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Natural Resource Shocks and the Federal System: Boon and Curse?

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Foreword

In September of 2006, Queen's Institute of Intergovernmental Relations hosted *Fiscal Federalism and the Future of Canada,* a conference organized by the then IIGR Director Sean Conway, Peter Leslie and Christian Leuprecht. Given that several of the conference presentations dealt with the future of equalization and given that the 2007 federal budget will outline the Harper government's preferred future for equalization, the Institute felt it appropriate to publish these contributions in working paper format prior to the federal budget.

Appropriately this working paper series begins with brief summaries of the two commissioned reports on equalization and territorial formula financing – one by the Council of the Federation's Advisory Panel on Fiscal Imbalance and the other by the federal Expert Panel on Equalization and Territorial Formula Financing. These will be followed by analyses by other conference participants whose contributions will relate to these two proposals as well as to the larger fiscal federalism issues now in play. The views expressed in these working papers are those of the authors, not those of the Institute of Intergovernmental Relations.

As the only organization in Canada whose mandate is solely to promote research and communication on the challenges facing the federal system, we are pleased to introduce these working papers into the public debate on equalization and fiscal imbalance

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INTRODUCTION

The most stunning development affecting Canadian fiscal federalism in recent years has been the unprecedented oil and gas boom in Alberta and to a lesser extent its neighboring provinces. This has led to an ongoing shift of economic activity and of people to Alberta, and a level of horizontal imbalance between Alberta and the rest of Canada that is beyond the capability of the equalization system to address. Moreover, there is the prospect for a great deal of possibly painful restructuring of industry elsewhere, including the manufacturing sector in central Canada. The purpose of this paper is to speculate on the implications of a major regional oil and gas boom—or any resource boom for that matter—for fiscal federalism and the operation of the decentralized Canadian federation.

It is useful to distinguish policy challenges posed by the resource boom per se from those related to federalism. Even in a unitary nation, policy challenges exist that are not well understood. Earlier discussions of natural resources and fiscal federalism have focused on the consequences of natural resources for the revenue-raising abilities of the various provinces, and especially the implied differences in ability to provide comparable levels of public services at comparable levels of taxation in violation of Section 36(2) of the Canadian constitution. These are the passive consequences of resource revenues. I want to shift the focus to emphasize the potential that resource revenues give for provinces to engage single-mindedly in proactive province-building policies, possibly to the detriment of the development of the nation as a whole. This potential implies that the boon of a positive shock in resource wealth can be a curse at the same time.

Why would one suppose that a major oil and gas boom could be a curse? I will argue that our federal system is not well suited to deal with such a boom when it is concentrated largely in one province. More fundamentally, economic policy analysis gives us relatively little guidance on policies to deal with the consequences of such a boom, whether in a federal context or not. As we know from the Norwegian example, the resource curse can partly be avoided by good management of resource revenues. This may be more difficult in a decentralized federation because of the irresistibility of province-building.

Canada has always been a resource-rich economy, and this has greatly influenced its pattern of development. All provinces have relied to an extent on resources as the driver of their development. However, the recent oil and gas boom, and particularly its concentration largely in Alberta, is of unprecedented magnitude. This has implications for fiscal federalism, but more generally it has fiscal and economic implications independent of those related to federalism. Even in a unitary nation, there would be policy challenges, many of which are not well understood by economists and policy experts. For that reason, much of the discussion to follow will be speculative and based on reasoning that has not been empirically verified. We shall work from first principles to explore some of the consequences of a regionally based resource boom and what it implies for public policy.

CONTEXT

It is useful to begin with some context. There are some key features of natural resources that should inform our thinking. Natural resources are diverse by type, and endowments of them are unevenly found across Canada. The resources can be renewable or non-renewable, and in either case, their value can be volatile and unpredictable over time. The development of natural resources is therefore risky, and it is also highly capital-intensive.

Natural resources are owned by the provinces.[1] That entails that the rents generated by exploiting natural resource endowments, after accounting for all costs of exploration and development, can be appropriated by the provincial public sectors through various mechanisms like the sale of rights and the collection of royalties and taxes. However, resource development requires infrastructure that is dedicated to the purpose, especially since resource endowments are often found in under-populated and sometimes remote areas. The infrastructure investments will typically be provided by the provinces, albeit using funds that ultimately come from the resource rents subsequently generated.

Resource products are traded, and there may be a high degree of foreign ownership of resource firms. There will be downstream economic activity related to resource development, such as refinement and other processing, as well as transportation or transmission. There will be longer-term environmental and social consequences of developing natural resources, especially given that resource development competes with other sectors, in other regions, for labour and maybe capital.

The unique nature of natural resources gives rise to particular policy issues, which after all these years are not well understood. Economic historians have studied them, and the new economic geography does as well.[2] But, unlike other areas of economic analysis, there is no accepted toolkit of economic policy principles to address the consequences of resource development.

Our interest is in the implications of a major resource boom for the operation of our federal fiscal system. However, it is useful to begin by setting aside federalism issues and considering the consequences of natural resource booms for economic policy in a unitary, but geographically diverse, nation. This is useful for highlighting the special problems that can be attributable to federalism as opposed to the resource boom per se.

NATURAL RESOURCE POLICY IN A UNITARY NATION

Consider the consequences for a unitary nation and its policies of a particular region—Region A — recently endowed with a relatively large and valuable stock of oil and gas. The issues we discuss are particular to large discoveries in a given region: limited natural resource differences

across regions do not give rise to similar problems. We begin by outlining the consequences for the private economy of such a resource boom. This is followed by a discussion of the public policy responses in the unitary nation, and an outline of some of the key policy issues that arise in responding to a large resource boom.

