Mortgaging the Future or Seizing the Dangerous Moment? The Long Run Impact of the McBride Special Timber Licenses in British Columbia, 1905-1907

J.C. Herbert Emery and Harry J. Paarsch

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Abstract: Between 1905 and 1907 the McBride government of the province of British Columbia alienated 85% of the provinces timber resources through the issuance of "Special Timber Licenses" (STLs). In return for an annual rental payment, the license was a renewable and tradeable option on timber cutting on a "staked" square mile. Roach (1984) assessed that the STL's created a new group of speculators, "license owners who neither logged nor owned sawmills but held the permits purely for their increase in value". The Special Timber Licenses generated considerable revenues for the government of the day at a time when export demand for BC timber had yet to emerge by taking advantage of speculative interest in the timber resources of BC. British Columbia Land Policies were structured to balance three goals; to raise revenue for the public treasury; to encourage productive use of the land and natural resources of the province to grow the economy, and to limit speculative activity on public lands. The McBride government had abandoned the third principle of restraining speculative activity so completely with the STLs that historians have viewed the STLs as the ruinous policy action of a government desperate for short run revenue. Compared to the counterfactual of no STLs, historians and foresters believed that forest revenues were lost to speculators over the long run and forest management suffered from the inefficiencies created by the STLs. In this paper, we revisit this perception of STLs and we argue that the STLs may actually have been the source of BC's long run prosperity. The STLs allowed BC to leverage its forest wealth decades ahead of the emergence of demand for the majority of the timber without borrowing through bond issues. Most critically, the STL revenues were invested in infrastructure development, the creation of the BC Forest Branch and potentially even the expansion and improvement of the schooling system.

"It was a moment of danger for the Province; it was the parting of the ways. British Columbia was not the first young country that languished for want of capital; it was not the first young country that had sought to obtain capital by the sale of natural resources. Modern history is full of sad examples of young countries determined to get capital at any price, at any ruinous sacrifice for the future… in 1905, the ingenuity and foresight of the statesman were needed to invent a forest policy to meet the situation."
Hon. William R. Ross, Minister of Lands, on the Second Reading of the Forest Bill, 1912, page 4

The Staples Thesis has long been used to describe economic development arising from natural resource exports following a shift in autonomous demand. What has often been presumed is that the linkage or spreading effects of the autonomous demand shift have been the product of natural resource production and export. This presumption has been reasonable for staple episodes like cod, fur and timber but has not worked as well for the wheat boom where exports lagged settlement and investment by as much as a decade. In other cases, like British Columbia timber and Alberta oil, considerable symptoms of a staples episode accompanied an autonomous demand shift that raised potential export prices but no significant production or export from the natural resource endowment occurred. These situations highlight the extent to which financial markets can allow for rents from natural resource endowments to be exploited to initiate many of the linkage and spreading effects that are traditionally associated as products of resource production and export. In this light, the remarkable changes in timber policy of the McBride government in British Columbia in 1905 that resulted in the alienation of nearly all accessible timber in the province through Special Timber Licenses (STLs) by 1907 when the issuance of STLs was suspended, provide new opportunities to understand how natural resource endowments promote economic development. In 1908 and 1909, half of all public forest revenues in Canada were accounted for by British Columbia but little of those revenues came from forest production. They came from annual rental payments on the licenses, which were options on rights to cut timber. An underappreciated aspect of this brief period of timber alienation in BC is that the rights to cut nearly all of its timber resources were assigned to private interests in only a three year period.

According to Cail (1974, 245), BC land policy had been devised to balance three objectives; encouraging the industrial development and settlement of the province; raising revenue for the crown, and discouraging speculative activity on public lands. The ability to achieve this balance was hampered by one fundamental challenge for the new province in 1871, a lack of public revenue and resources for administration. For example, where the ideal land policy would have had public survey of lands completed before alienation of rights, limited resources for surveying, and later for collecting royalty revenue, prevented this arrangement as policy in BC. In 1904, the BC government saw speculators as the solution to the Crown's lack of revenue and the province's lack of capital needed for development. In the midst of a continent wide speculative boom, an expected "timber famine" in North America as eastern supplies diminished, and growing markets for BC timber decades away, the McBride timber policy of 1905 secured revenue in the present by selling options on timber cutting which could be held for 21 years and which were tradeable. License holders paid an annual rental for holding the options until market conditions dictated when and where the timber would be felled. Royalties would be collected at that time. The government retained title to the land and reserved the right to annually alter royalty rates on cut timber and annual rental payments for the licenses. Minister of Lands, William Ross (1912) described the innovation of the timber license as being the more intensive use of annual rental payments but the change was more fundamental in that it was an abandonment of the restraints on speculation. Forest revenues for the crown increased from less than $500,000 in 1904 to a steady stream of around $2.5 million per year as late as the 1920s from the rental payments on 15,000 timber licenses which represented cutting rights on three quarters of the estimated merchantable timber in the province.

To date, historians have interpreted these licenses as the unfortunate actions of a government opening up its timber rights to speculators solely for the purpose of short run revenue generation. Critics of timber policy in this period argue that such unplanned and unregulated disposal of rights and cutting decisions resulted in wasteful timber management and a dysfunctional timber sector for decades to come. The most charitable interpretation of the era by the critics is that in making such a large mistake, the logic of the need for a forest service and a more regulated timber sector was an outcome (Sloan 1956, Drushka 1995). The changes in timber rights disposal to the "Timber Sales" appear to have been a direct reaction to the perceived problems under the special timber licenses.

In this paper we examine the impact and legacy of the McBride STL era on the BC economy. We show that there is little understanding in the historical literature of how option sales would work which is in contrast to the actors of the day who demonstrated a clear understanding of tradeoffs that they were making in opening up a market for timber cutting options. At a time when the market for BC timber was still decades away, the exploitation of speculative interest in BC timber to secure revenue for the government and capital for the province was a pragmatic decision for politicians of the day. We argue that perhaps the most critical lesson from this era concerns the exploitation of non-renewable resources and resource rents generated by short run price cycles. Roach (1984) attributes the McBride government's railway, road and bridge construction programs to the increase in revenue from the STL rental payments. Not as clearly linked to the boost in public revenue is that BC had a rapidly developing education system (Minns and Mackinnon 2009) and created the BC Forest Branch in 1912 (Drushka 1995). One interpretation of these changes, if they can be directly linked to the license revenues, is that the rents earned off of speculative motives were capitalized through these investments creating even longer term returns to the province. These outcomes were all achieved without the levels of borrowing that created problems for other young economies; without onerous taxation levels and without giving resource ownership away.

THE CHALLENGE OF DEVELOPMENT AROUND NATURAL RESOURCE ENDOWMENTS IN YOUNG COUNTRIES

William R. Ross (1912, 4), Minister of Lands, provided a passionate defense of the McBride STL's, immodestly referring to the Forest Act of 1905 as "a stroke of genius, because in its bold and sweeping features it is unlike anything attempted in any other country". Ross explicitly linked the economic stagnation of BC prior to 1905 to a lack of public revenue and a consequent lack of capital. He stated that "The province was starving for capital, and had no means of drawing upon its natural wealth" (page 2). He talked about the "ruinous" approaches of other young resource rich countries like Australia that sought "to get capital at any price, at any ruinous sacrifice of their future" (page 4). It appears that Ross was referring in particular to the problems that came from borrowing and referred to the "crushing indebtedness" of the Australian states due to their public loans policies.

