



Critical junctures and economic development – Evidence from the adoption of constitutions among American Indian Nations[☆]



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ARTICLE INFO

Article history:

Received 26 February 2015

Revised 20 August 2015

Available online 6 September 2015

JEL Classification:

O11

N12

N4

Keywords:

Economic development

Constitutional design

Critical junctures

ABSTRACT

Akee, Randall, Jorgensen, Miriam, and Sunde, Uwe—Critical junctures and economic development – Evidence from the adoption of constitutions among American Indian Nations

Utilizing a novel data set on American Indian Nations, we investigate how conditions at critical junctures of development can have long-lasting economic effects. We investigate the effect of the party of the US President at the time when American Indian tribes adopt a written constitution for the first time. Our results indicate that there is a persistent effect on economic development, even after controlling for other important characteristics and conducting extensive robustness checks. We also find suggestive evidence for the constitutional design, and specifically whether the chief executive is elected directly or indirectly, being a likely channel through which the presidential party affects long-run economic development. *Journal of Comparative Economics* 43 (4) (2015) 844–861. University of California, Los Angeles, United States; IZA, Bonn, Germany; University of Arizona, United States; University of Munich, Geschwister-Scholl Platz 1, Muenchen D-80539, Germany; CEPR, London, UK.

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1. Introduction

The importance of historical contingencies for economic development is one of the most intensely researched areas in economics and political science in recent years. Particular interest has been devoted for understanding the implications of historical accidents on the pattern of institutional development that explains persistent differences in economic development. Some recent

[☆] The authors acknowledge Tufts University Faculty Research Awards Committee Funding (October 2009) which provided funding for data collection on this project and the Center for Labor Economics, UC Berkeley. We would like to thank Mevlude Akbulut-Yuksel, Jenny Aker, Ernesto Dal Bo, Lukas Buchheim, Carl-Johan Dalgaard, Rajeev Dehejia, Bruce Duthu, Lakshmi Iyer, Joseph Kalt, Peter Kuhn, Nick Parker, Torsten Persson, Lukas Rosenberger, Emilia Simeonova, James Snyder, Enrico Spolaore, Rudi Stracke, Lowell Taylor, Thomas Vischer, Romain Wacziarg, Mutlu Yuksel, Jeffrey Zabel and Larissa Zierow for helpful comments and discussions as well as seminar participants at the ASSA Meetings 2013, at the University of Southern California, UC Santa Cruz, the College of William and Mary, Lewis and Clark Law School and PERC Workshop, University of Hawaii, and the Center for Global Development. We would like to thank Rezwan Khan, Jarrod Smith, Mark Adams, Jaehye Choi and Conor Carney for excellent research assistance. Additionally, David Selden and James Bryant at the National Indian Law Library were incredibly helpful in providing access to materials invaluable for this research. Any errors, omissions or oversights are our own.

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contributions have emphasized the potential importance of the conditions during critical junctures of the development process, e.g., [Acemoglu et al., 2001, 2008](#). While the existing empirical work has focused on the persistence of historically determined institutions or other factors, such as colonial rule or pre-colonial institutions, direct evidence for the critical junctures hypothesis is scarce.

This paper contributes to this literature by providing novel evidence for the persistent effects of historical conditions at critical moments in time on economic outcomes, focusing on the implications of the external political conditions at the time of adoption of American Indian constitutions and how they affect long-run economic development for those tribes. We assemble a novel data set which documents the historical conditions at the time of adoption of various American Indian constitutions in addition to the particular details of the constitutions themselves. Our data set merges data from the 1900 US Census, initial tribal constitution data and characteristics, and economic outcome data at the reservation-level from the 1990 and 2000 US Censuses and the 2005–2009 5-Year American Community Survey. Due to the particular legal and political situation of American Indian tribal nations, the US Federal government had a large influence on the determination of political and legal institutions on American Indian reservations. In particular, the Executive branch of the US Federal government had considerable oversight and influence on American Indian reservations via the Bureau of Indian Affairs. In this analysis, we focus on differences in US political parties' ideologies towards American Indian governance and investigate how this has affected long-run economic development. The differences in political ideology across US parties had persisted for generations. Republican Presidents such as Theodore Roosevelt envisioned US Federal programs as a means to dismember tribal institutions and to increase assimilation. Democratic Presidents, on the other hand, did not take such an extreme view in the administration of programs and imposition of political institutions although they continued to exert considerable influence over tribal governments via the Bureau of Indian Affairs ([Champagne, 2006](#), p. 14).