Private Sector Outcomes

First principles of economics inform us of the likely response of the private sector to a major increase in the value of oil and gas in Region A. The immediate consequence is that large amounts of labour and especially capital are attracted to the resource sector. The labour will be attracted from other industries and other regions, and to some extent other countries as well. This labour required in the resource industry will span various skill levels from engineering to equipment operators. Some training will typically be required, though many of the skills are of a general type and readily transportable from other uses. The increase in the demand for labour will put upward pressure on wage rates, particularly for those skill-types that are relatively important for resources. In the case of capital, it is useful to distinguish between physical capital and financial capital. Assuming that the manufacturing base is limited in Region A, physical capital may be attracted from other regions or it may be imported. In this sense, some of the economic activity induced by the resource boom is spread to other regions. But the need to import capital goods has an important effect in reducing the adjustments that must be made in the rest of the country. In the case of financial capital, the fact that Canada's capital markets are integrated with the rest of the world means that much of the required financial capital is primarily attracted from international capital markets. Nonetheless, there is likely some national segmentation of capital markets, so some of the additional financial capital needed will be diverted from uses in other regions.

The resource boom will naturally have different consequences for different regions. In Region A, the population rises as a result of both interregional migration and immigration from abroad. The age structure of the population declines and its skill structure rises as a result of the inflow of working-age persons. Wage rates rise, possibly dramatically, due to labour shortages. Indeed, the increase in wage rates is the means by which persons are attracted to Region A. This is accompanied by an increase in property values as the adjustment of the housing stock to accommodate the increased population takes time. The boom in the oil and gas industry spills over to other industries in Region A that are required to service the growing population. Indeed, the larger population may itself induce further growth because of agglomeration economies that exist when population is more concentrated and labour markets deeper. To the extent that this occurs naturally, even more resources need to be shifted to Region A.

The rise in economic activity in Region A is accompanied by a reduction elsewhere, although the reduction will not be one-to-one. As mentioned, some of the physical capital needed in the oil and gas industry might be imported from abroad and much of it may be externally financed. As well, some of the additional labour requirements in Region A will be met by immigration. The fact that the oil and gas industry itself is capital-intensive reduces the need to attract labour from other regions. However, the growth in the non-resource industries in Region A, especially the labour-intensive non-traded service and construction sectors, will increase the demand for labour in Region A. This will increase the pressure on wage rates, which will hurt important sectors elsewhere in the country, including the important manufacturing and high-technology sectors where much of the productivity growth occurs.

In the nation as a whole, the fact that much of the output of oil and gas is sold abroad, and that foreign investment flows in to finance the industry's expansion, means that the real exchange rate rises. This is dampened, however, by the induced imports of intermediate goods and capital equipment and, potentially more important, to the extent that domestic savings increases. The latter is very much affected by how the revenues generated by oil and gas sales are used. If they are saved, particularly in foreign assets, exchange rate effects will be considerably mitigated. However, if they are spent, additional pressure may be put on industries elsewhere in the country depending where the revenues are spent. What is done with the oil and gas revenues is a matter for policy to

decide, as discussed below. In any case, there is likely to be some shift in industrial structure from non-resource to resource industries, including from industries with innovation potential. This is the so-called Dutch disease, also referred to as the resource curse.[3] The extent to which it occurs depends on how much the real exchange rate (and the wage rate) rises, and that again is partly a matter of policy.

Finally, regional disparities are affected by the oil and gas boom. Per capita incomes will increase in Region A relative to elsewhere, although some of the benefits of the boom will spread elsewhere by changes in activity levels as well as due to the fact that capital ownership is spread across the country. Unemployment will be induced in other regions as the industrial structure increases, although this will be mitigated by migration. Other regions will lose working-age population to Region A and will be left with a higher age structure. All these things will have policy consequences, to which we now turn.

Public Sector Consequences and Policies in the Unitary Nation

The private sector adjustments mentioned above are necessarily accompanied by public policies. It is these public policy responses that differ according to whether the nation is federal or unitary. Here, we focus on the hypothetical question of what the policy responses might be if the country were governed as a unitary nation. This pedagogical device serves to focus the mind on the particular problems that an oil and gas boom has for a federation.

The unitary national government will run a national system of revenue-raising that imposes a common tax structure on all households and firms regardless of where they reside. This implies that the national government obtains the public share of rents from natural resources using some combination of sales of rights, resource taxes and royalties. These resource revenues could be put directly into the national consolidated general revenues, or they could be set aside and saved in a heritage-type fund. As mentioned, their disposal has consequences for manufacturing and other industries. To the extent that they are saved, the consequences of the resource boom for these other industries will be dampened. Moreover, the domestic economy will be sheltered even more if the savings are held in foreign assets so that they are not used to fuel domestic investment, at least presuming the domestic capital market is to some extent independent of world capital markets despite the fact that they are integrated.

Other aspects of the national fiscal system will kick in as well. The corporate income tax system applies to resources as well as to other industries affected, and will receive additional revenues as the profits of these industries rise. Some of these additional tax revenues will be reimbursed to domestic shareholders through the dividend tax credit system, but that will not be the case for profits accruing on behalf of foreigner shareholder or tax-sheltered shareholders like pension funds. Additional revenues will also be indirectly obtained from income and sales tax revenues resulting from increased wage earnings and induced consumer spending.

The redistributive consequences of the oil and gas boom will also be addressed by the national fiscal system. The national progressive personal income tax system will address changes in distribution of personal income, including those reflecting regional differences. The various elements of the social safety net, such as employment insurance and welfare, will provide temporary social protection for those displaced from employment in other regions of the national economy. The national government will also respond to changes in regional populations and their demographic characteristics by gradually adjusting public service levels in all regions. To the extent that comparable levels of public services are provided to the relevant target groups in all regions, there is implicit social insurance and implicit equalization provided nationwide via the public sector.

Finally, the national government assumes responsibility for providing infrastructure investments in Region A to facilitate resource development and ancillary activities. This involves transportation and communications investments, as well as local infrastructure like utilities and water. Investment will also be required in health and education facilities, and even in investment in human capital in skills and professions in high demand. Of course, not all the latter need be

undertaken in Region A. It may be more effective to train, say, engineers in existing universities elsewhere in the county.

