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## The Effect of First Nations Modern Treaties on Local Income

by

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- As set out in the 1982 Constitution and supported by several subsequent Supreme Court of Canada decisions, Aboriginal communities hold far-reaching rights over their ancestral lands. However, in many cases, the scope and extent of these Aboriginal rights are not well defined. So-called “modern” treaties, or Comprehensive Land Claim Agreements, which began in the 1970s, clarify who owns the land and its resources and also define the scope of rights to harvest wildlife and land use for traditional purposes.
- In this paper, I examine the economic impact of modern treaties on First Nation communities. The analysis compares communities that implemented a treaty against other similar communities without treaties.
- Modern treaties have increased real income in First Nation communities by some 17 percent. The increase is largely driven by employment income and has benefited workers in several industries, not only resource extraction ones. Treaties have also had positive effects on neighbouring non-reserve communities.
- By clarifying property rights over land and natural resources, modern treaties can foster development of extractive industries and benefit local economies. These are important findings in assessing the benefits of First Nations treaties.

Modern treaties are an important institutional reform in the development of Aboriginal communities. The main objective of these treaties between Aboriginal groups and governments is to clarify ownership over land and natural resources on Aboriginal lands.

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Some of this land is subject to collective rights held by Aboriginal communities.<sup>1</sup> However, in many cases, neither the scope of these rights nor the territory involved is defined. Even ownership may be contentious since there are cases of overlapping claims between governments and Aboriginal communities as well as among Aboriginal communities. Similarly, it is not clear which specific rights of use or wildlife harvesting the community may hold (BC Treaty Commission 2012). As a result, there is a lack of clarity about ownership over vast tracts of land rich in natural resources.

Modern treaties clarify property rights in several ways. First, they set out the boundaries of a territory subject to Aboriginal rights. Second, they specify the property and natural resource rights of the involved parties and describe in detail how these rights should be exercised. Finally, they define the scope of Aboriginal rights to harvest wildlife and use land for traditional purposes.<sup>2</sup>

This clarification of property rights has the potential to reduce transaction costs for the development of extractive industries, such as mining and forestry, near Aboriginal communities. These costs arise due to the legal obligation to consult with Aboriginal communities before starting any project that may affect their rights. This duty to consult exists regardless of treaties, but it is likely more cumbersome without clarity about who holds the rights over land and resources, and the scope of these rights.

### **Assessing the Effect of Modern Treaties on Local Income**

Using detailed census data, I have examined treaties implemented by First Nations since 1990 in BC, the Northwest Territories and the Yukon. I found that they have had a positive and sizeable impact on incomes of First Nations community members. The effect is particularly strong for those working in the resource-extraction sector, but benefits other workers both on- and off-reserve.

Meanwhile, the treaty-signing process in Canada has stalled in recent years, and there are growing concerns about lengthy and costly negotiations (Eyford 2015, Mason 2015). While these expenses are significant, policymakers should weigh them against potential economic benefits, such as those identified here.

### **First Nations Treaties in Canada**

The earliest treaties between First Nations and the British Crown date back to 1701. Called historic treaties, they continued until 1923 and involved mostly First Nation communities in the Prairies and Eastern Canada. Largely neglected were First Nation communities throughout northwest Canada and BC and other Aboriginal populations such as the Inuit and Métis. Moreover, some treaties did not fully capture the scope of Aboriginal rights as later set out in the 1982 Constitution, while others were not fully implemented.

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1 These rights, called Aboriginal rights, are enshrined by the Canadian Constitution and arise from the historic occupation and use of ancestral lands by Aboriginal people. These rights exist regardless of the existence of a treaty.

2 In addition to these treaties, there are other legal instruments shaping the relation between the Government of Canada and Aboriginal peoples. These include self-government agreements, land-management agreements and specific claims.

