POLITICAL STABILITY AND THE WELL-BEING OF FIRST NATIONS IN SASKATCHEWAN
Implications for the Proposed First Nations Elections Act

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ABSTRACT

This paper provides an empirical analysis of the relationship between the political stability of First Nations in Saskatchewan and a number of measures of social and economic well-being. Our results show that among First Nations in Saskatchewan the average term of elected leadership is 4.5 years. Simple descriptive statistics support the basic hypothesis that more stability, represented as less frequent changes in elected Chiefs, is associated with better socio-economic outcomes for First Nation communities. Our findings also show evidence that there are limits to how much more socio-economic gains can be achieved by increasing political stability of First Nation governments. At some point the positive contribution of greater stability to socio-economic outcomes decreases, such that it may eventually reduce, rather than improve positive socio-economic outcomes. With this paper we hope to inform the current debate of the merits or risks associated with any future changes in First Nation elections and their resulting systems of governance.

INTRODUCTION

As discussed by the contributors to this special issue, reforms to the current on-reserve land tenure system are being advocated on the grounds that individual property rights will "unlock" the economic potential of First Nations by providing secure and enforceable land title. Flanagan and his colleagues (2010) suggest that such land reforms, operationalized through a proposed First Nations Property Ownership Act, would lead to increased home ownership, entrepreneurial investment, higher on-reserve employment, and reduced transaction costs for First Nation, provincial and federal governments. Whether these potential benefits outweigh the risks remains debatable (see Tough in this issue). Yet what is important to keep in mind is that in addition to First Nation land reforms, there are a plethora of other legislative changes, either being drafted our progressing through the federal government, all of which are intended to enhance the economic conditions of Canada's First Nations. One such piece of legislation is Bill S-6, the First Nations Elections Act. Similar to the arguments made in support of the First Nations Property Ownership Act, advocates of the First Nations Elections Act see political stability as a necessary condition for the economic development of First Nation communities.

Responding to long-standing criticisms of the current election system administered under the Indian Act, Bill S-6 has been championed by the Honourable John Duncan, former Minister of Aboriginal Affairs and Northern Development, as an "historic piece of legislation ... that will help First Nations create the political stability necessary for solid business investments and long term planning that will lead to increased economic development, job creation, and improved quality of life" (AANDC 2011a). These sentiments have been shared by some First Nation leaders who view Bill S-6 as an important step towards building confidence in First Nation governance (Chief Lawrence Paul of Millbrook First Nation, Nova Scotia) and providing a viable legislative alternative to the Indian Act election system (Chief Candice Paul of St. Mary's First Nation of New Brunswick) (AANDC 2011a).

Among the changes found in the Bill is a call to increase the term of elected office from two to four years for First Nation Chiefs and Councils. This change was considered necessary to help First Nations create the political stability necessary for long term planning, and for building relationships that lead to increased economic growth. The current two-year term under the Indian Act has been criticized for fostering economic uncertainty, reducing long-term investment, and propagating short-term planning horizons among elected leaders.

It seems reasonable that greater political stability within First Nation governments will contribute to producing conditions conducive to economic growth, while instability will retard long-term planning and investment. However, to date no research has been conducted that supports or refutes these relationships. Research can be found on the economic effect of constitutional and unconstitutional (*coups d'états*) transitions of national governments, yet no systematic investigation has been conducted at more "local" levels of governance regarding the contribution of political stability to local economies. Rather it is simply assumed that based on higher levels of political order, stability necessarily lends to economic development. It is this assumption that has in part influenced the changes found in the First Nations Elections Act.

With this paper we offer an empirical analysis of the relationship between the political stability of First Nations in Saskatchewan and a number of measures of social and economic well-being. We set out to answer two questions: What can simple descriptive statistics tell us about the relationships between political instability and a range of socio-economic indicators of First Nations? And more specifically, what is the relationship between political instability amongst First Nations in Saskatchewan and their Community Well-being Indices? The starting point for our empirical investigation is with our hypothesis that political instability would be negatively related to socio-economic outcomes of First Nations in Saskatchewan. If this hypothesis is valid, we expect to find the more politically stable First Nation governments to have higher Community Well-being scores, and be generally associated with more positive socio-economic indicators than their less politically stable counterparts.

Following this introduction we present a brief review of the relevant literature that informed our analysis. This is followed by a description of our methods and primary data

sources. Our results are then presented, followed by a discussion of some of the relevant factors that may influence political stability among First Nation governments in Saskatchewan. Our conclusion summarizes our main findings. We hope that the results of this research will inform the current debate of the merits or risks associated with any future changes in First Nation elections and their resulting systems of governance.

BACKGROUND

Political instability has generally been examined within a multi-country cross sectional framework (e.g., Morrison and Stevenson 1974; Olson 1982; Alesina et al. 1996; Traynor and Gyimah-Brempong 1999). A survey of the literature identifies two main categories of political instability (PI). The first treats PI as a result of forceful or involuntary removal of established authority (Traynor and Gyimah-Brempong 1999). Otherwise referred to as "elite" PI (Morrison and Stevenson 1974), this form of political instability is limited to changes that occur in the form of unconstitutional transitions of government, such as military coups d'états and other means of takeover. Others such as Deaton and Miller (1995) and Alesina et al. (1999) provide a broader definition of PI to include constitutional transitions in governance. Unlike the former, this definition accounts for changes in governance within pre-existing and agreed to processes for governmental transitions.