Ross framed the STL's as 1905 as an example of foresight in policy where the predicted North American timber famine arising from demand for timber coincident with declining supply would emerge within 30 years. Ross noted that declining supplies in the eastern half of the continent resulted in stumpage prices increasing by "leaps and bounds".

> "Stumpage in consequence was being sought almost feverishly by investors. Here in British Columbia was the timber; here the crying need for public revenue to open up the Province, for capital to invigorate our anaemic industries, and there – throughout the older regions of the continent – was the capital we needed, capital which was seeking to invest itself in the fast diminishing Western reserve of timber that in consequence of the exhaustion of the Eastern forests was destined to control the lumber markets of America before another thirty years should pass".

The lack of capital in BC prior to 1905 meant that the province could not be expected to organize the necessary service that could cruise and value timber by area of the province and sell it as they do in older countries and provinces. Further, even sales of timber would be a challenge as in 1905 prices of Western stumpage were low. But, the expectations of the Province were that the timber of the province would see a large increase in value in future. As Ross (1912, 5) summarized:

> "the problem before the Government bristled with difficulties. The Province was stagnating; capital was essential; cheap stumpage was necessary for the lumbering industry; the people's timber was to be made to yield immediate revenue, yet there was to be no throwing away of the future rise in stumpage. The unearned increment was to be preserved to the people, for whom the Government was trustee."

The solution to the problem posed above was a modification to existing Land Policy. Ross (page 7) noted that profit is extracted from forests in two ways; by holding standing timber and by cutting it. Ross described the usual Canadian system, as practiced in Ontario and other provinces, was to sell Crown timber in return for three payments – 1) a lump sum payment at the time of the sale to secure a share of the holding profit; 2) a nominal annual rental, and 3) a royalty when cutting took place to share in the manufacturing profit.

The lump sum and royalty payments posed a problem for BC at its early stage of development and a need for steady, even flows of revenue when expected cuts of timber would be small (pages 5 and 6). First, with the expected demand for cutting the timber decades away, the revenue from royalties were too far in the future and unpredictable since they would be determined by trade conditions in the future. The use of lump sum payments at the time of sale of timber rights were also problematic due the uncertainty that the lump sum would reflect the true value of the standing timber due to the large number of sales that would be expected to be made in a short period of time. Lump sums would be affected by business conditions at the time of sale and by concerns over future gluts of timber from a newly developing region. Of particular concern, unanticipated future increases in the value of timber may not be "properly realized" by the public when sales were made. In sum, the concern with reliance on up front payments was that timber might be alienated far below its intrinsic value. Also creating a challenge to the use of up front payments, and royalties, was a lack of resources to invest in the cruising and surveying of millions of acres of crown land.

By what seems to be the process of elimination according to Ross's logic, in 1905 the McBride government settled on the modification to move to nominal up front lump sums and rely more on the rental price for holding the timber cutting rights. The Government allowed anyone to secure the right to cut timber through a license, giving an option on timber that was only to be paid for when the timber was eventually cut in return for an annual payment reflecting the "annual interest on the timber reserved for them". The investors America and Europe were offered investments that allowed "the holding of timber until a market should be favorable for the cutting of it"(pages 5-6). Royalties would be assessed when the timber was cut.

Minister Ross in 1912 interpreted the STL's as having produced a source of "permanent income" for the provincial treasury. In contrast to up front lump sum payments which were one time payments that left the Crown as a rentier, the STLs reliance on rental payments provided a stream of income while not forgoing the public share of timber profits expected in future:

> "The Provincial policy has made the Government a sleeping partner in forest exploitation – a sharer in the profits of the lumbering industry... that under careful management heavy taxation need never fall upon the population of this province. The profits from a permanent Crown timber business should make British Columbia that phenomenon of statecraft and good fortune – a country of semi-independent means". (page 11)

By 1912 it was clear the McBride STL's were successful for raising revenue as revenues from timber sources in BC rose from $455,000 in 1904 to $2,785,000 in 1908, generating $13 million for the BC treasury between 1905 and 1912 (page 6). With little actual cutting of timber, BC forest revenues were 2.5 times the forest revenue of any other province and half of all Dominion Forest revenues.

BC LAND POLICY AND THE MCBRIDE *SPECIAL TIMBER LICENSES*[1]

The McBride Special Timber licenses in many respects were not a dramatic change from other land policies in BC. The Crown remained the owner of timber and the land on which the timber stood as they were selling licenses for the rights to cut timber. The revenue instrument was not new, just a change in emphasis across the three instruments already in use. What was remarkable and contentious was the decision to sell timber cutting rights to speculators rather than only legitimate timber cutters and lumber mills.

Cail (1974) describes how British Columbia Land Policies were structured to balance three goals; to raise revenue for the public treasury; to encourage productive use of the land and natural resources of the province to grow the economy, and to limit speculative activity on public lands. Up to 1904, policies for the disposal of timber emphasized the productive use of the natural resource for economic development. Timber Leases were longer tenure arrangements often with no limit on acreage that could be held for lumber mill operators.[2] Leaseholders either had to have a mill of specified capacity operating or credibly intend to build such a mill within a specified period of time.

In 1888, Special Timber Licenses (STL) were introduced for legitimate timber harvesters. These licenses restricted the acreage of land for which property rights to the timber could be held and they were non-transferable with short tenure of one year with renewability for periods up to 5 years. While these stringent conditions to encourage productive use of the timber discouraged speculators, they also resulted in little acreage of timber rights alienated and little revenue for the B.C. Crown. Demand for B.C. timber did not go much beyond local demands prior to 1896 and the settlement of the prairies.

After 1896, there were several forces that would have altered expectations over the level of demand for British Columbia timber. First, the rate of prairie settlement accelerated after 1896 in the wheat boom era triggering demand for lumber for construction and railway building. Second, the late nineteenth century saw the rise of the view of the Eastern North American "timber famine". Rapid timber depletion in the east of the continent led to the logical conclusion that western timber would increasingly be in demand as it was expected that the Americans would reduce tariffs against Canadian timber in the face of domestic supply shortages. Third, in 1904, construction of the Panama Canal began which once completed would reduce transportation costs to the UK and European markets.[3] Lumber prices in Canada began to increase after 1900 after a decade of stagnation reaching a peak in 1907 of 170% of 1900 lumber prices which was a greater percentage increase than for any group of commodities (1910 BC Royal Commission on Timber and Forestry,

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[1] This section relies on Cail (1974), the 1909-1910 Royal Commission of Inquiry on Timber and Forestry (1910 Royal Commission), the 1945 Royal Commission on the Forest Resources of British Columbia and the 1956 Royal Commission on the Forest Resources of British Columbia (1956 Sloan Commission).

[2] Timber leases had 21 year terms with royalty and land rental values fixed for the 21 year tenure at values established at the granting of the lease.

[3] Cail Page99- 100- Cail only notes the role of the growing prairie market for BC lumber around 1903-1905. He makes no mention of the Panama Canal or the perceptions of the US timber famine. Ross (1912), the BC Minister of Lands discusses the expected timber famine and the expected market impact of the Panama Canal for BC timber.

page D42). Ross (1912, 4) noted that these increases in price were not seen in the West as the prices of "Western stumpage were very low in 1905".

