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EQUALIZATION AND THE TREATMENT OF NON-RENEWABLE RESOURCES

PAUL A. R. HOBSON

Equalization: Welfare Trap or
Helping Hand? (PAPER #6)

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by

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SECTION 1

INTRODUCTION

Much is now known about the efficiency-promoting role of equalization in a federal system of government, largely as a result of developments in the area of local public finance during the past decade. There, the emphasis has been on promoting the efficient allocation of mobile factors of production within the federation. There is also a strong case to be made for equalizing transfers in a federal system of government on grounds of horizontal equity, and this argument has figured significantly in the discussion of equalization in Canada. Horizontal equity dictates that the public sector, both federal and provincial, should not discriminate on the basis of the province of residence in its impact on individuals' well-being. Indeed, the traditional justification for fiscal equalization rests on equity principles.¹

It is, therefore, somewhat surprising to be asked to address the question that is the title for this forum—Equalisation: Welfare Trap or Helping Hand?—since an equalization program centred on provincial fiscal capacities, as is the case in Canada, is an inherently rational economic policy in a highly decentralized economic and social union such as the Canadian federation. Equalization is neither a welfare trap—a description which would seem to confuse the goals of the program with income support programs for individuals—nor a helping hand—a description which would seem to confuse the goals of the program with regional economic development programs.

Rather, we have to believe that a decentralized system of government confers positive net benefits on the functioning of the economic and social union relative to the unitary state. No doubt there are benefits to decentralizing decision-making; there are, however, also costs. These benefits and costs have been well documented in the literature on local public finance. Equalization as practiced in Canada accompanied by a set of harmonizing intergovernmental fiscal arrangements is part of the remedy that ensures the attainment of both efficiency and equity goal within the economic and social union. And, no doubt the remedy carries with it both benefits and costs.

In the next section, the theoretical case for making Equalization payments to the provinces is reviewed. The analysis also suggests the form such payments ought to take. This is followed by a review of the current Equalization program in Canada. With this as background, a short section then assesses theoretical proposals for the treatment of natural resource revenues in the Equalization program. This is followed by an assessment of a recent proposal by the Atlantic Institute for Market Studies (AIMS) to remove natural resource revenues from Equalization. The paper concludes with a brief summary.

¹ The theoretical case on grounds of equity and efficiency for equalization payments is well described in the Economic Council of Canada's remarkably comprehensive and thorough study, *Financing Confederation: Today and Tomorrow* (Ottawa: Ministry of Supply and Services, 1982).

SECTION 2

THE THEORETICAL CASE FOR EQUALIZATION PAYMENTS

The case for fully equalizing provincial revenues to a national average standard has been made by a variety of authors and on both equity and efficiency grounds. For Canada, the equity case has been made by Graham (1964), while the efficiency case has been made by Boadway and Flatters (1982). Both perspectives are outlined in The Economic Council of Canada (1982) and, more recently, Boadway and Hobson (1993).

It is instructive to develop a simple analytical model that makes the case for equalization payments in a federation such as Canada. Consider a federation that consists of a number of provinces, each with its own government. Provincial governments provide public goods and services to residents, financed through taxes on residents or through resource rents. There are no spillover benefits across provinces. There is also a federal government whose activities are enhanced through taxes on the national population. Provinces are assumed to possess fixed endowments of natural resources. These natural resources are owned by the government of the province in which they are situated and associated rents may be used (a) to finance the delivery of publicly provided goods to residents of the province, (b) to make equal per capita transfers to residents of the province, or (c) stored in some form of Heritage Fund.

Labour and natural resources, the sole factors of production, are combined to produce aggregate output in each province, which is delivered through either the private sector or the public sector. Labour exhibits diminishing marginal productivity in the presence of a fixed quantity of natural resources in each province.

Initially, assume that all individuals are identical other than in province of residence. Individuals are each endowed with one unit of labour and are assumed to be perfectly mobile across provinces. In equilibrium, individuals will be as well off in one province as in the other. That is, if individuals can improve their well-being through migration, they will indeed migrate. One measure of an individual's well-being is comprehensive income (I), since it reflects the individual's command over goods and services. Comprehensive income comprises income from labour (w) net of personal taxes (T) as well as any transfers from government and implicit income associated with the provision of goods and services by government. A so-called "migration equilibrium" can then be expressed in terms of equality of comprehensive incomes (measuring the marginal benefits to the individual associated with migration) across provinces.