Negotiation of modern treaties began in the 1970s with the James Bay and Northern Quebec Agreement in which Quebec settled Cree and Inuit land claims, opening the disputed region to hydroelectric power and other development. In northwest Canada, treaty implementation started with the Gwich'in Comprehensive Land Claim Agreement (1992), the Sahtu Dene and Métis Comprehensive Land Claim Agreement (1994) and the Yukon Umbrella Final Agreement (1995). In BC, the first modern treaty was the Nisga'a Final Agreement (2000).<sup>3</sup>

Figure 1 displays the geographical distribution of First Nation communities with and without a modern treaty.<sup>4</sup> In this paper, I refer to these bands as treaty and non-treaty bands. Note that modern treaty bands are clustered in Quebec and northwestern parts of Canada that were largely ignored by historic treaties.

Treaty-making is still politically charged, especially in resource-rich provinces. There are currently almost 100 treaty negotiations ongoing across the country (Aboriginal Affairs and Northern Development Canada 2015). In BC alone, there are currently 111 First Nations bands, or 70 percent of its Aboriginal people, participating in the treaty process. Modern treaties are also being negotiated in Manitoba, Saskatchewan, Nova Scotia, Ontario and Quebec.

## Assessing Treaties' Impact

The aim of my empirical analysis is to assess the effect of modern treaties on real income of individuals living in First Nation communities.<sup>5</sup> I focus on treaties implemented between 1991 and 2006 and restrict the sample to bands located in non-metropolitan areas in BC, the Northwest Territories and Yukon.<sup>6</sup>

There are several reasons for my sample choice. First, I focus only on First Nation communities because others, such as the Inuit, were mostly already covered by the 1993 Land Claims Agreement, so there would not be a suitable comparator. Second, I focus only on post-1991 treaties because there is no reliable way to track First Nations communities in previous censuses, the main data source for this analysis. Third, I restrict the sample to make both treated (treaty) and control (non-treaty) groups as similar as possible. While I restricted my sample to certain non-metropolitan areas, the results are robust to using alternative sample definitions.

The main challenge is to find a suitable counterfactual; i.e., what would have happened to individuals living on reserves held by treaty bands in the absence of a treaty. A simple comparison of bands with and without a treaty would be insufficient because there are systematic differences among the groups.

Some differences are clearly observable. For instance, treaty band lands in 1991 had lower income, larger populations and larger public and extractive sectors than non-treaty bands. However, there might be other unobserved differences, such as the degree of internal cohesion, potential for extractive industries or quality

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3 Years in parenthesis refer to the date the Implementation Plan was signed.

4 I consider a First Nation community as all census subdivisions affiliated to First Nation bands. These include Indian reserves, Indian settlements, Indian government districts, Terres réservées aux Cris, Terres réservées aux Naskapis and Nisga'a land.

5 For further details on methodology and data sources, see Aragon (2015).

6 This sample definition excludes Quebec, in which treaty implementation started before 1991, and comprehensive agreements signed with other Aboriginal groups, such as the 1993 Nunavut Land Claims Agreement.

Figure 1: First Nations Communities With and Without a Modern Treaty



Note: Points represent centroid of areas affiliated to First Nations communities with a comprehensive land agreement signed between 1973 and 2006. “Non-treaty bands” do not have a modern treaty, but may have a historic treaty.

Source: Author’s mapping, based on Statistics Canada.

of local institutions. These factors may also affect both local income and treaty implementation. Thus, I cannot disentangle whether differences in income are attributed to these factors or to treaties.

I address this comparison challenge by contrasting the evolution of First Nation communities with a modern treaty to those without one before and after such a treaty is implemented.<sup>7</sup> This allows me to control for unobservable characteristics that remain constant over time.

The data comes from two main sources: Aboriginal Affairs and Northern Development Canada (AANDC 2015) and confidential individual records from the long-form population census.<sup>8</sup> Census data cover the period 1991 to

7 I use the date of the implementation plan as the beginning of treaty implementation. Note that without an implementation plan, signed treaties are, in practice, ineffective.

8 Note that there are some cases of incompletely enumerated Indian reserves, due to refusal to participate in the census. However, the magnitude of this problem is not significant and seems unlikely to affect the results. For instance, only some 2 percent of observations correspond to bands that have at least one incompletely enumerated reserve between 1991 and 2006.