Problems for Policy-Making in the Unitary Nation

The public sector cannot help but respond to an oil and gas boom. Property rights to natural resources rest with the public sector, so the government cannot avoid being involved in development decisions. But the development of natural resources leads to some difficult policy choices by the national government even in this unitary nation. Some of these involve judgments of economic efficiency and growth, while others involved equity considerations in light of the fact that the resource boom creates both gainers and losers. The discussion here outlines some of the policy issues that need to be addressed. Many of them involve factors that have received relatively little attention in the academic literature.

The overarching policy decision in responding to a boom in oil and gas resource values: is how fast to develop natural resources. This is a difficult decision since it is affected by a number of factors, some of which are not known with certainty. One concerns expectations about future oil and gas process, which despite standard predictions about an upward trend are notoriously volatile and respond to event such as weather and political upheaval. Even knowing future prices is not sufficient since the rate of success of exploration investment is itself uncertain. The decision about how rapidly to develop natural resources must also deal with legitimate concerns about the costs of industrial and regional adjustment, especially given the fact that other industries include those with potential for technological progress and innovation. There is also the need to cost the environmental consequences of resource development, such as the degradation of the landscape, the depletion of water supplies, and the effect of woodlands and wildlife. Unlike industrial adjustment, these can be, to some extent cumulative rather than transitory. Related to this are the social consequences of resource development, including the impact on aboriginal and other vulnerable communities. Finally, one of the most difficult evaluative issues is dealing with the trade-off between present and future generations, given that for non-renewable resources, development entails the running down of national wealth. The implication of this catalogue of effects of resource development is that the decision about how rapidly to proceed involves more than economic cost-benefit analysis.

Given the rate at which resource development is to proceed, the next issue is the mundane one of how much of natural resource revenues should accrue to the public sector, and what instruments should be designed to capture them. The design of instruments to collect the rent from natural resources has been widely studied and there is some consensus among economists.[4] Rents can be collected ex ante through the sale of exploration rights and crown leases, or they can be collected ex post through appropriately designed rent taxes. The proper mix of these two things is not clear, and governments typically use a mixture. In principle, the sale of leases should collect all expected rents, which might be reasonable given that the property rights to the resources belong to the public. But, the sale of leases typically does not extract all expected rents, presumably in good part because of the anticipation that there will be ex post rent taxes to pay. In principle, the design of policies to collect rents for the public sector should be straightforward, but it is typically not executed well in practice. For example, ex ante lease sales may not be competitive enough to extract all future expected rents. On the other hand, ex post rent-collection devices like royalties are highly imperfect because they are not levied on a base consisting of resource rents.

Once resource revenues are collected, what should be done with them? How much of them should be saved in a heritage fund, and how much spent, including on infrastructure and other region-building-type expenditures? There are many advantages to adopting the Norwegian model, if only the government could commit to doing so.[5] The Norwegian model involves saving all rents in a heritage fund, investing the funds in foreign assets, and living off the capital income of the fund so as to keep it intact. Such a highly disciplined use of resource rents is unique to Norway, and even there it is under some pressure. The system has a number of advantages; it facilitates intergenerational wealth sharing; it avoids the creation of excessive current demand

on the domestic economy; it shields the domestic economy against major changes in the industrial structure – the resource curse or Dutch disease – it reduces exchange rate appreciation that might be detrimental to the domestic economy, and it shelters the government from volatility that characterizes resource revenues. But implementing the Norwegian system entails a level of commitment that few governments show evidence of satisfying.

In addition to designing a system for collecting resource rents, it is important to have in place a corporate/business tax system that is as non-distortionary as possible so that investment is allocated efficiently among different uses. To use economics jargon, the tax system should ensure that marginal effective tax rates are reasonably uniform across industries and regions, and that otherwise serves the clear purpose of the corporation tax as a withholding system to avoid sheltering of corporate income within the corporation to postpone taxes as well as to withhold against non-resident shareholders. It is clear that the current business tax system in Canada does not satisfy these ideals. As the Mintz Report (1998) documented, it favours the resource sector by its system of generous write-offs, and until recently by the availability of the income trust vehicle that was heaving used to reduce corporate tax liabilities in the resource sector. Moreover, it is hard to justify allowing provincial royalties to be deductible from the federal income tax base.

The design of a national tax/transfer/social insurance system is also relevant as a means of addressing the consequences of resource development for individual workers and their households in all regions. This includes the progressivity of income tax and social protection system of employment insurance and welfare. Designing these systems must take due account of the trade-off between social insurance and the incentive that potential workers might have to seek employment, including in other regions. This is the classical equity-efficiency trade-off that involves important value judgments as well as judgments about the role of the state in providing social insurance as opposed to other institutions, such as family, friends and community, and charitable organizations.

The social protection system involves more than transfers and social insurance. It also involves the choosing of public service levels in areas like health, education and social services, to provide in Region A versus other regions, given rapid changes in population, as well as the dispersion of population in rural and remote areas. How rapidly should hospitals, schools, colleges and universities be built in Region A to facilitate population adjustment? At the heart of this decision is a judgment about social citizenship. Presumably social citizenship is defined to be nationwide in a unitary nation, so that as an ideal, comparable levels of public services should be available to citizens in all regions. However, even in unitary nations, service levels will differ across regions, since the costs of providing comparable levels of services differ considerably. Urban dwellers receive higher levels of many public services than do rural dwellers, reflecting differences in the cost of provision. At the same time, persons in comparable settings in different regions might be entitled to comparable treatment. Translating that into a specific program of responses to rapid changes in population resulting from an oil and gas boom in Region A is a matter of judgment, and is not independent of the desired rate of development of the natural resources themselves. In any case, the redistributive nature of the tax-transfer system and the system of social insurance, combined with the fact that public services would be funded from national general revenues, implies that their would be a large amount of implicit inter-regional redistribution resulting from policy responses to an oil and gas boom in Region A.

