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Oil and Gas in the Canadian Federation

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ABSTRACT

This paper provides an overview of key governance issues of relevance to the upstream oil and gas industry in Canada. The focus is on implications of Canada's constitutional organization as a federation. Regulatory structures and provisions are described, as are revenue-sharing arrangements. Challenges for macro-economic management and for the environmental regulation of activities relating to oil and gas exploration, development, and production are highlighted. Implications of the evolving understanding of the rights of Canada's aboriginal peoples are discussed. Special attention is paid to issues of importance to the federation as a whole and to the potential for the emergence of inter-governmental tensions and conflicts.

Keywords: *Canadian oil and gas policy; federalism; energy revenue-sharing*
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Oil and Gas in the Canadian Federation

André Plourde[1]

1. Overview

Canada is comprised of ten provinces and three territories; it is the second largest country in the world, by geographical area. The Constitution explicitly recognizes two orders of government, at the level of individual provinces and for the federation as a whole. Even though the territories account for about 40% of Canada's land surface, these are effectively creatures of the federal Parliament.[2] In a sense, this is not surprising since less than one-third of one percent of Canada's population lives in the three territories combined. For the purposes of this paper, the perspective adopted is one of Canada as a federation of provinces, and where the two senior orders of government exercise powers consistent with the country's constitutional arrangements.

Three sets of factors have fundamentally affected both the development of the oil and gas industry in Canada and the evolution of Canadian energy policy: geology, demographics, and constitutional provisions. As we will see in more detail later, known reserves of crude oil and natural gas are distributed quite unevenly across the Canadian landscape, with the result that oil and gas production flows differ sharply across provinces. While the same can be said about distribution of the population, the (uneven) distributions do not match: basically, reserves and production of oil and gas occur where relatively few people reside.

Early in the life of the industry this reality created transportation-related issues, challenges associated with getting production to consumption markets. As time went on and these largely logistical issues were addressed, the non-matching, uneven distributions of energy resources and people led to the emergence of policy-related tensions within the federation. In turn, the potential for such tensions to emerge was heightened by constitutional arrangements. Ownership rights to natural resources are vested with the Crown in right of the provinces: oil and gas reserves are thus owned by the provinces in which they are located.[3] Basically, the only reserves that are owned by the Crown in right of Canada as a whole are thus those located in areas within the country or its offshore exclusive economic zone, but outside the territory of any of the provinces. Canada's Constitution, however, gives the federal Parliament jurisdiction over interprovincial and international trade and commerce, among other things. In practice, this has meant that the rules governing the development and production of oil and gas reserves have largely been under the control of provincial governments, but that the processes guiding the sale and disposition of production flows have mostly been matters of federal governance. The potential for conflict should thus be clear if, for example, the federal government were to attempt

[1] Thanks to Fedja Lazarevic for excellent research assistance. I am grateful to Richard Dixon and Owen Saunders for providing a few key references to relevant works. Comments on earlier drafts by George Anderson, Richard Dixon, and participants at conferences held at the World Bank and at Northwestern University were very helpful in revision. All errors and omissions are my responsibility.

[2] Note that, by mutual agreement, the federal Parliament has devolved many of its powers to the legislature of the Yukon Territory.

[3] The two key exceptions to this statement concern subsoil rights associated with national parks and First Nations reservations located within the boundaries of provinces. These rights are vested with the Crown in right of Canada.

to address the national interest in a way that would involve conciliating the interests of oil and gas "consumers" and those of "producers" of these energy resources.

Another level of complication is added by the fact that since 1957 the federal government has operated a system of fiscal equalization based, in one way or another, on the relative capacity of individual provinces to collect tax revenues. Provincial governments with low tax-collecting abilities (called "fiscal capacity") relative to the national average receive compensatory payments from the federal government. Provinces with above-average fiscal capacities, however, do not directly fund these transfers. Instead, equalization payments are paid by the federal treasury and are thus funded by all federal taxpayers. Over the years, energy-related revenues accruing to provincial governments have been included to various (and varying) degrees in the calculation of fiscal capacities, and thus of equalization payments. As with oil and gas reserves and production, these revenues are distributed rather unevenly across provinces and thus, at times, have resulted in sharp increases in equalization payments and thus pressures on the federal treasury.

The interface between oil and gas exploitation and the physical environment is also a source of challenges within the Canadian federation. The Canadian Constitution is silent on environmental issues. As a result, jurisdiction over environmental matters has typically flowed through other powers specifically allocated by the Constitution. Therefore, although subject to a number of exceptions, the lead on environmental regulation within a province is generally with the provincial government, sometimes operating under delegation from the federal government or in cooperation with it. By and large, the federal role here is primarily focused on major projects having significant impacts or on areas outside the territory of any of the provinces. Government of Canada involvement is also triggered when specific federal powers are involved, as would be the case with the construction of an inter-provincial pipeline, for example. At another level, the federal Parliament is responsible for entering into international treaties and other similar arrangements on behalf of Canada. However, the federal government cannot implement treaties if Parliament does not have the necessary legal power and provincial legislation is needed. In such cases, implementation requires actions by provincial legislatures. Over the last decade or so, this type of arrangement has been an additional source of tension within the federation since Canada is party to the United Nations Framework Convention on Climate Change and a signatory to the Kyoto Protocol as a result of unilateral actions by the federal Parliament. The tension derives from the fact that these international agreements directly affect the provinces who own the oil and gas deposits within their boundaries and, as noted earlier, control the development and production of these resources.

2. Historical and Regional Context of Canada's Oil and Gas Industry[4]

[4] The contents of this section have been strongly influenced by R.A. Simpson (1963) "The Canadian Petroleum Industry," Chapter I (pp. 1-91) in J. Barbeau (ed.) *Oil and Gas Production and Taxes*, Canadian Tax Paper no. 63. Toronto: Canadian Tax Foundation; and chapters 2 to 4 of J.F. Helliwell, M.E. MacGregor, R.N. McRae, and A. Plourde (1989) *Oil and Gas in Canada: The Effects of Domestic Policies and World Events,* Canadian Tax Paper no. 83. Toronto: Canadian Tax Foundation. A more limited survey of recent developments can be found in A. Plourde (2005) "The Changing Nature of National and Continental Energy Markets," pp. 51-82 in G.B. Doern (ed.) *Canadian Energy Policy and the Struggle for Sustainable Development.* Toronto: University of Toronto Press. Interested readers are also referred to the following two items that offer more of a political science perspective on

2.1 A Slow Start and then a Rapid Rise

The first oil production in Canada dates back to the late 1850s, and the industry remained centered in Ontario for most of the next four decades. At the close of the 19th century, however, activity patterns had begun to shift West, principally to Alberta. While this process would continue for much of the next 50 years, the Canadian oil and gas industry was clearly still in its infancy, and development and production activities – be they in Ontario, Alberta, or elsewhere – remained local concerns, of minor importance on the national landscape. All this was to change with a single well.

In 1946, total Canadian crude oil production amounted to about 21,000 barrels (3,300 cubic metres) per day, while daily natural gas production reached some 130 million cubic feet (3.2 million cubic metres).[5] None of this production was exported from Canada; indeed, all of it was consumed within the province in which it was produced. Canada's modern petroleum industry got its start with the massive oil discovery at Leduc (near Edmonton, Alberta) in 1947. Within the next decade or so, activities related to the development and production of oil and gas had also spread to British Columbia and Saskatchewan. By the end of the 1950s, large-diameter pipelines transporting crude oil and natural gas from Western Canada to consumption markets, mainly in Eastern Canada and in the United States, had been built. The federal government had facilitated this expanded penetration of consumption markets by allowing, under its constitutional powers, the construction of these inter-provincial and international pipelines and for export sales to occur. In 1959, the federal government created the National Energy Board and, among other things, gave it the mandate to approve and regulate the construction and operation of inter-provincial and international pipelines, and to regulate the exportation of oil and natural gas.

As far as oil is concerned, the key issue in the early post-war period related to Alberta's production capacity rising faster than accessible consumption markets – and this despite the growing pipeline transportation system. As a result, there emerged shut-in production and downward pressure on wellhead prices of Alberta-produced crude oil. In December 1950, the Government of Alberta responded to this situation by introducing a prorationing system, whereby the province's oil producers would be assigned individual quotas based on the productive capacity of their reservoirs: the "pain" of shut-in production would thus be shared amongst all producers.[6] Nonetheless, productive capacity continued to grow in Alberta and it was clear that expanded consumption market penetration opportunities were needed for industry growth to continue. Additional federal involvement to address this problem seemed inevitable.

During this period, Western Canadian natural gas production grew steadily, but much less rapidly than was the case for crude oil. The expanding pipeline capacity kept pace with production, as natural gas produced in Canada's Western provinces reached new markets in Ontario and the United States. Indeed, the large diameter pipeline that connected producing

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the issues: G.B. Doern and G. Toner (1985) *The Politics of Energy: The Development and Implementation of the NEP.* Toronto: Methuen; and J.N. McDougall (1982) *Fuels and the National Policy.* Toronto: Butterworths.

[5] Author's calculations based on data provided in Simpson (1963, Table 1, p. 7).