Let G/N^α denote the individual benefits that arise from public expenditures, where G represents government spending on goods and services, N represents population, and α is a parameter which reflects the degree of “publicness” of government spending. For $\alpha = 0$, we have the case of pure public goods—that is, publicly provided goods that are non-rival in consumption. In this case, migration into province i will not alter the benefits received by existing residents associated with a given level of public expenditure. Where $\alpha = 1$, we have the case of publicly provided private goods—that is, goods that are fully rival in consumption. In that case, migration into province i will reduce the benefits received by existing residents associated with a given level of public expenditure in the amount of the migrant’s equal per capita share.

In addition, government may provide individuals with income transfers financed from resource rents. If RT denotes the total income transfer, each resident’s share is given by RT/N .² Such a possibility is consistent with the notion that a province’s natural resources are owned by that province’s residents. It is also the basis for the discussion of so-called “rent-seeking migration” in the economics literature.

The net fiscal benefit (NFB) to a resident of a province is defined as the difference between the benefits that accrue to the individual from both provincial government expenditures and income transfers and the provincial taxes paid by the individual. Thus, $NFB^i = G^i/(N^i)^\alpha + RT^i/N^i - T^i$ denotes NFBs accruing to residents of province i . We will proceed by identifying various sources of NFBs, the incentives that they provide for migration between provinces, and the implications for the efficient allocation of labour across provinces. Where the migration equilibrium turns out to involve an inefficient allocation of labour, we identify appropriate policy responses.

Comprehensive income in province i is given by the expression

$$I^i = w^i + [(G^i / (N^i)^\alpha + RT^i / N^i - T^i)] = w^i + NFB^i$$

Provincial governments are financed either through taxes on residents or through resource rents. Only that amount of resource rent used to finance current expenditures or transfers to individuals will impact on NFBs. Thus we denote by R —resource revenues—the amount of current resource rents net of any amount transferred to a heritage fund. This, then, is the basis for the strong proposition that any rents that are “saved” in the form of a heritage fund should not be included in revenues to be equalized. As will be evident, it is only to the extent that government activities give rise to NFBs that there may be a case for equalizing transfers. Revenues stored in heritage funds, by design, do not impact on individuals’ comprehensive incomes.

² Analytically, income transfers made to individuals turn out to be equivalent to publicly provided private goods financed through resource rents. It is instructive to include them here, however, since it highlights the fact that resource rents may be used in very different ways.

Budget balance requires that

$$G^i = N^i T^i + (R^i - RT^i)$$

In words, government expenditures must equal revenues from taxes on individuals plus resource revenues not transferred to individuals. Alternatively, the expression can be interpreted to read government expenditures must equal net taxes (tax paid less resource revenues transferred to individuals) plus resource revenues.

Substituting for G^i in the expression for comprehensive income and doing some simple algebra, yields the following expression where $\alpha = 0$ (the pure public goods case):

$$I^i = w^i + (N^i - 1)T^i + R^i - (N^i - 1)RT^i / N^i$$

The sources of NFB differentials across provinces in this case are population and individual tax levels as well as access to and disposition of resource rents. A migrant who moves into a province obtains NFBs in the amount of the cost of public goods paid for through the tax contributions of others and resource revenues less the amount transferred to other residents.³

In this framework, there will be a fiscal externality associated with migration—that is, the individual's migration decision will impact on the well-being of others. On the one hand, there is a positive fiscal externality due to the reduction in existing residents' taxes when the migrant assumes his/her share of the tax burden, T^i . On the other hand, there is a negative fiscal externality due to the reduction in resource revenues accruing to existing residents when the migrant claims his/her share of rent transfers. Thus, the amount T^i represents the benefit to existing residents due to in-migration and the amount RT^i/N^i represents the loss to existing residents due to in-migration.

For the case where $\alpha = 1$ (the publicly provided private goods case), a similar process yields the following expression:

$$I^i = w^i + R^i / N^i$$

Here, taxes on residents used to finance equal per capita expenditures serve as benefits taxes and do not confer NFBs. The source of NFB differentials across provinces is access to resource revenues used to finance either equal per capita expenditures or equal per capita transfers. In either case, the migrant receives NFBs in the amount of his/her equal per capita share in resource revenues.

³It should be noted that rent transfers made to individuals lessen the potential for generating NFBs from resource revenues. By the very nature of pure public goods, resource revenues used to finance such goods will confer greater benefits to individuals than the same level of revenues transferred on an equal per capita basis.