2006 and include almost 115,000 individuals living on Indian reserves and settlements associated with 158 First Nation bands (27 of which are treaty bands). The sample includes all individuals 15 years and older living on reserve, regardless of their Indian status or band membership.<sup>9</sup>

## Results

Between 1986 and 1991, real income in both treaty and non-treaty bands followed similar trends (Figure 2).<sup>10</sup> However, since 1996 – after the beginning of treaty implementation – real income in treaty bands increased at a faster rate. By assuming that, conditional on the control variables, income would have followed the same trend in the absence of treaties, this difference in trends provides an estimate of the effect of modern treaties.

I find that these treaties increase real average annual income, per individual, by some 17 percent (see Table 1, Column 1). This represents an average increase of almost \$3,000 (measured in 1991 dollars). This estimate takes into account all time-invariant band characteristics such as location, historical background or initial differences. Moreover, it controls for common shocks affecting bands in Canada's Northwest, like the commodity boom in the early 2000s or the increased veto power of Aboriginal communities over the development of resource projects.<sup>11</sup>

Note that these estimates reflect the effect of treaties on the average treaty band, not on the average band. If the bands that have implemented treaties are the ones with the most to gain, then the estimated effect might reflect an upper bound.<sup>12</sup> This means that the effect of treaties on new bands implementing treaties may be actually smaller. This is an important consideration when extrapolating these results to other contexts.

## Treaties and Mining Agreements

An important question is how modern treaties increase income? I argue that by clarifying property rights, treaties reduce the transaction costs for extractive industries such as mining and facilitate their development.<sup>13</sup> Such clarification paves the way for more mining projects that may increase demand for local workers (either

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9 See Table A-1 in the Appendix for the list of modern treaties included in the analysis.

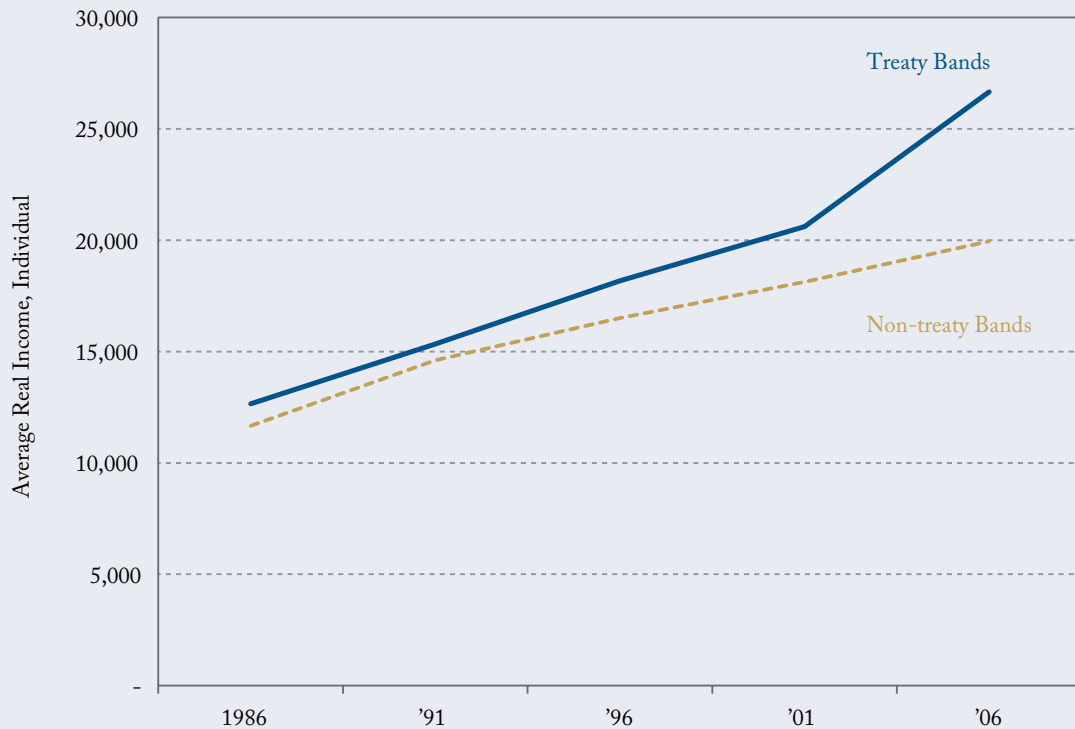
10 Real income is expressed in 1991 Canadian dollars.