[6] A similar system was eventually introduced in Saskatchewan.

regions in Alberta with consumption markets in Ontario was completed in October 1958. The Government of Canada needed to become directly involved to ensure that the pipeline followed an all-Canadian route (instead of transiting through the United States) and had to step in with financial support for this venture to be completed.

By 1960, Canadian crude oil production[7] equaled 545,000 barrels (86,000 cubic metres) per day. Two provinces accounted for more than 95% of total Canadian production: Alberta and Saskatchewan, with approximately 70% and 27%, respectively. Marketed natural gas production in Canada reached 1.2 billion cubic feet (35 million cubic metres) per day. And again, two provinces accounted for most of Canadian natural gas production: Alberta and British Columbia, with about 71% and 17% respectively (much of the remaining volumes – about 7% of the total – were produced in Saskatchewan). That year, slightly more than 20% of both crude oil and natural gas production was exported to the United States.

2.2 The National Oil Policy, 1961 to 1973

In response to concerns about the growing excess production capacity experienced by Western Canadian (and especially Alberta-based) oil producers, the federal government – under Progressive Conservative Prime Minister Diefenbaker – introduced the *National Oil Policy* in February 1961. It decreed that Canadian consumers to the East of the Ottawa Valley line (essentially the border between Ontario and Québec) would be supplied with oil products made from imported crude, whereas consumers to the West of that demarcation line would rely solely on Canadian-produced oil. Oil consumers in Ontario would thus no longer have access to imports; in return, governments would foster the continued development of refining and petrochemical industries in that province. Opportunities for additional export sales in the United States would also be aggressively pursued and pipeline capacity would be allowed to rise in concert with export volumes, as needed.

This federal policy initiative was widely support by Canada's oil industry and by the governments of the producing provinces in the West. By curbing imports into Ontario, it acted to boost the average price of Canadian-produced oil, and reduced the problem of shut-in oil production capacity by increasing access to markets in Ontario and the United States.[8] As a result, oil production grew sharply during this period. By 1972, Canadian oil production averaged 1.8 million barrels (about 290 thousand cubic metres) per day, one-half of which was exported to the United States.[9] Production remained heavily concentrated in two provinces,

[7] "Crude oil" is here defined to include conventional and synthetic crudes, condensate, pentanes plus, propane and butanes. The source of the primary data used in this paragraph is the online version of the *Statistical Handbook* maintained by the Canadian Association of Petroleum Producers (CAPP).

[8] Throughout the 1960s, crude oil prices West of the Ottawa Valley Line are reported to have been some 25 to 50 cents per barrel higher (page 85 of House of Commons Canada (1981) *Energy Alternatives – Report of the Special Committee on Alternative Energy and Oil Substitution to the Parliament of Canada.* Ottawa: Minister of Supply and Services Canada). This represented a premium of approximately 10% to 20% of average Western Canadian wellhead prices during that period.

[9] The source of the primary data used in the following two paragraphs is the online version of CAPP's *Statistical Handbook*.

Alberta and Saskatchewan, which accounted for 82% and 13% of total Canadian oil output, respectively.

Natural gas production continued to grow in Western Canada, as new market opportunities were identified and successfully penetrated in Ontario and the United States. All in all, during this period natural gas production grew even faster than corresponding crude oil volumes. In 1972, total Canadian marketed natural gas production amounted to 6.5 billion cubic feet (180 million cubic metres) per day, with approximately 40% of it sold on markets in the United States. Overall, slightly more than 95% of total Canadian production was sourced in Alberta and British Columbia, with shares of 78% and 18% respectively.

2.3 A Heightened Federal Presence, 1973 to 1985

Rising world oil prices and growing concerns about the adequacy of Canadian reserves of crude oil and natural gas to meet future domestic requirements set the backdrop to a fundamental change in federal policy. In September 1973 (and thus a few weeks before the onset of the Yom Kippur War that would arguably lead to the first world oil price shock), the (minority) government under Liberal Prime Minister Trudeau announced its intention to exercise its constitutional powers, first to curb oil and gas exports, and second to regulate the prices of these commodities sold on markets outside of the provinces of production. These measures, it was argued, would enhance the security of domestic energy supplies and shield Canadian consumers from the full effects of rising international oil and gas prices.

Early in this period, all three of Canada's Western oil- and gas-producing provinces created companies to participate in the upstream activities of the oil and gas industry. Of these, Alberta Energy Company would be a mixed enterprise (with ownership shared equally by the province and private investors), while the other two (Saskoil and British Columbia Petroleum Corporation) would be entirely government-owned. Before the end of 1973, the Government of Canada also announced its intention to create a national petroleum company. Petro-Canada, as this company came to be called, began operations two years later. It was initially given an aggressive mandate for oil and gas exploration and development, especially in areas under federal jurisdiction, and of investing in the application of new technologies in the upstream industry. The federal government also extended preferential treatment to Petro-Canada, in particular in the acquisition of production rights in offshore developments. The Crown corporation's scope of activity was eventually broadened to include a downstream presence.[10]

Not surprisingly, the federal policy initiatives were not well received in the producing provinces of Western Canada. For the next seven years, relations between Ottawa and the governments of these provinces were quite strained. Then, in October 1980, following the second world oil price shock, the (Liberal) Government of Canada introduced the *National Energy Program*, which broadened and deepened federal intervention in the energy business of the country – and increased federal-provincial differences over energy policy. Federal taxes on oil

[10] For a more detailed discussion and analysis of Petro-Canada, see P. Halpern, A. Plourde, and L. Waverman (1988) *Petro-Canada: Its Role, Control, and Operations.* Ottawa: Supply and Services Canada (on behalf of the Economic Council of Canada).

and gas production revenues and export sales were introduced, domestic price controls were continued, further restrictions on allowed export volumes were imposed, as were fiscal measures that encouraged oil and gas exploration and development activities in areas under federal jurisdiction (and thus discriminated against such activities undertaken within provincial boundaries). All this led to a crisis in federal-provincial relations; the Government of Alberta, for example, mandated a series of phased cuts in allowed crude oil production in the province. Months of tense negotiations, however, subsequently led to agreements on oil and gas pricing between the governments of Canada and of the producing provinces.

As time progressed, it became increasingly clear that the sustained increases in North American natural gas and world oil prices upon which the *National Energy Program* was predicated would fail to materialize. The federal government thus moved to progressively reduce the scope and importance of its policy initiatives. This softening of the federal policy stance was somewhat grudgingly welcomed by the oil and gas industry and some provincial governments alike. Soon thereafter, the country's Constitution was amended explicitly to entrench provincial taxation powers (and thus to limit federal tax authority) in the areas of non-renewable resources (including oil and gas), forestry, and electricity generation. Nonetheless, to this day, the governments (and many residents) of the oil and gas producing provinces of Western Canada consider the introduction of the *National Energy Program* as defining a particularly low point in federal-provincial relations.

During this period, despite rising international prices, Canadian oil and natural gas production stagnated, especially in comparison with the years of solid growth that had followed the Leduc discovery. Thus, in 1984, daily oil production in Canada averaged about 1.8 million barrels (285 thousand cubic metres), approximately the same volume as in 1972.[11] The share of exports was sharply reduced, to about 20% of total domestic production (compared to approximately 50% in the 1961-1972 period). As far as natural gas is concerned, production volumes rose slightly, reaching 7.3 billion cubic feet (205 million cubic metres) per day. Sales on export markets accounted for approximately 28% of the disposition of domestic production, down from an average of about 40% between 1961 and 1972.

Alberta continued to dominate Canadian oil and gas production, with shares of total output exceeding 85% in both cases. Most of the remaining domestic oil production occurred in Saskatchewan (with some 10% of the total), while British Columbia was the source of the greater part of Canadian natural gas production outside of Alberta (amounting to 9% of total domestic production).

2.4 Federal Disengagement and the Growing Role of Markets, from 1985

A federal election towards the end of 1984 resulted in a huge victory for the Progressive Conservative Party over the Liberals. The newly elected government soon followed through on pledges to deregulate oil and gas pricing, and to abolish restrictions on export sales. Formal agreements reached with the governments of the Western Canadian producing provinces

[11] The primary data used in this paragraph and the next one are taken from the online version of CAPP's *Statistical Handbook*.

effectively set the framework that would accomplish the federal government's retrenchment from the interventionist thrust of Canadian oil and gas policy that had been introduced with the *National Oil Policy* and intensified with the *National Energy Program*. The targeted special taxes levied by the federal government on oil and gas industry activity were eliminated, as were price controls on domestic production. The preferential treatment extended to exploration and development activities in areas under federal jurisdiction was also ended. Buyers and sellers of Canadian-produced oil and gas would henceforth be allowed to set the terms of sales agreements, including those related to export transactions. Market forces would now determine provisions of exchange agreements that had previously been set through actions of the federal government.

The governments of the Western Canadian provinces (and the oil and gas industry) wholeheartedly agreed with this new direction to federal energy policy. Indeed, the governments of Alberta and Saskatchewan would concretely endorse this increased reliance on market forces to determine activity patterns by eliminating the prorationing systems that had governed oil production in these two provinces for almost 40 years. Producers would now be able to choose output flow rates, subject to rules aimed at preventing reservoir damage from occurring.

