile emission standards in California are much higher than those set by the federal government). Likewise, Alberta has enacted the most stringent pulp mill emission standards in the world (Roberts, 1992), standards that would not likely be enacted at a national level, and BC's recent *Environmental Assessment Act* aims to provide stricter environmental guidelines than those of the CEAA. Such non-uniformity is in accordance with economic teaching: if we are interested in economic efficiency, investment in environmental quality should not be the same in all regions. The amount depends upon the (marginal) costs of achieving the standard, the marginal damages caused by the polluting activities, and local preferences with respect to damages. Thus, a uniform automobile emissions standard suitable for Vancouver's environment and preferences would result in excessive costs to automobile purchasers in Humboldt, Saskatchewan; the marginal costs of reduced automobile emissions in Humboldt would exceed both their local and global marginal benefits. The same is true not only of air pollution, but of other environmental goods as well.

Are environmental standards likely to be more effective in reducing externalities or spill overs if they are established by a government in Ottawa than by a provincial one? It is sometimes argued that there is less concern over environment at the provincial level than the federal level (e.g., MacDonald, 1992:26), perhaps because resource development leads to jobs and provincial governments are expected to be more interested in jobs and votes than in the environment. From an economic efficiency standpoint, this explanation is logical only if preventing the development delivers environmental benefits to people living outside the particular province. If environmental benefits and costs all occur inside the province, if signalling costs are lower at the local or regional level, and if the federal level has no special sensitivity to political action by environmentalists, then those concerned about the environ-

ment should be able to affect decisions on a project better through a provincial process than a federal one. They form a larger constituency at the provincial than at the federal level. If it is true that the federal process is more susceptible to environmental activism and rent seeking, this in itself can be a source of economic *inefficiency* that leads to a lower level of welfare for all. Indeed, evidence from Rafferty-Alameda and Kemano Completion indicates that a provincial environmental review is adequate; in one case, the local review reached the same conclusion as the *later* federal one, while, in the other, the provincial review turned out to be more demanding.⁸

In addition to the projects and policies described in the preceding section, various authors have examined resource development projects or programs initiated by government primarily to relieve disparities among Canada's regions or to spur development (Mathias, 1971; Pratt, 1976; Brimelow, 1986). The evidence indicates that, in most cases, these projects are inefficient in their objective of reducing income disparities and bringing about long-term economic development, and they often had an adverse impact on the environment. In many instances, the projects would not have proceeded without federal government funding. Agriculture provides an example of government subsidies designed to bring about income redistribution that had an adverse effect on the environment. What this highlights is the failure of the existing division of powers over environment and resource development spending. It is our contention that the environment would have been better protected if the assignment of functions limited the federal government to income transfers that are decoupled from their unintended, resource-distorting effects and targeted at those in need.

Recent Government of Canada (1991) proposals to change the Constitution appeared to offer greater control over certain aspects of resource development to the provinces, perhaps including environmental impacts, in an effort to streamline federal

government services. The proposed areas for increased provincial responsibility included wildlife conservation and protection, and soil and water conservation, while forestry, mining and recreation were to be given exclusive provincial responsibility; it was not clear whether the reassignment of some of these functions would also exempt relevant projects from environmental review under the *CEAA*. The federal government did not propose to transfer exclusive responsibility to provinces for agriculture, however, likely because no province would be willing to forego federal aid to agriculture. With regard to declaratory power and POGG provisions 'the Government of Canada is prepared to transfer to the provinces authority for non-national matters not specifically assigned to the federal government under the Constitution [of 1867] or by virtue of [Supreme] court decisions' (Government of Canada, 1991:45). Perhaps this is in recognition of the fact that spill overs may not be that great and, therefore, that the provincial government may be at least as capable of achieving an optimal solution to environmental conflict as the federal government.

Conclusions

The Musgrave (1959), Oates (1972) and Breton-Scott (1978) approaches to constitution-making use economic efficiency arguments to suggest how powers or functions might be allocated among different levels of government. While Musgrave and Oates have argued in favour of regional assignment of many powers, once transactions costs are included it is no longer clear which assignment is preferred. The theoretical approach is silent. The alternative used in this paper relied on existing policies as a guide for saying something about the allocation of powers or functions between Ottawa and the provinces. This policy approach provides support for greater devolution of some powers to the regions.