The approaches to analyzing the impacts of political instability on economic growth have varied. Traynor and Gyimah-Brempong (1999) use a simultaneous equations model, pooled time-series data, and dynamic estimation methodology to estimate the impact of political instability on economic growth in Sub-Saharan Africa. Fosu (1992) on the other hand uses an augmented production framework to undertake a similar analysis of the same Sub-Saharan region. Like Traynor and Gyimah-Brempong (1999), Alesina et al. (1999) accounted for endogeneity between economic performance and political instability by using a system of simultaneous equations and relied on a large sample of "developed" and "developing" nations. Despite the various approaches used, common to all of the above studies is the finding that political instability has a negative effect on national economic growth.

DATA AND METHODS

Data on the socio-economic conditions on Saskatchewan First Nations reserves were derived from the Census of Population 2001 and 2006. Reserves are unique Census Subdivisions (CSD's), the basic geographic building block for Statistics Canada. A range of demographic and economic variables from the Censuses was included in our analysis. Since our "unit" of observation for the analysis is the CSD or Reserve, where a First Nation has multiple Reserves, the First Nation characteristics are attributed to all held reserves.

Political stability data for Saskatchewan First Nations were acquired through the Access to Information Act. These data indicate the election results for 65 First Nations from 1945–2009, although the majority of the election data are from 1960–2008. From this information a "frequency of change" variable, Pchange, was computed. Over the observation period the number of Chief-changes was divided by the number of total years. If a new Chief was elected every year, the Pchange would have a value of 1 (or 100% of the years) for that respective First Nation. The less frequently the Chief is changed, the smaller the Pchange value. We consider Pchange to be an indicator of the political instability of leadership, with smaller values (less frequent changes) representing more stability.

First Nation election systems data were obtained online from Aboriginal Affairs and Northern Development. Of the 617 First Nations in Canada, 239 hold elections under the Indian Act system, 342 First Nations select their leadership according to their own community or custom election codes, and 36 are self-governing. In our sample of 65 Saskatchewan First Nations, 24 hold elections according to the provisions of the Indian Act and 41 First Nations hold Custom elections.

It is important to clarify the differences between Indian Act and Custom election systems. Sections 74–80 of the Indian Act set out the general framework for First Nation elections. The provisions of the Act establish basic election rules, including the size of councils and the rights of voting members. In addition, Subsection 78(1) sets a two-year term limit for First Nation Chiefs and councilors. Accompanying the Act is the Indian Band Election Regulations that

provides more detailed election rules, including the compilation of voters' lists, administration of polling stations, procedures for casting of ballots, and processes for appealing elections.

The Indian Act does not, however, remove the opportunity for First Nations to develop their own election processes. The right of First Nations to implement to their own election processes by way of custom is recognized as the default selection process (St. Germaine and Dyck 2010). Further, the term "custom" does not denote the application of any "traditional" method of leadership selection. Rather, "custom" simply distinguishes elections established by the First Nation from those pursuant to the Indian Act (St. Germaine and Dyck 2010). In practice, Custom elections may differ very little from those administered under the Indian Act, for example, a four- rather than two-year term for elected leadership. Yet in other cases Custom elections may combine traditional aspects of First Nation governance (Elders councils) with contemporary governance structures (elected chief and council) (St. Germain and Dyck 2010). Custom elections systems are therefore quite heterogeneous with no two necessarily being the same.

Data from the 2006 First Nations Community Well-Being Index (CWBI) were obtained from AANDC. The CWBI is a measure of the well-being of individual communities based on four component indicators derived from Statistics Canada's Census of Population — employment, education, income, and housing. Each of these four indicators is assigned scores ranging from zero (lowest) to 100 (highest). In this analysis we rely on the aggregate CWBI score for each First Nation, which is the simple average of its four components.

According to O'Sullivan and McHardy (2004), the CWBI serves four purposes: (i) identifies prosperous First Nation communities which could serve as role models and sources of best practices for those less prosperous; (ii) identifies those First Nations whose socio-economic difficulties demand immediate attention; (iii) allows comparisons to be made between the well-being in First Nations communities relative to other Canadian communities; and (iv) can be used in a myriad of other research projects to assess the determinants and correlates of well-being in First Nations communities, as is the case here.

We first provide some descriptive statistics for ranges of values for CWBI, as a broad measure of economic outcomes. We compute the mean CWBI score (for 65 Saskatchewan First Nations), and one and two standard deviations above and below, to generate 4 categories: one group that lies within one standard deviation below the mean CWBI score; a second more than one standard deviation below the mean; a third above and within 1 standard deviation; the fourth group consists of communities that are more than one standard deviation above the mean. For these four groups the average (and standard deviation) values for political instability (Pchange) are computed, as well as for selected political, demographic, economic and geographic variables.

Second, we construct the full range of descriptive statistics for specific ranges of political instability, our Pchange variable of primary interest. Again we group First Nations into four groups — those that have Pchange values that lie within 1 standard deviation above and below its mean, and those that lie more than 1 standard deviation above and below the mean. The two groups with Pchange values below the mean have below average instability (more stability) and the groups with Pchange values above the mean have above average instability (less stability) For the sets of First Nations communities that fall into each of these ranges of Pchange values we report the mean and standard deviation for a number of demographic, socio-economic and geographic variables that describe these communities.

The descriptive statistics are loosely indicative of potential associations with the CWBI and Pchange. Ideally a multiple regression analysis would allow us to hold constant the full range of control variables while investigating the influence of political instability on economic outcomes. Because of the very small number of First Nations in our study (65), and a fairly high degree of correlation among potential explanatory variables, we limit ourselves to two basic explanatory variables in our three simple multiple regressions. One of our explanatory variables is our government stability measure, Pchange, and its square. The squared term is added to allow for the possibility that, while increased stability may be associated with better economic outcomes, there is a limit to this relationship.