Agreements between the Government of Canada and that of each of the Western producing provinces formalized this new direction to federal oil and gas policy. The *Western Accord* of June 1985 effectively completed the deregulation process for crude oil, while the *Natural Gas Agreement* of October 1985 did the same for natural gas. This market-driven approach to oil and gas policy was subsequently entrenched in the provisions of the *Canada-US Free Trade Agreement*, which came into effect at the beginning of 1989 (and also included in the *North American Free Trade Agreement*, which dates to 1994). In particular, the agreements provided that Canada could not impose restrictions on export quantities of energy to the United States that were not proportional to quantity restrictions that might be imposed within the Canadian home market; moreover, the Canadian government could impose no export taxes on resources being sold to the United States. The governments of the oil- and gas-producing provinces (especially Alberta) had strongly advocated these initiatives, in part because they saw these as further restricting the scope for federal involvement in export transactions of oil and gas.

Since then, there has been no major departure from this market-reliant thrust to federal oil and gas policy in Canada. By and large, the federal government has disengaged from active intervention in this area, relying instead on market forces to influence developments and effectively adopting a rather broad interpretation of provinces' constitutional authority to control the exploitation of natural resources located within their boundaries.

The era of direct government intervention in oil and gas activities through the operation of government-owned companies also largely came to pass during this period. The upstream activities of the provincially owned companies were turned over to the private sector. The mandate of Petro-Canada was first modified to induce corporate behaviour similar to that of a private-sector concern. Later on, the federal government proceeded with the gradual sale of all of Petro-Canada's assets through stock offerings in the company. However, in a departure from this trend, the Government of Newfoundland and Labrador[12] recently announced its intention to

[12] Prior to December 2001, this province was known as "Newfoundland". Both names are used in this paper and the timing of the name change has guided usage.

establish a provincially owned petroleum company, with a view to it becoming an equity participant in all future oil and gas production projects in the province and the adjoining offshore areas.

Overall, this period was characterized by marked and sustained increases in Canadian oil and gas output. This included the first meaningful offshore production, which came from crude oil reservoirs off the Southeastern shore of Newfoundland and Labrador and natural gas deposits off the coast of Nova Scotia. These offshore developments in the Eastern region of the country broadened the base of the industry away from its historic concentration in the Western provinces.

Canadian crude oil production for 2008 totaled 3.2 million barrels (510 million cubic metres) per day; the comparable daily output measure for natural gas was 16.2 billion cubic feet (460 million cubic metres).[13] Approximately 60% of both oil and gas production was sold on export markets. Alberta accounted for about 70% of total Canadian crude oil production and 75% of the national output of natural gas. Following a long-established pattern, Saskatchewan had the second highest share of oil production at about 15%, while that role was played by British Columbia as far as natural gas is concerned, with approximately 17% of total Canadian output. As noted earlier, Canadian offshore production was initiated during this period; in 2008, fields offshore from Newfoundland and Labrador contributed about 12.5% of the national output of crude oil, while some 2.5% of total natural gas production originated in deposits located off the coast of Nova Scotia.

2.5 The Regional Context as of 2008

Table 1 provides selected indicators of national and provincial economic performance and demographics for 2008 along with information on oil and gas reserves and production. It shows the striking degree to which Canada's oil and gas industry is concentrated in a single province, Alberta. Indeed, as the first four columns of Table 1 indicate, Alberta's share of national measures is never less than two-thirds. Furthermore, if the three westernmost provinces are taken as a whole, the resulting share of the Canadian totals rarely falls below 90%.

Alberta's per capita GDP is also much higher than the national average. In 2008, only two other provinces – Ontario, Canada's manufacturing heartland; and oil- and gas-producing Saskatchewan – were also above the national average on this measure, but by much smaller margins.[14] The importance of oil and gas activities to some provinces is also evident from the information on provincial government revenues. The government of Saskatchewan, for example, derived about 17.5% of its own-source revenues in 2007-08 from upstream oil and gas activities. That share was even higher in the case of Alberta, where it reached more than 28% and allowed this province to have no sales tax and low income tax rates (relative to those prevailing in other provinces) while being, on a per capita basis, one of the highest spending provincial jurisdiction in the federation, especially when spending on provincial public debt financing is excluded.

[13] Primary data sources used in assembling the information in this paragraph are: CAPP's *Statistical Handbook* and, for data on export volumes, Statistics Canada's *Energy Statistics Handbook.*

[14] The above-average per capita GDP in the three territories combined is linked to diamond mining activities in the Northwest Territories.

Indeed, provincial economic accounts data for 2008-09 made available by Statistics Canada indicate that, once debt charges are excluded, only oil-producing Newfoundland and Labrador spent more on a per capita basis than did Alberta.

The emergence of Newfoundland and Labrador as an important source of oil production is noteworthy. Prior to 1998, that area had not experienced oil production in marketable quantities. About a decade later, deposits located offshore that province (Canada's easternmost) accounted for about 12.5% of national oil output. This period also witnessed a sharp increase in Newfoundland and Labrador's per capita GDP, rising from around 68% of the national average in 1997, to more than 97% of that average in 2008. Moreover, by 2007-08, almost 45% of the provincial government's own-source revenues derived from offshore oil.

From a national perspective, the oil and gas extraction industry accounted for approximately $42 billion (chained dollars of 2002) – or 3.2% – of Canada's GDP in 2008, according to Statistics Canada. There is much variation in this share across provinces; it is highest in Alberta (at 15.2% of provincial GDP) and Saskatchewan (8.3%).[15]

As far as trade flows are concerned, sales of Canadian-produced crude oil and natural gas amounted to some $95 billion, representing approximately 20.5% of national merchandise exports in 2008, the highest value recorded in the previous two decades. Indeed, since 1990 this share has been as low as 6.2%, and has averaged 9.75%. Swings in the export prices of crude oil and natural gas, more than in volumes, were largely responsible for these fluctuations.

3. The Federal System and Constitutional Provisions

3.1 Onshore Ownership and Jurisdiction

Canada's Constitution explicitly vests ownership rights to natural resources (including oil and gas) with the provinces in which these are located. The distribution of powers between the governments of the provinces and that of the federation is outlined in sections 91 and 92 of the country's constitution, the *British North America Act* (now known as the *Constitution Act*). Powers relating to ownership rights to non-renewable natural resources are contained in what is now section 92A, which specifies that such rights are vested with the provinces in which the resources are located.

Great Britain also transferred mineral rights relating to territories to the West and North of the four original provinces (Ontario, Québec, New Brunswick, and Nova Scotia) to be exercised by the federal government, for the benefit of all Canadians. Until 1887, the Government of Canada disposed of mineral rights within this area through outright sales and grants, as inducement to settlement, and as part of the compensation associated with the construction of the Canadian Pacific Railway, linking Ontario to the newly created province of British Columbia. As new provinces were created, ownership rights to natural resources (including mineral rights) were initially not transferred to these provinces, but remained with the

[15] GDP data for Newfoundland and Labrador's oil and gas extraction industry are not available from Statistics Canada.

federal government. Thus, even though Alberta and Saskatchewan were created in 1905, the rights to natural resources located within their boundaries were only transferred to these two provinces in 1930. As of the time of writing, about 80% of the reserves of natural gas and conventional crude oil located in Canada's three westernmost provinces (British Columbia, Alberta, and Saskatchewan) are still publicly owned; that proportion is even greater in the case Alberta's oil sands deposits, where the share of the reserves collectively owned by Albertans reaches some 97%. The remainder is held either privately, or by the Crown in right of Canada, as is the case for oil and gas deposits located in First Nations reservations or in national parks.

In the case of the 20% or so of the conventional resource base where the mineral rights were sold by the federal government in the Western territories during the 19th century (and are still privately held), the owners of these rights may act as producers or enter into agreement with production companies to do the extraction on their behalf, subject to negotiated terms.

Provinces have exercised their jurisdiction largely through the establishment of departments and/or agencies to oversee and regulate activities related to oil and gas exploitation. Over the years, a key issue of concern to such agencies has been the prevention of damage to reservoir properties that could result from too rapid rates of extraction. These agencies typically must approve oil and gas projects prior to the beginning of activities. Approval processes vary widely, even within a given province, depending on the scope of the proposed project. In some cases (some oil sands developments in Alberta, for example), public hearings feature as an integral part of the process. Provinces have also moved to allow these (or related) agencies to ensure that provisions relating to the assessment of the environmental impacts of proposed projects are incorporated into approval processes, and that applicable legislation and regulations dealing with environmental protection (broadly defined to include human health, for example) are enforced and respected in the case of oil and gas developments.

In onshore areas that are under federal jurisdiction, the Government of Canada has established similar procedures and processes. The Department of Indian Affairs and Northern Development, for example, plays a key role in the development and exercise of federal jurisdiction in the North and on reservations. As far as environmental issues are concerned, specific departments have a legislated regulatory role (the protection of fish and fish habitat, for example, is the responsibility of the Department of Fisheries and Oceans; pipeline approvals and regulation are matters for the National Energy Board). Projects proposed for areas under federal jurisdiction must also undergo a review by the Canadian Environmental Assessment Agency, whose report is then an input to the project approval process. Furthermore, as a result of recent agreements with the federal government, a number of First Nations now have considerable powers to review and approve projects located in whole or in part within their territory.

