



Encouraging Development through Better Integration of U.S. and Canadian Transportation: The Open Prairies Proposal

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The two largest economic blocks in the world, the European Union (EU) and the area encompassed by the North American Free Trade Agreement, were formed to exploit efficiencies inherent in having larger markets that permit the freest possible flows of capital, labor, and goods and services. In this spirit, throughout much of the EU, member state motor carriers enjoy cabotage, the right to perform domestic movements within another member state. For all practical purposes, motor carrier cabotage does not exist in North America. In this article, the feasibility and likely benefits and costs of North American cabotage are explored in a limited experiment called “Open Prairies.” Open Prairies would allow cabotage for U.S. and Canadian carriers throughout the Canadian Prairie provinces and several Upper Great Plains U.S. states. (JEL F13, F14, F16)

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The world’s two largest economic blocks, the European Union (EU) and the area encompassed by the North American Free Trade Agreement (NAFTA), both were formed to exploit efficiencies inherent in having larger markets that permit the freest possible flows of capital, labor, and goods and services. In this regard, the EU is ahead of NAFTA, particularly with respect to transportation. For example, a French motor carrier can deliver a load from Metz to Düsseldorf and thereafter make hauls within Germany, on the same footing as its German counterparts, before returning to France.¹ In other words, throughout much of the EU, a member state’s motor carriers may engage freely in point-to-point movements entirely within the national

boundaries of another member state. That freedom to perform domestic movements within another jurisdiction is known as cabotage. The reality is much different in North America. On both sides of the border, regulations preclude cabotage in virtually all cases.²

In terms of economic efficiency, the EU system seems superior to the more restricted approach among the North American nations. That cabotage is attractive for shippers and carriers is suggested by the fact that the volume of such activity has increased dramatically. In terms of tonne-kilometers, it nearly doubled in the EU between 1999 and 2004.

¹ Technically, a French carrier in Germany has the right to perform domestic movements “on a temporary basis,” according to Council Regulation 3118/93. However, the meaning of this phrase is not clear in the regulation, has never been ruled on by any court in the EU, and is not enforced (ECORYS Nederland, 2004).

² In theory, cabotage is allowed for movements “incidental” to an international movement. However, only in rare instances would a movement qualify as “incidental.” Moreover, there are cross-agency conflicts in limitations placed on foreign carriers. Such problems were summed up in a Canadian industry journal: “U.S. Customs regulations allow for Canadian-based vehicles to transport domestic shipments (point-to-point in the U.S.) when the shipment is incidental to...an international movement...Because the INS regulation prohibits this type of move, in effect, the U.S. Customs regulation is moot at the present time” (*Highway Star Magazine*, 2005).

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That cabotage need not undermine the viability of domestic carriers is suggested by the fact that across EU nations cabotage accounts for between 0.4 and 2.56 percent of total domestic truck movements (ECORYS Nederland, 2004).

To be sure, there are potential problems from cabotage, including security considerations and cross-national differences in labor laws, weight and size limits, and tax regimes. Moreover, as was the case for economic deregulation of trucking within the borders of the United States and Canada, political realities may slow or entirely preclude liberalization long after the preponderance of scientific opinions and evidence from other areas of the world commend it as beneficial. Without a clearly relevant example of success, it is very difficult to change the status quo. Consider, for instance, the likely pace of economic deregulation in the United States and Canada if Florida³ had deregulated its intrastate trucking in 1960, instead of 1980. In that event, there would have been an actual example from which to judge the effects, rather than just the speculations of academics, those in the industry, and bureaucrats.

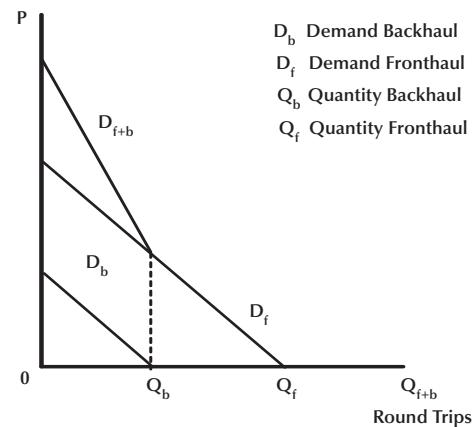
In this paper, we offer an approach to effect a limited experiment in motor carrier cabotage in North America, which we call “Open Prairies.” Open Prairies would allow cabotage for U.S. and Canadian motor carriers throughout the Canadian Prairie provinces and several Upper Great Plains U.S. states. The plan would include a sunset provision to require both nations to reaffirm the arrangement after a specified period. We also discuss variants of the plan, each with different rules regarding conditions under which cabotage would be permitted. The likely sources of costs and benefits of the scheme are briefly discussed as well.

