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ECONOMIC GROWTH AND INNOVATION

## Railroad Blues: How to Get Canada's Rail Policy Back on Track

by

Benjamin Dachis

- The rising use of rail to ship crude oil is intensifying the competition between oil, grain and other resource producers for access to rail lines to ship their products. Meanwhile, federal regulations that favor one sector over the others are creating winners and losers.
- What should be done? The ongoing Review of the *Canada Transportation Act* should recommend that the federal government not reimpose the minimum grain shipping order and let expire the extended interswitching order, imposed in March 2014 under the *Fair Rail for Grain Farmers Act*.
- The federal government should also eliminate the cap on revenues from grain shipments that rail companies can collect.

Moving Canada's energy and resources products to worldwide markets has rarely been a more fraught issue. It has been the single most important domestic public policy topic for Canada's energy and resources sector over the last few years. A stalled regulatory process for oil pipelines has resulted in an increase in oil shipped out of Western Canada by rail instead. At the same time, large increases in Western Canadian grain production have put pressure on railways, and governments, to ensure that farmers can get their products to market. These pressures boiled over in March 2014 with major policy changes from the federal government that prioritized grain rail shipments ahead of other sectors, such as forestry, mines and energy.

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This is a summarized and revised version of a submission made with Daniel Schwanen to the *Canada Transportation Act* Review in December 2014 that also covered aviation, infrastructure and trade policy. Thanks to Mark Krass and Aaron Jacobs for assistance in data collection. Thanks to the anonymous reviewers of this submission and Daniel Schwanen for helpful comments. Any remaining errors are my own.

The government also expedited a major Review of Canada's federally regulated transportation sector. That Review of the Canada Transportation Act (CTA) will assess both the short-term and long-term needs of Canada's federally regulated transportation sectors. As I will argue in this E-Brief, past federal moves have not been consistent with the principles of the CTA. Indeed, they may exacerbate system-wide congestion and harm other energy and resources sectors.

### **Regulation in the *Canada Transportation Act***

Before addressing rail sector-specific issues that affect the energy and resources sector it is important to understand the principles behind the National Transportation Policy in the CTA.<sup>1</sup> Specifically, the CTA's regulatory principle implies that regulators or governments should intervene – such as through regulatory orders or subsidies – only when there is a market failure, and not unduly favour or inhibit one transportation mode over others. In economic terms, market failures exist when society would be better off with a lower or higher level of output than that provided by market actors left to their own devices. Examples of market failures are uncorrected externalities, such as pollution or safety risks to the public.

This regulatory principle underpinning the CTA does not specifically rule out government support for regional development, or support for specific stakeholders. However, such government intervention will inevitably have the consequence – either intentionally or unintentionally – of making one mode of transportation more favoured than others, meaning that some firms will benefit more than others from the intervention. Unless it is established that there is a market failure to correct, therefore, policies that provide regional support or have varying effects on different types of firms violate the principle of not giving undue favour, which is explicitly stated in the Act.