With these actual and expected changes in the long run demand for BC timber, speculative demand for BC timber rights would have risen. In addition, with the expectation that timber prices would be higher in future, the BC government realized that the opportunity cost of fixing royalties on timber cut and rentals on land for 21 years meant that British Columbians would not be sharing in the higher future resource rents. Cail (1974, 99-100) highlighted the government's revenue motives as a reason for changes to timber alienation arrangements:

> "... the government became convinced that to leave the rental and stumpage fixed on these acreages, in addition to the older leases, for twenty-one years, was shortsighted. Because so little was definitely known concerning the extent of British Columbia's timber and because there was the probability of a sharp increase in the demand for that timber with the immense new market on the prairies, the McBride government felt that to tie up extensive acreages for twenty-one years at a nominal holding charge was a poor way of drawing immediate profit from a substantial portion of the best timber areas. Therefore, all granting of timber leases was abolished."

1n 1905, the McBride BC government ended the granting of timber leases and introduced changes to the Special Timber Licenses that amounted to the government selling "options" on the rights to cut BC timber rather than immediate cutting rights. The term for the STL as of 1905 was one year, but the license was renewable for 21 years so long as the license holder paid the annual rental on the reserved timber. There were no limits on how many licenses could be held by a single interest (person or company). The limit of one license per interest was relaxed and licenses were transferable upon the payment of a fee. There were no conditions that required the license holder to cut the timber. The land was to be surveyed in advance of timber harvest, not in advance of filing for the license. Unlike timber leases, with the STLs the BC government retained the right to alter the annual rental on the land under license and the royalty rate on timber cut so that if timber demand and prices were higher, the Crown could obtain a larger share of the higher rents.

Many of the policy parameters of the STLs were set prior to 1904 including the limit on acreage (640 acres or one square mile); the annual rental on the license ($140 west of the Cascades and $115 east of the Cascades); the royalty rate on cut timber ($0.50 per 1000 board feet on cut timber), and the rules for obtaining a license (staked, described and advertised in the B.C. Gazette for two months, no requirement for survey prior to cutting). What changed after 1904 were the property rights on timber conferred by the license. The licenses were transferrable and went from 5 years renewable to 21 years renewable. If timber on the licensed land was not harvested at the end of 21 years, the property rights to cut the timber reverted to the Crown owner.

The BC government ceased the issue of STLs in December 1907 and placed all unalienated timber in reserve. There seems to have been several reasons for this development. First, the financial panic of 1907 in the U.S. was thought to have wiped out demand for the timber options from Americans. Second, the BC government assessed that all of the accessible timber in the province had been alienated as of 1907 meaning that by the end of 1907 there was little accessible timber left to stake. It was also evident that even with a great increase in annual cut the market "in sight" would not be able to use in 21 years all of the timber held under lease and license.

After 1908, there were several notable changes to the timber licenses in force that were related to the market value of leases. First, in 1910 the 21 year licenses could be surrendered and converted to an annual, perpetually renewable license (so long as there was merchantable timber on the land) in return for a fee of $20 (Whitford and Craig and Leavitt, 1918, 90-93).[4] The logic for doing this was two-fold. First, there were fears that as licenses neared 21 years in tenure, license holders would simultaneously liquidate the timber on the licensed land on a scale that flood the market and depress lumber prices.[5] Second, the market value of the license would dissipate with the tenure perhaps resulting in the lapsing of leases due to non-payment of rentals. Obviously this would reduce government revenues unless timber cutting was going to take place.

The second important change was to the government's discretion to change royalty rates and rental rate on land year to year. Banks refused to accept timber licenses as collateral for securing credit because of the uncertainty over future government royalties and rentals (Whitford et al. 1918, 91). The risk to the bank would be that the government would dramatically increase royalties and rentals so that the market value of the license was dramatically reduced. As a consequence, after 1912, the BC government established a schedule of royalties that could be revised every five years. In addition, land rentals were to remain fixed at $140/$115 to 1954.

After 1912, alienation of timber rights was done with Timber Sales. The annual rental and royalties collected on cutting were the same as for Special Timber Licenses in force but with timber sales, the timber rights were to be sold auction or at the government appraised "upset price" for the land. The upset price reflected the appraised value of the standing timber less the costs of harvest etc...

LICENSES, REVENUES AND STATISTICS

Between 1905 and 1908, British Columbia alienated around 7.5 million acres of timber with "special timber licenses", resulting in an increase from 8% to 85% of all acreage with alienated timber rights being under license. Three quarters of the estimated merchantable timber in BC in 1910 was under licenses and this proportion remained high to as late as 1947. It is believed that the major demand for these timber options was from speculators rather than legitimate timber cutters or mill operators. From their first issue in 1888, there were 1,500 licenses in force in 1904. By the time the BC government ceased to issue STLs in 1907, there were 15,000. The 1910 Report of the Forest Commission for British Columbia reported that 12000 licenses were transferred to new owners

[4] 12,850 licenses were converted to perpetual timber licenses.

[5] Judson Clark, "British Columbia, the Land of Big Timber," Victoria Daily Colonist, Sunday March 22, 1908, page 5. "That there must be provision made for a liberal extension of the time allowed for the removal of the timber now held under special license is evident to all. The harvesting of the bulk of the timber of the province within 21 years would mean the demoralization of the timber industry during the process, and its practical extinction at the end of two decades, than which no greater calamity could befall the province, or perhaps the Dominion."

between 1907 and 1910. There was some concentration of license holding as well with the largest number held by a single holder was 375 and number of other holders held 100 to 200 licenses (1910 Commission D27). On Dec. 1 1915 there were 13,747 timber licenses in good standing in the province. 12,851 were renewable in perpetuity if there was merchantable timber on the land, 1,166 were for a fixed period of 21 years from the date of staking (1907 or earlier). At the end of 1916, the number of licenses in good standing fell to 8,129 though 5,828 were reinstatable and had not been cancelled. 1108 expired before March 1913 and were not reinstatable. It is important to recognize that when licenses lapsed the timber rights reverted to the crown. In 1944, only 2,850 timber licenses remained in good standing or subject to renewal (1945 Royal Commission, page 95).

As Table 1 shows, the Special Timber Licenses were estimated to account for 9 million of 12 million acres of accessible timber which accounted for nearly ¾ of the estimated merchantable timber in the province in 1910. These were estimates because prior to the creation of the Forest Service Branch in 1912, there was no capacity to perform surveys of the lands or to systematically cruise timber stands. As late as 1944, the 2,850 licenses in force still accounted for 20% of the acreage of accessible timber. In 1944, government grants for timber rights accounted for 56% of all alienated acreage of timber (Sloan Commission 1956, 37).

TABLE 1: acreages and merchantable timber alienated as of 1910 by tenure arrangement

Merchantable Timber of B.C. Upon the above assumptions the estimate for the total stand of merchantable timber in the Province would work out as follows:

Tenure.	Acreage.	Average Stand per acre, ft. B. M.	Total Stand.
Vancouver Island Crown Grant Timber	318,000 (5)	35,000	11,130,000,000
Mainland Crown Grant Timber	552,000	say 10,000	5,520,000,000
E. & N. Ry. Co.	375,000	14,300	5,380,000,000
C. P. R., unpublished.			
Timber Leaseholds	619,000	20,000	12,380,000,000
Special License Timber	9,000,000	12,000	108,000,000,000
Mill Timber on Pulp, etc., Leaseholds	387,000	at least 12,000	4,640,000,000
Total	11,251,000	ac. with a stand of	147,050,000,000
Reserved Timber Land, conjectured to be ¼ total forest area, under Provincial jurisdiction, say, roughly	3,750,000	say same as on licenses.	45,000,000,000
Total	15,001,000		192,050,000,000

Under the control of the Dominion Government in the railway belt, the merchantable stand of timber is supposed to be between 40 and 50 billion, nearly half of which would appear to have been alienated. (6)

NOTES: 1909-1910 Royal Commission D17. See also Cail page 108-109, for a similar 1913 tabulation of alienated timber land acreage from BC's chief Forester:

The BC government obtained enormous revenues from land rentals but little from royalties on timber cut. In 1904, annual forest revenues for the BC government were less than $500,000. In 1908, at the height of the STL period, the BC government had $2.8 million from forest revenues, 80% of which was from rental payments on licenses. Royalty payments from cut timber were half of forest revenues in 1904 and increased little by 1908. By 1910, less than 10% of licensed land had been surveyed as required prior to harvest. BC lumber production in 1908 was 20% of total Canadian production, but BC forest revenues were half of all provincial revenues from forests in Canada, and 2.5 times greater than those of any other province including Ontario (1910 Commission, D31-D32).