The limited scope of this paper should be clearly understood. It presents a possible approach for an experiment in motor carrier cabotage in North America, but does not provide quantitative estimates of the potential impacts based on extrapolations from similar experiences in other parts of the globe or from assuming specific changes in the performance of North American carriers. Indeed,

³ Florida was the first state to deregulate intrastate motor carrier transportation.

Figure 1

Joint Production of Fronthaul and Backhaul



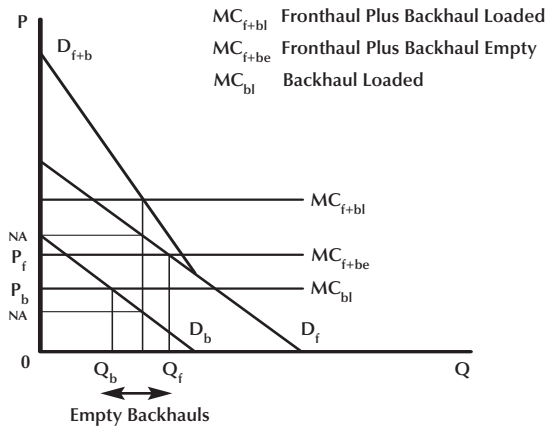
central to our proposal is the observation that arguments based on such estimates have proven insufficiently compelling to make cabotage for motor carriage in North America a serious political issue. To do that, we assert, requires a demonstration of cabotage within North America.

THEORETICAL FRAMEWORK

The absence of cabotage means that Canadian trucks carrying goods across the border *to* the United States are not allowed to carry goods from one point to another *within* the United States. In Canada, customs and immigration laws create reciprocal restrictions on American truckers so that they are prohibited from carrying loads with both origin and destination in Canada. As a result, trucks experience more empty miles and on average charge higher freight rates to cover their costs.

The outbound and inbound movements of a truck’s round trip are joint products: The outbound trip cannot be created without the existence of a return trip. By convention, the direction that has the strongest demand (D_f) for trucking services is referred to as the fronthaul; the other direction, with the weaker demand (D_b), is referred to as the backhaul. With joint products, demands are summed vertically, as illustrated in Figure 1, to obtain the

Figure 2
Calculation of Fronthaul and Backhaul Freight Rates in an Unbalanced Market



total demand. Based on this total demand (D_{f+b}), the freight rates in each direction are determined.

Figure 2 illustrates the calculation of freight rates in an unbalanced market⁴ in which a large number of trucks are forced to return empty ($Q_f - Q_b$). Freight moving in the direction of the fronthaul bears the bulk of the costs. The freight rate for the fronthaul (P_f) covers the cost of the fronthaul movement plus the cost of returning empty. This follows because freight rates must be sufficient to attract the marginal trucker. With freight imbalances, that trucker would not have a backhaul and would, therefore, need to be compensated for empty return costs. Higher fronthaul freight rates that include the marginal costs of the fronthaul and the empty return (MC_{f+be}) discourage trade.

In sharp contrast, the backhaul freight rate (P_b) covers only the marginal cost of returning full, rather than empty. These costs include the following: search for the backhaul load, repositioning, loading and unloading of the load, and additional fuel and wear and tear associated with running full, rather than empty. It could be argued that the low-cost transport in the backhaul direction results in more freight movements in that direction (and thus

results in more closely balanced transport markets) than if backhaul rates were higher. This is certainly true. But there are limits to which lower freight rates can stimulate movements in the “light” direction. Unbalanced freight lanes can have many causes, including differences in resource endowments, income distributions, and populations. Just because freight rates are low does not mean that freight volumes in opposite directions will balance quickly or, indeed, ever.