We explore the role of the party of the US President at the time of constitutional adoption by tribal governments; in additional analysis we investigate whether differences in party control of the US Congress has an effect on long-run economic development. We find that differences in political party of the US President at the time of the tribal constitutional adoption had a strong effect on long-run economic development; these results are robust to the inclusion of important control variables and year effects. Tribal nations that adopted a constitution under a Democratic President had better long-run economic outcomes than tribes that adopted under a Republican President; we find no indication for an effect of party control of the US Congress at the time of adoption.

After establishing a difference in long-run economic development outcomes, we investigate the potential mechanisms that explain this result. We focus on differences in political institutions that were created at the time of the initial adoption of the tribal constitutions. In our data on tribal constitutions, we find that there are significant differences in the method of electing a chief executive depending upon whether a Democrat or a Republican was the US President at the time of adoption. No other institutions appear to be as heavily influenced by the political party of the US President. Under Democrat US Presidents American Indian tribes tended to adopt an indirectly elected chief executive (parliamentary-type system) and under Republican US Presidents they tended to adopt a directly elected chief executive (presidential-type system). Results from 2SLS estimations using the party of the US President as an instrument for the form of government suggest that tribes with indirectly elected chief executives (i.e., a parliamentary form of government) have significantly higher levels of development in terms of per capita incomes and labor force participation rates. There is little evidence for persistent effects of other elements of constitutional design, such as independence of the judiciary, staggering of elections, term length, or the size or election rules of the tribal council.

Our research environment provides several advantages. First, since American Indian Nations are subject to the same institutional framework of the United States, the data provide the unique possibility of holding the broader legal and political environment fixed. Additionally, however, there is substantial heterogeneity in American Indian economic development outcomes and in their governance structures. Moreover, the setting allows for a detailed analysis of the institutional channels through which the conditions during this critical juncture affects development.

We conjecture that this setting allows for insights that are of broader interest and relevance, given that American Indian reservations and communities have a substantially lower income per capita than the United States as a whole and the highest poverty levels in the United States, with living conditions that approach those in many developing countries. In particular, average income in 1990 was around 5160 in 1990 dollars, poverty rates on American Indian reservations have hovered around 30% in the last two decades of the 20th Century while they were less than 10% for the rest of the US, and unemployment levels on American Indian reservations have persisted at average rates above 15% for the same time period while for the US as a whole it was just 6% ([Kalt and Taylor, 2005](#)).

These empirical findings contribute to several ongoing debates in the literature. Several studies have identified institutions as a potential channel for the persistent effects of historic events on economic development (for a survey see [Nunn, 2009](#)). The evidence in these studies has typically been based on variation in colonial or domestic institutions.¹ In contrast, the identifying variation in our analysis stems from differences in the identity (and presumably ideology) of the quasi-colonial power that has no direct influence on development, but influence on the institutional development at the critical juncture – the adoption of the first constitution and its design. The paper also complements recent work that has shown the importance of environmental conditions for major policy changes (see, e.g., [Fleck, 2008](#)).

¹ See, e.g., [Acemoglu et al., 2001](#); [Banerjee and Iyer, 2005](#); [Gennaioli and Rainer, 2007](#); [Iyer, 2011](#), and [Acemoglu et al., 2012](#).

The findings also contribute to the literature on the effect of constitutional design on economic performance. The form of state is a central constitutional feature that affects economic development through several channels. Parliamentary systems imply greater cohesion and need for compromise in policy making than presidential systems, and, as consequence, are likely to exhibit larger government expenditures, more employment in the public sector, as well as higher degrees of redistribution (see, e.g., Coate and Knight, 2011, or Persson et al., 1997 or Alt and Lassen, 2008). By isolating the form of state in terms of the way executives are elected as a potential channel for the persistent effect of the presidential party at the time of adoption of a new constitution on economic performance, the results document how political institutions affect economic development, complementing cross-country evidence on the form of state affecting the economic performance of newly democratized countries (see, e.g., Persson and Tabellini, 2003, 2004, 2006; Acemoglu, 2005; Cervellati et al., 2014). The findings also relate to evidence that suggests that political rules are correlated with institutional quality, which might affect economic outcomes (Panizza, 2001), evidence suggesting that the distinction between direct and representative democracy affects the level of public spending (Funk and Gathmann, 2011; Ade, 2014), and evidence that the adoption of proportional electoral rules shifts public spending to broad public goods like education and welfare (Funk and Gathmann, 2013). Our work complements this literature by focusing on constitutional design regarding the form of state, rather than electoral rules, and looking at development outcomes rather than policy.

