# INSTITUTIONAL CHANGE ON FIRST NATIONS

## Examining Factors Influencing First Nations' Adoption of the Framework Agreement on First Nation Land Management

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### Mary Doidge
MSC CANDIDATE

### B. James Deaton
ASSOCIATE PROFESSOR

### Bethany Woods
MSC CANDIDATE

DEPARTMENT OF FOOD, AGRICULTURE AND RESOURCE ECONOMICS
UNIVERSITY OF GUELPH

**ABSTRACT**

*In 1999 the Canadian Federal government passed the First Nations Land Management Act, ratifying the Framework Agreement on First Nation Land Management signed by the government and 14 original signatory First Nations in 1996. This Agreement allows First Nations to opt out of the 34 land code provisions of the Indian Act and develop individual land codes, and has been promoted as a means of increasing First Nation autonomy and facilitating economic growth and development on reserve lands. There are currently 77 First Nation signatories to the Agreement, 39 with operational independent land codes. This paper is the first to empirically examine factors that may influence a First Nation's decision to become signatory to the Framework Agreement. A unique dataset characterizing each First Nation by socio-economic and demographic characteristics is used with a probit model to determine the effects of these characteristics on the probability of First Nation adoption of the Agreement. The results of this study indicate that proximity to an urban centre positively affects the probability that a First Nation will adopt. However, the statistical strength of this finding is sensitive to the inclusion of an education variable in the regression.*

## INTRODUCTION

This paper examines factors that influence a First Nation's decision to adopt the Framework Agreement on First Nation Land Management in Canada. (Hereafter we refer to this agreement as the *Framework Agreement* or "FA".) The FA (discussed in detail below) allows each First Nation to develop a unique set of rules and regulations regarding use of the First Nation's reserve land. Importantly, these rules may differ from the set of rules and regulations set forth in the *Indian Act*,[1] which currently apply to most First Nations in Canada. Specifically, adoption of the FA allows First Nations to opt out of the 34 sections of the Indian Act that govern land use and develop their own individual land codes (Alcantara 2007). Hence, the adoption of the FA reflects an institutional[2] change.

The reasons for adopting the FA vary, but prominent arguments for adoption include economic development and allowing greater autonomy for First Nations (Alcantara 2007; LABRC 2012). The motivating factors behind institutional change remain an important area of inquiry. Some economists suggest that institutional change is motivated towards an efficient outcome: i.e., increasing net-benefits to society (Demsetz 1967; North and Thomas 1970). Others point out that institutional change may not be efficient but may reflect asymmetric distributions of power and wealth (Acemoglu, Johnson, and Robinson 2002). For example, Benson (1981) argues that lobbying from special interests groups may induce institutional change along an inefficient path.