IN PRAISE OF TRIANGULATION

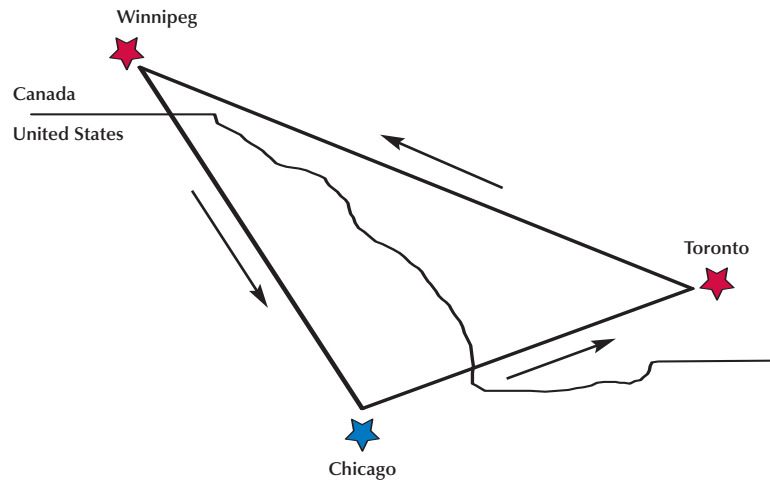
Trucking companies try to avoid taking low-paying backhaul rates by employing routes that provide better-paying loads over three or more legs. The trucking industry refers to this as triangulation.⁵ Figure 3 represents a common triangulation route that Canadian truckers may use to avoid the Winnipeg-to-Toronto backhaul traffic lane. Carriers can earn fronthaul rates on loads to Chicago, pick up another fronthaul load to Toronto, and finally return to Winnipeg with a fronthaul load. Parenthetically, for the Toronto-to-Winnipeg leg, the deregulation of the Canadian trucking industry helped truckers find loadings.

Similar patterns are available to U.S. carriers, except the base of the triangle has to be within their own national jurisdiction.

The economic and environmental benefits of triangulation should be stressed. Low backhaul rates along a route reflect low economic value for marginal (i.e., additional) truck services. For trucks running empty along a route, because of insufficient load availability, there are no positive benefits from the movement, and monetary, environmental, and safety costs are still incurred. With triangulation, a fronthaul and a backhaul situation is transformed into three or more fronthauls. The lose-lose situations of empty movements are minimized. As a result, downward pressure is exerted on freight rates on the triangulation routes. Recall that in typical fronthaul-backhaul situations, the freight rate for the fronthaul incorporates the costs of the fronthaul, as well as the empty backhaul movement

⁴ That is, a market with more freight movements in one direction than in the opposite direction.

⁵ In this discussion “triangle” or “triangular route” will refer to roundtrip routings with more than two legs. So, a “triangle” may geometrically be a literal triangle (three legs), rectangle or trapezoid (four legs), etc.

Figure 3**Triangulation of Truck Routes to Avoid Backhaul Freight Rates**

along the routing. If there are no backhauls, that element disappears. That is, P_f declines from MC_{f+be} to MC_f .⁶ In simple terms, with triangulation, fewer trucks handle the same amount of freight for higher per-unit-distance returns to themselves, but lower total costs to shippers and lower total costs to the environment and lower safety risks.

Suppose that loads are available along and in the directions indicated in Figure 3. If a Canadian trucker secures the loading from Winnipeg to Chicago, that trucker potentially could take advantage of the triangular movement back to Winnipeg via Toronto. On the other hand, however, suppose a U.S. carrier secures either the loading from Winnipeg to Chicago or that from Chicago to Toronto. That carrier would be precluded from avoiding the backhaul movement because the Toronto-to-Winnipeg portion of the triangle would involve cabotage. The same would be true for Canadian drivers with respect to triangulation possibilities with point-to-point movements on the U.S. side of the border, for example, a Winnipeg-Chicago-Kansas City triangle. Triangulation helps truckers make the best use of their assets for their

own sakes, society's, and the environment's. Restrictions against cabotage limit triangulation.

ELUSIVE BENEFITS AND NON-ELUSIVE COSTS OF RESTRICTING CABOTAGE

Suppose the only opportunity for a triangular routing between Canada and the United States were the one depicted in Figure 3. Under current laws, with cabotage precluded, only Canadian truckers would have the opportunity to use it. If underlying operational costs of trucking firms on both sides of the border were the same, Canadian trucking firms would dominate. This follows because Canadian trucking firms would be able to offer haulage along each leg of the triangle, including those crossing the border, for MC_f . U.S. trucking firms would be precluded entirely from the intra-Canada movement (i.e., Toronto to Winnipeg) and at best could offer service on the cross-border routings for MC_{f+be} . Under these conditions, Canadian trucking firms would have incentives to lobby for continuance of cabotage restrictions as it artificially gives them a cost advantage relative to their U.S. counterparts for the cross-border

⁶ MC_f is not shown in Figure 2. It would be somewhere between MC_{f+be} and MC_{bl} .

movements and a monopoly for the intra-Canada movement.