That is, greater stability where the Chief rarely changes, may no longer contribute to more economic benefits. We would expect a negative relationship with the Pchange term and then, due to the decreasing returns, a positive association with its square.

In addition to the political instability variables (Pchange and its square), our variable of primary interest, we also include a control variable in our regressions to hold constant other influences on the CWBI, and our other two dependent variables. Our control variable is the percentage of the population that is over the age of 15. We consider this an appropriate control variable as it is the result of long-term trends in the First Nation populations and thus is not likely caused by the economic outcome variables.[1]

For our regression analysis, three dependent, or outcome, variables are regressed on the political stability variable (Pchange) and the control variable. These three outcome variables are the CWBI aggregate score, the employment rate, and the percentage of income that is derived through employment.[2] Testing the influence of the political stability variable on more than one economic outcome variable allows for the possibility of different impacts on different outcomes. The CWBI is the broadest measure of economic outcomes, though the employment rate is arguably the most indicative of economic vitality. The third outcome variable, the percentage of income that originates from employment (rather than transfers, for example), is also a strong indicator of economic independence and vitality.

RESULTS

Based on elections data acquired via the Access to Information Act, we constructed a political instability variable for the 65 First Nations in Saskatchewan. The Pchange value ranged from a low of 0.06 to a high of 0.39. As noted above, if a change in leadership (Chief) occurs every year, the Pchange value would be 1 (or 100% of the years). The less frequent leadership changes occur, the smaller the Pchange value will be, indicating increased stability. The mean Pchange value for our sample of 65 Saskatchewan First Nations is 0.22. This indicates that on average, over the period for which we have data, First Nation chiefs change every 4.5 years (1/.22).

Tables 1 and 2, present the descriptive statistics as a first approximation to depicting underlying patterns in the relationship between political instability and socio-economic outcomes. The columns of Table 1 represent 4 groups of communities organized around the average value (48.83) of the CWBI for Saskatchewan First Nations.[3] There are 37 First Nations with CWBI values below the mean; 28 of these fall within one standard deviation (8.13) below the mean (CWBI scores between 40.7 and 48.83), and 9 that have CWBI scores less than 40.7 (more than 1 standard deviation below the mean). The remaining 38 First Nations have CWBI scores above the average: 29 fall within one standard deviation above the mean (CWBI scores between 48.83 and 56.96), and 9 have CWBI scores greater than 56.96. For each of these four groups, the mean and standard deviations of the variables in the left-hand column are presented as a first approximation to establishing relationships between these variables and the CWBI.

Across the four CWBI groups, average Pchange values (0.1775) are the lowest, indicating the least political instability (greatest stability), for the group of First Nations with the highest CWBI (greater than 56.96). This is consistent with more political stability being associated with better socio-economic outcomes. However, the average Pchange value for the lowest CWBI group (< 40.70) is not much higher (0.1950). This suggests that very high political stability may be associated either with the best

[1] In early estimations, a number of alternative control variables were employed, including distance and other economic outcome variables. However, we chose the single control variable because the degrees of freedom do not permit more explanatory variables and also for theoretical reasons as this demographic variable is expected to be broadly associated with the potential for positive economic outcomes.

[2] We experimented with a number of other dependent variables, but these three were chosen for theoretical and methodological reasons. To the extent that working age population moves off Reserve in response to poor economic conditions on the Reserve, we will have bi-directional causation. Again it is important to treat the estimated coefficient as a representation of the degree of association. Further it should be noted that there is also the potential for reverse causality for the political instability variable, our variable of primary interest.

[3] Available from AANDC <http://www.aadnc-aandc.gc.ca/eng/1100100016600/110010001664>.

TABLE 1
Political Stability, Election Type, Demographic, Remoteness and Economic Characteristics of Saskatchewan First Nations by Community Well-Being Indexes, Means and (St. Dev.)

	CWB<40.70 *9 FNs*	*40.70<CWB<48.83* *28 FNs*	*48.83<CWB< 56.96* *29 FNs*	*CWB>56.96* *9 FNs*
Pchange, Average	0.1950 (0.0619)	0.2396 (0.0779)	0.2232 (0.0801)	0.1775 (0.0716)
% Custom Election	55.60 (52.70)	57.14 (50.40)	69.00 (47.08)	68.75 (47.87)
Avg. Dist., Nearest Urban Centre, km	79.60 (68.96)	140.81 (113.57)	127.75 (91.93)	105.88 (88.26)
Total Population Size, 2006	578.89 (355.34)	729.46 (369.16)	564.31 (306.90)	449.38 (357.50)
Population Growth Rate, 2001–2006	2.41 (12.52)	14.95 (20.61)	11.98 (15.74)	13.38 (23.65)
Employment Rate, Females, 2006	30.80 (9.52)	27.63 (6.07)	31.68 (7.00)	46.91 (6.60)
Employment Rate, Males, 2006	25.28 (7.03)	28.21 (6.82)	33.18 (6.85)	48.83 (18.18)
Employment Rate, 2006	23.32 (5.01)	27.78 (5.75)	33.10 (5.40)	47.99 (12.07)
Per Capita Total Income (Average)	$5,140.68 (2,269.04)	$6,301.78 (1,467.22)	$6,895.55 (2,745.05)	$8,407.94 (8,014.94)
Per Capita Employment Income, 2006	$2,708.83 (1,524.67)	$3,836.61 (1,128.47)	$4,431.49 (2,036.24)	$6,227.15 (6,302.25)
% Population <15, 2006	39.99 (5.34)	39.33 (4.29)	35.38 (3.59)	33.62 (6.96)
% Population >15, 2006	60.01 (5.34)	60.67 (4.29)	64.62 (3.59)	66.38 (6.96)
% of Total Income from Employment	50.98 (9.77)	60.34 (6.78)	63.36 (6.52)	72.46 (4.70)
Highest Education, 2006				
% High School	6.23 (2.58)	8.70 (3.39)	10.75 (3.46)	14.41 (3.39)
% Trades Diploma	4.76 (2.93)	8.38 (3.92)	10.84 (4.91)	17.26 (5.62)
% University Degree	2.19 (1.48)	3.01 (1.69)	4.36 (2.60)	5.49 (1.17)