### **Rail and the Energy and Resources Sectors**

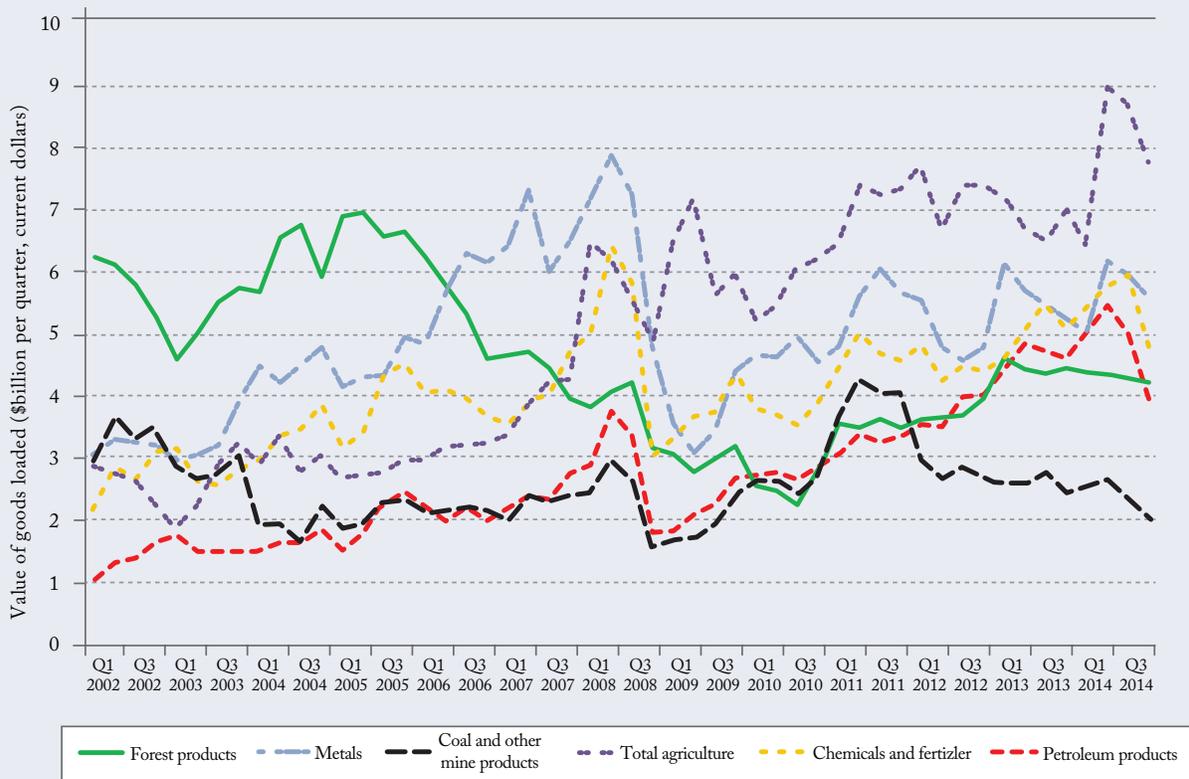
Energy and resources companies ship most of their products through pipelines and rail. I estimate that the value of rail shipments of energy and resource products, in nominal dollars, has increased from \$77 billion per year in 2002 to \$123 billion per year in 2014 (Figure 1).<sup>2</sup>

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1 See the declaration in section five of the *Canada Transportation Act* (S.C. 1996, c. 10).

2 Measuring the importance of the railway sector to the energy and resources sector is not straightforward. Statistics Canada and Transport Canada only report the value of exports on the mode a product was shipped across borders or the tonnes and number of domestic railcar loadings. I apply the annual value per tonne to monthly railcar loading data provided by Statistics Canada for comparable commodity groupings. I assign each commodity type listed by Statistics Canada into the aggregate categories of commodity types listed in Transport Canada (2013). I assume that the value per tonne of exports of these broad categories is the same as the average value per tonne loaded onto trains. I prorate annual estimates of value per tonne loaded for each quarter in a year based on the components of the Bank of Canada's commodity price index most applicable to the commodity type we examine.

Figure 1: Estimated Value of Railway Energy and Resource Loadings, Q1 2002–Q4 2014



Source: Author’s calculations from Transport Canada, Statistics Canada, Bank of Canada. Data are seasonally adjusted.

The rail sector has seen dramatic changes in the composition of shipments as measured by economic value. During the mid-2000s commodity boom, forestry products accounted for the largest value of shipments, followed by metal and mine products. Agricultural products now represent the largest value category of shipments loaded onto railcars. The second and third quarters of 2014 saw large spikes in the value of agricultural products shipped.

However, it is impossible to say how much of that is due to federal minimum grain shipment orders referred to above, or how much those orders affected shipments of other commodities.

The federally regulated transportation sectors the CTA Review is examining are critical for international exports by Canada’s energy and resources sectors. Almost \$45 billion, or over half of the value of Canada’s \$77 billion worth of rail exports, is comprised of energy and resources products. Out of a total of \$477 billion of physical exports, \$284 billion – 60 percent – of Canada’s total goods exports are energy and resource products (Table 1).<sup>3</sup>

3 All data are for 2013. For my categorization of energy and resources products, I set machinery and equipment, vehicles, electrical machinery, furniture and appliances, waste and scrap and other manufactured and miscellaneous items as non-resource exports. These data are from Transport Canada (2013).