Monopolies and cost advantages resulting from the laws of man, rather than those of nature or technology, may bestow relative advantages on some, but virtually always at the cost of greater disadvantages to society. If restricting use of the Figure 3 triangle to carriers with owners owing some allegiance to Queen Elizabeth makes sense for society, perhaps even greater gains could be realized from the further stipulation that those owners be left-handed. Of course, that is ludicrous. Given the fiction of only one possible triangular routing, “protected” Canadian carriers might benefit, but with overall net losses to society over a free-transport market solution. In the real world, the potential for losses would be magnified and the “protected” carriers may realize little or even negative benefits from their protection.

In reality, at any moment there would be tens or hundreds of thousands of possibilities for triangular routings between the United States and Canada and these would be changing across time. For example, a Canadian carrier’s vehicle might arrive in Chicago with a load from Winnipeg and, only then, the carrier become aware of possible, but legally precluded, lucrative loads from Chicago to Fargo and others from Fargo to Winnipeg. Because trade sanctions almost always are reciprocal, opposing cabotage freedoms to protect triangles over which your and your countrymen’s firms have exclusive use denies you access to triangles having more than one terminal point in the other country. Every opportunity denied reduces the net gain from the protected triangles. There still might be a net gain for some if it were a zero-sum game. But the self-imposed limits for the sake of protection would also tend to limit opportunities for exploiting economies of size and scope.

Even without economies of size or scope, if there actually were economic profits to be had from denying cabotage to others, this would mean higher than technically necessary freight rates. Over the medium and long term, such rates would erode the competitiveness of the shipper/receiver firms and ultimately lower freight levels. Over the long run, protected trade inevitably means less economic

activity. Protections might grant you a larger portion of the economic pie, but that pie will be smaller, as might be your slice of it. This is particularly true as the other giant trading block, the EU, allows cabotage. An apt analogy is the Canadian experience during the 1980s. Beginning in the late 1970s, economic regulations in the U.S. trucking system were being greatly reduced,⁷ while the Canadian system remained largely unchanged. After a sharp recession in the first few years of the 1980s, the nearly deregulated U.S. trucking industry entered a period of significant growth and productivity gains (Jones, Fullerton, and Beilock, 1992). In part because of perceived and realized corrosive effects on the Canadian economy from a more competitive U.S. transportation system and, hence, cheaper U.S. goods, as well as diversions of Canadian freight through the United States, Canada soon began deregulating its trucking.

DESIGNING A NORTH AMERICAN EXPERIMENT IN CABOTAGE FOR TRUCKING

For the reasons just presented, it behooves North American policymakers to consider moving toward the more liberal EU system. Just as Florida’s and Arizona’s complete deregulation (the first and second states, respectively, to deregulate intrastate trucking) provided valuable input to other state and U.S. federal authorities in determining proper directions for their reforms, a limited North American experiment in free cabotage could be of significant value.⁸ The following might be considered as minimum requirements for a Canadian/U.S. experiment in cabotage for trucking:

⁷ The first and most major legislation leading to deregulation was the Motor Carrier Act of 1980. However, beginning around 1977, the ICC began liberalizing its administration of existing regulations.

⁸ Reflecting the importance of the Florida and Arizona examples, the U.S. federal government funded studies of their pre- and post-deregulation experiences; e.g., see Beilock and Freeman (1985) and Freeman and Beilock (1984). Other examples include a study funded by the Utah state legislature during drafting and consideration of a trucking reform bill, which drew heavily from the Florida and Arizona experiences; see Beilock and Freeman (1984) and a study funded by the California Public Utilities Commission of Florida and Arizona household goods carriers for its deliberations to deregulate intrastate household goods carrier freight rates (see Beilock, 1990).

- The experiment should be reversible. Indeed, to prevent the experiment from passively morphing into the status quo, the mechanism for its termination should be in place from the onset.
- The areas in both countries should be large enough to facilitate real and detectable effects from allowing cabotage.
- The experiment is intended to be limited, and the directly affected regions should account for relatively small shares of both economies and populations.

The first requirement can be dealt with, simply, through a sunset provision indicating a date after which the experiment is ended unless it is reaffirmed through new legislation.⁹ Given that this would require timely action by two federal governments and, possibly, various states and provinces, it seems likely that it would be continued only if the results had been markedly and broadly favorable.