There is an additional complication. As noted earlier, jurisdiction with respect to environmental matters is not specified in the Canadian Constitution. In practice, this has created much scope for duplication in environmental assessment and regulatory processes since other powers constitutionally assigned to Parliament (such as inland fisheries and criminal law) may dictate federal involvement even for oil and gas projects that fall under provincial jurisdiction. For example, even if located entirely in a single province, a project that would have implications for fish or fish habitat will trigger a regulatory role for the federal Department of Fisheries and

Oceans. Furthermore, whenever a project triggers such a federal role, it must undergo a federally sponsored environmental impact assessment even in cases where provincial legislation calls for such an assessment to be undertaken by a provincial agency.[16] As far as environmental assessments are concerned, governments have sought to eliminate this duplication through coordinated approaches, the use of joint panels (especially for major energy projects), and other "cooperative mechanisms". In terms of environmental regulation, here again, efforts have been made to deal with overlapping jurisdictional authority through federal-provincial/territorial cooperation. Formal equivalency agreements, for example, allow provincial legislation and regulation to replace their federal counterparts. Bilateral, administrative agreements between the Government of Canada and a number of provinces are less encompassing, but aim to share responsibilities, eliminate overlap and duplication, and provide a "one-window" approach to environmental legislation. Furthermore, the courts have provided narrow interpretations of the federal role in environmental legislation and regulation within the boundaries of provinces "in an attempt to limit [federal] intrusion on provincial jurisdiction."[17] As a result, provincial governments have typically played a predominant role in regulating environmental matters associated with oil and gas projects within their boundaries, though the federal government has been active on some major projects.

3.2 Onshore Exploration and Production Regimes

In Canada, the petroleum regime is largely market-oriented, and thus driven by private-sector investment decisions and production activities. Whether in areas under provincial or federal jurisdiction, exploration rights are acquired competitively. Governments decide which land parcels to offer (sometimes at the behest of developers) and private-sector companies then submit bids to secure exploration rights, which are typically allocated through a highest-price, closed-bid auction process. Once exploration rights have been obtained, companies must typically meet some specified activity requirements to maintain these rights for a period of time. As long as certain conditions are met, holders of exploration rights can then transform these into production rights, if they so choose. Otherwise, rights revert to the Crown. Development plans must be approved by the relevant federal and provincial authorities, but there is normally very little government intervention in project design: producers are free to propose whatever they feel is appropriate. However, project approvals (especially for large developments, such those in oil sands areas, for example) can specify a series of required modifications as well as mitigation measures aimed at reducing possible negative environmental impacts. Production can then proceed at rates chosen by developers, again as long as the relevant government agencies are

[16] Two useful references on the nature and exercise of jurisdiction in environmental matters and on the practice of environmental assessment and regulation in Canada are: S. Kennett (1997) "Boundary Issues and Canadian Environmental Legislation", pp. 131-155 in L.K. Caldwell and R.V. Bartlett (eds.) *Environmental Policy – Transnational Issues and National Trends*. Westport, CT: Quorum Books; and P. Fitzpatrick and A.J. Sinclair (2009) "Multi-jurisdictional environmental impact assessment: Canadian experiences", *Environmental Impact Assessment Review* 29(4): 252-260.

[17] S. Kennett *op. cit.*, p. 135. Others have argued that existing constitutional provisions allow for wide-ranging federal involvement in environmental legislation and regulation. What is lacking, so it is argued, is a willingness to act, including the absence of a federal strategy to delimit the scope of its jurisdictional authority through court actions, among other means. On this, see for example, Kathryn Harrison (1996, especially chapter 3) *Passing the Buck: Federalism and Canadian Environmental Policy*. Vancouver: UBC Press.

confident that these rates do not damage the productive formations. The overall pace of development of onshore oil and gas reserves is thus largely determined by the allocation of exploration and production rights.

3.3 Offshore Ownership and Jurisdiction

While it is clear that areas offshore the three Northern territories fall under federal jurisdiction (as with the onshore areas), the question of who has jurisdiction for the areas offshore the provinces has been a source of dispute between the Government of Canada and a number of coastal provinces.

After long discussions with the Government of British Columbia, the federal government referred the question of the jurisdiction over areas offshore B.C. to the Supreme Court of Canada. In November 1967, that court found that these areas are under federal jurisdiction. This action was widely seen as having settled the issue and by extension offshore mineral rights were vested with the federal government.

But in 1979, the major Hibernia oil field was discovered off Newfoundland. The provincial government argued that its claim was different from that of other Canadian provinces because Newfoundland had been a separate Dominion prior to joining Canada in 1949. After years of bitter dispute between the federal and provincial governments, the latter referred the matter to the Newfoundland Court of Appeal, while the federal government did the same to the Supreme Court of Canada. In February 1983, the Newfoundland Court found in favour of the federal position and the Supreme Court did the same in March 1984. Thus, federal jurisdiction over areas offshore from the provinces became a matter of general acceptance (though some "inland waters" under provincial jurisdiction remain to be delimited).

Having finally established its jurisdiction, the federal government found it difficult to *exercise* it because Newfoundland (and Nova Scotia – another coastal province near which important offshore natural gas deposits had been discovered) continued to contest the issue politically and the oil companies wanted an agreed political settlement before they would make major investments. Newfoundland was intractable, so the Liberal federal government sought a deal in a pre-electoral environment with the Government of Nova Scotia that would provide significant federal control within a joint management regime, while providing royalties (and similar activity-related payments) to the province, up to a ceiling. Moreover, the province was permitted, through federal legislation, to impose sales and corporate income taxes, among others, in the offshore areas as if the activities were on land. The province was also given special concessions so that offshore revenues would be protected from reducing equalization payments and was also granted a $200 million "offshore development fund", financed by the federal treasury.

Even more generous terms were then extended to the province of Newfoundland in February 1985, after the Progressive Conservatives took power in Ottawa. This agreement, the *Atlantic Accord*, went further in giving the province a veto over "fundamental decisions" related to offshore development, reduced the federal influence in the joint management system, was

more generous on protection regarding equalization payments, and removed any cap on the province's access to offshore revenues. Nova Scotia then exercised its "most favoured province" rights under its own agreement and signed a comparable *Nova Scotia Accord* with the federal government in August 1986. More than two decades later, these two accords continue to govern oil and gas exploration and development activities offshore these two provinces and it is clear that the major decisions regarding offshore oil and gas activities are effectively controlled by the provincial governments.

3.4 Offshore Exploration and Production Regimes

Exploration and production regimes applicable to Canada's Atlantic offshore areas have evolved over time. Current practices are such that exploration rights are competitively secured, typically involve work commitments, and can be transformed into production rights, provided that conditions stipulated in the exploration licenses are respected. On a number of occasions, companies have voluntarily surrendered to the Crown their acquired exploration rights instead of honoring the conditions agreed to at the time these rights were secured.

Royalty regimes have typically been negotiated for each individual project. In the case of Hibernia, for example, the federal government led the negotiations with the developers; since then, the federal presence has ended and provincial governments alone have negotiated terms with developers. The issue of local benefits (such as supply purchases and employment effects, for example) has been of great importance to both Newfoundland and Nova Scotia, and has thus affected the royalty provisions ultimately agreed to with developers. A few years ago, the Government of Newfoundland and Labrador adopted a generic offshore royalty regime, but then chose not to apply it and opted instead to negotiate project-specific arrangements.

Proposed development projects (including exploration activities) are scrutinized by the relevant federal and provincial agencies prior to a final decision being made on whether to allow individual projects to proceed. Over the years, this process has been streamlined, in response to frequent complaints by industry about the long time periods required for decisions to be reached. For example, agencies now typically undertake approval processes on a concurrent basis (as opposed to sequentially), thus allowing for decisions to be made in a more timely manner.

Things have proceeded very differently on Canada's West coast. Largely in response to expressed concerns about the potential for serious environmental damage, the federal government imposed a moratorium on oil and gas activities in selected areas offshore from the province of British Columbia in January 1971. The application of this moratorium was broadened to include all areas off Canada's West coast in March 1972. Despite sporadic efforts to change this situation, the ban on oil and gas activities offshore from Canada's Pacific coast continues to be in effect almost thirty years after it was first introduced.

4. Petroleum Revenue Arrangements

4.1 Government Revenues from Upstream Oil and Gas Activities

At the most general level, both federal and provincial governments levy a *corporate income tax* on all for-profit, privately held companies doing business within their jurisdictional areas. These taxes, of course, also apply to firms active in oil and gas development and production. Over the years, special incentives have been extended to selected activities in the petroleum sector. From the mid-1970s to quite recently, however, the federal government did not allow royalties paid to provincial governments to be fully deducted in the calculation of taxable income. Tax rates are determined by each province and the federal government independently, but federal and provincial authorities now use very similar approaches in the determination of taxable income.