Notes: CWB is the Community Well-Being Index, with the ranges indicated showing the distribution that lies within, and beyond, one standard deviation (8.13) above and below the mean CWB of 48.83. The numbers in parentheses are the number of communities that fall into each range.

and the worst CWBI outcomes for First Nations. The highest average Pchange value, that is, the greatest political instability is found in the group of First Nations that has a CWBI below, and within one standard deviation of, the average CWBI. It would seem that a change in Chiefs once every 4–5 years (Pchange values of .20–.25) is associated with near average CWBI scores. Turnover of less than once every 5 years (substantially above average stability) could be associated with either very good (CWBI > 56.96) outcomes or very bad (CWBI < 40.7).

With respect to the use of Custom rather Indian Act elections, the descriptive results in Table 1 show First Nations with CWBI scores above average had higher percentages of Custom elections (rather than elections administered through the Indian Act system) than those with below average CWBI scores. This finding may be consistent with the expectation of more stability leading to better socio-economic outcomes since Custom elections will not be restricted by the two-year term limit found in the Indian Act electoral system. It should be noted that this does not mean that having Custom elections results in better socio-economic outcomes, as this cannot be determined from these data. For example, it could be that First Nations with better socio-economic outcomes (higher CWBI) may be more likely to choose Custom elections. Further, there may be some other intervening factor that gives rise to both the choice of Custom elections and a better CWBI.

Population size and growth rates within the four CWBI value groups show that the highest CWBI score group (> 56.96) has the smallest average population size (average 449), though a relatively high growth rate between 2001 and 2006 (13%). The group within one standard deviation *below* the average CWBI value of 48.83 has the largest average population at 729 and the highest population growth rate of 15%. Large populations and high growth rates appear to be associated with below average CWBI values.

The pattern implied by the other variables, across the CWBI groups, reflects the way in which the CWBI is calculated. Employment rates (employed/population 15+) are higher in higher CWBI groups, generally for both males and females as well as for the combined population. Both total income per capita and employment income per capita are higher in higher CWBI groups. The proportion of the population over the age of 15 is higher in higher CWBI groups, as is the percentage of total income that is employment income and each of the 3 measures of education attainment.

Table 2 reports average and standard deviations of First Nation characteristics where First Nations are grouped into 4 Pchange value groups — within, and beyond, one standard deviation above and below the average. The average Pchange across all First Nations is 0.22 which means that there is a turnover in Chiefs on average every 4.5 years (1/.22). Given the standard deviation of .08, the range of Pchange values for the 20 First Nations within one standard deviation *above* the average is .22–.30 (change in Chiefs once every 3.3–4.5 years); the Pchange range for the 30 First Nations within one standard deviation *below* the average is .14–.22 (change in Chiefs once every 4.5–7 years). The group of 8 First nations with Pchange values that are more than one standard deviation below the average (less than .14) would have a change in Chief less frequently than once every 7 years, and the group of 11 First Nations with Pchange values more than one standard deviation above the mean (> .30) would have a turnover in Chiefs more frequently than once every 3.3 years. The set of characteristics for which we report averages for each of the 4 Pchange groups begins with CWBI values in Table 2. The lowest Pchange group (greatest stability) has the highest average CWBI, though high standard deviations suggest caution in interpretation. This is consistent with our expectation of a positive relationship between stability and CWBI (a negative relationship between Pchange and CWBI).

Among the other variables compared across political instability groups in Table 2, the higher the instability (Pchange value), the lower is the employment rate[4], the higher is income and the

[4] The negative relationship with the employment rate is not monotonic, in that the employment rate for the highest Pchange group is higher than the second-highest Pchange group, though still lower than for the communities in the first two Pchange groups.

TABLE 2
Election Type, Demographic, Remoteness and Economic Characteristics of Saskatchewan First Nations by Political Stability Groups, Means and (Standard Deviations)