Forest Revenues of BC from 1909-1910 Royal Commission, page D30

By Calendar Years—

Year.	Licenses.	Leases.	Crown Grant Taxation.	Royalty.	Cordwood.	Scaling Fees.	Transfers.	Handloggers.
1900	$ 7,150	$ 37,231		$ 89,362	$ 7,117			$1,530 (approx.)
1901	12,708	45,608		81,047	14,342			1,630 "
1902	57,918	39,213		91,648	7,987			1,900 "
1903	135,552	124,635		137,702	5,347			2,590 "
1904	177,984	92,761		178,730	4,061			1,830 "
1905	271,935	100,007		196,187	2,138			4,200 "
1906	513,497	87,954	$34,355	213,860	2,205	$ 4,018	$ 778	3,230
1907	1,339,351	77,661	41,693	206,751	1,717	18,729	4,848	5,730
1908	2,290,473(3)	88,869	72,740	304,235	1,041	17,553	10,211	658
1909	1,983,015	77,473	95,712	264,544	494	19,115	7,982	1,625

(1) Section 17, Clause j, Dominion Government Regulations, provides that officials shall have access to the books of the shipping companies.
(2) From the records of the Department of Lands.
(3) Two payments on one license occurring to some extent within the 365 days of this year.

The forest revenues from STL rental payments were a substantial proportion of total public revenues. In 1904, forest revenues were less than 20% of government revenues from all sources but were nearing 50% after 1907. In the Figure below from the 1945 Royal Commission, Forest Revenues remained high to the 1930s and this would have been due to STL license rental payments. Through the 1920s and beyond, timber sales revenue emerged as an important source of forest revenue matching the amount of revenue from STLs by the 1940s. In contrast to STL rental revenues, however, timber sales were one time sources of revenue and represented the conversion of natural timber capital into financial capital where STL rentals were more akin to interest earned on the natural capital. By the 1940s, forest revenues only accounted for 12 to 15% of annual total provincial government revenues.

It warrants note, that forest revenues were a large source of general revenue for the province as expenditures on the Forest Branch after 1912 and for forest resource management was a small share of forest revenues. The Forest Branch and Royal Commissions recommended putting a greater share of forest revenues toward the forest branch and toward fire suppression in particular (Roach 1984, Drushka 1995).

TOTAL FOREST REVENUE.

By Calendar Years.		By Fiscal Years.			
	Forest Revenue		Forest Revenue.	Total Prov'l Revenue	From Forest Sources.
1900	$ 142,390	1901	$ 115,594	$1,605,920	7.2%
1901	155,335	1902	161,071	1,807,925	8.9%
1902	198,666	1903	298,217	2,044,630	14.6%
1903	403,826	1904	405,748	2,638,260	15.4%
1904	455,366	1905	486,516	2,920,461	16.7%
1905	574,467	1906	643,827	3,044,442	21.1%
1906	859,877	1907	1,305,327	4,444,593	29.4%
1907	1,696,180	1908	2,424,668	5,979,054	40.6%
1908	2,785,807	1909(9 mos.)	1,920,349	4,664,500	41.2%
1909	2,449,960	1910	2,448,150	8,000,000 approx.	30.6%

FOREST REVENUES OF CANADA.

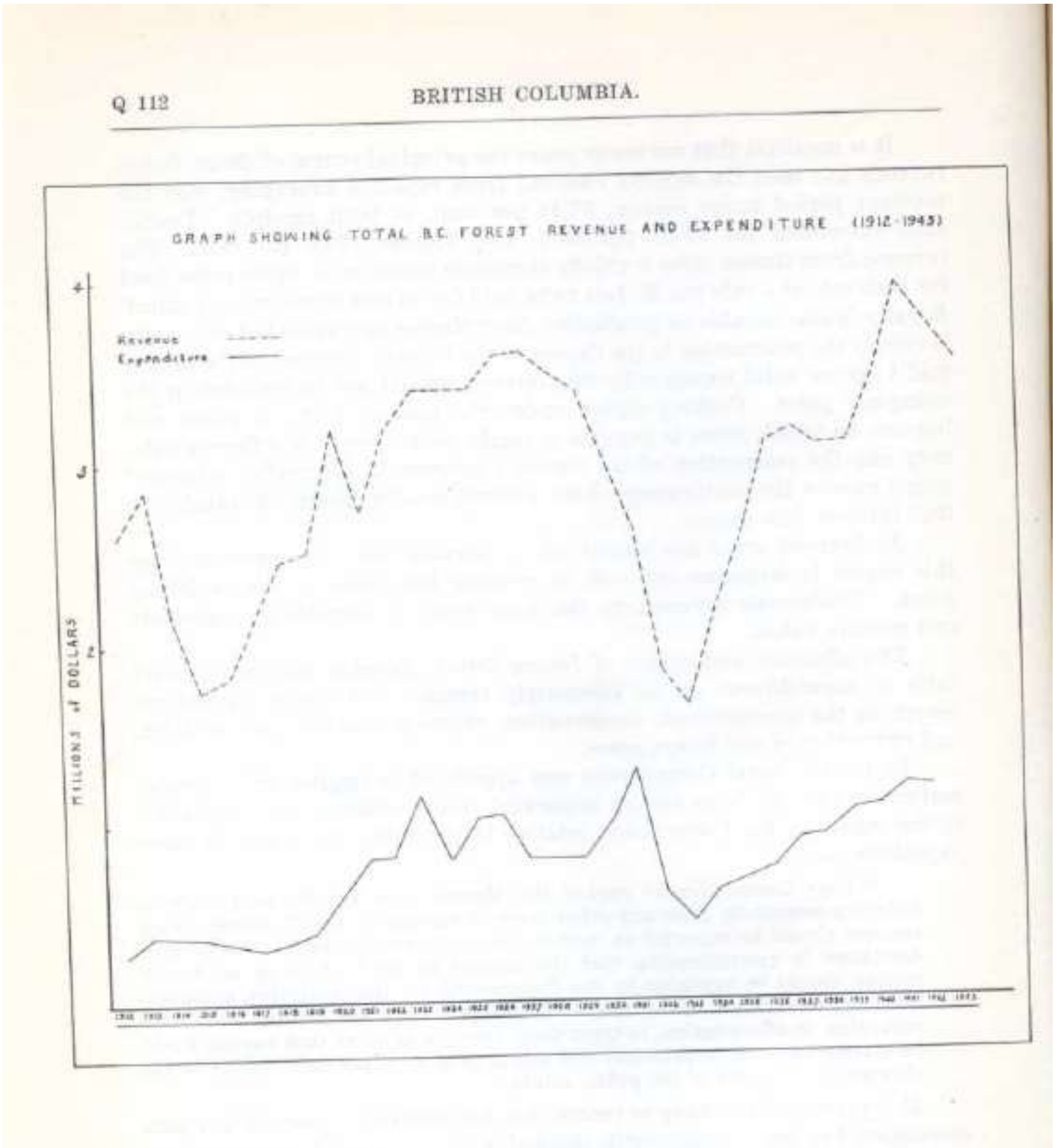
	1908	1909
British Columbia (1)	$2,786,000	$2,450,000
Ontario	1,224,000(2)	886,000(3)
Quebec (4)	978,000	906,000
Dominion Forests, inc. Railway Belt (5)	270,000	378,000
New Brunswick (6)	343,000	395,000
Total	$5,601,000	$5,015,000

In the revenue of the Dominion forests there is included $55,736 from the Railway Belt for the fiscal year 1909, and $126,351 for 1910.