A further difficult decision that cannot be avoided by the unitary government is the extent of infrastructure investment to provide to service resource activities and remote populations. This affects the extent to which labour can be attracted to Region A, and reflects a conscious decision about the speed and extent of resource development. How much of this infrastructure development should be financed by resource revenues themselves is also an important policy question.

The most difficult decision involves not how many resources of various kinds to devote to resource development, but how much infrastructure and other investments ought to be undertaken to attract other activities that might

diversify Region A's industrial structure. This includes whether pro-active policies should be undertaken to encourage upstream activities, such as refining and processing of the resources. More ambitiously, should public investments be made to diversify horizontally into related industries, or more ambitiously to create such things as industrial parks and universities, whose presence might give a jump start to all sorts of industrial activity, including those of lasting value like manufacturing and high-tech industries. Economics offers little guidance as to the ideal allocation of industrial activity across regions, and especially the extent to which resource-rich regions should be diversified industrially. Are there agglomeration effects that should be exploited? Should region A be diversified just because it already has a lot of resource activity and presumably a critical mass of workers for a potentially thick labour market? Is Region A a good place to foster diversification, a good growth node? Those who advocate a cities agenda recognize that agglomeration of labour can generate endogenous growth. Where should these agglomerates be located? It is not at all clear that the location of valuable deposits of natural resource wealth should itself dictate the location of nodes for the development and growth of diversified economic activity. On the contrary, natural resources are often located in remote areas that have no otherwise natural advantages for economic development.

These are all difficult policy issues that even a unitary national government must confront. Neither economics, nor other relevant disciplines, give unambiguous guidelines for policy, especially with respect to efficient agglomeration. The point is that there are policy imperatives that arise from resource booms quite apart from those that are special to federations. Moreover, there is no presumption that a national government will have any monopoly on good policy judgment, even if it is benevolent.

ADDITIONAL PROBLEMS ARISING IN A FEDERATION

The above discussion stresses that, even in a unitary nation, there are many difficult policy issues that must be addressed when one region receives a large shock to its resource wealth. Both efficiency and equity issues are involved in deciding the pace of development of the resource, how much infrastructure spending should accompany the resource boom and how speedy the response should be, how much interregional and international migration to the regions should be encouraged, and how the fiscal system of taxes, transfers social insurance and public services should be adjusted in response to the various dislocations that will occur in all regions. Resolving these policy issues involves making some judgments about the expected future path of resource prices, about how much diversification of activity should be encouraged in the resource-rich region, about what weight should be given to the social and environmental costs of resource development, and, most difficult, deciding how the fruits of the resource boom should be shared among residents of all regions and between present and future generations.

All these problems also apply in a federation when one province benefits from a major resource boom. As well, there are a number of others. This section will recount the issues that arise when the nation is a decentralized federation where provinces have significant amounts of policy and fiscal discretion. It is useful for pedagogical purposes to distinguish between the case where natural resources are owned by the federal government and that where they are owned by the provinces.

The Case Where Resources are Owned Federally

It is, of course, a well-recognized fact that, unlike in many federations, provinces in Canada own the natural resources within their borders. While provincial ownership leads to various pressures within the federation because of the financial disparities to which it gives rise, it is not the sole source of problems that arise when a province-specific resource boom occurs, although it certainly exacerbates it. There are a number of issues that arise in a federal context even apart from the issues arising from provincial resource revenues. Suppose, as in Canada, that the federation is otherwise highly decentralized in public service provision and revenue-raising, and suppose also that the main elements of the existing federal-provincial fiscal arrangements are in place. Let us imagine what the consequences would be of

a major oil and gas boom in one province, say, Alberta.

The economic impact of the oil and gas boom in Alberta will generate significant fiscal capacity differences between it and the rest of Canada (ROC) even in the absence of resource revenues. Wage rates will be bid up, and per capita incomes will be above the national average. The Equalization system exists to address differences in revenue-raising capacity, but even under a ten-province standard, Alberta would be left with a substantially higher fiscal capacity than other provinces. That is because, although the have-not provinces would be raised to the national average under a Canadian type equalization program, above-average provinces like Alberta would not be equalized down.

At the same time, there would also be changes in the need for provincial public services in Alberta and the ROC. Migration would cause increases in population in Alberta and reductions elsewhere, and public services would have to adjust accordingly. However, since the migration would involve mainly younger, healthier working-age persons, the relative need for public services per capita would rise in some regions in the ROC (especially Atlantic Canada) and fall in Alberta. This would be offset to the extent that in-migrants to Alberta located in remote areas where costs of providing public services are higher. In principle, a system of equalization could deal with these changes in the expenditure requirements, but the current system does not. It effectively assumes that expenditure requirements are equal per capita, implying that demographic and cost of provision changes are not accounted for.

On balance, the shift in economic activity from the ROC to Alberta would likely exacerbate differences in the ability of provinces to provide comparable levels of public services at comparable levels of taxation. As the fiscal federalism literature stresses, such differences can lead to both inefficiencies and inequities. Inefficiencies arise to the extent that persons and businesses are encouraged to migrate to take advantage of higher levels of public services at lower tax costs (higher so-called net fiscal benefits). Of course, there are likely to be many other factors drawing persons to Alberta, such as the prospect of higher-paying jobs. Nonetheless, empirical evidence suggests that fiscal factors have some influence on migration decisions.[6] This not to say that there should not be significant migration into Alberta from elsewhere, only that it should reflect productivity factors rather than purely fiscal ones.