	0.14<Pchange *8 FNs*	*0.14<Pchange<0.22* *30 FNs*	*0.22<Pchange<.30* *20 FNs*	*Pchange>0.30* *11 FNs*
Average CWB, 2006	51.43	49.62	48.53	47.73
	(7.83)	(11.03)	(6.11)	(5.30)
% Custom Election	0.75	0.77	0.35	0.47
	(0.46)	(0.43)	(0.49)	(0.52)
Avg. Distance, Nearest Urban Centre, km	79.12	162.94	85.17	133.16
	(29.67)	(108.33)	(45.99)	(130.57)
Total Population Size, 2006	425.63	575.17	566.75	749.00
	(330.52)	(340.84)	(267.88)	(382.09)
Population Growth Rate, 2001–2006	10.18	(8.39)	17.21	11.53
	(24.36)	(16.94)	(23.39)	(15.17)
Employment Rate, Females, 2006	34.27	32.35	29.60	29.57
	(10.67)	(10.66)	(7.02)	(7.47)
Employment Rate, Males, 2006	39.23	32.71	29.75	31.55
	(21.26)	(10.57)	(8.42)	(9.18)
Employment Rate, 2006	37.77	32.65	29.34	31.22
	(15.45)	(10.10)	(7.94)	(7.77)
Per Capita Total Income (Average)	$3,678.65	$6,844.78	$6,828.15	$7,321.62
	(3,521.50)	(4,643.78)	(2,309.60)	(2,607.70)
Per Capita Employment Income, 2006	$2,213.28	$4,433.03	$4,202.98	$4,824.18
	(2,222.78)	(3,669.71)	(1,861.73)	(2,073.89)
% Population <15, 2006	37.29	37.78	35.61	35.69
	(2.84)	(6.99)	(4.74)	(3.90)
% Population >15, 2006	62.71	62.22	64.39	64.31
	(2.85)	(6.99)	(4.74)	(3.90)
% of Total Income from Employment	59.22	61.58	59.85	64.83
	(7.82)	(9.10)	(9.40)	(6.93)
Highest Education, 2006				
% High School	11.62	10.62	9.38	9.57
	(3.15)	(4.28)	(4.18)	(3.85)
% Trades Diploma	11.65	10.65	11.05	8.44
	(4.93)	(6.33)	(4.94)	(5.05)
% Univ. Degree	5.70	3.55	3.99	3.17
	(4.11)	(1.75)	(2.29)	(1.56)

Notes: Pchange refers to the percentage of all the years for which we have observations that there was a change in the Chief of the First Nation. If the Chief were to change every year, Pchange would have a value of 1 (or 100%). The less frequently the Chief changes the smaller is the value of Pchange. The mean Pchange is .22 and the standard deviation is Pchange is .08. At the mean, the Chief changes about every 4.5 years (1/.22). The CWB overall index is defined above.

higher the percentage of the population over the age of 15. Education completion rates, on the other hand, are lower the higher the instability (Pchange). In the case of population growth rates, there is no clear pattern across Pchange groups. The lowest population growth rate (8.39) is observed for the second-lowest Pchange group (just below the Pchange average), the highest (17.21) for the communities in the third Pchange group (the one just above the average), while the lowest and highest Pchange groups have population growth rates of 10.18 and 11.53 respectively. Overall the descriptive statistics support the expectations that better socio-economic outcomes will be associated with lower instability (higher stability)

Table 3 presents the results of our simple multiple regressions testing the association of political instability (Pchange) with the 3 socio-economic outcome variables of interest. Panel 1 shows the results where the CWBI is our outcome (dependent) variable; Panel 2 replaces the CWBI score with the employment rate; and Panel 3 shows the percentage of the total income that is employment income as the outcome variable. For each of these 3 outcome variables, Model 1 includes the instability measure (Pchange) as the explanatory variable of primary interest, along with a control variable (% of population >15). Model 2 adds to Model 1 the square of Pchange, considering that although stability (low Pchange) may have a positive influence, there may be diminishing returns to stability. That is, at some point additional stability (longer terms in office) may no longer have additional positive effects.

Starting with Panel 1 of Table 3, Model 1 shows the results of regressing the CWBI on only political instability, controlling for the percentage of the population over the age of 15. The results show the expected negative relationship, significant at the 1% level. That is, the greater the instability (lower stability), the lower is the CWBI. At the average value for Pchange (.22 or a change in Chiefs every 4.5 years), a decrease of .08 (one standard deviation) from .22 to .14, would result in an increase in CWBI 2.5 points. While this is not a very large impact, it is statistically significant. Adding the squared term does not improve the fit, and the Pchange coefficient, though still positive, would now be significant only at the 12% level. The squared term has the expected positive sign but it is not statistically significant.

Moving to Panels 2 and 3 of Table 3, we show the results of Models 1 and 2 for 2 alternative dependent variables. Panel 2 shows the results when the employment rate is the outcome or dependent variable. The employment rate, the number employed as a percentage of the population aged 15+ is one of the more common, and simple, indicators of the economic health of a community. Model 1, in Panel 2, shows the expected negative and significant role of political instability (positive influence of stability). In this case the coefficient is interpreted as follows. A Pchange value that is one standard deviation (.08) below the mean (0.22) would result in an employment rate that is 2 percentage points higher, say 32% instead of 30%. This would represent a noticeable difference. When the squared term is added in Model 2, the model's goodness of fit improves slightly and the Pchange coefficient increases fourfold. A Pchange value that is 1 standard deviation (.08) below the average would now represent an increase in the employment rate of 8 percentage points. However this would need to be moderated by the fact that there are diminishing returns to increasing stability. Applying the coefficient of 1.7782 to the squared 1 standard deviation would mean that the 8 percentage point increase s would need to be reduced by one percentage point, leaving a net 7 percentage point increase in the employment rate.[5]

Finally in Panel 3, the dependent, or outcome, variable is the percentage of total income that is employment income. While Model 1 does not reveal a statistically significant role for stability, Model 2 shows that when both Pchange and its square are included, both are statistically significant and of the expected sign. More stability improves the economic outcomes, though there are limits to how much improvement may be gained from reduced turnover.

[5] It should be noted that the coefficient on the squared term is statistically significant only at the 15% level of significance. This should be borne in mind in drawing inferences.