Finally, our paper also adds to a small, but important, literature on the effect of contemporaneous constitutional characteristics (political and legal) on economic development for American Indians. We contribute to the literature pioneered by Cornell and Kalt (1995a, 1995b, 2000) by adding information of the initial types of constitutions adopted and their implications for subsequent development. Our findings complement those by Dippel (2014) on the negative consequences of artificial jurisdictions in terms of forced integration into shared governance of Native American reservations. Our results also complement recent work by Aragon (2014) on the effect of property rights improvements on local income using the adoption of modern treaties in Canadian aboriginal communities. A related strand of literature has focused on the effect of the subjugation of certain American Indian reservations to state jurisdiction after the passing of Public Law 280 in 1953. The research has focused on the long-run effects of this law on employment, income, crime, credit access and the locating of tribal casinos (Goldberg and Champagne, 2007; Champagne and Goldberg, 2012; Parker, 2012; Cookson, 2010; Dimitrova-Grajzl et al., 2014).

The remainder of the paper proceeds as follows. Section 2 provides some background information on American Indian Tribal nations and discusses the data and sample construction. Section 3 presents the empirical strategy, and Section 4 presents the main empirical results and robustness checks. Section 5 discusses the potential channels through which the observed effects may operate. Section 6 concludes.

2. Data on constitutions of American Indian Nations

2.1. Historical background

American Indian Nations are a third form of government recognized in the US Constitution along with the US Federal and State governments (Duthu, 2008, p. 4). Indeed, the US Constitution treated many of the American Indian Nations as foreign nations at least at the time of the establishment of the United States. Over the past two centuries, the US Supreme Court has ruled that American Indian nations are a separate form of government from that of US states - specifically, that they have the authority to govern themselves and enact their own laws and regulations for their citizens. American Indian nations, however, are still subject to the US federal government's authority and are now classified as "domestic dependent nations" (Wilkins, 2002, p. 58). This unique designation indicates the historical and legal differences that have shaped (and pre-date) that of other US political units such as states, counties and municipalities. Specifically, the designation, as determined by the *US Supreme Court Case Cherokee Nation v. Georgia (1831)*, held that tribal governments could enforce their own laws on the reservation, but that these laws were still subject to the US Federal government. Today there are over 560 federally recognized American Indian tribal nations including Alaska Natives. These nations have a direct government-to-government relationship with the United States. There are numerous non-federally recognized tribal governments, but we do not consider these tribal governments in our current analysis.

By 1871, the US unilaterally ceased making treaties with American Indian nations (Duthu, 2008, p. 50). This marks a turning point in the US relationship with American Indian tribes; the tribes were treated as domestic entities and not the foreign, independent entities of the past. These changes were driven in part by the settlement of much of the continental United States as well as the increased military power of the US. In 1887, the General Allotment Act was created to privatize and develop American Indian lands. The purpose was to transform the American Indians into farmers and small business owners with access to private property and capital. Previously, the American Indian land had been held communally by the entire tribe and was inalienable as well as tax-exempt given the sovereign status of American Indian tribes. The land privatization was a complete failure and reduced the amount of land under American Indian control in 1887 from approximately 138 million acres to about 48 million acres in the early 20th century through coerced land sales, foreclosures and delinquent tax payments (Newton, 2005). No corresponding improvement in economic or social conditions for the American Indian land owners was visible; in fact, Hacker and Haines (2005) have shown that child mortality increased significantly for households that received allotted lands. Additionally, the US Supreme Court ruled in the 1903 court case *Lone Wolf v. Hitchcock* that the US Congress has plenary power over American Indian lands (Duthu, 2008, p. 76). While the US Constitution discusses American Indian tribes in two places, neither grants Congress plenary power over the tribes (Deloria and Wilkins, 1999, p. 29). This new Supreme Court interpretation allowed Congress to unilaterally suspend any and all treaty promises without review or redress by American Indian tribes.