The changes in fiscal capacity among provinces can be thought of as a passive consequence of the oil and gas boom in the sense that they arise even if provincial governments do not change their fiscal stances. However, provinces are not likely to stand pat in the wake of an oil and gas boom in Alberta. More generally, provincial fiscal policies are not taken in isolation, but reflect an awareness of the competition that exists for valuable mobile resources and businesses. Fiscal competition is generally taken to be one of the healthy features of a federation. It enhances the efficiency and accountability with which provinces provide services for their citizens, and encourages innovation. However, these benefits presume that provinces are on reasonably equal footings in their abilities to engage in fiscal competition. But, where one province has a significant fiscal capacity advantage over the others (after equalization), the value of competition can break down.

In the context of a major oil and gas boom in Alberta, fiscal competition likely favours this province with its much higher fiscal capacity, and it can take various forms. Fiscal measures might be taken to attract good workers to Alberta, and other provinces might find it difficult to respond. By the same token, fiscal policies, using both tax policy and infrastructure, might be used to attract businesses to the province. Even in the absence of provincially owned resource rents, Alberta can be expected to engage in province-building activities that will attract industrial activity away from the ROC. Given that the differential fiscal capacity benefit that Alberta enjoys is a result of its endowment of oil and gas rather than some natural industrial advantage, the ability to use its superior fiscal capacity to engage in beggar-thy-neighbor industrial policies can lead to an inefficient pattern of industrial location. More generally, given that part of the costs of adjustment to resource development are borne by other regions, there may be an incentive for a single region to develop resources too rapidly.

There are other sorts of inefficiencies that can arise from decentralized decision-making, such as non-harmonized tax/transfer systems, distortions in the internal economic union, and spillovers of benefits or costs of provincial programs. Most of these are not unique to natural resource booms. In the case of an oil and gas boom, some such problems can be identified. One is that coordination among provinces is required to transport oil and gas across provincial boundaries. Another is that the heavy use of water in the process of extracting oil from the tar sands could affect the supply of water in neighbouring provinces and territories. There could also be environmental spillovers across provincial boundaries.

From an economics perspective, a case can be made that the federal government has a role in addressing the inefficiencies and inequities resulting from an oil and gas boom in a province. This could involve redistributive inter-provincial transfers, the use of the spending power to influence provincial behaviour, federal taxation and spending policies that might mute the consequences of inefficient province-building, and serving as a coordinator to induce cooperative behaviour among provinces. It is not clear that the federal-provincial fiscal arrangements as currently structured can deal adequately with the effects of a major oil and gas boom in Alberta. These include the need to adjust public service levels across provinces and respond to fiscal capacity differences, as well as to mitigate the effects of the inevitable province-building in Alberta. As we have argued, the expectation that Alberta would use its fiscal capacity advantage in a pro-active way to foster industrial development and diversification of the Alberta economy would cause a reallocation of industry to Alberta from the ROC over and above that resulting from fiscal capacity differences and fiscally induced migration alone.

One reading of the Constitution would justify federal concern about the consequences of a significant shift in industrial activity from the ROC to Alberta induced by differential fiscal capacities. Section 36(1) does, among other things, give the federal government joint responsibility with the provinces for economic development.[7] What is not clear is how the federal government can fulfill this responsibility. It cannot for example, restrain province-building development policies in one province if it is at the expense of other provinces. The current system of Equalization is not sufficient. Although it undoes some of the most egregious fiscal capacity differences among provinces, it does so only for those below the national standard tax base. It does not deal with adjustment problems or with the effect of province-building in Alberta on the ROC, especially in Atlantic Canada. Some federal instruments are useful, such as its nationwide system of progressive taxation and its employment insurance system. Moreover, in this setting where it obtains the public's share of resource rents, it has enough resources to pursue a national infrastructure strategy, although the details of how it should do so are not at all well-developed. Finally, the federal government can continue to play an important role in facilitating the harmonization of provincial fiscal policies through its tax collection agreements and its role in financing social programs. These continue to be important national objectives independent of an oil and gas boom. However, coordinated decision-making in other areas, such as environmental policy, cross-border spillover issues with respect to water and aboriginal policy, is also important.

Case Where Resources are Owned by the Provinces

The fact that natural resources are owned by the provinces in Canada exacerbates the problem of dealing with a major resource boom concentrated in one province. In addition to all the policy challenges posed above, provincial ownership of resource revenues lead to the following concerns.

First, the usual problems created by differential provincial fiscal capacities are greatly intensified. Revenues from oil and gas significantly increase Alberta's fiscal capacity relative to those of all other provinces, including Ontario. Indeed, if such revenues are treated as current additions to revenue-raising capacity, Alberta's ability to raise revenues per capita is of the order of twice that of Ontario.[8] Even if the Equalization system were to include natural resources fully, Alberta would be left with a considerably higher revenues-raising capacity than the national average under any conceivable standard used, including the ten-province standard.

This is an unprecedented source of horizontal imbalance in the Canadian federation. If these are used for current purposes, the purely fiscal incentive created for persons and businesses to migrate to Alberta are substantial. Although there is some dispute over the relative magnitude of fiscally induced migration, the numbers for gross inter-provincial migration are now sizeable and the demographics of migrants are relatively favourable to Alberta, which makes the horizontal imbalance more pronounced. Recent work on the long-run welfare consequences of fiscally induced migration suggests that it is quantitatively significant (Wilson 2003).

Related to these effects of the oil and gas boom on fiscal capacity disparities is the fact that, even under the existing system of fiscal arrangements, the Equalization system is strained. This is especially the case the more decentralized are revenue-raising responsibilities in the Canadian federation. The affordability of the Equalization system is already becoming an issue with the gradual reallocation of tax room from the federal government to the provinces, which itself increases fiscal disparities. It will become even more acute with the increase in disparities resulting from the oil and gas boom in Alberta as well as lesser resource booms in other selected provinces. And, the affordability problem has been magnified buy the fact that, for various reasons, the federal government has chosen not to exploit fully its ability to obtain resource revenues through the income tax system. As has been well documented (the Mintz Report 1998), the existing system of business taxes provides preferential treatment to the resource industries through its generous treatment of exploration and development expenses. In addition, federal revenue losses occur through the deductibility of provincial resource levies from the federal corporate tax base, and, until recently, through the toleration of income trusts. We return briefly to these issues in the final section.