The fiscal externality associated with migration in this case is the reduction in resource revenues accruing to existing residents due to the migrant's claim on consumption of publicly provided private goods and rent transfers. This amounts to the migrant's claim on resource rents, R^i/N^i .

What is particularly striking about these results is just how central resource revenues are as a source of NFB differentials across provinces and as a source of fiscal externality associated with migration. Indeed, in the model presented here, they would be the only source of NFB differential and fiscal externality if they were the sole source of public sector finance.⁴

Fiscal efficiency

Fiscal efficiency requires that the social benefits from migration be equalized across provinces. Social benefits include not only benefits to the individual (comprehensive income in different provinces) but also any associated fiscal externalities.

For the pure public goods case (where $\alpha = 0$), fiscal efficiency requires that $(I^i + T^i - RT^i/N^i)$ be equal across provinces. Individuals' migration decisions will therefore be consistent with fiscal efficiency only where $(T^i - RT^i/N^i)$ is equalized across provinces—that is, per capita net taxes should be equalized. Note, however, that resource revenues used to finance pure public goods need not be equalized (on efficiency grounds) since there is no fiscal externality associated with migration.⁵ Indeed, if populations differ and resource endowments differ, efficiency can be consistent with differential levels of NFBs across jurisdictions in the case of pure public goods.

If $RT = 0$, that is if resource revenues are used solely to finance the provision of pure public goods, efficiency then requires equalization of per capita taxes. Suppose one province (A) is able to finance its entire public sector out of resource revenues while another (B) has no resource revenues on which to draw and is therefore reliant on personal taxes. Efficiency requires that

$$I^A = I^B + T^B$$

⁴ There is however an additional source of NFB differentials across provinces. If provinces differ in average incomes (that is, assume non-identical individuals in terms of labour endowments and different distributions of types across provinces) and levy proportional income taxes at a uniform rate, then per capita personal tax revenues will be lower in those provinces with lower average income and higher in those provinces with higher average income. Other things being equal, this will result in lower NFBs for like individuals living in below average income provinces than for those living in above average income provinces.

⁵ It follows from this that, if provinces tax back resource rent transfers from residents (such that $T^i = RT^i/N^i$), thus effectively employing only resource revenues to finance the public sector, the migration equilibrium will be efficient and, again, there is no efficiency basis for equalization of resource revenues.

Or, in words, the migration equilibrium is efficient only if $T^A = T^B$. What this says is that achieving efficiency requires levying a personal tax in A (at the same per capita level as in B)—that is, provinces cannot sustain totally different fiscal regimes.

Suppose both provinces levy personal taxes but only province A has access to resource revenues and $RT^A = R^A$, that is resource revenues are transferred in their entirety to residents of A (this is equivalent to property rights to resource revenues resting with the residents of the province). Efficiency requires that per capita net taxes be fully equalized. Thus per capita taxes in A must exceed those in B by exactly the amount of per capita resource revenues accruing to residents of A. In other words, resource revenues transferred to residents are fully taxed back and can be used to finance enriched levels of public services.

A corollary to the above is that fiscal efficiency can be achieved by establishing an equalization scheme that fully equalizes per capita resource revenues. Transferring resource revenues from A to B would then require implementing a compensating personal tax in A such that per capita revenues are equalized across provinces. This implies a common level of per capita tax across provinces. Clearly in this case, per capita net taxes will be equalized.⁶

For the publicly provided private goods case (where $\alpha = 1$), fiscal efficiency requires that $(I^i - R^i/N^i)$ be equal across provinces. Individuals' migration decisions will therefore be consistent with fiscal efficiency only where R^i/N^i is equalized across provinces—that is, per capita resource revenues should be equalized across provinces.⁷

Once again, suppose one province (A) is able to finance its entire public sector out of resource revenues while another (B) has no resource revenues on which to draw and is therefore reliant on personal taxes. Efficiency requires that

$$I^A - R^A/N^A = I^B$$

Thus per capita resource revenues (rents) must be fully equalized. This will necessitate a transfer of resource revenues from A to B. The transfer of rents from A to B lowers per capita rents in A and raises them in B. In turn, this will require that a compensating personal tax levy be instituted in A (or a reduction in per capita expenditures). Again, provinces cannot sustain totally different fiscal regimes.

⁶ Where property rights to resource revenues rest with residents of the province, per capita taxes in province A will be equal to per capita resource revenues. Equalization of per capita taxes will then imply equalization of per capita resource revenues across provinces.