11 I do so by including band, year and province-by-year fixed effects in the regression model.

12 On the contrary, if future treaty bands face a more favourable environment (i.e., better commodity prices) the impact of treaties would be greater.

13 Treaties are usually coupled with self-government agreements, financial compensation and devolution of land-management responsibilities. An alternative explanation is that these other institutional changes associated with treaties, such as self-government or financial compensation, drive the results. I examine and rule out these alternative explanations. See Table A-2 in the Appendix, which shows that treaties reduce the relative importance of non-employment income (which includes government transfers) and increase the income both of band and non-band members. This is contrary to what we would expect if effects were driven by financial compensation. In addition, it shows that the results are not driven by self-government agreements.

Figure 2: Evolution of Real Income in Treaty and Non-treaty Bands (\$1991)



Source: Author's calculations from Statistics Canada and AANDC.

Aboriginal or not). In turn, this development can increase demand for other goods and services provided locally. The multiplier effect can benefit not only workers in extractive industries, but also workers in other sectors of the economy and even in the vicinity of Aboriginal communities.<sup>14</sup>

Below I present evidence supporting this interpretation. First, I show that treaties are associated with an increase on mining agreements. These agreements are contracts between mining companies and Aboriginal

14 This is an example of the so-called Coase theorem: well-defined property rights can facilitate market transactions and improve economic efficiency. In this case, clarification of property rights may reduce the costs associated with public consultation and facilitate the development of new extractive operations such as mines. See Moretti (2010, 2011) for a detailed treatment of the theory analyzing how local shocks to the demand for labour can affect a local economy.

Table 1: Effect of Treaty Implementation on Real Income

	All Individuals	Workers in				
		Extractive Industries	Manufacturing and Others	Trade	Non-public Services	Public Services
<i>Percent Change in Real Income</i>						
Individuals Living on Reserve	17.0*	41.2*	20.7 *	17.9*	23.1*	-4.1
Individuals Living off Reserve but Within Commuting Distance	8.8*	79.1*	0.2	-12.1	18.2*	-6.6

Note: Regression controls for band and year fixed effects, and a set of individual characteristics such as: age, gender, Indian status, education level, being a principal maintainer, indicators of employment status, and household size. Column 1 also adds province-by-year fixed effects.

\* denotes estimates that are statistically significant at the 95 percent level or greater.

Source: Author's calculations from Statistics Canada and AANDC.

communities that facilitate the exploration or development of new mining operations (Natural Resources Canada 2013). These agreements are negotiated in almost all new mining projects on Aboriginal land throughout Canada and have become regarded as a best practice by the mining industry (Sosa and Keenan 2001).

In 2012, there were 280 such mining agreements, which involved about one-quarter (24 percent) of First Nations bands. Both treaty and non-treaty bands have signed mining agreements, although non-treaty bands have signed fewer. For instance, treaty bands, on average, had one mining agreement in 2012. In contrast, non-treaty bands averaged only 0.2 agreements.