Our examination of the factors motivating adoption may provide some insight into whether there are expected economic gains to adoption, though we are not able to draw conclusions about the benefits or the beneficiaries of the FA. We hypothesize that First Nations near urban areas may be more likely to adopt the FA than First Nations in more remote areas. Our hypothesis is based on two assumptions. First, we assume that the adoption of the FA allows a First Nation to develop land codes that better enable it to take advantage of investment opportunities. Second, we assume that the magnitude of potential land investment opportunities is higher for First Nations in closer proximity to urban areas.
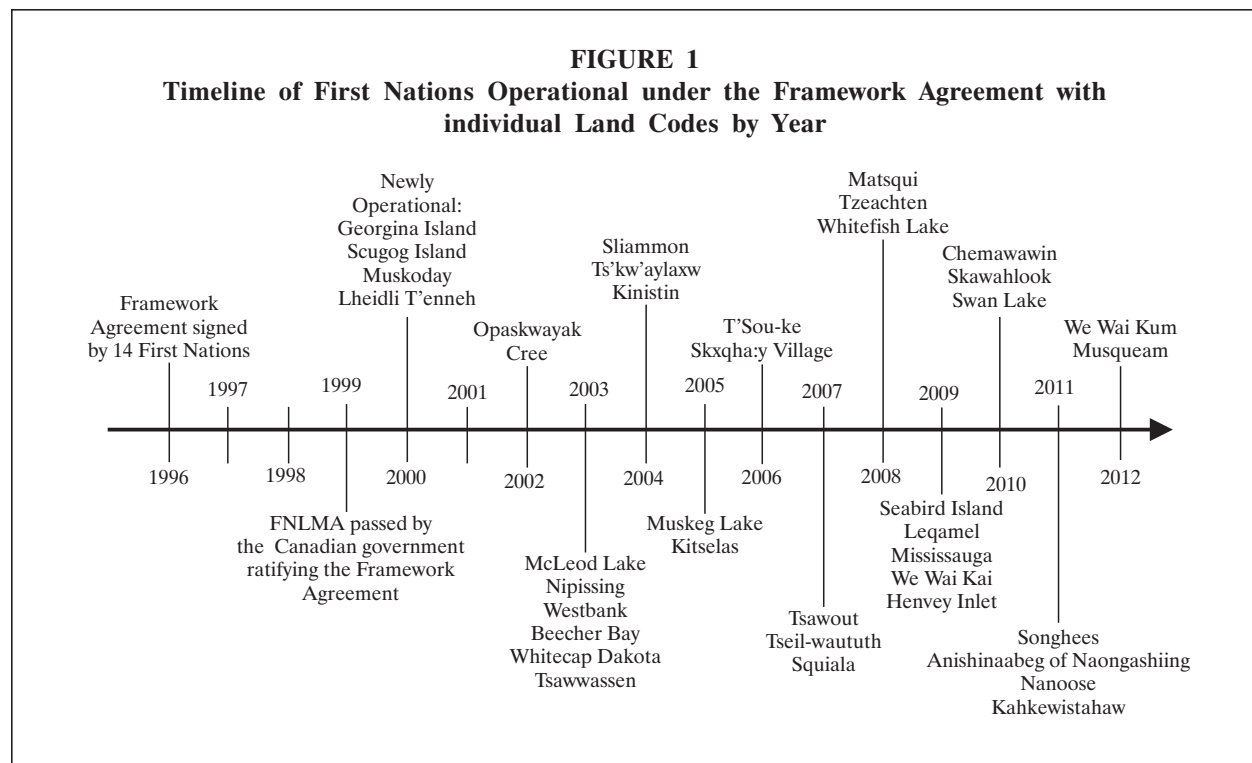
The paper proceeds as follows. The next section provides background on the Framework Agreement on First Nation Land Management and describes some differences between land codes under the Indian Act and those land codes adopted by some First Nations. The following section outlines the data and empirical model used to examine factors that influence FA adoption. The subsequent section — i.e., results — provides regression estimates of a number of factors including the distance from each First Nation to an urban area with a population greater than 100,000 persons. The results suggest that as the distance between a First Nation's reserve(s) and urban areas increases, the likelihood of FA adoption decreases. This negative relationship is robust across all models in our paper, though the statistical significance of the effect is sensitive in one model that includes an educational variable which, in turn, also limits the sample size available for assessment.

## BACKGROUND

The Framework Agreement on First Nation Land Management (FA) was developed by 14 First Nations in the mid-1990s in response to perceived constraints to land use imposed by the Indian Act. Figure 1 provides a timeline of First Nations operational under the FA. The timeline begins in 1996 when the FA was first signed by 14 First Nations and goes until 2012 when We Wai Kum and Musqueam became operational under their own land codes. The federal government passed the First Nations Land Management Act (FNLMA) in 1999, officially ratifying the FA. Since then, 77 First Nations have become *signatory* to the FA (a more exact definition of signatory is defined below). Thirty-nine of the 77

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[1]    A Canadian federal statute that governs First Nations. The Indian Act was first passed in 1876 and has subsequently been revised. Under the Indian Act, reserve land use is jointly governed by the elected band councils and the federal Minister of Aboriginal Affairs.
[2]    North (1990) defines institutions as the rules of the game. Commons (1931) defined institutions as collective action in control, liberation and expansion of individual action.