⁷ This was the special case considered by the Economic Council of Canada. It can be argued that this case probably best characterizes provincial public sector output in areas such as education and health care.

In the pure public goods case, fiscal efficiency has required the equalization of per capita net taxes; in the publicly provided private goods case, fiscal efficiency has required the equalization of per capita resource revenues. Of course, since per capita resource revenues (used to finance equal per capita expenditures or income transfers to residents) are simply negative per capita taxes, these results are not unexpected. In the case of pure public goods, it is per capita taxes that give rise to the fiscal externality. In the case of publicly provided private goods, it is per capita resource revenues that give rise to the fiscal externality. In either case, attaining fiscal efficiency will necessitate harmonization of tax regimes.

This is the key insight of the analysis: That disparities in per capita resource revenues necessitate the equalization of per capita personal taxes if fiscal efficiency is to be attained. Put somewhat differently, fiscal efficiency requires harmonized fiscal regimes across provinces, facilitated as necessary by equalizing transfers.

Fiscal Equity

The principle of horizontal equity requires that equals should be treated equally. The fiscal system is horizontally equitable if it treats individuals in similar economic circumstances in like manner. In a decentralized federal system of government, fiscal inequity is said to exist where, due to differences in fiscal capacities across provinces, identical persons are treated differently. In the presence of differences in fiscal capacities, provinces have different abilities to provide public services for their residents at given tax rates, giving rise to differences in NFBs across provinces. Thus, on grounds of fiscal equity it is NFBs (as opposed to fiscal externalities) across provinces which need to be equalized.

For the pure public goods case ($\alpha = 0$), we have already argued that on the grounds of fiscal efficiency, $(T^i - RT^i/N^i)$ or per capita net taxes should be equalized across provinces in view of the fiscal externality associated with migration. Equalization of per capita net taxes, however, will result in equalization of associated NFBs only where provincial populations are the same. To the extent that provincial populations differ, the equalization of per capita net taxes will not imply the equalization of individuals' NFBs that arise from the economies of scale associated with the consumption of pure public goods. Provinces with larger populations will have the ability to confer larger NFBs on residents. Fiscal equity, therefore, will require revenue equalization as opposed to equalization of per capita revenues.

Moreover, it has been argued that NFBs that arise from using resource revenues to finance the provision of pure public goods should not be equalized on efficiency grounds since there is no fiscal externality associated with migration. On grounds of fiscal equity, however, this source of differences in NFBs should be fully equalized.

The extent of equalization called for on the grounds of both fiscal efficiency and fiscal equity is identical in the case of publicly provided private goods ($\alpha = 1$). As we have already seen, on grounds of fiscal

efficiency, per capita resource revenues should be fully equalized in this case. Since it is differences in per capita resource revenues that give rise to differences in NFBs across provinces, the same policy prescription is dictated on the grounds of fiscal equity.

The upshot of this discussion is that, in the presence of differing fiscal capacities due to disparities in natural resource endowments, a system of equalization payments will be indicated on both efficiency and equity grounds. Indeed, other things being equal, the model described above gives rise to a case for equalization solely based on disparities in natural resource revenues across provinces. Moreover, the associated equalization formula will be tied to provincial revenue generating capacity as reflected in the actual revenue sources available to provinces. **Resource revenues that are part of current government budgets should be subject to equalization.**

SECTION 3

EQUALIZATION IN PRACTICE

Actual equalization flows are determined by formula, based on the representative tax system. The current formula, in effect since 1982-83, is constructed to equalize revenues to a five province standard, comprised of Quebec, Ontario, Manitoba, Saskatchewan and British Columbia. Fiscal (revenue generating) capacity is measured according to the RTS.

For any province, overall entitlements are calculated according to the following formula

$$E_i = \sum_j E_{ij} = \sum_j t_j \left[\frac{B_{Rj}}{P_R} - \frac{B_{ij}}{P_i} \right] P_i$$

where

$$t_j = \frac{\sum_i TR_{ij}}{\sum_i B_{ij}}$$

denotes the national average tax rate, TR_{ij} denotes total revenues from source j in province i , B_{Rj} denotes the aggregate base for revenue source j in the five representative provinces, P_R denotes the population of the five representative provinces, B_{ij} denotes the base for revenue source j in province i , and P_i denotes the population of province i . Note that t_j , the national average tax rate, is simply the tax rate applied to a particular (standardized) base that will yield actual provincial revenues from that base (using actual rates and the actual base). The role of the RTS is in providing a standardized measure for the value of each base and in calculating fiscal capacities as notional rather than actual—that is, what per capita revenues would be if a standardized rate were applied to a standardized base.