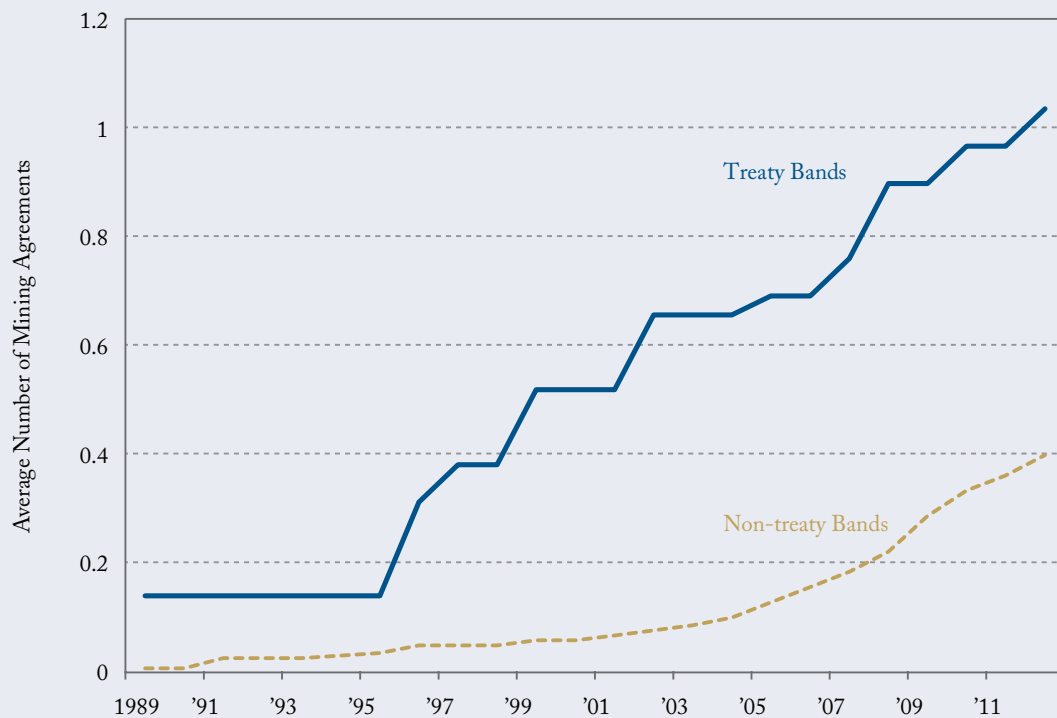
Moreover, the number of mining agreements has steadily increased since the mid-1990s, though this increase has been faster for treaty bands (Figure 3).<sup>15</sup> This result supports the hypothesis that treaties may have facilitated contracts related to natural resources and fostered development of extractive industries.

### Treaties and Local Spillovers

Second, I show that modern treaties have also increased the real income of workers in extractive industries by almost 40 percent (Table 1, Column 2) while generating spillovers that affect the whole local economy. For

15 See Section 6.1 in Aragón (2015) for an econometric analysis of the relationship between treaties and mining agreements.

Figure 3: Average Number of Mining Agreements in Treaty and Non-treaty Bands



Source: Author's calculations from Natural Resources Canada.

instance, treaties have raised the income of workers in non-extractive industries such as manufacturing, trade and services by some 20 percent (Table 1, Columns 3 to 5). Interestingly, and indicative that treaty-signing has increased income because of clearer property rights, workers in public services saw no treaty-related discernible increase (Table 1, Column 6). Treaties have also increased the income of workers living in neighbouring, off-reserve communities by almost 9 percent, mostly among workers in extractive industries and services (Table 1, Row 2).<sup>16</sup> This evidence is consistent with the positive spillovers associated with an increase in the demand for local workers.

These findings, however, come with three caveats. First, the results reflect the effect of treaties on First Nation communities that have already implemented a treaty, not on the communities that may adopt them in the future.

16 See Section 6 in Aragón (2015) for further details.



The effects on new treaty bands may be different.

Second, the results do not suggest that treaties by themselves are a sufficient condition for economic development. Instead, a more conservative interpretation is that they might facilitate contracts to take advantage of economic opportunities (such as abundance of natural resources), but without these opportunities their effect on income would be limited.

Finally, this analysis focuses only on real income. Treaties may, positively or negatively, affect other aspects of human well-being not captured by this indicator.<sup>17</sup>

## Conclusions

Modern treaties seem to have had a positive and sizeable impact on income of First Nation communities. The effect benefits a wide range of workers both on and off reserve. This is an important economic benefit associated with this ongoing institutional reform.