**FIGURE 1**
**Timeline of First Nations Operational under the Framework Agreement with individual Land Codes by Year**

are currently operating under their own land codes (LABRC 2012), identified in Figure 1.

There are a number of steps that must be taken before a First Nation is able to develop its own land code under the FA. Initially a First Nation must pass a band council resolution (BCR) seeking entrance to the FNLMA. If successful, the BCR is submitted to the Lands Advisory Board.[3] Subsequently, a second BCR is required, which commits the band to the community approval process. The Lands Advisory Board then makes a recommendation to Aboriginal Affairs and Northern Development Canada (AANDC) to add the First Nation to the schedule of the FNLMA, at which point the First Nation becomes a signatory to the FA. Finally, the First Nation enters the community approval process, during which time it develops its own land code and the individual agreement to be adopted by the First Nation and AANDC. (Becoming a signatory to the FA does not ensure that a First Nation will ultimately develop its own land code.) Of the 77 First Nations who are signatory, 30 are in the developmental stage of adoption and have not yet voted on their land code. Though only a small percentage of First Nations are operational under the FA, interest has grown since its inception. According to Chief Robert Louie, approximately one in six of Canada's 617 First Nations have adopted or expressed interest in adoption (Deaton and Louie 2012).

The land codes developed by individual First Nations under the FA may differ. However, a common element of the reformed land codes is that the First Nation has greater autonomy over the approval process for altering *land uses* and certain land tenure arrangements.[4] These reforms

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[3]    The Lands Advisory Board was established under Part VIII of the Framework Agreement, for the purpose of assisting signatory First Nations in establishing their agreements with the Canadian government (LABRC 2003).

[4]    Under the FA, the fiduciary relationship between the federal government and participating First Nations continues, but the role of the federal government as a fiduciary is reduced. Land use decisions and tenure arrangements (such as the allocation of leases and certificates of possession) are up to the First Nation band to administer, and no longer require federal oversight.

stand in contrast to the Indian Act which requires approval from the Minister of Aboriginal Affairs for many changes in land use: e.g., leasing land (Department of Justice 1985). In some cases the new land codes may strengthen the property rights associated with various forms of land tenure, such as customary tenure rights. These changes may have economic benefits if they reduce the transaction costs associated with allocating land to alternative uses with higher economic value, or promote investment.

Alcantara (2007) recently investigated the consequences of newly implemented land codes in two First Nations that have adopted the FA: the Mississaugas of Scugog Island and the Muskoday First Nations. He found that both First Nations put in place more efficient systems for allotting permits, leases and certificates of possession than the systems that previously existed under the Indian Act. Moreover, in the case of Mississaugas of Scugog Island, he argued that the new land codes strengthened customary tenure rights through formal documentation, registration, and protection from band expropriation.

## FACTORS INFLUENCING ADOPTION

The general model of institutional change proposed by Demsetz (1967) and North and Thomas (1970) hypothesizes institutional changes will emerge when the benefits of change exceed the costs. The extent to which these changes are beneficial to society or are captured by a subset of individuals rather than the whole of society is an ongoing question of debate in the institutional change literature. For a recent in-depth discussion of this issue see Acemoglu and Robison's book, *Why Nations Fail* (2012).

A common feature of both arguments is that institutional change is motivated by an increase in expected net-benefits to some group of individuals. In our study of FA adoption we are not able to explore the expected magnitude of the benefits or the distribution thereof. However, we do use this "net-benefit" concept to motivate our primary research question regarding adoption of the FA. Specifically, we hypothesize that a First Nation in close proximity to large urban areas will be more likely to adopt the FA than more remote First Nations.