In principle, then, the formula equalizes per capita revenues to a notional standard based on the application of the national average tax rate to the per capita base in the five representative provinces summed across all revenue sources. A province's overall per capita entitlement is the difference between this notional standard and aggregate notional per capita revenues at national average tax rates. Total entitlements are simply per capita entitlements multiplied by provincial population.

Equalization operates as a “gross” scheme—that is, positive total entitlements are paid to so-designated “have-not” provinces—hereinafter referred to as recipient provinces—out of consolidated federal rev-

enues, negative total entitlements involve no direct revenue transfer from so-designated “have” provinces—hereinafter referred to as non-recipient provinces. A “net” scheme, on the other hand, would involve direct transfers from “have” provinces to “have-not” provinces.

Prior to 1982, the equalization standard was a national average standard. Oil and gas revenues were, however, only partially equalized. Since 1982 oil and gas royalties have been fully incorporated into the RTS. In particular, all oil and gas revenues, including Alberta’s, enter into the calculation of the relevant national average tax rate. However, under the five-province standard, only Saskatchewan contributes to the equalization standard. Thus, Saskatchewan has significant negative entitlements under the oil and gas category. Moreover, since the national average tax rate exceeds the implicit rate in Saskatchewan, the formula claw back is based on a notional revenue that exceeds actual revenue.

There are separate categories for off-shore resource revenues in each of Newfoundland and Nova Scotia. Moreover, each of these provinces negotiated bilateral agreements with the federal government. The Canada-Newfoundland Accord and the Canada-Nova Scotia Offshore Accord provided a mechanism for sheltering resource royalties from claw-back through the Equalization program.

Finally, in 1994, the “generic solution” was introduced (back-dated to 1993) whereby if any equalization-receiving province has 70 per cent or more of the base for a revenue source, revenues subject to equalization are reduced by 30 per cent in all provinces. In practice, this has limited the maximum claw-back in such cases to 70 per cent.

SECTION 4

SOME THEORETICAL PROPOSALS FOR THE TREATMENT OF NATURAL RESOURCE REVENUES

The issue of resource revenues and equalization has received considerable attention in the academic and policy literature over the years. Much of the discussion has centred on the allocation of property rights to natural resource revenues. Excellent perspectives can be found in The Report of the Parliamentary Task Force (1981), the Economic Council of Canada's *Financing Confederation: Today and Tomorrow* (1982), and Tom Courchene's *Equalization Payments: Past, Present and Future* (1984).

An early, but significant, contribution was made by Gainer and Powrie (1975). They proposed that resource revenues be shared on a 70:30 basis between the provinces and the federal government, respectively. The 70 per cent provincial share would be subject to equalization. The 30 per cent federal share, based on what would accrue to the federal treasury if all sub-surface rights were privately owned, was to be transferred from the oil and gas rich provinces to the federal treasury and would contribute to meeting the increased cost of equalization.

The basis for their proposal was the proposition that that rents, profits, and interest accruing to provincial governments are factor incomes and should be subject to taxation in the same manner as factor incomes generated in the private sector. Hence the argument that approximately 30 per cent of resource revenues should be transferred to the federal treasury. The remaining 70 per cent would be, in effect, appropriated by the provincial government, claiming property rights, and subject to equalization.

The Parliamentary Task Force on Federal-Provincial Fiscal Arrangements 1981 Report, *Fiscal Federalism in Canada*, adopted the following principles:

- The maximum portion of natural resource revenues that should be included in the equalization formula should be that portion of these revenues that are used for budgetary purposes; that is, as a minimum, the portion sequestered to non-budgetary heritage funds should be excluded.
- To the extent that resource-rich provinces use their resource revenues to provide special services to their citizens that they would not normally offer if they were rich non-resource producing provinces, it would be reasonable to exclude from the formula a portion of resource revenues that find their way into provincial budgets. For example, if a resource-rich province decides to retire all municipal debts, as was done in Alberta, the federal government need not assume that the retiring

of municipal debts is a normal provincial expenditure. In short, resource revenues should be included in the formula only to the extent that they are used to finance what might be considered normal provincial services.