THE PRAIRIE PROVINCES AND THE UPPER GREAT PLAINS STATES

We propose all or part of the Canadian Prairie provinces and the Upper Great Plains U.S. states as the best candidate region for a cabotage experiment. Hereafter, we will refer to a cabotage experiment in this region as Open Prairies.

As suggested from our earlier discussion, for there to be significant potential benefits from allowing cabotage, there needs to be significant improvements in equipment utilization rates (i.e., in the percent of full kilometers—or tonne-kilometers—to total kilometers—or total tonne-kilometers). The three Canadian Prairie provinces (Alberta, Manitoba, and Saskatchewan) and the five U.S. states to their south (Idaho, Montana, Wyoming, and North and South Dakota) are geographically vast, accounting for, respectively, a fifth and an eighth of the areas of their countries. Given these large areas, if cabotage does result in altered equip-

ment utilization rates, the effect should be discernable to researchers.

While the region is geographically large, it accounts for modest shares of each nation's population and economy.¹⁰ Just over one-sixth of all Canadians live in the Prairie provinces and they earn roughly one fifth of the nation's income. The five U.S. states are even smaller, accounting for about 1 percent of U.S. population and production. If there were a desire to have the two regions be more equal, relative to their nations, Alberta might be omitted. This would reduce the Canadian region to around 7 percent of the total population and 6 percent of production. Of course, U.S. states, such as Nebraska and Minnesota, might also be added.

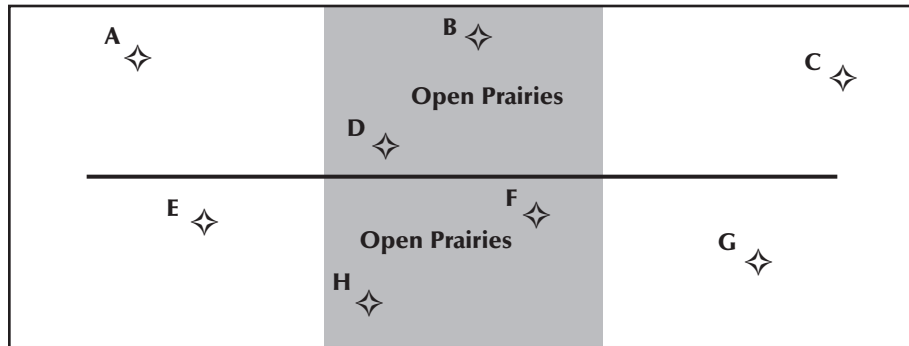
The exact boundaries of the region for Open Prairies would depend on political considerations. The attraction of the Prairie province–Upper Great Plains states area is that it provides large land areas over which to test whether there are benefits from allowing cabotage, while directly involving relatively small portions of the populations and economies of the two nations. Another attraction of the region is that it is relatively poor. With the exception of Alberta, the states and provinces in the proposed region have lower per capita incomes and have slower population growth rates than the averages for their countries. Open Prairies would involve temporary cessation of some restrictions. In other words, carriers and shipper/receivers within the region would have some prerogatives not enjoyed by others. As such, it is highly likely that the overall economic impacts to the affected regions would be positive. For equity reasons, it would be appealing if that favored area was economically less favored and Open Prairies could double as regional development.

The assertion that the overall effects would be positive was not meant to imply that there would not be losers, nor that there might not be other, unexpected, problems. Indeed, identifying the nature and extent of such problems is the underlying rationale for a limited experiment.

⁹ There is an interesting precedent for this. Florida's total economic deregulation of intrastate motor carriage was due to the last-minute failure of its legislature to renew regulations before their sunset provisions came into force.

¹⁰ Information presented in this paragraph is based on Statistics Canada and U.S. Census and Bureau of Economic Analysis data obtained through various websites.

Figure 4
Schematic of Canada and the U.S. with Open Prairies Area



ALTERNATIVE RULES FOR ALLOWING CABOTAGE

There are several possible alternative rules for determining what movements would qualify as permissible cabotage. These will be explained with the aid of Figure 4, which presents a schematic of the two countries. The horizontal line in the middle of the figure represents the United States–Canada border, the gray area is the Open Prairies region, and the crosses denoted by letters are origin and destination points.