The "proximity hypothesis" is motivated by a number of key ideas or assumptions. The first assumption is that one[5] motivating factor behind FA adoption is to support increased investments and new uses of First Nation land. The second assumption is that First Nation expectations regarding future investments on land are positively influenced by proximity to urban areas.

Urban areas have long been associated with enhanced economic opportunity (Moretti 2012). Large populations associated with urban regions may, for example, provide market opportunities for goods and resources produced on a First Nation reserve. First Nations with a more flexible system of land governance may be in a better position to take advantage of these opportunities. Moreover, urban areas may support new and growing employment opportunities for First Nation people who then seek out residential opportunities on First Nation land. In addition, proximity to urban areas may incentivize investors from outside the reserve to invest in businesses. These new investments may require greater flexibility and security with respect to First Nation land. For these reasons we expect a spatial pattern to emerge in the adoption of the FA. The empirical challenge, as we discuss in the next section, is to assess this spatial pattern — i.e., our "proximity hypothesis" — while controlling for a variety of other factors that may also influence FA adoption.

## EMPIRICAL MODEL

The probability that a First Nation will adopt the Framework Agreement is represented by the following equation:

$$P(FA|X,Y) = G(a_0 + \alpha X + \beta Y)$$

where $P(FA|X)$ represents the probability that a First Nation adopts the Framework Agreement, $G$ is the cumulative distribution function of the normal distribution, $X$ is a vector of variables of reserves and nearby area (e.g., the distance of a First Nation's reserve(s) to the nearest urban centre with a population of 100,000 people or more), and $Y$ is a vector of First Nation popula-

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[5]    As mentioned in the introduction, there are likely to be a number of motivations behind FA adoption.

tion variables. A probit regression estimates the effect of the covariates (*X* and *Y*) on the probability of adoption. This effect is represented by the coefficients alpha and beta ($\alpha$, $\beta$). The distance variable is hypothesized to have a negative coefficient, indicating that as distance between a First Nation's reserves and urban areas increases, the likelihood of adoption decreases. Put another way, First Nations in closer proximity to urban areas are expected to be more likely to adopt the Framework Agreement. In addition, we examine the statistical significance of this effect.

## DATA

The empirical model is applied to our data set in order to estimate the influence of the variables on First Nation adoption of the FA. The data set consists of a subset of First Nations in Canada. The data include distances of First Nation reserve(s) to the nearest urban areas as well as socio-economic characteristics. The distance variables were calculated using GIS and information about the location of First Nation reserve(s) and urban areas. The socio-economic variables that describe each First Nation come, primarily, from the 2006 census. The remainder of this section provides greater detail about the data set.

The data set is comprised of 287 First Nations. This is a subset of the 617 recognized First Nations in Canada. We limit our analysis to 287 First Nations for the following reasons. First, we do not include First Nations in northern Canada[6] (Yukon Territory, Northwest Territories, and Nunavut). This reduces the potential sample size from 617 to 588 First Nations.

Furthermore, we limit our dataset to include First Nations comprised of 1 or 2 reserves. This simplified the construction and assessment of the measure of distance between urban area and First Nation. We also did not include reserves that are associated with multiple First Nations (the association between First Nations and their

reserves are described on the AANDC website[7]). For example, the Blue Quills First Nation reserve in Alberta has six First Nations[8] listed. Reserves such as these (of which there were 52, making up a very small proportion of total reserves at approximately 1.7%) were eliminated from the dataset. In summary, the current data set is limited to First Nations with only 1 or 2 reserves for which they are the only First Nation residing, as listed by AANDC. This results in a sample size of 287 from the 588 First Nations in the 10 Canadian provinces.[9]

There are well known limitations associated with Canadian census data. One such limitation is that only a subset of First Nations participated in the 2006 census. Hence, First Nations for which data are not available are excluded from the set of regressions that include population characteristics. Additionally, data for First Nation communities with fewer than 40 people or First Nations with non-response rates of 25% or greater are suppressed by Statistics Canada. These First Nations are also excluded from regressions in which population data are included. These data limitations further limit the First Nations available for analysis. In the regression analysis we analyze the 287 First Nations and then a subset of First Nations (152) with data on population characteristics.