- All resource revenues should be treated in the same manner. That is, no particular type of resource revenue should be excluded from the equalization formula and all resource revenues should be included to the same extent. (Under the current formula, revenues from land sales are excluded, non-renewable resource revenues are included to the extent of 50 per cent, and renewable resource revenues are included in full.)
- There should continue to be some kind of ceiling or safety net relating to the share of total equalization that may be paid out on account of resource revenues in order to protect the federal treasury against runaway increases in the cost of equalization.⁸

Consistent with these principles, one proposal advanced by the Task Force was that only the portion of resource revenues that would accrue to the provinces if all sub-surface rights were privately owned rather than publicly owned should be subject to equalization. This would amount to the provincial share due to income taxation—say, 20 per cent. Thus, the Task Force appears to have adopted the individualistic view that property rights to current resource revenues rests with current residents (subject to the caveats above).

The earlier discussion of the theoretical principles for equalization would suggest that it is (a) what governments do with revenues at their disposal and (b) disparities in revenue sources which determine the case for equalization. Thus, resource rents transferred to residents ought to be equalized—rent-seeking migration creates a fiscal externality; differential NFBs create fiscal inequity. In either case, it is the full amount of resource rents transferred to residents which ought to be equalized, not just the portion which would accrue to the provincial treasury if resources were privately owned.⁹ A truly comprehensive federal income tax base would include NFBs; there is, therefore, some merit to the Gainer and Powrie argument, but not to the Task Force position that only the provincial share due to income taxation should be subject to equalization.

Extending the theoretical discussion, a case might be made, however, that resource revenues used to finance infrastructure development (pure public goods), especially where this corrects for regional disparity, ought not to be equalized on grounds of fiscal efficiency and, perhaps, on grounds of fiscal equity.

⁸ Task Force Report, pp. 164-165.

⁹ Resource revenues, like land rents to Henry George, are unearned income, in contrast to income from labour and capital—as such, their distribution creates a form of NFB.

The Economic Council of Canada Report of 1982, *Financing Confederation: Today and Tomorrow*, recommended the following:

- all natural resource revenues distributed by provincial governments to residents of a province should be taken into account in the equalization formula. It is immaterial whether this distribution takes place directly in the form of goods and services and/or tax relief, or indirectly in the form of subsidized prices;
- resource revenues should be equalized when they are distributed as income to residents of the provinces. Thus funds deposited in heritage, or other savings, funds should not be equalized; they should only be subject to equalization when they commence to provide benefits to provincial residents;
- the amount of provincial natural resource revenues that is subject to equalization should approximate the federal taxes that would be paid, on average, if resource revenues were distributed to provincial residents and treated as personal income;
- there should be no artificial limits, as at present, on the extent to which eligible natural resource revenues are equalized.

To elaborate, the Council adopted a narrow-based view of horizontal equity, namely that, since property rights for natural resource revenues are constitutionally assigned to the provinces, the federal government should concern itself only with horizontal equity in so far as the federal income tax base fails to take into account NFBs arising from the distribution of resource revenues. The consequence of this is that like individuals in resource-rich provinces pay less federal income tax than their counterparts elsewhere. This component of NFB differential across provinces ought to be equalized on grounds of fiscal equity.

The Economic Council, therefore, appears to have adopted the view that property rights to the *benefits* arising from current revenues rest with current residents. Since they, too, would exclude resource revenues held in heritage, or other savings, funds, this could amount to less than 100 per cent of resource revenues. Moreover, it is implicitly assumed that resource revenues accruing to residents—albeit through tax relief or direct provision of goods and services—are exempt from provincial taxation. At the same time, since the income tax base is not enriched, there is no benefit to the federal treasury—effectively, the provincial government is able to transfer the resource revenues tax-free to current residents—providing no offset to additional federal liabilities arising from associated equalization entitlements. The implication is that something less than 30 per cent of resource revenues ought to be subject to equalization.

On the other hand, if resource revenues were distributed annually as income to current residents, then the provincial income tax base would be enriched. This would reflect in both provincial and federal

income tax revenues. Additional provincial income tax revenues would be subject to equalization; additional federal income tax revenues would contribute towards financing increased entitlements. This would suggest, say, a 30 per cent share accruing to the federal treasury and approximately 20 per cent to the provincial treasury; the balance would remain with residents as net income. The implication is that 20 per cent of resource revenues should be subject to equalization.