American Indians are US citizens and may also be tribal citizens of federally or non-federally recognized tribes (Wilkins, 2002, p. 55). Federal income tax laws apply to individuals residing on the reservation, but the tribal government itself may be exempt from state and other local jurisdictional laws and taxation (Wilkins, 2002, p. 14). Each American Indian nation itself has sovereign immunity and has the ability to establish its own taxation and laws that are not expressly forbidden by the US Congress. This relationship between the US government and American Indian tribal nations is based on historical treaties and political relationships during the age of expansion and westward settlement in the US. Preceding the establishment of the US constitution, several American Indian nations had clearly established constitutions and rules of governance, for example the Iroquois Confederacy (Wilkins, 2002, p. 123). In this work, we examine the promulgation and adoption of modern constitutions in American Indian nations after the age of US westward expansion and the establishment of reservation based American Indian Nations at the beginning of the 20th century.

Overall the history of American Indians in the United States has been one of poverty and substantial underdevelopment. Lands under American Indian control in the continental United States amounts to approximately fifty six million acres or about 4% of all US lands (Wilkins, 2002, p. 30). Recently there has been some improvement in economic conditions; real per capita income has increased by 33% between 1990 and 2000 for American Indians residing on reservations. Additionally, family poverty rates have fallen about 10 percentage points between 1990 and 2000 (48% to 37% for tribes without casino operations and 36% to 27% for tribes with casino operations), see Kalt and Taylor (2005). Our research aims to investigate the political determinants of these improvements in economic outcomes.

2.2. Brief history of American Indian Constitutions

The history of American Indian constitutional adoption provides a very interesting case for studying the impact of institutions and critical junctures on economic development. The composition and nature of the initial constitutions adopted by most American Indian tribes was not necessarily of their own doing. The Bureau of Indian Affairs played a very important role in the design of many of these tribal constitutions. Templates of the important clauses and sections of constitutions were distributed to tribes via the Bureau of Indian Affairs (Wilkins, 2002; Cohen, 2007, p. 135). The starting point of most American Indian tribal constitutions was not from pre-existing governance systems, but a US-inspired version. These imposed, and to the American Indian nations somewhat foreign, political institutions did not necessarily reflect traditional or moral tribal values and led to high levels of political turmoil and corruption in tribal government activities (Cornell and Kalt, 2000). Due to the perceived illegitimacy of some of these government types, tribal governments have faced a range of problems such as political instability, government closure and attacks on government officials (Lemont, 2006, p. 3). While a few American Indian tribes had constitutions in the 1800's, many of these tribes were forcefully relocated by the US Federal government and resulted in a disruption of these pre-existing governments (Wilkins, 2002, p. 129).

Several profound changes occurred at the end of the 19th and beginning of the 20th centuries with regard to the US Federal government's relationship and dealings with American Indian tribes. The US Federal government moved the Bureau of Indian Affairs from the War Department to the new Department of the Interior signaling a change in the threat level associated with American Indian tribes in 1849 (Wilkins, 2002, p. 87). This era is generally referred to as the removal and reservation era in American Indian history. In this time period, the majority of American Indian reservations were established. Treaty-making between the US Federal government and American Indian nations ended formally in 1871. Therefore, tribal governments needed to establish formal governments in order to normalize relations with the US Federal government. Starting in the early 20th century, tribes began to adopt new constitutions that indicated the new geographic, political and economic conditions for these American Indian tribal nations. As Wilkins notes:

... the tribal nations were clearly in a transitional mode and many of them, though not all, developed written constitutions as one response to changing circumstances. Importantly, these nations' governing systems changed in part as the result of forced colonial influence, but also as a deliberate result of efforts of the tribes' members to modify the method of government organization to reflect the community's evolution. (Wilkins, 2002, p. 127)

Our contention is that one of the reasons for adoption of the constitutions was to develop economic activity such as the leasing of lands and the generation of revenues for tribal programs and services. Legal scholars, such as Miller (2015), note that tribes adopted constitutions primarily to deal with the United States and to protect their sovereignty, natural resources and territory.

By the second half of the 20th century, there was an increase in the autonomy of American Indian Tribes coinciding with the Civil Rights Movement in the US and the decolonization across the world following World War II. Ultimately, this has meant that there was less federal government oversight of American Indian tribal government activities and functions than in the past. The era has been called the "Indian Self-Determination" era and has resulted in more decision-making authority and business development at the tribal level and somewhat more independently of the Bureau of Indian Affairs.