The dependent variable in the regression is adoption of the Framework Agreement by a First Nation. In Table 1 this variable is identified as *FA*. First Nations operational under the Agreement and those in the developmental stages of adopting it at the time of this study received a 1, i.e., *FA* = 1. First Nations that have not adopted the Framework Agreement received a zero, i.e., *FA* = 0. The non-adoption category includes signatories to the FNLMA that are listed as inactive and/or those whose vote to adopt the Framework Agreement did not pass. Summary information on the categorical variable FA is provided in Table 1. Of the 287 FN in

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[6]    First Nations are subject to the Yukon First Nations Self-Government Act of 1993 in the Yukon, the Nunavut Land Claims Agreement of 1993 in Nunavut, and various settlement agreements in the Northwest Territories.

[7]    <http://pse5-esd5.ainc-inac.gc.ca/FNP/Main/Search/SearchRV.aspx?lang=eng>

[8]    Beaver Lake Cree Nation, Cold Lake First Nations, Frog Lake, Heart Lake, Kehewin Cree Nation, and Saddle Lake Cree Nation.

[9]    Restricting the First Nations included in this analysis also limited the number of First Nations operational under the Framework Agreement or in developmental stages of adopting from a possible 69 to 28.

**TABLE 1**
**Summary Statistics for Variables Included in the Probit Model**

| Variable | Mean | Std. Dev. | Minimum | Maximum | N |
|---|---|---|---|---|---|
| Distance to Urban Centre (km) | 252.66 | 211.07 | 5.52 | 1076.69 | 287 |
| Reserve Area (km$^2$) | 71.6922 | 139.74 | 0.02915 | 1412.461 | 287 |
| CD Cost of Living ($) | 586.12 | 141.90 | 250.00 | 1042.00 | 287 |
| CD Population Density | 23.6437 | 93.8860 | 0.0340 | 957 | 287 |
| Band Population | 1403.64 | 1561.57 | 42 | 10430 | 280 |
| % on Reserve | 55.52 | 21.37 | 0 | 98.77 | 280 |
| % without High School | 59.83 | 16.31 | 30.00 | 97.83 | 152 |

the final data set, 28 are categorized as having adopted the FA.

The distance between each First Nation's reserves and urban areas is the main variable of interest in this study. The distance variable measures the straight-line distance between the centre of each reserve and the centre of the nearest urban area with a population of 100,000 people or more. For First Nations with two reserves, a weighted average of the distances of each reserve was calculated.[10] In our regression analysis the distance variable is logged to reduce the effect of outliers in the data. Table 1 indicates that the mean of the distance variable was approximately 253 kilometres.

The land area of each reserve was determined using geographic information system (GIS) software. The area of reserves associated with each First Nation is included as a measure of the land administered by and the potential resources available to the First Nation. For First Nations with two reserves, the sum of the area of both reserves is included as a single variable. The average reserve area was 71 square kilometres.

The cost of living (average gross rental rate[11]) and population density (measured in people per square kilometres) in the census divisions surrounding First Nation reserves were obtained from the 2006 Canadian Census. For First Nations with multiple reserves, a weighted average of these variables was calculated (employing the same method described above).

The total band population for each First Nation was obtained from the 2006 Registered Indian Population by Sex and Residence, published by Indian Affairs and Northern Development Canada. The proportion of each First Nation residing on its reserve(s) was calculated from the numbers of band members living on reserve and crown land as a proportion of the total band population, also obtained from the 2006 Registered Indian Population by Sex and Residence. On average the band population was approximately 1403 members.