As Courchene (1984) has noted: “This is an interesting vicious circle. The incentives in the system are such that they encourage provinces to refrain from allocating property rights to resource rents. But the fact that they therefore accrue to the provinces as ‘common property’ resources means that they induce rent-seeking migration to the extent that they are not capitalized.”¹⁰

Again, however, these arguments ignore the simple proposition that distribution of resource revenues to residents *in whatever form* will create the potential for differential NFBs across provinces and, hence, a potential case for equalization.

On grounds of both fiscal efficiency and broad-based horizontal equity, all resource revenues used to enhance public services, reduce tax burdens, pay down debt should be subject to equalization to the extent that these create NFB differentials across provinces.

¹⁰ See Courchene (1984), pp. 108-109.

SECTION 5

THE AIMS PROPOSAL

The Atlantic Institute for Market Studies (AIMS) has recently released a paper by Ken Boessenkool (2001), entitled “Taking Off the Shackles: Equalization and the Development of Nonrenewable Resources in Atlantic Canada.” The claim is made that “non-renewable resource royalties are of a fundamentally different nature from other types of revenues. . . . [w]hen a royalty is levied on the sale of such resources, all that changes is that the province now has a cash asset instead of an asset in the ground.”

Indeed, if the resource royalties are held in the form of savings—say in a heritage fund—then nothing has changed. If, however, the cash is used, as they suggest it should be, to “either reduce debt, or invest in long-term infrastructure” then, while the balance sheet may be unchanged, other than in the mix of types of assets and liabilities, direct benefits will have been conferred on residents of the province. And the resulting NFB differentials give rise to a case for equalization on grounds of both fiscal equity and fiscal efficiency.

In fact, unexploited resource revenues are analytically equivalent to revenues held in a heritage fund (at least as long as the value of the asset is growing at the rate of interest); exploited, they may be explicitly placed in a heritage fund. In either case, they should not be subject to equalization. There is no disagreement that resource revenues held in the form of a heritage fund should not be included in the RTS as revenues to be equalized, other than the caveat associated with the incentive for rent-seeking migration today in anticipation of distribution of the heritage fund in the future. But if used to provide benefits to provincial residents, including tax relief, then they should be subject to equalization.

That is to say, the issue is determining sources of NFB differentials across provinces and using equalization to correct for these. Put differently, the issue is not whether resource revenues constitute income or wealth, rather it is what use is made of the revenues. The issue is not whether resource revenues should be included as current provincial revenues, rather it is whether the actions of the provincial government—in this case the exploitation of a non-renewable natural resource—give rise to NFB differentials.

These arguments might be pushed a little further. The RTS is based on notional revenues. To repeat, equalization entitlements are calculated based on the RTS, summing entitlements over 33 revenue sources computed on standardized bases evaluated at national average tax rates and compared to the representative standard. Thus, for example, notional sales tax entitlements are calculated for Alberta even though Alberta eschews sales taxation. By the same token, it might be argued that notional resource revenues could be assessed in provinces that choose not to exploit known resource deposits.

In light of the generic solution, as much as 30 per cent of these notional revenues could show up as a component of a province's notional own-source fiscal capacity (subject to savings decisions). An argument might be made that any province that is eligible to receive equalization should have notional unexploited resource revenues deducted from its entitlements. That is, provinces should not build heritage funds while still receiving equalization. In practice, of course, it would be difficult to assess a value to unrealised potential resource royalties and surely a contentious matter.

The double-counting/capitalization argument made in the AIMS study is weak. Rents are but one form of factor income associated with exploitation of natural resources. Wages and salaries as well as interest are also generated and to be sure there will be trickle-down effects through the provincial economy, reflected in increases in income and sales tax bases, among others. If all resource rents are held in a heritage fund, there will be no capitalization effect other than those resulting from other factor incomes generated and trickle-down effects. To the extent that resource revenues are used to enrich public services or provide tax relief, the potential for capitalization effects will be enhanced. But without explicit analysis of factor supply conditions, it is not possible to argue that capitalization effects will be so pronounced as to duplicate resource revenues, thereby making equalization of resource revenues redundant. Moreover, if capitalization is truly a phenomenon about which we need to be concerned with regard to equalization, surely projects which grow the economies of equalization-receiving provinces can only result in a more efficient allocation of resources across provinces.

SECTION 6

CONCLUSION

It has been argued here that there is a strong case made in the extant literature for (a) equalizing to a national average standard and (b) including at least some portion of resource revenues in the RTS for purposes of determining equalization entitlements.