TABLE 3
Regression Models of Socio-economic Outcomes on Government Stability

	Model 1 *Pchange Linear*	*Model 2* *Pchange Non-lin*
Panel 1: Dependent Variable is Community Well-Being Score		
Pchange	–24.5912***	–59.4095
	(–3.05)	(–1.59)
Pchange^2		76.1906
		(0.99)
Proportion of the Population 15+, 2006	107.4057***	107.1276***
	(7.04)	(6.89)
R^2	0.4838	.4873
N	71	71
Panel 2: Dependent Variable is 2006 Employment Rate		
Pchange	–0.2563 *	–1.0689 *
	(–1.89)	(–1.82)
Pchange^2		1.7782
		(1.48)
Proportion of the Population 15+, 2006	0.6173 ***	.6108***
	(3.12)	(2.97)
R^2	0.1390	0.1534
N	71	71
Panel 3: Dependent Variable is % of Total Income that is Employment Income		
Pchange	–0.0722	–1.0850 *
	(–0.59)	(–1.77)
Pchange^2		2.1540 *
		(1.67)
Proportion of the Population 15+, 2006	0.6928 ***	0.7058 ***
	(3.52)	(3.47)
R^2	0.1544	0.1765
N	63	63

Notes: In Model 1, Government Instability is represented by Pchange. This variable is the percentage of all the years for which we have observations that there was a change in the Chief of the First Nation. If the Chief were to change every year, Pchange would have a value of 1 (or 100%). The less frequently the Chief changes the smaller is the value of Pchange. A negative coefficient suggests that more stability (lower turnover) is associated with better outcomes. In Model 2, for each of the Dependent Variables, the squared term of Pchange is included to allow for a non-linear relationship. That is, even if turnover is negatively related to economic outcomes, we may nevertheless hypothesize that some turnover is good (or too much stability is undesirable). Numbers in parentheses below the coefficients are t-ratios. All models also include a constant term, not shown.
*** denotes significance at the 1% level, ** 5% and * 10%.

Our estimates of the influence of political stability on economic outcomes offers some evidence that more political stability has positive outcomes, though probably with diminishing returns. A follow-up question then is what leads to political stability. Table 4 presents the results of exploring one potential determinant of Pchange — election type. While there are likely many factors, we examine the relationship between political stability and the type of electoral system utilized by First Nations.

Table 4 shows the results of regressing Pchange on the use of a Custom versus Indian Act electoral system. A control variable, total population size of the First Nation in 2006, is also included. This control variable is included because there may be turnover characteristics that are simply a matter of population size, such as the number of families in the First Nation. The *ex ante* expectation is that Custom elections will be associated with greater stability as First Nations are more likely to identify with, and take ownership of, a Custom elections process than in the prescribed Indian Act system. That is, choosing a Custom election is likely to lead to more stable government with fewer changes in Chiefs.

The results of our estimation show that having Custom elections is indeed negatively associated with instability (positively associated with stability). That is, moving from Indian Act to Custom elections is associated with a .07 decrease in the Pchange value. At the average Pchange value of .22, this would represent, for example, moving from .22 (change in Chiefs every 4.5 years) to .15 (change in Chiefs every 6.6 years). Having Custom elections is therefore associated with greater stability, as expected.

DISCUSSION

The conceptual framework of what constitutes political instability is more complicated than what can be represented by a single indicator. Political instability differs in scale, nature, and impact across communities and situations, and using a single indicator is a very incomplete representation. For example, the impact of forced removal of leadership may be different from that of a democratic transition or a succession type of political change. Even within democratic transitions significant differences in political ideologies and in the underlying conditions could have far reaching implications for economic growth.

TABLE 4
Government Stability (Pchange) Influences: Election Type

Explanatory Variables	*Coefficient (t-ratio)*
Customary Elections	–0.0743*** (–4.60)
Total Population Size, 2006	0.00006** (2.47)
R^2	0.2562
N	78

Notes: Pchange (the Dependent variable) is the number of years before the Chief changes. If the Chief were to change every year, Pchange would have a value of 1 (or 100%). The less frequently the Chief changes the smaller is the value of Pchange. The mean Pchange is .22 and the standard deviation is Pchange is .08. At the mean, the Chief changed about every 4.5 years (1/.22).
Elections for First Nations can occur in one of two ways. One is the format mandated by the Indian Act, while the other is a "Custom" form chosen by the First Nation.
Numbers in parentheses below the coefficients are t-ratios. All models also include a constant term, not shown.
*** denotes significance at the 1% level, ** 5% and * 10%.

Similarly, the outcome variables of interest are likely to be complex and multidimensional. We have used the CWBI and a small number of other simple indicators. Yet to adequately assess the impact of political instability on broad socio-economic outcomes would require a more complete representation of well-being. While the outcome variables we have used are believed to be generally indicative of outcomes of interest, other measures may lead to other interpretations.

Apart from the difficulty in choosing an objective estimator of political instability, and choosing the relevant outcome variable(s), the paucity of data is also an acknowledged limitation in this study, as is the case when dealing with community level governance. It is not surprising that all the studies cited in our literature review were multi-country level studies where data on governance is relatively accessible. For community level studies such as ours, limited data on governance and key socio-economic indicators is a challenge that limits the empirical depth of analysis. Broadening the analysis to more First Nations, ideally Canada-wide would improve the efficiency and accuracy of our empirical estimates.

A further limitation to be acknowledged is the difficulty of determining the scope of influence that elected leaders actually have and the extent to which leadership influences the socio-economic development of their respective communities. For example, the Default Prevention and Management Policy came into effect in June 2011, replacing the Intervention Policy. The DFMP affects those First Nations who have defaulted in their funding agreements with the Federal government. The DFMP is used to prevent financial default and default recurrence. There are three levels of Federal intervention: (i) Recipient Managed where the First Nation develops a plan, acceptable to AANDC, to remedy and recover from a default, to address the default and prevent its recurrence; (ii) Expert Resource Support where an external financial expert is contracted by the First Nation as part of their Management Action Plan to address the default and prevent its recurrence; and (iii) Third-Party Management where a financial manager is contracted by AANDC to administer funding for the delivery of First Nation programs and services and works to remedy the underlying causes of the default (AANDC 2011b). At the time of writing, 31 of the 65 Saskatchewan First Nations included in our sample were under some form default management. This includes 18 First Nations in Recipient Management, 12 receiving Expert Resource Support, and one in Third Party Management. In these cases the boundaries between the Federal government and First Nations are difficult to clearly delineate as they are undeniably adjoined through financial and administrative dependencies.