The thing that needs to be avoided, however, is entrenching resource policies

and federal environmental standards within the constitution. Doing so would prevent adjusting policies and standards in response to changes in the marginal costs and benefits of mitigating environmental spill overs, for example, thereby resulting in economic inefficiency.

If environmental standards and resource policies are not to be put into the constitution, and there is little to favour greater centralization of environmental standards, what then is the appropriate role of the federal government in the environmental arena? It is probably true that too many functions fall under the rubric of 'environment'. The conclusion that we come to is that the federal government should be responsible for international negotiations on such things as acid rain, global warming, and biodiversity, but that such negotiations should be in consultation with and on behalf of individual provinces, since implementation of international agreements will necessarily occur at the local level. The federal government should also be involved in monitoring of environmental standards and research if there are economies of scale to such activities that cannot be captured at the provincial or regional level, or where information (as in the case of research) is not available from elsewhere. The federal government should not be involved in resource development projects or programs whose primary objective is to transfer income to a particular region or group. Where income transfers are necessary, they need to be decoupled from their distorting effects on resource use and the environment.

Would alternative constitutional arrangements increase economic efficiency related to resources and environment? If constitutional negotiations lead to greater decentralization and resource development externalities exist, the answer *may* be no. This would depend on the ability of separate regions to negotiate with each other over environmental spill overs. In many situations, no spill overs now occur, or they are small. In this case, our analysis indi-

cates that greater decentralization is preferred. Greater decentralization of environmental powers, along with the elimination of project-targeted federal income transfers, will do more good for the environment than harm. It also has one final benefit, namely, the reduction of constitutional tensions between the federal government and Quebec, as Quebec is unlikely to tolerate federal environmental reviews of resource development projects paid for by Hydro Quebec. Our recommendations would leave Quebec (or any other province) free to develop its own resources, but it would also be responsible for dealing with environmentalists within that province and outside.

Notes

- * Earlier versions of the ideas presented in this paper were presented at the meeting of Western Economists on the Constitution, University of Alberta, Edmonton, May 24/25, 1991. Comments by John Chant and an anonymous reviewer are greatly appreciated, but remaining errors are the sole responsibility of the authors.
- 1 For example, the Alberta government already controlled oil production through its Energy Resources Conservation Board.
- 2 The *Canadian Environmental Assessment Act* (subsection 5(1)) states that environmental assessment of a project is required when the federal government is the proponent of the project, makes federal funds or lands available for a project, or takes any action (e.g., issues a permit) that allows a project to proceed.
- 3 The EARP Guidelines Order (P.C. 1984-2132) was not registered until June 22, 1984 (*Canada Gazette*, Part II, July 11, 1984). The Order was given the force of law by the Federal Court of Canada, which was created in 1971 to adjudicate disputes involving federal law. EARP was criticized because it had no statutory basis and, initially, was 'little more than the voice of the federal government's ecological conscience' (MacDonald Commission, 1985:513). The Supreme Court confirmed the above judgement by the Federal Court in early 1992 in the Oldman River decision (MacDonald, 1992:45). See also Stolte and Sadar (1993).
- 4 The KCP is important in BC Hydro's future plans. Already in 1993 BC Hydro was forced to import electricity for the first time in its 32-year history, at a cost of \$88 million.
- 5 The federal government argued in Federal Court

that the environmental review conducted by the province of Quebec in the case of the Great Whale River project (part of the larger James Bay hydro development) is adequate, but the Court ruled otherwise. Quebec complied because of a softening US power market, reinforced by environmental groups that lobbied the city of New York not to purchase power generated by the project.

- 6 Indeed, many externalities related particularly to livestock production (Fox, 1986) are specifically exempted from the CEAA and left to provincial jurisdiction.
- 7 Existing agricultural programs are universal and do not distinguish between poor and rich farmers; it is often the wealthier farmers who benefit most from programs because they have more land and a higher level of production. Furtan (1993) notes that new federal cost-sharing formulae put a greater burden of program costs on provinces, so that poor provinces such as Saskatchewan have already been forced to reduce farm subsidies. As more costs are borne locally, there will be a greater demand for environmental compliance.
- 8 The CEAA seeks to co-ordinate provincial and federal reviews, but it still begs the question as to why a federal review would be required over and above a provincial one.

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