- The application of the equalization principle in Canada provides a means by which NFB differentials are, on average, offset across provinces.
- A return to a representative national average standard (RNAS) for Equalization will necessarily require revisiting the issue of the treatment of resource revenues in the representative tax system (RTS), since it was issues centred on resource revenues which gave rise to the representative five province standard (RFPS) in 1982.
- Resource rents transferred to residents as income should be fully equalized to the extent that they create NFB differentials across provinces.
- If resource rents are viewed as being equivalent to other forms of factor income, they should be treated equivalently for tax purposes. Thus some 30 per cent ought to be transferred to the federal treasury. The remaining 70 per cent, appropriated by the provincial treasury as revenues, should be subject to equalization.
- The balance-sheet argument that revenues generated from the extraction of non-renewable resources simply constitute a substitution of assets is a red-herring. What is at issue is the form of government intervention in the economy and the extent to which it results in NFB differentials.
- Revenues (a flow) accumulated in a heritage fund constitute a stock, just as sub-surface oil and gas constitutes a stock. When the heritage fund is run down, this becomes part of current revenues (a flow). It is only when resource revenues are used to confer benefits on residents that equalization issues surface.
- A case may be made that resource revenues used to fund infrastructure development (pure public goods) ought not to be subject to equalization, but this is a special case that may well be better argued outside the Equalization program itself.
- Equally, resource revenues used to finance debt reduction (reduction of future tax liabilities) give rise to a case for equalization on grounds of both fiscal efficiency and fiscal equity if the debt was incurred to finance delivery of services in health, education and welfare (publicly provided private goods).

- Resource revenues used to finance services such as health, education and welfare give rise to a clear case for equalization on grounds of both fiscal efficiency and fiscal equity.¹¹
- Since it is not possible to make a direct link between categories of provincial expenditure and specific revenue sources such as resource revenues, arguments for funding infrastructure projects (including debt incurred through past projects) should be made outside of Equalization. Rather, such arguments should be made as a (strong) case (on efficiency grounds) for specific sorts of bi-lateral agreements on regional development funding, such as strategic highway (asphalt and electronic) development.
- If it is the intention of the Nova Scotia and Newfoundland governments to establish heritage funds, a case may be made for not including the portion of resource royalties held in such funds for equalization purposes.
- Otherwise, those provinces retain 30 per cent of their gross off-shore revenues through the operation of the generic solution.
- Moreover, those provinces may reclaim some portion of resource revenues that are clawed-back through Equalization via bi-lateral agreements on regional development funding, such as infrastructure programs.

¹⁰ In the literature on the economics of natural resources, the so-called Hartwick Rule states that non-renewable resource revenues should be used to finance infrastructure development, not current services.

BIBLIOGRAPHY

Boadway, R. W. and Flatters, F. R. (1982), "Efficiency and Equalization Payments in a Federal System of Government: A Synthesis and Extension of Recent Results", *Canadian Journal of Economics* 15, 613-33.

Boadway, Robin W. and Frank R. Flatters (1982a), "Efficiency and Equalization Payments in a Central System of Government: A Synthesis and Extension of Recent Results", *Canadian Journal of Economics* 15, 613-33.

Boadway, Robin W. and Frank R. Flatters (1982b), *Equalization in a Central State* (Ottawa: Economic Council of Canada).

Boadway, R. W. and Hobson, P. A. R. (1993), *Intergovernmental Fiscal Relations in Canada* (Toronto: Canadian Tax Foundation).

Boadway, R. W. and Hobson, P. A. R. (eds.) (1998), *Equalization: Its Contribution to Canada's Economic and Fiscal Progress* (Kingston: John Deutsch Institute for the Study of Economic Policy).

Boessenkool, K. J., "Taking Off the Shackles: Equalization and the Development of Nonrenewable Resources in Atlantic Canada," paper #2, the AIMS Equalization Papers, Crowley, B. E. (series ed.).

Courchene, T. J., (1984), *Equalization Payments: Past, Present and Future* (Toronto: Ontario Economic Council).

Economic Council of Canada, (1982), *Financing Confederation: Today and Tomorrow* (Ottawa: Ministry of Supply and Services).

Gainer, W. D. and T. L. Powrie, (1975), "Public Revenue from Canadian Crude Petroleum Production," *Canadian Public Policy*.

Graham, J. F. (1964), "Fiscal Arrangements in a Federal Country", in *Intergovernmental Fiscal Arrangements* (Toronto: Canadian Tax Foundation).