2.3. Data sources

For this study, we collected American Indian constitutions for over 70 American Indian nations located in 22 US states. Our sample is based on American Indian governments that have democratic forms of government, a written constitution, and a population of more than 750 citizens. One criterion for selecting these American Indian nations was that they had to have a sufficiently large population for political engagement. There are over 560 federally recognized American Indian and Alaska

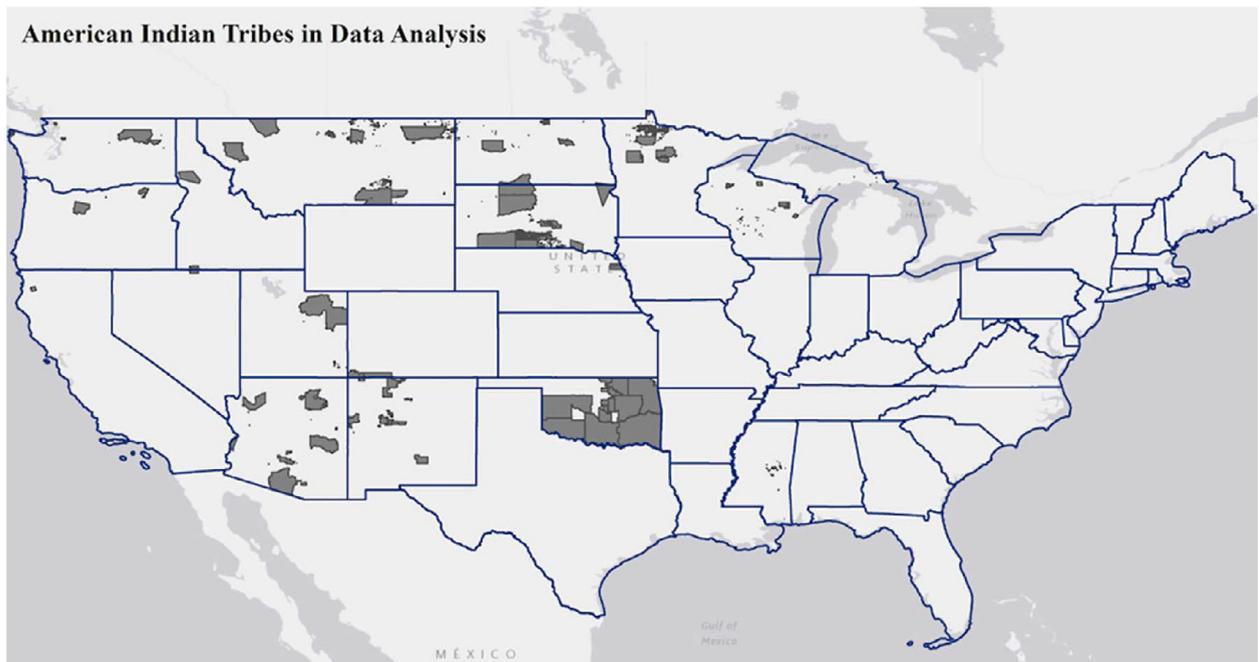


Fig. 1. Map of location of Indian tribes.

Native nations in the US. A large proportion of the federally recognized tribes have tribal populations that number only a few hundred people.

Therefore, we restricted our analysis to the large tribes with at least 750 members. The smaller tribal nations were omitted for several reasons.² A leading reason is that the smaller tribes generally have fewer resources and operate on a more informal basis; family and clan relationships rather than institutional mechanisms may dominate their political decision-making. We also restricted our analysis to tribes with a written constitution. This necessarily eliminates tribes such as the Navajo Nation, which has an unwritten constitution. We have also omitted tribes that are theocracies and Native nations that operate under corporate governance structures.³ This is important to keep in mind when interpreting the results, which refer to tribes that have adopted a written constitution. Fig. 1 shows a map with the Indian reservations in the United States used for the empirical analysis. It is important to note that we include Oklahoma Tribal Statistical Areas (OTSA) in our analysis here as well and include them under the broader term of "reservations". Our analysis is restricted to American Indians residing in these geographic regions.

We compiled the constitutional documents from publicly available sources and locations. The National Indian Law Library, which is part of the Native American Rights Fund, has an extensive collection of constitutions online. Additionally, the University of Oklahoma law library also provides a large collection of American Indian constitutions. Finally, we examined constitutions at the Bureau of Indian Affairs in Washington, DC where a number (but not all) of the constitutions are archived.

In total, the data are based on approximately 450 different files or documentation regarding the constitution. We coded the initial political institutions contained in the constitutions and recorded the changes made to these constitutions as well as the year in which they were made. For the purpose of the present study we focus on central elements of the tribal nation's political institution, including the form of state in terms of whether the chief executive is elected indirectly or directly, as well as other political institutions such as staggered terms and an independent judiciary.