With affordability being threatened, the sustainability of even the existing Equalization system becomes tenuous. Despite the well-known commitment of Section 36(2) of our Constitution, the sustainability of Equalization requires a non-trivial national consensus about the extent of the Canadian sharing community. How much are Canadians in all provinces willing to commit to ensuring that residents of all provinces can enjoy comparable levels of public services at comparable levels of taxation? To put it another way, how far does national social citizenship as opposed to provincial social citizenship extend? Do we define our sharing community primarily at the national level or at the provincial level?[9] These become open questions when disparities of fiscal capacity become wide.

Perhaps the most critical consequence of provincial resource ownership is the intensification of asymmetric fiscal competition. Alberta clearly has the resources to engage in infrastructure and other forms of spending designed to diversify the provincial economy and province-build, to a large extent, at the expense of other provinces. It is certainly questionable as to whether this province-building constitutes efficient development since it is based not on any economic geography rationale but simply on the availability of resource revenues to finance province-building. A priori, one might expect that province-building is not efficient, because it is based on the interest of one province only, whereas other provinces are affected. Unfortunately, considerations of this sort seem to be missing from the national debate. The issue is quite similar to that which has animated the debate about cities. Those who worry about neglecting the existing cities as potential sources of growth should doubly worry about too many resources being devoted to building up infrastructure in Alberta simply because it has oil and gas revenues. No economic imperative suggests that the best place for economic development is where large amounts of oil and gas are located.

Of course, these effects arising from fiscally induced migration of economic activity and asymmetric fiscal competition are very much dependent on resource revenues being treated as general revenues rather than being saved in a heritage fund. To the extent that Alberta goes the Norwegian route, many of the problems resulting from provincial ownership of resource revenues will evaporate.

The best federal response to these problems is not clear. It is not feasible to meet the asymmetric capacities for province building simply by enhancing equalization. That is not to say that the

treatment of resource disparities under equalization is not an important issue. But that alone is not sufficient to meet the challenge of responding to the possible inefficient consequences of province-building that follow a significant resource boom. This all implies that the way in which the federal government deals with fiscal balance in light of the new reality is critical. The final section discusses the more modest issue of what feasible measures might be taken to address the fiscal balance issue given the present realities. The more ambitious agenda of responding to province-building is left for further study.

REMARKS ON REBALANCING THE FEDERATION

The debate over rebalancing the federation takes on heightened importance in light of the asymmetries resulting from the oil and gas boom in Alberta. Both the horizontal and the vertical dimension are relevant. Moreover, they are intertwined in the sense that measures taken to rebalance the federation vertically have consequences for the horizontal balance, and achieving horizontal balance necessarily implies some constraints on the direction and magnitude of vertical rebalancing. More generally, rebalancing has important implications for the efficiency and equity than can be achieved in the Canadian economic union, and will have longer-term effects on the evolution of the federation. The treatment of natural resources is at the heart of the fiscal balance debate. Despite the interdependency of the horizontal and vertical dimensions, it is useful to review the issues surrounding them sequentially.

Horizontal Balance: The Expert Panel vs. the Advisory Panel

The recent reports of the Expert Panel on Equalization and Territorial Formula Financing and the Advisory Panel on Fiscal Imbalance provided a careful analysis of horizontal balance and its policy implications. There are more similarities than differences between the Expert Panel recommendations and those of the Advisory Panel, but the most significance difference concerns natural resource revenues. Both recommend equalizing only revenue-raising capacity, using a ten-province standard. In the case of resource revenues, the Advisory Panel calls for full equalization of resource revenues using a representative tax system (RTS) approach, much like the current system. However, the Expert Panel suggests including only 50 percent of resources revenues, and equalizing on the basis of actual revenues, which is a major departure from past practices.

The Expert Panel offers five reasons for this approach, none of which I find persuasive.[10] The first is the constitutionality argument and revolves around the conflict that arises between the provincial ownership of resource revenues and the federal equalization commitment under Section 36(2). The argument is that the provincial ownership of resource revenues precludes full equalization because the latter amounts to undoing that ownership. This is not persuasive on a couple of grounds. First, the provincial ownership of tax revenues applies equally well to all its revenue sources and not just resources, and few would argue that this compromises the case for revenue equalization. Moreover, equalization does not constitute taxation, although equalization transfers are conditioned on a province’s ability to raise resource revenues. The federal government does, in fact, impose taxes directly on resources through its income and sales tax systems, and this has not been ruled out by provincial ownership arguments.

The second argument is affordability. It suggests that since the federal government has no direct access to resource revenues (royalties, sale of leases, etc.), this makes equalizing them infeasible. There are two responses to this. The first is that the federal government does, as we have mentioned, have access to revenues generated by resources using conventional income and sales taxes. Indeed, they could if they so chose obtain much more revenue from resource industries than they do now by reforming the business tax system. Second, to the extent that affordability is an issue, it should be addressed by changing the standard rather than changing the proportion of resource revenues equalized. It is straightforward to show that changes in the standard entail equal per capita changes in entitlements for all provinces and so maintain horizontal balance among have-not provinces. Proportional reductions in resource equalization will work to the detriment of resource-poor provinces.

The third argument is that full equalization of resource revenues discourages have-not provinces from developing natural resources. This incentive problem is over-stated. There is no evidence that the full equalization of resource revenues that has applied for the past two decades has had any effect on the rate at which resources are exploited. Moreover, there are theoretical arguments against this incentive story. Once resources have been discovered, whatever equalization claw-back there is will occur whenever they are developed. There is no thus advantage in postponing development. Any disincentive that exists will apply at the stage of discovery and not development.