FOREST EXPENDITURE IN BRITISH COLUMBIA.

	1906-7 Year to June 30.	1907-8 Year to June 30.	1908-9 9 mos. to March.	1909-10 12 mos. to March.
Timber Inspectors' salaries	$ 4,860	$ 5,100	$ 4,095	$ 6,519.18
Temporary assistance		2,050	1,401	1,990.17
Temporary expenses	1,762.25	1,714.80	1,833.04	2,841.30
Log Scalers' salaries	14,715.83	15,642.76	12,020.57	19,597.50
Log Scalers' expenses	1,584.49	2,667.12	3,401.35 (7)	13,173.66
Services guarding booms, rivers, etc., miscellaneous	4,018.28	1,256.45	328.12	961.10
Fighting forest fires	7,631.25	16,416.50	35,707.62	45,988.77
Purchase "Volga"		4,900.00		
Total	$34,572.10	$49,747.63	$58,786.70	$91,071.68

From 1945 Royal Commission:



CRITICISMS OF THE STL ERA

Counter to Minister Ross's bold claims in 1912 as to the genius of the 1905 BC Forest Policy, the scholarly literature and many foresters of the day did not see the STLs positively. The interpretation that is most commonly made is that a government desperate for revenue exploited speculator demand for short term gains that came at the expense of the public share of future forest rents in the province through the diminution in future value of the timber and through the wasteful logging practices that the STLs encouraged. Whitford et al (1918, 90-93) assessed that as the timber staking business was falling off in 1907 (likely due to the financial panic and business recession in 1907).

"the Government began to realize that, though the system was yielding unprecedented returns to the treasury, the future welfare of the province was being exploited for present gain."[6]

Cail (1974) believes the provincial government only became aware of its potential forest wealth with the arrival of the railway in the 1880s. Forests were seen as a nuisance and an obstacle to progress:

> "In view of the constant deficits experienced by every provincial government down to 1905, British Columbians may be justly thankful that more public lands and natural resources were not permanently alienated than was the case by 1913. Land, being the most readily available asset , was disposed of in large tracts on easy terms to all comers for over thirty years... The only reason the Crown in British Columbia retained all but the approximately 1,000,000 acres which had been bought outright of the provincial timber lands was that until 1900 standing timber was looked upon with a jaundiced rather than a glinting eye. It was a nuisance, a brake on settlement, and hindrance to communication. After 1905, when the timber stands of the province were thrown open to licensees, the rush from all over the continent was so great that the McBride government took stock of the situation and decided to place all unalienated timber lands under government reserve where they have remained ever since."

Cail (page 92) indicates that as late as 1884 the provincial timber lands were considered to be inexhaustible which also would not have created an incentive for developing sound land policies.

In opening the door to speculators who were able to secure perpetual rights to the standing timber the BC government had abandoned principled management of the resource. Sloan (1956) was particularly disparaging of the early governments arguing that there was nothing "prescient" in their decisions or actions, they just wanted revenue.

> "To conclude that the earlier settlers, who had a hand in framing the forest laws, and policies of those days, were, in so doing, deliberately thinking in terms of generations ahead is, I think, with respect, to attribute to them an unwarranted prescience. Early administrations were, in my view, motivated by the immediate objectives important to the era in which they lived. They were confronted with the critical necessity of obtaining Crown revenue and of finding means to encourage the utilization of forest products. The developing pattern of Crown ownership was the consequential result and not the design of their pioneering policies. This opinion is, I believe, substantiated when the history of these tenures is examined with some particularity."

[6] H.N. Whitford, Roland D. Craig and Clyde Leavitt, Canada, Commission of Conservation, Committee on Forests, FORESTS OF BRITISH COLUMBIA (Ottawa: 1918). Pages 90-93. "the Government began to realize that, though the system was yielding unprecedented returns to the treasury, the future welfare of the province was being exploited for present gain." It was also evident that even with a great increase in annual cut the market "in sight" would not be able to use in 21 years all of the timber held under lease and license.(From H.N. Whitford, Roland D. Craig and Clyde Leavitt, Canada, Commission of Conservation, Committee on Forests, FORESTS OF BRITISH COLUMBIA (Ottawa: 1918). Pages 90-93.

Second Sloan Commission, 1956, page 18

Prior to the McBride special timber licenses, BC governments were chronically low on revenues. In part this reflected the lack of demand for BC resources other than gold and other hard rock minerals, but it also arose from the principles and design of BC's land tenure system. Prior to joining Confederation, the colonial government had established land tenure systems that were designed to discourage speculators purchasing BC's lands and resources in favour of legitimate settlers and operators who would bring labour and capital to the province. Cail (1974, 13) describes Governor Douglas as taking the high road with respect to management of public lands and resources in the 1860s even though in the absence of financial support from England, the colonial treasury was constantly short of money. Douglas abandoned the short run expedient choice of enriching the treasury from the sale of public lands to encourage the long run development of the province through the "encouragement to the settler, prospector, free miner, or farmer, whose intentions were honest" (page 14). Douglas argued that "a low price (of land)... combined with occupation and improvement, would conduce to the general settlement of the country" (page 13). With the development of the province's natural resources, the government would see higher income through duties, taxes and royalties.(page 14).

Cail (1974, 8, 14) presents BC's Governor Douglas and his colonial government as principled and aware of the ideal strategy for the development of the young colony. From this perspective, Cail presents the challenges for the colony, and later province, as one of short run impoverishment.

> "Like many governments which came after, Douglas's administration suffered from chronic poverty, and not even he could refrain from letting large acreages go at nominal prices in order to secure revenue. Having assumed the responsibility for administering the country from the proceeds of its own resources, and having been refused financial aid from England to supplement the very meagre colonial revenue, Douglas had no alternative but to abandon the auction system before it was well started.[7] To supply the pressing needs of government, land – the readiest asset upon which to draw – was sold on terms that were the most likely to prove attractive to investors." (page 8)

Cail asserts that had the England home government lent its credit to the colony, "the land might have been more wisely conserved, and settlement more systematically directed, to ensure compact and gradual expansion." Cail believes that the home government understood the challenges of developing and settling a new colony but failed to recognize that despite the vast wealth of BC's natural resources, little of that wealth was finding its way into the BC treasury.