In Canada, tenure systems typically treat surface and subsoil (including mineral) rights separately. As a result, there is usually a mix of activities in the same geographical areas (fishing and oil production in offshore areas, for example). As far as the energy industry is concerned, however, it also means that arrangements are often necessary (especially in onshore areas) between holders of surface rights and of mineral rights in order for the latter to get access to the "land" from which to undertake oil- and gas-related activities. In situations where surface rights are privately held, the role of public authorities is essentially limited to providing the legal framework that guides negotiations and settlements between the holders of the two types of rights. When mineral rights are held by the Crown, governments are directly involved in the allocation of the rights to explore for and produce oil and gas reserves. These allocation processes are competitive and, as will become clear later, are sources of revenue for the government of the jurisdiction in which the mineral rights are vested.

As far as *onshore* areas are concerned, the approaches used by all of the relevant jurisdictions (including the federal government) to collect revenues specific to oil and gas activities have evolved over time. The fundamental features of these revenue-collection systems, however, have remained largely unchanged. Firms make payments to the relevant government (that of the jurisdiction holding ownership rights in the oil and gas resources) for the acquisition of exploration rights (these payments are often called *bonuses* or *bonus bids*). These are one-time payments designed to secure not only exploration rights, but also their subsequent conversion into production licenses or leases to any oil and gas reserves discovered.

Once production begins, *royalty* payments are due on all volumes of oil and gas produced. Typically, royalty rates are determined for each producing well and are specified as a proportion of that production. These rates depend on a number of factors, including oil or gas prices, the productivity of the well, and in some cases the year in which the deposit tapped by the well was first discovered. Governments have also been known to extend incentive programs that can offer reduced royalty rates on all production under their jurisdiction or to that flowing from selected types of wells. Royalties are usually payable in cash, although the Government of Alberta, for example, collects its royalties on conventional oil production in kind and then contracts out the responsibility for selling the resulting volumes of crude oil on open markets.

Some jurisdictions have also established fees linked to the use of the land where the oil and gas activities occur. In all cases, however, these *rental payments* are quite small both absolutely and relative to royalties and bonuses. Note that rentals payable to governments should not be confused with payments to surface rights owners (usually private land owners) that producers often need to make to secure access to the areas where activities occur.

The main exception to the description provided above is the case of Alberta's oil sands. Bonus payments are still needed to secure production rights; however, in recognition of the high up-front investments required to produce this resource, the provincial government has established a royalty system based on a "revenue minus cost" calculation. During the years prior to the time when developers have recovered their initial investment, royalties are payable at a relatively low rate on gross production revenues. Once the initial investment has been recovered by the developers (or once project "payout" has occurred), royalties are levied against a measure of net operating revenues (or continue to be paid at a relatively low rate on gross production revenues, whichever yields the highest royalty payments to the province). If projects include facilities designed to transform the initial oil sands output (called "bitumen") into a synthetic crude oil, developers are given the choice of paying royalties on bitumen production or on synthetic crude output. In addition, for many years oil sands developers were allowed by both federal and provincial governments to use accelerated depreciation rates for eligible capital expenditures in the calculation of taxable income.

This basic approach was introduced in 1997 and has come to be known as the "generic" oil sands royalty and fiscal regime. At the beginning of 2009, the Government of Alberta introduced changes to this regime, with the result that applicable royalty rates are now linked to light crude oil prices on North American markets. Both governments are also in the process of phasing out the preferential treatment accorded to oil sands producers in the calculation of taxable income. Finally, the province recently announced its intention to begin collecting oil sands royalties in bitumen rather than in cash, as has been the practice since the beginnings of this industry in the 1960s.

Jurisdictions also typically levy a *freehold mineral tax* on oil and gas production from deposits for which the mineral rights are privately held. On average, these tax rates tend to be much lower than the royalty rates that would apply if the relevant deposits were in located in areas where rights are held by the Crown.[18]

As with all other firms undertaking commercial activities, oil and gas companies are also subject to *property taxes*. These taxes are typically payable to local municipalities where the activities are undertaken. In Alberta, for example, municipalities set the tax rates, but the determination of the relevant tax base is governed by province-wide rules. In addition, municipalities in Alberta are not allowed to establish tax rates that differ across types of commercial activity. As a result, oil and gas operations face the same property tax rates as do all other types of commercial ventures.

[18] The Alberta Department of Energy has assembled an excellent document that details the royalty and tax regimes applicable to oil and gas production in a number of provinces. That document, entitled: *Oil and Gas Fiscal Regimes – Western Canadian Provinces and Territories,* was last updated in 2008, and is available online at: http://www.energy.gov.ab.ca/Tenure/pdfs/FISREG.pdf (last accessed on 13 October 2009).

Finally, recall that while the federal government levied special taxes on oil and gas operations within provincial boundaries for a few years in the early 1980s, that practice was terminated by the middle of that decade. Since then the only relevant source of revenue for the federal treasury is the corporate income tax levied on firms in the oil and gas sector.

The potential for inter-jurisdictional competition in oil and gas royalty and tax policy has recently been demonstrated in the Canadian context. In October 2007, the Government of Alberta announced its intention to increase royalty rates applicable to most of the province's natural gas, oil sands, and conventional crude oil production.[19] Industry reaction to the province's *New Royalty Framework* was swift and strongly critical, with clear indications of intentions to re-allocate investment spending to other oil- and gas-producing jurisdictions. The governing Progressive Conservatives also faced a possible political cost since the popularity (as revealed by polls) of a fledgling competing party strongly critical of the Government's new royalty policy grew markedly in the months that followed the October 2007 announcement.

The Government of Alberta then proceeded with a series of policy roll-backs, aimed at selectively reducing royalty rates for certain types of production. This process eventually led to the February 2010 release of a government-sponsored report on the competitiveness of oil and gas investment in Alberta.[20] The authors of this report recommended, among other things, further reductions in royalty rates based, in part, on a comparison of rates in Alberta, British Columbia. Saskatchewan, and a number of US states. It was argued that Alberta should lower royalty rates on competitiveness grounds since comparable rates in other jurisdictions were often lower than those prevailing in Alberta. On the same day that this report was released, the Government of Alberta announced reductions in royalty rates applicable to natural gas and conventional crude oil production in the province; additional reductions were announced a few months later, on 27 May 2010.[21] That same day, the Government of Saskatchewan announced reductions in natural gas royalty rates over a three-year period, designed to attract additional exploration and development activity to that province.[22] The fact that, within the Canadian federation, individual provinces have the constitutional authority to set royalty rates applicable to production occurring within their own boundaries makes it possible for provincial governments to engage in this kind of "tax competition".

In *offshore* areas, the royalty systems – though, in effect, project-specific in nature – are generally more similar in structure to that applicable in the oil sands than to onshore conventional oil and gas production. Royalty rates are typically higher once project payout has occurred, and vary with factors such as prices, flow and cumulative production. Under the terms

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[19] Note that the author was a member of the external review panel whose recommendations led to the October 2007 changes in Alberta's royalty regime, and has since been publicly critical of the Government's subsequent decisions to reduce royalty rates.

[20] Sierra Systems Group Inc. (2010, especially section 4 and Appendix B) *Project Committee Final Technical Report on Alberta's Natural Gas & Conventional Oil Investment Competitiveness to the Alberta Department of Energy.* Edmonton: Sierra Systems Group.

[21] A copy of the news release can be found at this website: http://alberta.ca/acn/201005/28441DB838B27-0336-BB5C-D5EDFEDE158ED1F6.html (last accessed 4 June 2010).

[22] On this, see http://www.gov.sk.ca/news?newsId=b1fdb237-936a-4403-9ada-742b601d66dc (last accessed 4 June 2010).

of the agreements reached with the governments of Newfoundland and Nova Scotia, the federal government adopts provincial legislation dealing with royalties (and other imposts) and collects all revenues owed on offshore production and other activities (since offshore areas are under federal jurisdiction, provinces would be legally challenged if they tried to impose royalties and taxes on their own). These revenues are then simply remitted to the government of the relevant province.

As noted earlier, the Government of Newfoundland and Labrador has recently announced its intention to become an equity participant in future oil and gas development projects located within the province and in the adjacent offshore areas. This will allow the province to participate directly in project net revenues in addition to benefiting from royalties on production.

Table 2 provides a breakdown, for selected years, of government revenues generated by the application of bonuses, rentals, and royalties to oil and gas activities in Canada. As can be seen, royalties are the key form of revenue collection for most provincial governments. Although not evident from the table, royalties on natural gas production have acquired an increased importance within the last decade, both in absolute terms and relative to oil royalties.

4.2 Inter-governmental Revenue Sharing: Fiscal Equalization

As noted earlier, since 1957 the federal government has funded out of its general revenues a system of *fiscal equalization* that provides transfer payments to the governments of provinces with low fiscal capacities to bring them up to an after-transfer fiscal capacity that is close to the national average. Other major transfers, such as for health, post-secondary education, and welfare, are very large (though not directly related to provincial oil and gas revenues) and also have an equalizing impact. Thus the equalization program as such addresses residual disparities and represents much less than 10% of annual federal government expenditures.[23] The commitment of the federal government "to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation" was enshrined in Canada's Constitution in 1982.[24] It is notable that the equalization regime considers only fiscal capacity, not need, and it only "equalizes up" not down, so that a "rich" province, such as Alberta, can remain well above the national average fiscal capacity.