**Table 1: Canadian Goods Export Value, By Commodity Type, 2013, \$ Billions**

	Rail	Pipeline	Marine	All other modes	Total
Energy and resources	44.8	85.8	77.0	76.7	284.3
<i>Agriculture and forestry</i>	15.1	0.0	28.0	33.0	76.1
<i>Mines and metals</i>	11.7	0.0	22.9	17.2	51.7
<i>Petroleum products</i>	7.5	85.8	22.7	2.6	118.5
<i>Chemicals</i>	10.7	0.0	3.4	23.9	37.9
Other products	32.4	0.0	18.0	142.2	192.5
<b>Total</b>	<b>77.2</b>	<b>85.8</b>	<b>94.9</b>	<b>218.9</b>	<b>476.8</b>

Note: Other modes include truck and aviation. Exports include re-exports. I assume pipeline shipments are to the US and for petroleum products. Export value does not include services.

## The Rise of Rail for Shipping Crude Oil

Rail has also become especially important for crude oil exports because of recent delays to pipeline approvals. The total value of petroleum products – a more expansive category than crude oil – loaded onto Canada’s rail cars peaked at about \$5 billion in the third quarter of 2014, falling to \$4 billion in the last quarter of 2014. (Figure 1). The amount of crude oil loaded onto railcars in Canada is small, but growing. In the first quarter of 2012, approximately 16,000 barrels of crude oil per day were exported by rail. In the fourth quarter of 2014, approximately 173,000 barrels of crude oil were exported per day by rail.<sup>4</sup>

The future loading capacity of crude oil facilities in Canada is also set to grow substantially. Taken together, the announced and existing capacity of Canadian loading facilities (as of December 22, 2014) amounts to 1.4 million barrels per day, more than any single major pipeline proposal currently before the National Energy Board (NEB). Although not all these facilities are certain to be built, compared to pipelines they can be built quickly if the need emerges.

Shipping oil by rail has inherent benefits beyond reducing reliance on only pipelines to export oil. Compared to pipelines, rail means oil can get to market faster and reach otherwise inaccessible markets, while offering more responsiveness to changing demands, less dilution for transport, and lower capital costs. A further benefit of shipping crude by rail is that it allows companies to load pure Canadian oil on ships in US ports, avoiding US export bans of unrefined US crude. Pipelines intermingle US and Canadian crudes, meaning unrefined crude shipped by pipeline cannot leave the US by ship without a special permit. Shipping crude by rail also allows Canadian producers to get around the shortage of oil export facilities in Canada and more access to worldwide markets (Preston 2014).<sup>5</sup>

4 <http://www.neb-one.gc.ca/nrg/sttstc/crdlndprtlmprdct/stt/2014/cndncrdlxprtssl-eng.html>

5 The safety of shipping crude oil by rail is an important and legitimate concern. The federal government recently introduced new regulatory performance standards, such as minimum crew size and tanker car integrity, and is now charging a fee on shipments of oil. Given these changes, I do not address safety issues in this E-Brief.

## The Minimum Quantity Grain Shipping Order

In March 2014, the federal government ordered Canadian National and Canadian Pacific to transport to ports 1 million tonnes of grain a week between April 7, 2014 and August 3, 2014 – some 380,000 tonnes more than their average shipments during the 2012-13 crop year – or face a fine up to \$100,000 per week. While the government allowed the 2014 order to expire on March 28, 2015, it stated: “Mandatory volume requirements continue to be an option if the grain supply chain compromises farmers’ livelihoods, the economy or Canada’s international reputation as a reliable shipper.” (CNW March 28, 2015.) In other words, the government has retained the power in the coming years to specify the minimum amount of grain that each company must move during any period within a crop year.

### *Grain Shipping Revenue Cap*

Rail companies have limited incentives to move grain, owing to a cap that limits the revenue that Canadian National and Canadian Pacific can earn from certain grain shipments. The Canadian Transportation Agency sets the average revenue per tonne cap by a pre-determined formula that accounts for certain railway costs.<sup>6</sup> The cap is a legacy of the days of government ownership and price regulation (Gill and Schulman 2013). The revenue cap is arbitrary, applying to shipments to the west coast and Thunder Bay, but not to the United States or Churchill, Manitoba. It does not apply to any other commodities shipped by the same companies.