From this normative perspective of Douglas' notions of a land tenure system as the "ideal", we can see why the McBride Special timber licenses after 1904 have been judged harshly. Minister Ross (1912) described the innovation of the timber license as being the more intensive use of annual rental payments. The annual rental substituted for production conditions and in doing so left the

[7] Cail (Page 246) that the practices of sale by auction, prompt cash payments, and survey of land before alienation had to be abandoned.

market to dictate when and where the timber would be felled. Royalties would be collected at that time. The perception has been that the price of acquiring tenure to the timber on a staked license was low. But this presentation of what the STLs were ignores the substantive change in who could hold a license and under what conditions. The STLs not only abandoned the principle of restraining speculation, it exploited speculative interest in the province's natural wealth for no other reason than fiscal expediency.

Roach (1984, 17) assessed that the STL's created a new group of speculators, "license owners who neither logged nor owned sawmills but held the permits purely for their increase in value". Roach reports that many of the speculators were Americans or eastern Canadians but many were long time residents of BC. The 1945 Royal Commission (page 94) described the STL period of 1905 to 1907 as one of rampant speculation:

> "This reduction of the period of the licence from five years to one year may have given an impetus to speculation as five one-year licences could now be obtained for the initial price of one five-year licence under the 1903-04 Act. The speculative fever was fed on the publicity attendant upon the throwing-open of the whole of Provincial forest resources to "staking"".

Martin Allerdale Grainger, a logger and secretary to the 1909-1910 Royal Commission of Inquiry on Timber and Foresty, in his auto-biographical novel *Woodsmen of the West* (1908) colourfully described the period of speculation as one of "timber cruisers" "fishing for suckers":

> "In British Columbia, you should know, a man could go anywhere on unoccupied Crown lands, put in a corner post, compose a rough description of one square mile of forest measured from that post, and thus secure from the Government exclusive right to the timber on that square mile, subject to the payment of a rent of one hundred and forty dollars a year... Such a square mile of forest is known as a "timber claim"... Years ago the mill companies and the pulp-concession speculators secured great stretches for their future use – on nominal terms that rankle now in every logger's breast. A logger might stake a claim or two over specially tempting timber if he intended, some time, to cut logs in that place; but why should he take up leases as a speculation? He felt that he might just as well lock up a coal mine, speculating on the future exhaustion of the world's coal supplies.
> Now a ten-dollar price for logs had stimulated the demand for good logging claims, and then suddenly it had dawned on everybody that such claims were limited in number and were being taken up rapidly. There had arisen a fierce rush to stake timber. Hundreds and hundreds of men – experienced loggers, inexperienced youths from town – blossomed as "timber cruisers". .. They had staked the good timber, and then the poor timber, and then places that looked as if they had timber on them, and then places that lacked that appearance. What happened, in the end, to all these claims I do not know. They were sold successfully, I believe, to vague "American interests," and to readers of advertisements in Chicago and Philadelphia

> and the East generally. The catching of the English investor seems to be becoming less of a topical pleasantry in current talk; and so I suppose that "fishing for suckers" has, nowadays, to be done nearer to home." [8]

Whitford et al. (1918, 155) highlighted speculation and the monopolization of timber resources as the symptoms of too low a rental fee for licenses:

> "Since forests are valuable only as they can be used, the logical time for governments to collect their share in the stumpage values is when the timber is cut. By this method the operator pays only for what he can use, and in fairness to the public, he should be required to cut as closely as the conditions permit... Annual charges, if too low, would encourage speculation and cause monopoly of the raw material which is essential to the prosperity of the lumber industry and to the consumers of forest products.
> As a matter of fact, the forest of British Columbia have been alienated far beyond the requirements of the lumber industry. The license system, though it has yielded phenomenal revenue to the Government in the form of rentals, has undoubtedly encouraged timber speculation. The timber sale method, which limits the tenure to such a short period that continuous operation is required, is, of course, the most effective method of preventing speculation."

Cail (1974, 106) argued that the end of the licenses and "The introduction of the sale system marked an end to the former exploitation and the beginning of a modern, enlightened forest policy in British Columbia." Cail (page 91) believes that because the governments of British Columbia failed to recognize the value of its timber resources and that is why land, rather than just the timber rights, had been alienated. Cail (page 91) (incorrectly) claims that it was only by 1913 that the government had separated the disposal of timber and land. Only by 1913 had the government retained the right to vary its royalty and rental of the timber granted under the differing forms of tenure. "Thus, by 1913 the government had become a "sleeping partner" in forest exploitation and a sharer of profits of the lumber industry."

There were several criticisms of the 1905-1907 timber licenses in terms of efficient use of timber resources. Alienation was seen as excessive since it was greater than what the market would require for 21 years. The licensing era was too unplanned and too ad hoc for efficient management of resources. It was eventually determined (once they were able to produce a map showing where staked and license stands of timber were) that many staked areas under license overlapped, and in some cases has multiple license holders. In other cases, accessible stands were passed over or fragmented adjacent stands that should be logged together (Sloan 1956, 33). The licenses were thought to have encouraged wasteful logging practices (but only around 10% of alienated timber actually cut prior to 1914).[9] High carrying charges on the licenses were argued to have encouraged

[8] This passage is from Chapter 6 "Dave and Speculation" in Martin Allerdale Grainger, *Woodsmen of the West* (1908). The description of Grainger is from Roach (1984, 19).

[9] Cail Page 100 – "And although the low revenue derived from the leasehold system was the final reason for its abolition, the fact that it was a wasteful system weighed heavily against it. No provision required that a single lease be in

too rapid exploitation.[10] It was also argued, however, that the absence of production requirements resulted in too little cutting. Roach (1984) argues that the high stumpage prices demanded by speculators rendered access to timber unaffordable for loggers which would have resulted in less timber cutting.

Roach (1984, 17-18) describes how loggers turned to lobbying the government for changes in STL regulations in 1907 to improve access to, and reduce the cost for access for, licensed timber stands along the coast. The Loggers' Association pushed for changes to force speculators to abandon their licenses. The Forestry Chamber of Commerce representing the speculators proposed that the licenses be valid indefinitely to allow them more time to recoup their investment, decrease the risk of flooding the log market and make the licenses acceptable as collateral for bank loans.

Forester Judson Clark was highly critical of the STLs and the impending effects of the simultaneous expiration of STLs in 21 years time:

> "The most obvious defect in this manner of disposing of timber lands is, that all lands, good and poor, are handed out by the government at one price, and although the right to increase royalty cut on timber is clearly retained, and possibly as regards the annual license fee also, it is evidently impracticable to raise it higher than the poorer lands can stand. A second defect is the time limit to renewal. As the law stands now, the bulk of the finest forest areas of the province must be logged before the expiration of 21 years, or the owners will lose title to their timber." Judson Clark, "British Columbia, the Land of Big Timber," Victoria Daily Colonist, Sunday March 22, 1908, page 5.

In finding a resolution to the complaints of coastal loggers and criticisms of foresters like Judson Clark, there seems to have been less concern for the government with the cost of access to timber for loggers and mills than there was with the risk of liquidation of timber holdings that could arise if speculators were forced to give up their licenses. Further, there seemed to have been little appetite on the part of the provincial government to give up its steady revenues from rentals to collect more variable and uncertain revenues from sales. As Whitford et al. (1918, 156-157) explained:

> "We have, however, to deal with conditions as they are and not as they should be. With 260 billion feet of timber in private hands, and a present annual cut of less than 1 ½ billion feet, high annual carrying charges can only result in over-cutting or confiscation. Though the trend of stumpage values is toward higher levels, a study of these carrying charges will convince the timber owner that he

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one large block... As the Royal Commission on Timber and Forestry pointed out in its report in 1910, the system resulted in the cutting of the finest stands. The intervening, less valuable, stands, irregular in shape, were left as unproductive crown land. "

[10]Whitford et al (1918, 155). "Next to fire, onerous taxation is the greatest menace to forest conservation. Conservation does not imply the withdrawal from use, but, on the contrary, it implies the fullest utilization, which, in the case of forests, pre-supposes reproduction.High annual taxation or rentals, orlarge initial payment for stumpage, which mean correspondingly high interest charges, can, if they prevail generally, result in over-production. Over-production in turn, in turn, causes low prices, wasteful methods of exploitation and the general demoralization of the industry."