The proportion of the First Nation population who did not receive a high school diploma was calculated from numbers obtained from the Aboriginal Peoples Profile of the 2006 census. The number of the Aboriginal identity population who had no certificate, diploma, or degree was divided by the total Aboriginal identity population 15 years and over to obtain the proportion of those without a high school education. On average, approximately 60% of the reserve population did not have a high school diploma.

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[10]   The distance of each reserve to the nearest urban centre was weighted by the proportional area of each reserve to the total reserve area of the First Nation, such that if a First Nation's reserves had an area of 25 and 75 km$^2$ for a total area of 100 km$^2$, the distance of the first reserve would be given a weight of 0.25 and the second a weight of 0.75.

[11]   Defined by Statistics Canada, the average monthly total of all shelter expenses paid by tenant households, including monthly rent and costs of electricity, heat and municipal services.

## TABLE 2
### Probit Results for First Nations with One and Two Reserves, Reporting Marginal Effects and Robust Standard Errors

Dependent Variable: Framework Agreement (FA = 1 if FN adopts the FA).

| Variable | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | Marginal Effect | Robust SE | Marginal Effect | Robust SE | Marginal Effect | Robust SE |
| Ln Distance (100 km) | −0.0647*** | 0.0000 | −0.05783*** | 0.0000 | −0.0311 | 0.0191 |
| Reserve Area (km$^2$) | −4.8e-5 | 9.0e-5 | −2.53e-5 | 1.2e-5 | −0.0002 | 0.0001 |
| CD Cost of Living ($100) | 0.0220** | 0.0088 | 0.0221*** | 0.0079 | 0.0058 | 0.0061 |
| CD Population Density | −0.0002** | 0.0001 | −0.0002** | 0.0001 | −0.0001 | 0.0003 |
| Band Population | — | | −1.61e-6 | 0.0000 | 7.68e-6 | 1.0e-5 |
| % on Reserve | — | | −0.0008* | 0.0005 | −5.9e-5 | 0.004 |
| % without High School | — | | — | | −0.0011 | 0.0007 |
| Constant[a] | −2.5444*** | 0.6850 | −2.232*** | 0.7328 | −0.5795 | 1.4892 |
| Pseudo R$^2$ | 0.2676 | | 0.2829 | | 0.3741 | |
| Number of Observations | 287 | | 280 | | 152 | |
| Framework Agreement Adopters | 28 | | 28 | | 14 | |

Statistical significance at the 1% (***), 5% (**), and 10% (*) levels.
[a] Reporting constant term from probit regression rather than the marginal effect.

## RESULTS

The results of the empirical analysis are presented in Table 2. Three models are provided. The models differ with respect to the set of variables included in the data set and the associated number of available observations. Model 1 includes all 287 First Nations but does not include band population, percentage of band on reserve, or percentage of those with a high school education. Model 2 examines 280 First Nations. The reduced number of First Nations results from the inclusion of two additional variables. The third model examines 152 First Nations; the size of this model is limited due to the inclusion of the educational covariate.

With regards to the distance variable, the coefficient on the variable describing distance to an urban centre is negative in all regressions. This implies an inverse relationship between distance and the probability that a First Nation will adopt the Framework Agreement. Put simply, a First Nation in closer proximity to an urban area is more likely to adopt the Framework Agreement than a First Nation located further from an urban area, all else equal.

The marginal effect (estimated at the means of the data) is statistically significant in Models 1 and 2. The marginal effect of the distance variable can be interpreted as the decrease in percentage likelihood that a First Nation will adopt the Framework Agreement resulting from a one-percent increase in its distance from an urban centre.[12] Using model 1, for example, a 1% increase in distance from an urban center results in a .06% decline in the likelihood that a First Nation will adopt the Framework Agreement. Put simply, relatively more remote First Nations are less likely to adopt the Framework Agreement.

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[12]   Measured in 100 km.