Over the years, the treatment of provincial revenues from natural resources (including oil and gas) within the equalization system has varied markedly: from the two extremes of complete exclusion, to that of 100% inclusion. At the time of writing, the pendulum was firmly in the middle of its arc: 50% of provincial oil and gas revenues are currently included in the

[23] According to the federal Department of Finance, in fiscal year 2007-08, for example, equalization payments totaled $12.9 billion, approximately 5.5% of federal government spending ($232.8 billion). See "Federal Support to Provinces and Territories" (available online at: http://www.fin.gc.ca/fedprov/mtp-eng.asp ; last accessed on 13 October 2009) and Table 4 (page 13) of Department of Finance (2009) *Annual Financial Report of the Government of Canada – Fiscal Year 2007-2008.* Ottawa: Public Works and Government Services Canada.

[24] The quote in this sentence is taken from section 36 of the *Constitution Act, 1982.*

calculations that underlie the determination of equalization payments.[25] However, special treatment is extended to all resource revenues (including those related to oil and gas). The rules currently in effect are such that equalization payments to recipient provinces will be the greater of the amount calculated with all resource revenues excluded and that resulting from only 50% exclusion of these revenues.

Federal policy in this area has responded at different times to fiscal pressures to reduce the claims that provincial oil and gas revenues create on the federal treasury through equalization payments, and political pressures exerted by equalization-receiving provinces with significant oil and gas revenues to capture more net benefits. Views differ sharply on the appropriate principle to apply: those who believe that, as far as provincial revenues are concerned, "a dollar is a dollar" advocate for full inclusion, whereas those who see ownership of resources as a special category of wealth, enshrined in the Constitution, favour full exclusion.

Equally difficult has been dealing with the effects of growing oil and gas revenues on the payments of an equalization-receiving province. Newfoundland and Labrador, Nova Scotia, and Saskatchewan have all argued against the resulting "claw back" (or reduction) of their equalization payments, which they see have seen as negating the benefits of their increasing resource revenues. While the claw back exists equally in the case of other growing revenues, it has been an emotional issue in the case of provincial oil and gas revenues. This was a matter of tense discussions between the federal government and the governments of Newfoundland and Nova Scotia when the offshore accords were being negotiated. Special transitional protections were provided and then subsequently extended, so that the two provinces were largely shielded from possible reductions in equalization payments due to increased oil and gas revenues, until their fiscal capacity reached at least the national average.[26] In fact, Newfoundland and Labrador benefited from "super-payments" even after it ceased to qualify for equalization in 2008-09.

Three further equalization-related issues are developing. First, the equalization system was changed in 2007-08 so that the growth of the total payments was set in terms of a percentage of GDP ceiling, which created a pool of funds to be shared amongst eligible provinces; the relative fiscal capacity of each individual recipient province would then determine the share of the total available payments that it would receive. This ceiling is based on a three-year moving average of nominal GDP growth, so that the program actually grows substantially at a time (such as now) when the economy is in recession (much of the previous growth that is driving the current expansion was in the oil and gas sector). With the advent of the GDP ceiling, the underlying purpose of the equalization system is now unclear: payments are no longer linked to the need to bring all provinces up to a particular standard; rather, eligible provinces get to share a pool of available funds.

[25] For an overview of the changing treatment of resource revenues in equalization, see Annex 7 of Expert Panel on Equalization and Territorial Formula Financing (2006) *Achieving a National Purpose: Putting Equalization Back on Track.* Ottawa: Department of Finance Canada.

[26] For a more detailed discussion of this issue, see A. Plourde (2006) "Offshore Energy Revenues and Equalization: Having Your Cake and Eating It Too?", Chapter 3 (pp. 50-72) in G.B. Doern (ed.) *How Ottawa Spends 2006-2007.* Montréal: McGill-Queens University Press.

Second, Ontario, with about 40% of the country's population and an economy heavily based on manufacturing, has slipped from its long-established advantaged status and now qualifies to receive equalization. This, in turn, may force major reductions in payments to other recipient provinces since, as indicated above, total equalization payments are now determined in relation to GDP growth. Finally, as noted earlier, the federal government has no direct access to oil and gas revenues (other than through the corporate income tax) and so finds itself facing growing fiscal demands because of a buoyant petroleum sector from which it gets a relatively small slice of the revenue pie.

5. Macro-economic Challenges

In general, oil and gas revenues collected by governments in Canada have been treated as part of general revenues, with little attention paid to the significant degree of variation exhibited by these revenue flows over time. This approach has tended to exert pro-cyclical pressures on the expenditure profiles of provinces with significant oil and gas revenues. To the extent that these revenues fall when there is an economic downturn, then oil and gas producing provinces face growing budget deficits (and ultimately higher levels of public debt) and, eventually, pressures to reduce spending levels at a time when standard macro-economic stabilization policy would suggest that increased government expenditures might well be in order. This phenomenon has been documented in the case of Alberta, for example.[27]

In the early 1970s, Alberta sought to address this problem by giving itself a savings vehicle for non-renewable resource revenues. When the Alberta Heritage Savings Trust Fund (AHSTF) was established in 1976, 30% of annual oil and gas royalty revenues were to be invested in the fund.[28] However, as royalty revenues fell, the province opted to maintain its policy of relatively low taxes and high spending; this resulted first in a reduction of the share of royalty revenues to be saved, and eventually, in 1987, to the termination of all flows of such revenues to the fund. Over the last few years, as provincial oil and gas revenues rose and then remained at historically high levels, the Government of Alberta has again made contributions to the AHSTF. At the time of writing, the net value of this fund was approximately $13.8 billion[29]- an amount *smaller* than oil and gas royalties collected by the Government of Alberta in the single calendar year of 2008 ($15.5 billion, as shown in Table 2).

As oil and gas prices rose and then remained high at the turn of the century, provincial energy revenues grew sharply. The Government of Alberta first used this windfall to pay down the province's public debt. Once this was accomplished, a kind of stabilization fund – called

[27] See, for example, R. Kneebone (2002) "Recent and Not So Recent Trends in Provincial Government Spending in Alberta," pp. 25-52 in L.S. Wilson (ed.) *Alberta's Volatile Government Revenues – Policies for the Long Run.* Edmonton: Institute for Public Economics, University of Alberta.

[28] For an overview of the history of this fund, see J.C.H. Emery (2002) "The Heritage Fund – The Logic of the Past and How to Save for the Future," pp. 61-72 in L.S. Wilson (ed.) *Alberta's Volatile Government Revenues – Policies for the Long Run.* Edmonton: Institute for Public Economics, University of Alberta.

[29] See page 4 of Government of Alberta (2009) "Alberta Heritage Savings Trust Fund – First Quarter Update 2009-2010", Edmonton: Alberta Finance and Enterprise.

"Sustainability Fund" – was created in the provincial budget of 2003.[30] Each year, non-renewable resource revenues would be deposited into this new fund once these exceeded a given amount, initially set at $3.5 billion. A cap of $2.5 billion was first established for the Fund, but was breached less than two years later. In recent years, as the economic situation in Alberta deteriorated, the provincial Government used the Sustainability Fund to finance budget deficits, as originally intended. At the end of fiscal year 2008-09, the balance in the Sustainability Fund amounted to $16.8 billion.[31] Drawdowns from this Fund subsequently helped the Government of Alberta finance budget deficits resulting from sustained high levels of public spending in the face of lower revenue flows due to softening international energy (especially natural gas) prices.

Saskatchewan has also established similar funds, but these are tied to the Government's overall fiscal position and are not specifically linked to non-renewable resource revenues. At the end of fiscal year 2008-09, the closing balance of the Growth and Financial Security Fund amounted to $1.2 billion, while that of the Debt Retirement Fund reached $2.4 billion.[32]

Overall, the governments of most oil- and gas-producing provinces in Canada have struggled with the implications of the high variability of their revenue streams. As outlined above, some have sought to design and implement vehicles aimed at limiting the extent to which these revenues are allowed to shape expenditure profiles. However, this has proven quite a challenging task and, as the Alberta experience has shown, one for which a long-term solution has remained elusive.

The last decade's boom in oil- and gas-related activities and the uneven distribution of its consequences across the country has also created a different kind of macro-economic challenge. Rising oil and gas prices, and the accompanying growth in energy export revenues, have exerted upward pressure on the value of the Canadian dollar, especially relative to its U.S. counterpart.[33] The effects of the resulting changes in terms of trade have certainly been felt by Canada's manufacturing sector. The economies of Ontario and Québec, where much of the country's manufacturing activities are concentrated, have thus experienced lower growth due to this induced loss of competitiveness in traditional export markets. Exchange-rate effects have thus meant that the boom experienced by oil- and gas-producing provinces has led to something more akin to a "bust" in manufacturing-intensive provinces (one of the implications highlighted earlier is the fact that, for the first time in the history of the program, Ontario is expected to receive equalization payments in 2009-10).