A potentially serious problem with equalizing resources is the difficulty of measuring their revenue-raising capacity. Different resource deposits will have different capacities for raising revenues given their different costs of extraction. This was a main reason for the Expert Panel advocating the use of actual revenues rather than the RTS system. The problem with using actual revenues is that it exacerbates incentive problems since actual revenues depend on tax rates actually chosen by the provinces. In these circumstances, the inclusion of only a portion of resources revenues in the formula is almost mandatory. A way of getting around the measurement issue that does not have drastic implications for incentives is to use a so-called stratification approach by which revenues are disaggregated into groups with more comparable revenue-raising capacities. This is done to some extent in the current system.

Finally, an argument that has been stressed by some observers (e.g., Courchene 2004) is that since it is costly for provincial governments to earn resource revenues—because of the need to provide dedicated infrastructure and other business services—resource revenues should not be fully equalized. The problem with this argument is that it is a piecemeal approach that deviates from the principle that only revenues should be equalized and not expenditure needs, and it ignores the fact that many other revenue bases incur costs. For example, the health and education systems certainly contribute to the size of the earnings capacity on which personal and corporate tax bases depend. It would therefore be discriminatory to treat natural resources differently on these grounds.

The upshot of the Expert Panel proposal is that it puts too much emphasis on these arguments, and results in a system that arbitrarily and systematically harms provinces that are resource-poor. Not only does this fail to ameliorate the major source of fiscal capacity differences among provinces, it also facilitates the role of natural resource endowments as a major determinant of economic development.

Vertical Balance: Beware of Taxpoint Transfers

The issue of vertical balance boils down to the extent to which provinces should obtain their revenues from own tax sources as opposed to from federal transfers. In essence, there are three options for approaching the vertical balance issue. One is to maintain the status quo, which entails keeping federal transfers to the provinces roughly as they are in proportion to provincial spending. The second is to turn over tax room to the provinces and at the same time reduce federal transfers. The third is to do the opposite: increase the tax share of the federal government and with it the level of transfers. The second alternative has achieved some prominence and been the subject of various proposals. In particular, it has been suggested by the Séguin Commission (2002), Poschmann and Tapp (2005), and Smart (2005) that the Goods and Services Tax (GST) should be turned over to the provinces accompanied by a reduction in social transfers. Although the relationship with the natural resource issue is somewhat tenuous, it is worth outlining why this might not be a good idea. On the contrary, I shall suggest that the third alternative is preferred.

There are three main arguments for turning over sales tax room to the provinces. The first one is accountability. The argument is that provinces will be more accountable for their spending to the extent that they are required to raise their own revenues to finance it. This was forcefully put in Poschmann and Tapp (2005). The second is that turning over revenue-raising power to the provinces and reducing social transfers will reduce the ability of the federal government to use transfers to influence provincial decision-making. The Séguin Commission (2002) relied heavily on this argument. Not only would avoiding use of the

federal spending power enable provinces to pursue their priorities in an unfettered way, but it would also avoid the kind of abrupt and unexpected changes in transfers to the provinces such as occurred in the 1995 budget when the federal government reduced transfers dramatically. The final argument is that turning over sales tax room to the provinces could be a way of encouraging the provinces to harmonize their sales taxes. Arguably, the harmonization of provincial sales taxes is the most important step that could be taken to improve the efficiency of the Canadian economic union and the competitiveness of Canadian industries.

There are, however, compelling counterarguments to further decentralization of revenue-raising to the provinces. The accountability argument is not very convincing and really amounts to an argument of faith. There have been good arguments made as to why provinces should be less vigilant spending general revenues that come from their own sources as opposed to from federal transfers. Both are fungible once they are received. Moreover, accountability already exists for marginal increases in revenue since they must additional taxes raised in the province. Perhaps more important, in the case of the sales tax, provinces simply do not use sales tax rates to fine-tune their budgets. Instead, they essentially take as given whatever revenues come in at their given tax rates. Why they should treat those revenues as any different from unconditional revenues received as transfers is not clear. If one took the accountability argument seriously, one would have to suppose that serious accountability problems also accompanied windfall revenues obtained from natural resources.

Similarly, the argument that turning over sales tax points to the provinces (as the federal government has started to do with the 2006 budget) facilitates sales tax harmonization is highly wishful thinking. On the contrary, it almost certainly makes tax harmonization more difficult. Tax harmonization in the past has only occurred when the federal government was a dominant revenue-raiser. Revenue sources that are concentrated at the provincial level are the most disharmonized in the federations, resource taxes being the most obvious. Moreover, when the federal government has vacated particular sorts of tax room to the provinces, the taxes have become less harmonized. A case in point is the personal income tax. In the extreme, when the federal government turned over the inheritance tax to the provinces, it gradually disappeared. There is no particular reason to suppose that the provinces would unilaterally choose to harmonize their sales taxes in response to a reduction in federal GST rates. The advantages of harmonization have been well-known to them for some time now, and they have chosen not to act.

More important, it is not clear that a harmonized GST is administratively feasible in a federal system in which the provinces have real discretion over their own tax rates. The absence of border controls makes it very difficult to administer the credit and invoice procedure when taxes are different in all provinces.[11] It is true that models exist by which decentralized value-added taxes could be implemented.[12] However, they have yet to be applied in any context including the European Union. In Canada, it is true that the Quebec Sales Tax (QST) operates as a decentralized value-added tax harmonized with the federal GST. But it is not clear that extending the QST system to other provinces would be reasonable on administrative grounds. To put it differently, it may be feasible to run a decentralized and harmonized value-added tax system, but given its administrative costs there is a preferred alternative discussed below that would avoid these administrative costs.

Another counterargument to the decentralization of tax room to the provinces is that greater fiscal disparities would be created among provinces and the pressure on the Equalization system would increase. To maintain the existing structure of Equalization, the size of the transfers would have to increase. Affordability concerns would become more intense, and the sustainability of Equalization at its current level would be jeopardized.