The marginal effect of distance is not significant in Model 3 which includes an education variable: i.e., the proportion of the First Nation population without a high school education. Because this variable is not available for many First Nations, the inclusion of this variable significantly reduces the number of observations in the regression. (The number of observations falls from 287 to 152.) The results presented in model 3 — i.e., where the distance variable is statistically insignificant — raises the possibility that model 1 and model 2 suffer from an omitted variable bias. After all, education may affect the likelihood of adoption and it is positively correlated with our distance measure (i.e., Pearson correlation of .547). Omitting the education variable, as in models one and two, can result in biased coefficient estimates. However, note that none of the coefficients are statistically significant in model 3. The change in statistical significance may also be attributable to the reduced number of observations.

The marginal effect of the cost of living in the census division(s) surrounding reserves is positive and statistically significant in Models 1 and 2. This indicates that the probability of Framework Agreement adoption increases as the rental rate in the area surrounding reserves increases. The marginal effect of the population density is negative and statistically significant in Models 1 and 2, suggesting an increase in population density has a negative effect on Framework Agreement adoption. Neither of these results are statistically significant in Model 3 (after inclusion of the education variable).

The effects of the other variables included in the regression (reserve area, band population, proportion living on reserves, and educational attainment) are not statistically significant,[13] suggesting that these variables have no effect on the probability that a First Nation adopted the Framework Agreement.

## CONCLUSIONS

The proximity of a First Nation's reserves to urban areas influences the likelihood of adop-

tion of the FA. More specifically, controlling for other factors, First Nations in closer proximity to urban centres with a population of 100,000 people or more are more likely to adopt the FA. As discussed above, the statistical strength of this finding is sensitive to sample size and the inclusion of an education variable.

The finding that proximity to urban area positively increases the likelihood of adoption of the FA is consistent with our expectation that First Nations in close proximity to urban areas expect greater net-benefits from the reduced transaction costs associated with adopting the FA. This finding is also consistent with the theory of institutional change posed by Demsetz (1967), who argues that institutions change if the expected benefits of instituting the change are greater than the expected costs of doing so.

This study is one of the first to empirically examine the factors that influence First Nation adoption of the FA. Throughout the paper we have emphasized a number of empirical limitations in the hopes of supporting future research in this area. Going forward researchers can seek out ways of expanding the observations available for empirical research, and including additional factors such as a characterization of the land tenure arrangements on each reserve. Our study also has implications for future research that sets out to assess the economic benefits of FA adoption. Specifically, future efforts to assess the economic consequences of FA adoption should compare adopters and non-adopters by controlling for proximity to urban areas as well as other factors.

In our discussion of factors influencing adoption we emphasized the potential for economic benefits. However, we are fully aware that this explanation is limited. The Indian Act is seen by many First Nations as an outdated and patriarchal document that gives too much control to the federal government over First Nations and their reserves. First Nations are likely to see adoption of the Framework Agreement as a step towards greater autonomy over their reserve lands, taking administrative responsibilities out of the hands of the Canadian government. In this regard, adoption of the FA may strengthen the

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[13]   With the exception of percentage of the First Nation living on reserve, which was –0.0008 and statistically significant at the 10% level in Model 2.

capacity of First Nations to address future issues that cannot be fully anticipated at the time of adoption.

The motivations of particular groups within a First Nation also play a role in its decision to adopt the Framework Agreement. Variation in leadership qualities and political power may also influence the band council's decision to seek entrance into the FNLMA and the subsequent voting of band members. In this process, as in most types of institutional change, "... asymmetric information parallels asymmetric interests, as some economic agents have focused interests and others diffuse interests in what is going on" (Deaton et al. 2010: 107).

The FA is a relatively new and important pathway towards a new set of property rights for First Nations in Canada. The FA has the potential to influence the well being of First Nations people and Canadians throughout Canada. Economic motivations are likely to explain adoption decisions and economic consequences are most certainly used to justify adoption. Our focus on the spatial pattern of adoption contributes directly to the former point and is useful to assessing the latter.

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