To date, the federal government has not been actively engaged in this issue, despite the expressed concerns of the governments of Ontario and Québec, and of the manufacturing industries. It is clear, however, that sustained high energy prices and activity levels in the

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[30] See pages 142-143 of Government of Alberta (2003) *Alberta 2003 Budget – Making Alberta Even Better.* Edmonton: Department of Finance. This budget also established a "Capital Account" to provide financing for public infrastructure projects in the province. The Capital Account was eventually folded into the Sustainability Fund.
[31] See page 67 of Government of Alberta (2010) *Budget 2010 – 2010-13 Fiscal Plan Tables.* Edmonton: Department of Finance and Enterprise.
[32] See pages 66-67 of Government of Saskatchewan (2010) *Saskatchewan Provincial Budget 10-11 – Budget Summary.* Regina: Department of Finance.
[33] Empirical evidence supporting this statement is available in R. Issa, R. Lafrance, and J. Murray (2008) "The turning black tide: energy prices and the Canadian dollar", *Canadian Journal of Economics* 41(3): 737-759.

producing provinces will likely lead to a growing macro-economic management challenge for the country as a whole. In particular, this may result in pressures on the Bank of Canada to take these effects into consideration in its conduct of monetary policy.

6. Environmental and Social Issues

Provincial and federal agencies responsible for environmental protection and assessment operate in a transparent manner. Different types of assessments and approval processes are set in motion depending on the potential for environmental damage associated with specific proposed projects, including those put forward by the oil and gas industry. Public participation in these processes is explicitly encouraged, and in cases where public hearings take place, these agencies typically provide intervener funding to assist members of the public in making their views know to the relevant agency.[34]

The most challenging aspect of federal-provincial relations in environmental matters is arguably the development and implementation of climate policy. As noted earlier, at the heart of this challenge rests the fact that provinces own and control the development of resources located within their boundaries, while the federal government is responsible for the negotiation of international agreements. As we have seen, oil and gas production in Canada is very unevenly distributed (in both absolute and per capita terms) across provinces, with obvious implications in terms of the distribution of the associated greenhouse gas (GHG) emissions. This situation is further complicated by the fact that the production of Alberta's oil sands deposits is more GHG-intensive than is the extraction of conventional crude oil, and by the reliance on coal-fired electricity generation by a number of oil- and gas-producing provinces (specifically, Alberta, Saskatchewan, and Nova Scotia). The regional and sectoral distributions of the costs of any national climate policy are thus matters of great interest and concern to provincial governments. Since provincial stakes and incentives vary widely when it comes to climate policy, it has proven extremely difficult for the federal government to articulate a policy package that is both likely to be effective in bringing about emissions reductions and supported by all provincial governments.

As things currently stand, the federal government has announced a policy framework and the Government of Alberta has adopted legislation dealing with a long-term strategy to address GHG emissions in the province. Unfortunately, it is difficult (if not impossible) to see how these two approaches can be mutually consistent over the medium and longer term. As one would expect, the federal policy proposals are more stringent than is the Alberta legislation.

The rights of Canada's aboriginal peoples (First Nations, Inuit, and Métis) are enshrined in the Constitution (section 35 of the *Constitution Act, 1982*). Provisions are also such that the Parliament of Canada has the authority to legislate with respect to matters relating to aboriginal peoples and reservations (lands set aside for First Nations). As noted earlier, an implication of this division of powers is that mineral rights within reservations are vested with the Crown in

[34] For an overview of the operations of the Canadian Environmental Assessment Agency, see http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=B053F859-1 (last accessed on 13 October 2009). The relevant provincial agencies maintain similar websites detailing environmental assessment and approval processes within each jurisdiction.

right of Canada, and not with the provinces within which the reservations are located. An important issue that has emerged over the last few years flows from a decision by the Supreme Court of Canada that recognizes a Crown (both federal and provincial) obligation to consult (and perhaps accommodate) aboriginal peoples when proposed developments (such as the construction of a crude oil pipeline, for example) could potentially affect their ability to exercise (and derive the benefits from) their constitutionally recognized rights.[35] At this stage, the outcome has not been one of heightened federal-provincial tensions, but rather one where much uncertainty has been created about the nature of processes needed to ensure that proposed oil and gas developments are respectful of the rights of Canada's aboriginal peoples.

7. Transparency and Accountability

Processes relating to the assessment and collection of government revenues from oil and gas operations in the Canadian federation operate in a transparent manner. The relevant legislation and supporting regulations are matters of public record, and the agencies and departments responsible for their implementation and administration are accountable, directly or indirectly (an agency reporting through a Minister of the Crown, for example) to the federal Parliament or a provincial Legislature, as appropriate. In turn, regular reports on operations of government departments and agencies are released to the public. Furthermore, the activities of these departments and agencies are subject to the purview of Auditors General who report directly to Parliament or provincial Legislatures, as the case may be. As a result, issues of corruption and diversion of revenues are not matters of serious concern in Canada.

In some cases, however, concerns have been raised about the availability of the resources and expertise needed to implement policy in certain areas. The Auditor General of Alberta, for example, recently expressed reservations about the operation of the province's oil and royalty regimes.[36] Similar concerns were also raised by the province's Royalty Review Panel, especially about the situation in the oil sands.[37] In response, the Government of Alberta asked a former Auditor General of the province to look into these and related issues.[38] As a result, a number of recommendations designed to improve accountability and transparency of government operations were made, some of which have since been implemented.

8. Conclusion

Whatever limitations can be ascribed to Canada's federal system, the fact remains that it has provided an operating environment in which the oil and gas industry has thrived. Between 1960 (the year preceding the introduction of the *National Oil Policy*) and 2008, Canadian crude oil production has risen five-fold (from 545,000 to 3.2 million barrels per day); the increase

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[35] *Haida Nation v. British Columbia (Minister of Forests)*, [2004] 3 S.C.R. 511.
[36] See pages 91 to 132 of Volume 1 of *Annual Report of the Auditor General of Alberta, 2006-2007*, available online at: http://www.oag.ab.ca/files/oag/2006-2007_Annual_Report_Vol_1.pdf (last accessed on 13 October 2009).
[37] See pages 93 to 100 of *Our Fair Share – Report of the Alberta Royalty Review Panel*, available online at: http://www.albertaroyaltyreview.ca/panel/final_report.pdf (last accessed on 13 October 2009).
[38] See *Building Confidence: Improving Accountability and Transparency in Alberta's Royalty System*, available online at: http://www.energy.alberta.ca/Org/pdfs/Valentine_ABRoyalty.pdf (last accessed on 13 October 2009).

experienced by natural gas production is even larger: it has grown twelve-fold (from 1.2 to 15.4 billion cubic feet per day) over the same period. All this has occurred in a rather decentralized federation, where different jurisdictions can materially affect the industry's operating environment. In the end, the policy mix was such that private investment was attracted, development occurred, and the necessary transportation infrastructure was constructed and operated. Oil and gas reserves located in Canada (actually, mostly in Western Canada) were tapped and found their way to consumption markets, especially in the United States and in Eastern Canada. In the end, whatever frustrations it might have created along the way, Canada's federal system can be said to have "worked" for the oil and gas industry.

The producing provinces have also clearly benefited from the activities of this industry. Oil- and gas-related payments to provincial governments have grown markedly over the last decades. In three provinces these payments now account for a substantial share of own-source revenues: in 2007-08, for example, that share exceeded 44% for Newfoundland and Labrador, 28% for Alberta, and 17% for Saskatchewan, as shown in Table 1. All in all, provinces have been able to exercise their constitutionally assigned ownership rights in the oil and gas deposits located within their boundaries, established their own legislative and regulatory frameworks, and reaped the benefits of doing so. This is particularly interesting in the case of Newfoundland and Labrador since the resource deposits are in fact located in areas that are under federal jurisdiction. As with the case of Nova Scotia, the federal government has opted not to exercise ownership rights on behalf of all Canadians, but has instead allowed proximity to the deposits to determine the *de facto* source of jurisdiction.

The uneven distribution of oil and gas reserves across the Canadian landscape has also resulted in important changes in the relative wealth of certain provinces. In 1957, for example, when the federal government first introduced equalization payments, Alberta was a recipient. This quickly changed as the province's oil- and gas-related activities grew in importance, and by 2008 Alberta's per capita GDP exceeded 130% of the national average – the highest value for any province. The case of Newfoundland and Labrador is even more remarkable. Until recently, that province had one of the lowest per capita GDP in the country and had been a recipient of equalization payments in every single year since the program's establishment.

This concentration of oil and gas activities in a few provinces has led to the exacerbation of income inequalities across the country. To some extent, a fiscal equalization system could be designed to address such issues. However, the *practice* of equalization in Canada has met with limited success in this area. Indeed, the pressures on the federal treasury created by the provincially concentrated growth in government revenues derived from oil and gas development and production have led the Government of Canada at times to modify the provisions of the system to limit its own financial exposure to growing provincial oil and gas revenues. In turn, this has meant that differences in provincial fiscal capacities linked to the uneven distribution of oil and gas reserves have not been eliminated through the operation of Canada's equalization system.