It is also possible that the legacies of First Nation amalgamation may to this day affect the political stability and socio-economic conditions of some Saskatchewan First Nations. This was found to be true among the forcefully amalgamated tribes of the United States whose per capita incomes are nearly 30% less than non-amalgamated tribes and who continue to be challenged by factional conflicts over representation (Dippel 2010). In our sample of 65 Saskatchewan First Nations, 9 were historically amalgamated (13.8%). If Saskatchewan First Nations are similar to the amalgamated tribes in the US, historical amalgamation may cause some Nations to be less politically homogeneous and disinclined towards cooperation.

Lastly, we must not discount the possibility that what we characterize as political instability is in fact an outward reflection of Aboriginal leadership customs. For example, Braroe (1975) found that within the Nekaneet First Nation (southwest Saskatchewan) the position of Chief was passed among all male heads of household every two years. In this system the Chief exercised negligible authority and when a decision did need to be made that would affect the entire community, it was made by consensus. According to Braroe (1975) this systems of governance reflected pre-contact forms of decision-making, where no one individual had the authority to arbitrarily commit members of the Nation to any given course of action. While the cultural and political conditions of First Nations have undoubtedly experienced change since the time of Braroe's research, with leadership being both a political as well as economic opportunity, we should not dismiss the possibility that political instability remains a cultural mechanism used by some First Nations for consensual decision-making and a means of avoiding social tensions within communities.

CONCLUSION

Our results show that among First Nations in Saskatchewan the average term of elected leadership is 4.5 years. Simple descriptive statistics support the basic hypothesis of more stability, represented in this paper as less frequent changes in elected Chiefs, is associated with better socio-economic outcomes. Simple groupings show that for those First Nations who experience a turnover in leadership greater than the average of 4.5 years, the average CWBI score is on average 2 points lower than those First Nations with leadership changes less frequently than the average. Our regression analysis, though limited by small numbers of observations confirms this expected relationship and establishes that it is strongly statistically significant.

However, one cannot simply conclude that political stability and economic growth go hand in hand. Our findings show evidence that there are limits to how much more socio-economic gains can be achieved by increasing political stability. At some point the positive contribution of greater stability to socio-economic outcomes decreases, such that it may eventually reduce, rather than improve positive socio-economic outcomes. This finding is similar to those of Olsen (1982) who found that governments that remain in office for relatively long durations risk falling prey to interest groups or factions who lobby for favourable decisions that advance their own interests at the expense of others (Alesina et al. 1996). Similarly Murphy et al. (1991) found that governments that fear losing office may cater to pressure groups or influential community factions. This institutional behaviour then affects social and economic policies through various forms of nepotisms or favouritism. Shleifer and Vishney (1993) found that in such cases, governments more susceptible to rent seeking behaviour that are deleterious to economic growth.

Bearing in mind these qualifications, our results nevertheless point to important relationships between political stability and socio-economic outcomes worthy of further exploration. For example, political stability appears associated with the choice of Custom rather than Indian Act electoral systems of First Nations. Election reforms may be more appropriately focussed on facilitating a greater range of choices that are made by First Nations. Fundamentally, even though we find the expected positive relationship between stability and outcomes, we note that our stability indicator, while being a statistically significant influence is only one of very many reasons for poor outcomes on First Nations in Saskatchewan. Increasing stability alone will make a statistically significant improvement, though it is likely to be of relatively small practical importance. Clearly many other policies and local initiatives will also be required.

REFERENCES

Aboriginal Affairs and Northern Development Canada. 2011a. Harper Government Introduces First Nations Elections Act. <http://www.aadnc-aandc.gc.ca/eng/1323203146567/1323203270079> [Accessed July 13, 2013.]

———. 2011b. Default Prevention and Management Policy <http://www.aadnc-aandc.gc.ca/eng/1322682173587/1322682230228> [Accessed July 13, 2013.]

Alesina, A., R. Baqir & W. Easerly. 1999. "Public Goods and Ethnic Divisions". *Quarterly Journal of Economics* 114(4): 1243–84.

Alesina, A., & R. Perotti. 1994. "The Political Economy of Growth: A Critical Survey of Recent Literature". *The World Bank Economic Review* 8(3): 351–71.

Alesina, A., S. Ozler, N. Roubini & Phillip Swagal. 1996. "Political Instability and Economic Growth". *Journal of Economic Growth* 1: 189–211.

Autant-Bernard, Corinne, & James P. LeSage. 2011. "Quantifying Knowledge Spillovers Using Spatial Econometric Models". *Journal of Regional Science* 51(3): 471–96

Beckstead, Desmond, W. Mark Brown & Guy Gellatly. 2008. "The Left Brain of North American Cities: Scientists and Engineers and Urban Growth". *International Regional Science Review* 31(3): 304–38.

Braroe, Niels Winther. 1975. *Indian and White: Self-Image and Interaction in a Canadian Plains Community*. Stanford, California: Stanford University Press.

Deaton, A., & R. Miller. 1995. *International Commodity Prices, Macroeconomic Performance, and Political Instability in Sub-Saharan Africa*. Princeton Studies in International Finance, No. 79. Princeton: New Jersey.