The cap means that if a rail company charges higher prices for a grain customer the rail company must lower prices for other grain customers than what the market would normally bear. The result may be lower investment and lower service levels; the precise problem the March 2014 order tried to address. The price distortions also impact the relative allocation of scarce locomotives across commodities.

### Extended Interswitching

In addition to the minimum quantity order, other amendments to the CTA under the *Fair Rail for Grain Farmers Act* affect the terms of interswitching. They extend the distance over which shippers may request interswitching services from 30 kilometres to 160 kilometres from railway crossroads.<sup>7</sup> This means regulated rates for switching to another carrier apply over a greater distance. The measures are in force until August 1, 2016. Schulman (2014) finds that the increased threshold means that almost all shippers in Prairie Provinces now have the right to seek interswitching rail services. This means a move towards more regulated pricing than in the past, since prices for interswitching rail services are set by the Canadian Transportation Agency, the transportation regulator.

More traffic travelling at prices set by regulation, and not by the market price, or opportunity cost, of a specific line, means that congestion may result. If the regulations cause railways to charge less than the marginal cost of access to a rail line the likely result in the long term is less investment in rail lines and more congestion.

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6 For more details, see <https://www.otc-cta.gc.ca/eng/qa-revenue-cap-transportation-western-grain>

7 According to the Canadian Transportation Agency, “Interswitching is an operation performed by railway companies (carriers) where one carrier performs the pickup of cars from a customer (shipper) and hands off these cars to another carrier that performs the “line haul” (the majority of the linear distance of the overall railway movement).” See <https://www.otc-cta.gc.ca/eng/interswitchingrates>

Congestion is a negative externality in which one person or company's decision to travel harms others. But there is no such externality when a single entity owns and operates all vehicles on a line and charges prices for customers according to market demand.<sup>8</sup> A rail company, for example, will internalize the economic cost of adding one vehicle in the context of the others it also owns. For rail lines, there is likely no negative externality that could justify government involvement in railway infrastructure decisions. Grain shipping negotiations among farmers, grain buyers, rail companies, and shippers include all beneficiaries. As the 2001 Review argued, extending the distance limits would worsen the market-distorting aspects of interswitching.

The stated aim of the government's policy was to get "agricultural products to market more efficiently."<sup>9</sup> However, the potential congestion that the interswitching order might cause could harm the efficiency of the system for other energy and resource products. The increase in congestion caused by interswitching may also harm other shippers, such as crude oil loading facilities, that may have based their location decisions on being within the original interswitching thresholds. Likewise, the interswitching distance extension did little for other sectors such as forestry or mining, which are often further than 160 kilometres from an interswitching point. As a result, the government's moves have unduly favoured one group of shippers – the grain sector – over others.

### **Rail Policy Reforms – Getting Back on Track**

With more demands on rail companies in Western Canada, the Review should recommend that rail regulation not favour one sector's transportation needs over those of others. Rail regulation should only address market failures. Accordingly, the Review should recommend that the federal government:

- not reimpose a grain shipping order and let expire the extended interswitching measures in the *Fair Rail for Grain Farmers Act*; and
- eliminate the cap on revenues from grain shipments that rail companies can collect.

Such reforms would fit the broad and long-term scope of the Review's mandate, while also providing policy changes the government could put in motion immediately upon receipt of the Review.

### **Conclusion**

As the CTA Review considers its recommendations on rail policy for the federal government, it should keep in mind the CTA's core principle on regulation: that government action not "unduly favour, or reduce the inherent advantages of, any particular mode of transportation." Recent moves by the federal government have had the effect – intentionally or unintentionally – of potentially reducing the competitiveness of rail services offered to firms in the energy and resource sectors. It is time to get Canada's energy and resource freight rail regulation back on track.

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8 An example of this is in the aviation sector, where airlines operating at hubs internalize the cost of congestion (Mayer and Sinai 2003).

9 See <http://news.gc.ca/web/article-en.do?nid=822889>

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Benjamin Dachis is Senior Policy Analyst, at C.D. Howe Institute.

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