Experience seems to show that whenever oil and gas prices are relatively low, as was the case in the years of the *National Oil Policy* for example, it is easier to build a national consensus around a federal approach to oil and gas policy that is broadly supportive of the aspirations of the

industry and of producing provinces. However, rising and sustained high oil and gas prices, such as was the case for most of the 1970s and early 1980s, make it much more difficult to forge a consensus on the thrust of federal energy policy: the interests of producers (mainly in Western Canada) and consumers (especially in Eastern Canada) are simply too different to reconcile easily. In effect, the Government of Canada chose to deal with this situation by abandoning its efforts to articulate a national vision for energy policy, and effectively to withdraw from the realm of an active policy presence in the oil and gas sector, to the extent of choosing not to exercise jurisdiction in areas where the courts had recognized its rights to do so. What has emerged instead over the last 25 or so years is a recognition of the primacy of provincial rights and a strong reliance on market forces to determine the terms and conditions of exchanges involving oil and gas produced in Canada and sold across provincial boundaries or internationally. It is not clear, however, how much longer it would be politically feasible for the federal government to stay disengaged from an active role in energy policy were oil and gas prices to stay relatively high (or continue to grow rapidly). Indeed, in such cases, a more active role might well prove politically imperative to address the concerns of energy consumers and the manufacturing and other exporting sectors.

In a sense, the disengagement of the federal government from oil and gas policy and the prominent role of the provinces in environmental policy arguably make it more difficult for Canada to address the challenges posed by climate change, given the inexorable linkages between greenhouse gas emissions and energy production (and consumption). To the extent that *national* energy policy is articulated around provincially determined policies, how can the federal government design a climate policy for all of Canada without calling into question aspects of provincial energy and environmental policies, especially in the oil- and gas-producing provinces? It seems quite likely that building a national consensus on climate policy will continue to be an arduous task, as the experience of the last dozen or so years of rather fruitless federal-provincial negotiations and discussions on this issue would suggest. Given that, a more promising approach on the climate policy front might be for the federal government to adopt a North American perspective and follow the lead of the U.S. government on this front. Such an approach might prove more acceptable to the energy-producing *and* the manufacturing-intensive provinces since it would mean that the negative competitiveness effects of Canadian climate policy actions could more easily be moderated, at least with respect to the United States – by far Canada's largest trading partner. However, tracking U.S. policy will not be easy because Canada is on a much steeper greenhouse gas emissions trajectory, so that attaining the same targets may require more stringent measures.

It seems unlikely that the implications for future oil and gas development and production of the constitutional guarantees of the rights of Canada's aboriginal peoples and the emerging case law in this matter will give rise to federal-provincial tensions. Here, cooperation between provincial and federal governments seems likely to emerge since the interests of the Crown in right of each individual province and the Crown in right of Canada appear to be aligned: workable solutions have to be found that respect the rights of aboriginal peoples, fulfill the Crown's duty to consult, and allow timely decision-making processes for proposed development projects (including those put forward by the oil and gas industry) to function effectively and efficiently.

In some sense, the challenges posed by the Canadian dollar being an "energy currency" encapsulate the reality of oil and gas activities in Canada. The uneven and non-matching distributions of people and of oil and gas reserves and production lead to divergent interests that can, at times, be politically difficult to reconcile. Indeed, the oil and gas boom of the last decade has not only been a source of wealth, but also one of challenges, for the Canadian federation. To date, the Bank of Canada has not explicitly structured monetary policy around the resulting sharp appreciation of the Canadian dollar. As we embark on the second decade of this new millennium, will it continue to prove politically feasible for the federal government to remain disengaged from energy policy, or will a much more active presence prove necessary to conciliate the divergent interests of oil and gas producing and consuming regions of the country? It may well prove to be the case that climate policy – including its international dimensions – will make a more active role in *energy* policy unavoidable for the Government of Canada.

Table 1. *The Regional Context of Canada's Oil and Gas Industry, 2008*[1]								
	Reserves, end-2007		**Production**			**GDP, 2002 chained dollars**		**Oil & Gas Revenues** *(share)*[2]
	Crude Oil *(mm cu m)*	**Natural Gas** *(B cu m)*	**Crude Oil** *(mm cu m)*	**Natural Gas** *(B cu m)*	**Population** *(thousands)*	**Level** *(billions)*	**Per capita** *(thousands)*	
CANADA	3021.3 1633	.8	159.3	157.9	33311.4	1325.7	39.8	--
British Columbia	24.4 *0.8%*	375.9 *23.0%*	2.0 *1.3%*	27.7 *17.5%*	4381.6 *13.2%*	164.2 *12.4%*	37.5 *94.2%*	4.0 / 4.7
Alberta	2466.0 *81.6%*	1124.9 *68.9%*	108.7 *68.2%*	119.5 *75.7%*	3585.1 *10.8%*	187.0 *14.1%*	52.2 *131.2%*	25.8 / 28.2
Saskatchewan	190.7 *6.3%*	95.1 *5.8%*	25.6 *16.0%*	6.0 *3.8%*	1016.0 *3.1%*	41.6 *3.1%*	40.9 *102.8%*	14.4 / 17.5
Manitoba	7.0 *0.2%*	--	1.4 0.9%	--	1208.0 *3.6%*	42.7 *3.2%*	35.3 *88.7%*	0.1 / 0.2
Ontario	1.6 *0.1%*	19.8 *1.2%*	0.1 *0.1%*	0.2 *0.1%*	12929.0 *38.8%*	534.0 40.3%	41.3 *103.8%*	--
Québec	--	--	--	--	7750.5 *23.3%*	268.6 *20.3%*	34.7 *87.2%*	--
New Brunswick	--	--	--	--	747.3 *2.2%*	23.7 *1.8%*	31.7 *79.6%*	--
Nova Scotia	--	8.0 *0.5%*	0.6 *0.4%*	4.3 *2.7%*	938.3 *2.8%*	29.4 *2.2%*	31.3 *78.6%*	5.2 / 8.1
Prince Edward Is.	--	--	--	--	139.8 *0.4%*	4.2 *0.3%*	29.9 *75.1%*	--
Newfoundland and Labrador	271.8 *9.0%*	--	19.9 *12.5%*	--	507.8 *1.5%*	19.6 *1.5%*	38.8 *97.5%*	26.6 / 44.5
Territories Combined[3]	60.3 *2.0%*	10.0 *0.6%*	1.0 *0.6%*	0.3 *0.2%*	108 *0.3%*	6.5 *0.5%*	60.9 *153.0%*	NA

NOTES to Table 1

1. The primary data used to construct this table were extracted from the online version of Statistics Canada's main database, *CANSIM II*. The only exception is information on total government revenues derived from oil and gas activities (royalties, bonus payments, rentals, and the like) that was used in the calculation of the values reported in the last column. These data were obtained from the database used by the federal government to calculate equalization payments; my thanks to officials of Canada's Privy Council Office for making this database available to me. The numbers in italics represent provincial shares (or proportions) of the corresponding national values, expressed in percentage terms; "--" represents values that are negligible or too small to be reported; "NA" means "not available"; "mm cu m" and "B cu m" respectively stand for "millions" and "billions of cubic metres".
2. This column reports provincial government revenues derived from oil and gas activities as a share (expressed in percentage terms) of measures of their total revenues for fiscal year 2007-08. The first number represents the share of total provincial revenues, while the second is the share of total own-source provincial revenues (that is, excluding transfers from the federal government). Note that the federal government derives a negligible share of its total revenues from comparable oil- and gas-related sources.
3. Represents the Yukon, Northwest, and Nunavut territories combined.

Table 2. ***Land and Royalty Payments by the Canadian Oil and Gas Industry, selected years***
(in millions of current dollars)

	1990		**1995**		**2000**		**2005**		**2008**	
	Land	***Royalty***	***Land***	***Royalty***	***Land***	***Royalty***	***Land***	***Royalty***	***Land***	***Royalty***
British Columbia	167.7	118.8	165.3	175.5	293.2	1003.7	599.3	1966.7	2728.4	1369.9
Alberta	614.2	3132.0	857.2	2735.4	1557.2	9856.2	1964.2	12843.3	1171.1	15454.2
Saskatchewan	52.8	359.9	97.5	479.2	75.1	1117.1	148.9	1473.5	1252.6	1838.0
Manitoba	1.1	23.4	8.0	15.6	1.1	24.9	6.3	41.9	17.8	106.8
Nova Scotia	< 0.5	0	0	3.9	7.1	6.5	44.4	94.2	3.4	547.5
Newfoundland and Labrador	< 0.5	0	6.6	0	0	44.9	15.5	409.5	0.1	2393.8
Territories	1.7	8.7	10.6	7.6	55.7	19.0	26.3	20.2	22.3	32.0

Source: Online version of CAPP's *Statistical Handbook*. Royalty revenues are net of incentive credits. Alberta values relate to both conventional and oil sands production. In 1990, land payments for offshore Newfoundland and Nova Scotia combined amounted to $0.5 million; provincial breakdown is not available.