Some potential alternatives for permissible cabotage include the following (where “O” and “D” denote origin and destination, respectively, in the Open Prairie region):

- **OD International, OD Cabotage:** Allowing cabotage only if both the prior international movement and the cabotage are entirely within the Open Prairies region. For example, a Canadian carrier would be eligible for a cabotage movement within the United States only if the movement to the United States was from B or D and to either F or H. Further, that cabotage could only be between F and H.
- **D International, OD Cabotage:** This variant is identical to the previous one, with the exception that any origin for the preceding international movement would suffice. So, the aforementioned Canadian carrier could

have brought a load from A or C, in addition to B or D, prior to permissible cabotage between F and H.

- **OD International, O Cabotage:** Like the first variant, the international movement would have to be within the Open Prairies region, such as a movement by a U.S. carrier from H to B. The carrier would then be allowed to perform a movement within Canada as long as the origin were within the Open Prairies region. So, that carrier could make a haul from B to D, A, or C. Or “deadhead” (i.e., travel without a load) to D and make a haul to B, A, or C.
- **D International, O Cabotage:** This variant is identical to the previous one, except that there would be no limitation with respect to the origin for the international movement.
- **O International, D Cabotage:** The origin for the international movement would have to be within the Open Prairies region, but the destination could be anywhere in the other nation, such as G for a Canadian carrier. To qualify as permissible cabotage, that carrier would then have to make a haul to a destination within that country’s part of the Open Prairies region. So, for example, the Canadian carrier with the international haul to G could then make a haul to F or H, but not E.

- **O or D Cabotage:** The origin or destination of the prior international movement would not matter, but at least the origin or destination for the cabotage movement would have to be in the Open Prairies region.

Obviously there are more potential variants, including combinations of some of those already shown. Selection of which variant would depend on two elements. The first is the degree of freedom deemed desirable for the experiment. The second is the regulating authorities' willingness to mandate controls dependent on previous, as well as current, movements. For example, for the last variant listed above, knowledge about the routing taken for a non-native carrier to enter the country would not be necessary to determine whether the current domestic (i.e., cabotage) movement were permissible. Such knowledge would be necessary, however, for most of the previous variants.

NUMBER OF CABOTAGE MOVEMENTS PERMISSIBLE

A related consideration would be whether and the extent to which a foreign carrier could engage in successive cabotage movements before returning to its own country. If successive movements are either limited or precluded entirely, authorities will need the capacity to check on previous hauls.¹¹

POTENTIAL PROBLEMS

There are, to be sure, potential problems or complications with cabotage. For example, cabotage would allow Canadian (U.S.) firms and laborers to operate within the United States (Canada). This occurs frequently in various industries to the extent that they are foreign owned and staffed: for example, a McDonald's in Ottawa and a Tim Hortons in Portland. The complication with trucking is that the location and duration of work would be difficult to predict. To deal with this, systems would have to be developed to address relevant tax issues.

¹¹ The EU approach is to allow cabotage on a "temporary basis" (ECORYS Nederland, 2004). Defining and enforcing this has proven difficult.

While it is important to recognize and prepare systems to deal with issues such as taxation, it is also important not to characterize as problems factors that may be related to international movements but would be materially unaffected by allowing cabotage. Into this category fall three important considerations: national security; vehicle standards, including weight and length requirements; and traffic safety. National security issues related to foreign carriers, basically, concern the danger of allowing undesirable individuals or materials to cross your nation's borders. Open Prairies would not affect security procedures at borders. Likewise, vehicle standards, including weight and length limits, are checked at border crossings, as well as at check points within each country. These would be unaffected. Finally, whether for an international movement or permissible cabotage, all carriers are subject to that country's safety regulations, including hours of service.

SUMMING UP

The near-total exclusion of transportation from the Free Trade Agreement and, subsequently, from the NAFTA almost surely has negative effects regarding overall efficiency and production in North America. The particular focus of this paper has been the effective banning of cabotage for trucking. The EU, which allows cabotage for trucking, could serve as an example to judge the merits of freer international trade of trucking services; but it is, for most observers, too far removed.

An approach was proposed for instituting a limited, reversible experiment in cabotage for trucking in Canada and the United States. It would be centered on the Canadian Prairie provinces and U.S. Upper Great Plains states. This is a geographically large area that accounts for a relatively small portion of each country's population and economic activity. It seems likely that the experiment would have positive overall effects for this generally depressed region. Moreover, as the region accounts for small portions of the two economies, costs from any negative distributional effects would likely be minor.

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