Finally, a rebalancing of the federation that entailed less federal-provincial transfers would render the spending power less effective. One can have different views about the role of the federal spending power, and one could certainly argue that it has been abused or used in non-cooperative ways in the past. Nonetheless, the federal spending

power remains an important policy instrument. It is the only one that is available to the federal government to fulfill its constitutional responsibilities under both parts of Section 36 as well as to fulfill its legitimate policy interest in national efficiency and equity. Even if federal transfers are largely unconditional (as is the case now), the mere existence of significant federal-provincial transfers gives the federal government a meaningful seat at the intergovernmental interaction table and affords it some legitimacy in persuading provinces of the merits of coordination and harmonization of policies. But it also allows the federal government to engage in spending projects that foster national development, such as investment in infrastructure, human capital and the cities.

A Preferred Option

The above discussion argues against further decentralization of revenue-raising to the provinces. On the contrary, a strong case can be made that the most important current objectives of the Canadian federation can be achieved by rebalancing the federation in favour of federal revenue-raising.

The preferred option would take the following form. The provinces would vacate the sales tax completely and the federal government would take up the tax room with an enhanced national GST. By definition, this would harmonize the sales tax system, thus achieving a sought-after source of efficiency improvement. The loss in provincial sales tax revenue would be made up with an explicit revenue-sharing agreement with respect to the GST tax revenue. (The exact sharing proportions need not be proposed here: it is the principle that is important.) The revenue-sharing component could be allocated among the provinces in a variety of ways, though the cleanest might be an equal per capita allocation. That way, not further equalization would be required.

The consolidation of the GST at the national level with its revenues shared at specified rates with the provinces is precisely the method that is used in Australia and in Germany. It is also similar to the system that is currently used for the three Atlantic Provinces that participate in the Harmonized Sales Tax. The latter is a revenue-sharing scheme with the revenues being allocated to the three provinces using the derivation principle. In this case, the revenues then become provincial sources of revenue that are fully equalized, which makes them analogous to an equal per capita transfer. As argued, accountability is not sacrificed. The provinces obtain general revenues according to their share of the GST revenues allocated to them, just as under the current system they obtain general revenues according to the provincial sales tax revenues that they receive. They have neither more nor less control over the revenues in either case.

An issue that is likely to arise with such a system concerns the treatment of Quebec, which already has a harmonized sales tax system. There is no reason why Quebec's preferences could not be accommodated by an asymmetric arrangement whereby they continue to levy the QST and retain the province's share of revenues for themselves. Since Quebec's revenues will likely differ from the equal per capita revenues obtained by the other provinces, there would be a need to equalize Quebec's sales tax revenues so that the same per capita share is obtained. That could readily be worked out administratively without any serious issues of principle being compromised.

Such a rebalancing would leave the CHT/CST system social transfers intact. There will still be some desire to reform the process by which such transfers are determined and changed, and that remains an item on the future agenda.

Of more immediate relevance, the rebalancing reforms suggested would not resolve the major issues arising from the oil and gas boom in Alberta, or those that might arise in other provinces in the future. The best that can be said is that the rebalancing would not exacerbate the problem. The main way of mitigating the consequences of the oil and gas boom involves actions that only Alberta can take. In particular, to the extent that net provincial oil and gas revenues are placed in a Heritage fund and the capital is not drawn down, the main problems will not arise, where net refers to after costs of providing necessary business infrastructure to the resource industry. If a Norwegian-style heritage fund were set up whereby *all* net provincial oil and gas revenues are deposited in it and the fund treated as a perpetuity whose capital income is available for current use, the problems would not arise. It seems

unlikely that such a scenario will occur given the incentives for province-building. Perhaps that is all the more reason for the federal government to pursue its own infrastructure and human capital development strategy.

ENDNOTES

[1] Provincial ownership is given by section 117 of the Constitution Act, which states that the provinces should retain their "public property not otherwise disposed of by this Act" (e.g., turned over to the federal government) and reinforced in section 109 which says that "all land, mines, minerals, and royalties belonging to the several provinces" should continue to belong to them. Provincial property rights over natural resources are further protected in section 125, which states: "No Lands or Property belonging to Canada or any Province shall be liable to Taxation." More recently, the amendments to the Constitution in 1982 included Section 92A, which reaffirms provincial rights of ownership and management of natural resources within their territories and extends the powers of the provinces to market and tax non-renewable resources. In particular, provinces can pass laws respecting the sale of non-renewable resources to other parts of Canada and can raise money by indirect taxation of non-renewable resources as long as they do not discriminate against other provinces.

[2] See, for example, Krugman (1995, 1998).

[3] The effect of natural resources on growth and development is analyzed in Sachs and Warner (1999, 2001).

[4] For a summary of measures used around the world to collect rents from natural resources, see Boadway and Flatters (1993).

[5] For a overview of Norwegian oil policy, see OECD (2005).

[6] Empirical estimates of the effect of fiscal benefits on inter-provincial migration can be found in Winer and Gauthier (1982), Day (1992) and Day and Winer (2006). The efficiency consequences of these responses are estimated in Wilson (2003).

[7] Section 36(1) says, among other things that … "Parliament and the legislatures, together with the government of Canada and the provincial governments, are committed to … furthering economic development to reduce disparity in opportunities …".

[8] See the estimates provided in Expert Panel on Equalization and Territorial Formula Financing (2006), pp. 8-9.

[9] The concept of social citizenship and the sharing community and their relevance for the fiscal arrangements are discussed in Banting and Boadway (2004). in Keith Banting and Robin Boadway, 'Defining the Sharing Community: The Federal Role in Health Care,' in Harvey Lazar and France St-Hilaire (eds.), *Money, Politics and Health Care* (Montreal: Institute for Research on Public Policy, 2004), 1-77.

[10] For more detailed discussion of these points, see Boadway (2005, 2006a).

[11] This is discussed in more detail in Boadway (2006b).

[12] For some options, see Keen and Smith (2000), and McLure (2000), and Bird and Gendron (2001).