> must, even at the sacrifice of efficiency, realize on his investment as quickly as possible. If he had only the rental to pay he might conserve his timber until market conditions warranted cutting it. The forcing on the market of 100 billion feel of lumber in 10 years, when normally a market for only about 1 ½ billion feet per annum, would have a demoralizing effect. In British Columbia the maximum rental that can be charged on licenses is fixed until the end of 1954, thus assuring the lumber industry, in advance, a guarantee that the cost of carrying timber will not exceed a specified amount. The fee of $140 per square mile in the Coast region and $100 in the Interior, or mountain section, is as high as the industry can stand and, by fixing these rates as maximums only, the Government may make a reduction should such be found advisable to obviate a loss of revenue through the surrender of less accessible limits."

WHAT WERE THE LONG RUN IMPACTS OF THE STLs?

While Minister Ross portrayed the policies of the McBride government as innovative, bold and an ideal way for a young economy to acquire the capital and public revenue needed to spur economic growth, the critics have argued that the McBride government gave up revenue over the long run. The loss of revenue allegedly arose from the premature alienation of timber resources relative to the state of the market and from the consequent inefficient management and production of the resources which ensued. In many respects, the perspectives of Minister Ross and the critics are not at odds. Minister Ross saw timber resources as a source of wealth to overcome the fixed costs that needed to be incurred for the growth and diversification of the BC economy. The critics of the McBride STLs concede that the licenses produced the expected revenue and financed the projects and infrastructure that the McBride government wanted to pursue. The main issues for the critics was the disparity between ideal land policy that emphasized productive and efficient uses of natural wealth and the McBride STLs that took advantage of non-productive speculative demand for the resources.

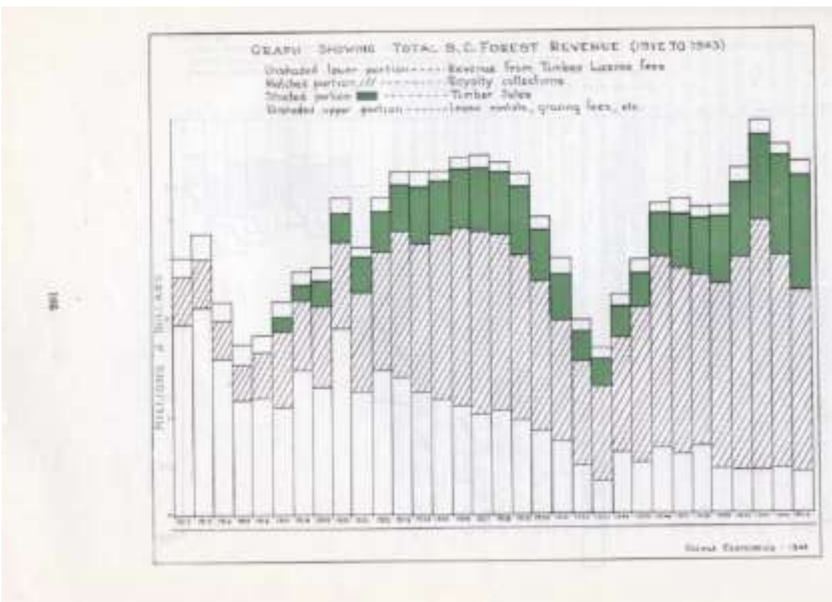
<u>How Much Revenue Did They Give Up?</u>

Judson Clark expressed that:

> "The special license law, with its high annual license fee, has been a success as a revenue producer. It has filled the treasury of the province to overflowing at a time which would have otherwise been a critical period in the history of its finances. But, like the "bonus" system formerly in vogue in Ontario, it is simply a device for the discounting of future forest revenues – a measure justified only by the gravest of financial emergencies." Judson Clark, "British Columbia, the Land of Big Timber," Victoria Daily Colonist, Sunday March 22, 1908, page 5.

If Clark is correct, then the rentals were merely changing the timing of revenue collection, meaning that the gains in revenue from 1905 to the 1920s from license rentals should have reduced revenues from the forests of BC later in the future. Clark apparently saw the likely sacrifice in future revenue as being great due to the impatience of the financially strapped McBride Government in 1905.

It was only after World War I that royalties from timber cutting and from the new system of timber sales started to grow and displace the STL rental payments. Given the lack of cutting prior to 1910 and perhaps until after 1921, the early low "timber sales" revenues after 1912 suggests that the STLs had not had a large impact to that point unless the STLs were themselves discouraging cutting as the coastal loggers alleged (Roach 1984). Since Royalty payments were not affected by STLs, we do not need to necessarily worry about them. Through the 1920s royalty revenues increased reflecting an increase in timber cutting. License rentals were trend declining consistent with the execution of the timber option and extinguishing of licenses. Land sale revenues were relatively constant for the decade and seem to show gradual increase as timber license rental revenues declined.



From 1945 Royal Commission

Was it the case that STLs reduced long run revenue for the treasury by transferring forest rents from the sale of timber rights to timber cutters from the Crown to the speculators holding the STLs? To assess this possibility we convert the annual rental payment per license to annual rental per acre under license using the set nominal value of the rental of $140 per year, or 22 cents per acre. Then, assuming that the rental per acre is collected until the timber is cut in 1925, 1947 or 1956, we calculate the NPV of rentals collected from 1907 to the time of cutting. At that point, the sale of the timber rights is made by the holder of the STL not the Crown. As a counterfactual case, we assume that the Crown did not alienate timber using STLs and sold the timber cutting rights at auction in 1925, 1947 and 1956. With the timber sales, a deposit by the buyer equal to 10% of the total sale value is provided at the time of sale, and the balance of the amount is provided out of the timber revenues at the time of cutting. We use a discount rate of 5%, and assuming the timber is cut 10 years after the time of sale, to produce a sale revenue per acre in the year of sale. We then calculate the NPV of that revenue in 1907 again using a discount rate of 5%. We obtain a value for the sale price per acre in 1947 and 1956 using the value of 10% deposits per acre on timber sales from Sloan (1956, Table 30). In 1947, the 10% deposit per acre was $1 while in 1956 it was $4.35. These deposits represent an NPV of the sale price at the time of sale, with timber cut in 10 years time, of $6.53 per acre in 1947 and $28.40 per acre in 1956. For 1925, we use the 1947 values but assume that the sale was made in 1925. We suspect that this is a generous assumption for the timber sale price in 1925 since we are attributing the 1947 current dollar value that prevailed in the post World War II economy to 1925. Note, in both the timber sale and STL scenarios, the royalty collected on cut timber is the same.

Table 1 shows the NPV of the different revenue streams in 1907 in current dollars and after all values are converted to 1907 purchasing power. The first thing to notice is that rentals per acre in NPV are higher than any of the comparable timber sales scenarios. In 1947, the timber sale revenue per acre was low and the NPV in 1907 for a counter-factually patient McBride government produced one quarter of the value of revenue. In 1956, the value of timber sales had increased more than fourfold but the further distance in the future for time of collection left the NPV in 1907 at slightly over half of the revenue per acre from rentals. When revenues at time of collection are converted to 1907 purchasing power, the revenue advantage of rentals is even greater.