A more comprehensive cost-benefit evaluation of treaties would need to consider a broader set of benefits, including non-economic outcomes, and assess them against their costs. The results from this paper are one part of the cost-benefit evaluation that all parties to treaty negotiations should have in mind as they embark on any negotiation.

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<sup>17</sup> See, for example, a recent report by Eyford (2015).

## Appendix

My analysis focuses only on First Nation communities because they provide sufficient material to observe both treaty and control groups. For instance, in the case of the Inuit communities, most of the population was already covered by the Nunavut agreement, so there would not be a suitable comparator.

Second, I focus only on post-1991 treaties because there is no reliable way to track First Nations communities in previous censuses, the main data source for this analysis. Third, I restrict the sample to make both the treaty and control groups as similar as possible. All treaty bands were located in non-metropolitan areas of BC, the Northwest Territories and the Yukon. I restrict the whole sample to those areas only. See Table A-1 for the full list of modern treaties I used in my analysis.

I investigate whether the effect of higher incomes associated with treaties could be driven by other policies such as financial transfers, expansion of local public-sector or self-government agreements that also come with treaties (Table A-2). I find that treaties reduce the relative importance of non-employment income (which include government transfers, see Column 3 in part A of Table A-2). This is contrary to what we might expect if effects were driven by financial compensation. The effect of treaties on wages is positive for both band and non-band members, but restricted only to non-public sector workers (see Column 6 in part B of Table A-2). In addition, the effect is not driven by self-government agreements (see Column 7 in in part C of Table A-2).

Table A-1: List of Modern Treaties Used in the Analysis

Group	Treaty Name	Province/ Territory	Year of Implementation	Number of Signatory Bands
1	Gwich'in Comprehensive Land Claim Agreement	NT	1992	4
2	Sahtu Dene and Metis Comprehensive Land Claim Agreement	NT	1994	4
3	First Nation of Nacho Nyak Dun Final Agreement	YK	1995	1
4	Vuntut Gwitchin First Nation Final Agreement	YK	1995	1
5	Teslin Tlingit Council Final Agreement	YK	1995	1
6	Champagne and Aishihik First Nations Final Agreement	YK	1995	1
7	Little Salmon/Carmacks First Nation Final Agreement	YK	1997	1
8	Selkirk First Nation Final Agreement	YK	1997	1
9	Tr'ondëk Hwëch'in Final Agreement	YK	1998	1
10	Nisga'a Final Agreement	BC	2000	4
11	Ta'an Kwach'an First Nation Final Agreement	YK	2002	1
12	Tlicho Agreement	NT	2003	4
13	Kluane First Nation Final Agreement	YK	2003	1
14	Carcross/Tagish First Nation Final Agreement	YK	2005	1
15	Kwanlin Dun First Nation Final Agreement	YK	2005	1

Source: Author's interpretation of AANDC files.

Table A-2: Exploring Possible Confounding Factors

	A. Financial Compensation			B. Expansion of Public Sector			C. Self-Government
	Real Income (log)	Real Income (log)	Share of Non-Employment Income	Real Income (log)	Real Income (log)	Works in Public Sector	Real Income (log)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treaty Implemented	0.112 (0.061)*	0.433 (0.119)***	-1.762 (0.961)*	-0.042 (0.046)	0.534 (0.147)***	-0.042 (0.018)**	0.740 (0.124)***
Self-Government Agreement Implemented							-0.522 (0.177)***
Sample	Non-band Members	Band Members		Public Workers	Non-public Workers	All Workers	
Weighted Number of Observations	22,590	93,315	115,755	40,310	75,595	60,005	115,905
R-squared	0.340	0.296	0.437	0.390	0.314	0.219	0.331

Notes: Robust standard errors clustered at band-year level in parentheses.

\*Denotes significant at 10% level, \*\* significant at 5% and \*\*\* significant at 1%.

All regressions include band and year fixed effects. Column 1 includes all individuals not enrolled as band members in any band. This includes Indians without band membership as well as people without Indian status. Public worker is defined as an individual working in government, education or health services.

Source: Author's calculations from Statistics Canada and AANDC.

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