Dipple, Christian. 2010. *Forced Coexistence and Economic Development: Evidence from Native American Reservations*. Online report from the UCLA School of Management <http://www.google.ca/url?sa=t&rct=j&q=dipple

native american&source>
[Accessed July 13, 2013.]

Fedderke, J., & R. Klitgaard. 1998. "Economic Growth and Social Indicators: An Explanatory Analysis". *Economic Development and Cultural Change* 46(3): 455–89.

Ferguson, M., K. Ali, M.R. Olfert & M.D. Partridge. 2007. "Voting with their Feet: Jobs Versus Amenities". *Growth and Change* 38(1): 77–110.

Flanagan, Tom, Christopher Alcantara & Andre Le Dressay. 2010. *Beyond the Indian Act: Restoring Aboriginal Property Rights*. Montreal: McGill-Queen's University Press.

Florida, Richard. 2002. *The Rise of the Creative Class: and How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic.

Fosu, A.K. 1992. "Political Instability and Growth: Evidence from Sub-Saharan Africa". *Economic Development and Cultural Change* 40(4): 824–41.

Glaeser, Edward L., J. Kolko & A. Saiz. 2001. "Consumer City". *Journal of Economic Geography*. 1: 27–50.

Glaeser, E.L., & Joshua D. Gottlieb. 2008. *The Economics of Place-Making Policies*. NBER Working Paper No. W14373.

Goetz, Stephan J., Yicheol Han, Jill L. Findeis & Kathryn J. Brasier. 2010. "U.S. Commuting Networks and Economic Growth: Measurement and Implications for Spatial Policy". *Growth and Change* 41(2): 276–302

Gyimah-Brempong, K., & T.L. Traynor. 1999. "Political Instability, Investment and Economic Growth in Sub-Saharan Africa". *Journal of African Economies* 8(1): 52–86.

Head, Keith, & Thierry Mayer. 2004. "The Empirics of Agglomeration and Trade". In J.V. Henderson & J.F. Thisse (Eds.), *Handbook of Regional and Urban Economics*, Vol. 4, pp. 2609–69. Elsevier: San Diego. Available at <http://strategy.sauder.ubc.ca/head/Papers/neat.pdf>.

Jacobs, Jane. 1969. *The Economy of Cities*. New York: Random House.

Krugman, P. 1991. "Increasing Returns and Economic Geography". *Journal of Political Economy* 99: 483–99.

Malecki, Edward. 2010. "Everywhere? The Geography of Knowledge". *Journal of Regional Science* 50(1): 493–513.

Morrison, D.G., & H.M. Stevenson. 1974. "Measuring Social and Political Requirements for System Stability: Empirical Validation of an Index Using Latin American and African Data". *Comparative Political Studies* 7: 252–63.

Murphy K., A. Shleifer & R. Vishny. 1991. "The Allocation of Talent: Implications for Growth". *Quarterly Journal of Economics* 106: 503–30.

Olsen, M. 1982. *The Rise and Decline of Nations: Economic Growth, Stagnation and Social Rigidities*. New Haven: Yale University Press.

O'Sullivan, Erin, & Mindy McHardy. 2004. *The Community Well-Being (CWB) Index: Disparity in Well-Being Between First Nations and Other Canadian Communities Over Time*. Ottawa, ON: Strategic Research and Analysis Directorate Indian and Northern Affairs Canada.

Ottaviano, Gianmarco I.P., & Giovanni Peri. 2006. "The Economic Value of Cultural Diversity: Evidence from US Cities". *Journal of Economic Geography* 6: 9–44.

Partridge, M.D., M.R. Olfert & A. Alasia. 2007. "Canadian Cities as Regional Engines of Growth: Agglomeration or Amenities". *Canadian Journal of Economics* 40(1): 39–68.

Partridge, M.D., Md Kamar Ali & M. Rose Olfert. 2010. "Rural-to-Urban Commuting: Three Degrees of Integration". *Growth and Change* 41(2): 303–35.

Partridge, Mark D., & Dan S. Rickman. 2008. "Place-Based Policy and Rural Poverty: Insights from the Urban Spatial Mismatch Literature". *Cambridge Journal of Regions, Economy and Society* 1: 131–56.

Polèse, M., & R. Shearmur. 2006. "Why Some Regions Will Decline: A Canadian Case Study with Thoughts on Local Development Strategies". *Papers in Regional Science* 85(1): 23–46.

Renkow, M., & D. Hoover. 2000. "Commuting, Migration, and Rural-Urban Population Dynamics". *Journal of Regional Science* 40(2): 261–87.

Roback, Jennifer. 1982. "Wages, Rents, and the Quality of Life". *Journal of Political Economy* 90(6): 1257–78.

Rosenthal, Stuart S., & William C. Strange. 2001. "The Determinants of Agglomeration". *Journal of Urban Economics*, 50: 191–229.

Shleifer, A., & R. Vishney. 1993. "Corruption". *Quarterly Journal of Economics* 108: 599–618.

St. Germain, Gerry, & Lillian Eva Dyck. 2010. *First Nations Elections: The Choice is Inherently Theirs*. Report of the Standing Committee on Aboriginal Affairs. Ottawa, Canada.

Storper, Michael, & Alan Scott. 2009. "Rethinking human capital, creativity and human growth". *Journal of Economic Geography* 9: 147–67.

Traynor, Thomas L., & Kwabena Gyimah-Brempong. 1999. "Political Instability, Investment, and Economic Growth in Sub-Saharan Africa". *The Journal of African Economies* 8: 52–86.

World Bank. 2009. *World Development Report Reshaping Economic Geography*. Washington, DC: The World Bank.