Table 1: Net Present Value of Forest Revenues per Acre in 1907 (5% discount rate) under STLs and Timber Sales for Timber Cut in 1925, 1947 and 1956

	Timber Sales	STL Rentals	Timber Sales	STL Rentals
	NPV 1907 Current dollars		NPV 1907, 1907 purchasing power	
Timber Cut in 1925	$2.71	$2.78	$1.79	$2.29
Timber Cut in 1947	$0.93	$3.97	$0.54	$2.74
Timber Cut in 1956	$2.48	$4.21	$1.00	$2.80

NOTES: 1907 purchasing power is calculated as the current value times the CPI (2002=100) in 1914 divided by the CPI (2002=100) in a given year. This assumes no change in CPI between 1907 and 1914.CPI from CANSIM. The sale price for 1925 is assumed to be the sale price in 1947.

Of course, one reason that the STL rentals may look so advantageous is that 1947 and 1956 represent the crown waiting 40 and 50 years to collect revenue from timber sales. The third scenario that we consider is that the 1947 timber sales occurred in 1925, nearer in time to 1907 and providing a shorter duration to collect STL rental payments. As the earlier figure from the 1945 Royal Commission shows, timber sale revenues really only increased after 1920, and the value of timber sale revenues was below that seen after 1945. Even in this case, the STL rentals have a much higher value per acre in NPV in 1907, and more than compensated any revenue foregone at timber sales because of the STLs.

The preceding calculations on revenue per acre show an advantage for the STL rental revenue instrument in 1907 over use of a land sale instrument given the time it took for the timber sale market, and demand for BC timber to evolve. This is a measure of revenue generation on an intensive margin. STLs also had a considerable impact through the extensive margin – revenue was collected each year on all standing timber under license where the timber sale revenues only accrued on timber stands sold.

Finally, it is important to recognize that many STLs lapsed prior to the timber being cut meaning that the crown was able to re-alienate the lapsed STL timber rights at land sales. They collected revenues from rentals on the STL and they also later collected the revenues from the sale.

While it appears to be the case that the STLs did not diminish forest revenues to be ultimately collected, the use of STLs to collect them earlier than the market for timber products would have dictated can still be a problem if the revenues were used to increase consumption unsustainably through higher government services, low taxes etc… If the resource rents are not saved and invested, then they would not have been available to use for overcoming the fixed costs of development at that future date (Sachs and Warner 1999, Rodriguez and Sachs 1999).

The literature does not dispute that the STL revenues promoted infrastructure investment and settlement suggesting that the resource rents were capitalized and not just consumed. Ross (1912, 7-9) described how the revenues obtained from STLs allowed for the survey of millions of acres of agricultural land and the construction of roads, bridges and railways which opened up the interior of the province to settlement with recourse to excessive borrowing or increases in other sources of taxation. Ross summarized that "that forest policy let loose the flood of prosperity that the Province has enjoyed ever since." It also warrants note that it is likely that the resources for implementing and operating the preferred timber alienation schemes of land sales and royalties was made possible by the license rental revenues. The BC Forest Branch was created in 1912 to manage the timber resources of the province (Roach 1984, Drushka 1995).

MacKinnon and Minns (2009) document the improvements in quality of BC education through the spread of graded schools, the addition of teachers to one room schools, and the employment of more highly qualified teachers over the period 1900 to 1930. Along with these improvements in the intensity of educational investment in given pupils, the system also expanded in terms of numbers of schools and numbers of high schools in particular, outside of the more populous lower mainland region of the province. MacKinnon and Minns attribute a sizeable and significant increase in school attendance attributable to these changes. MacKinnon and Minns suggest that the "nature of school finance in British Columbia may have facilitated fairly rapid change." They note that in the early 1900s the Provincial government paid 2/3 of school costs and that proportion was still 1/3 as late as the 1920s. They further suggest (on page 9) that "there was considerable scope in BC for the structure of provincial grants to influence how the schools were structured, probably much more so than was typical across North America." As we have discussed, the McBride STLs were the source of the budgetary increase that would have enabled these increases without the need for bond issue or tax increases which likely eased the path for educational expansion. As we have also shown, little of the forest revenues of the province were being spent on the forest sector and its management meaning the license rental payments were being used for other projects and needs in the province. The counterfactual case for the McBride forest policy era is difficult to define but in the absence of the budgetary revenues from the licenses, the expansion and improvement in the education system, and the pace of settlement generally, would have slower and delayed into the 1920s when timber cutting began to produce royalty revenue (assuming no borrowing, or other tax increases).

DISCUSSION AND CONCLUSIONS

The British Columbia success at raising substantial revenues from the sale of timber cutting options provides insights into how resources in regions far from market opportunities in both distance and time can still be exploited to foster economic development. As the majority of forest revenues in BC until the 1920s were not from cutting of timber or its export, the question arises as to whether BC benefited from the capture of speculative rents or whether the STLs merely transferred rents from the future to the present. As fate would have it, there is good reason to believe that since so many leases ultimately lapsed and the rights reverted to the crown for subsequent resale, BC captured speculative rents without impacting what they would collect in future. Even still, it appears that the collection of rentals on STLs over the three to five decades it took for demand for BC timber to emerge, and for the demand for timber rights through land sales, more than compensated for any revenues foregone from timber sales.[11] Considering that in 1907 BC lacked the public revenues and the infrastructure to manage its timber resources or alienate them through land sales and other means in more mature economies makes the STLs an interesting way to access the forest wealth of the province.

The fact that BC capitalized many of the rents into projects that spurred the settlement and development of the BC economy such as roads, bridges and railroad, into an improved and expanded school system and into the creation of the Forest Branch which was the institution required for the efficient and rational management of BC's vast timber resources, is another clue as to the reasons why some economies successfully develop around their natural resource endowments while other economies fail to do so. As McCallum (1979) has argued in his comparison of Ontario and Quebec's long run development, and as Di Matteo, Shanahan and Emery (2014) have found comparing South Australia and the Lakehead District, successful development requires that some share of resource rents are captured by the local economy. Further, those rents must be saved and invested into the productive capacity of the local economy so as to overcome the "fixed costs of industrialization" or at least the fixed costs of development (Sachs and Warner 1999). Economies that remain resource dependent and lower income over the long term fail to capitalize whatever rents they do capture often use the resource rents to enjoy a transitory increase in consumption (Sachs and Rodriguez 1999).

The expansion of educational investment in BC coincident with the STL timber license revenues is also interesting to consider given the work of Gylfasson (2001) who argues that a likely channel for

[11] The advantages of stable, steady flows of public revenue during early stages of resource based development have been shown in other settings. Eric Hanson in his Financial History of Alberta calculated that the annual per capita grant from the Federal Government prior to 1930 was worth more than the resource property rights withheld from the province until 1930. As in this case, the market for coal, which was the commodity that was the one to be potentially exploited in the Province, was not sufficiently strong to generate revenue for the crown. (Boothe and Edwards 2003).

the "resource curse" is the crowding out of educational investment. It may be because during the STL revenue era before 1920 there was no employment in resource production to draw students away from education. That said, Emery, Ferrer and Green (2012) found that the oil boom of the 1970s in Alberta resulted in higher educational attainment of Albertans and the subsequent resource bust was associated with a return to lower educational attainment.

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