We merge the constitutions data with census data from the 1900 US Census at the tribal government level. This data is available from the Minnesota Population Center IPUMS website and represents a 20% sample of American Indians by the US Census Bureau (Ruggles et al., 2010). The data contains characteristics of the reservations prior to the adoption of their modern constitutions. The variables, while somewhat limited and not perfectly comparable to recent data from the US Census, are nevertheless useful as control variables for the regressions that follow. As outcome variables, we use data from more recent waves of the US Census and American Community Survey (1990, 2000 and 2005–2009, respectively). Unfortunately, the US Census Bureau did not report separate data for American Indian reservation geographies for most of the 20th century; American Indian outcomes were reported as part of US states and counties. The US Census added all American Indian reservation geographies to their standard

² Previous researchers such as Cornell and Kalt (2000) and Anderson and Parker (2008) have also similarly limited their analysis to large American Indian tribes for similar reasons.

³ The theocratic tribal governments, primarily the Pueblo tribes of the US Southwest, were treated differently due to their long-standing government to government relationships with Spain and Mexico, see Spicer (1962). On the other hand, Alaska Native Villages are often quite small and operate under a corporate governance structure as described in the Alaska Native Claims Settlement Act of 1971.

geographic measures starting in the 1990 census and provided separate information for each reservation. The 1980 US Census provided outcomes for a limited set of American Indian reservations - primarily the largest reservations. Consequently, our analysis uses economic outcomes starting in 1990 as a benchmark, although as a robustness analysis (in a more restricted sample) we also use data on reservations from 1980.⁴ Since 2000, the characteristics of the population are now collected annually in the American Community Survey (ACS) and are presented only as 5 year averages for communities with less than 20,000 individuals. Therefore, we use the 2005–2009 ACS data for our current economic outcomes on American Indian reservations. In the analysis that follows we refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience; one should view these data as capturing the conditions for on the tribal reservations at the end of the first decade of the 2000s.

2.4. Descriptive statistics

In [Table 1](#) we present the means and characteristics of our sample data. Panel A of [Table 1](#) provides information on the characteristics of our sample of reservations in 1900. While the data for this time period is limited, there are several useful variables that provide some indication of the levels of economic development on each reservation prior to the adoption of the initial modern constitutions. In 1900 the average age is approximately 26 years; the population is highly skewed towards the young which is characteristic of developing countries. The male-female ratio is roughly equal on average across the different reservations in 1900. Approximately 40% of the adults on the reservations were married in 1900. The percent of adults in the labor force in 1900 is approximately 20% on average. The labor force variable does not include self-employed farmers, which may explain this relatively low labor force participation rate. Approximately 17% of the population of an average reservation is literate in 1900. The literacy variable is a useful proxy for education and general skill levels of the population. There is tremendous heterogeneity across tribes with some tribes reporting no literate individuals and other tribes with literacy rates of almost 50%.

While we do not have a direct measure of individual incomes in the 1900 census,⁵ we do have a measure of occupations. Conveniently, there is an index of occupations which are ranked according to their wages contained in the data. This occupation-income index measure is an imperfect measure of income on the American Indian reservations in 1900 but it is the best available data. We took a simple average of all employed people on the reservation and the mean value is 5.6, the minimum and maximum values are 0 to 13.7. We view this occupational index measure as an ordinal measure of average income on the reservations.

The 1900 US Census contains an interesting variable which is not present in current census data - the percent of intermarriage between American Indians and non-Indians. While this is a somewhat unusual variable it does provide a proxy measure of the degree of association between the American Indian tribe and the surrounding non-Indian community. While our research is primarily concerned with the effect of political institutions on economic development, this variable allows us to control for potential differences in ethnic heterogeneity across the different American Indian tribes. The average percent of white blood in our sample of reservations is 9%. There is a lot of heterogeneity with certain tribes having no intermixing and a few outliers that have over 40% white blood in 1900.

The next set of variables indicate the geographic location of the tribal reservation in five different census regions in the lower US. There are no Eastern American Indian tribes included in this data. As mentioned previously, we have restricted our analysis to the larger, federally recognized American Indian tribes with written constitutions. This also implies keeping the estimation sample rather homogeneous.

Panel B of [Table 1](#) provides the main variables of interest in our analysis for the years 1990–2009. In particular, we have selected two variables that reflect economic development on American Indian reservations: per capita income, and percent in the labor force. The variables are broadly indicative of economic conditions on American Indian reservations. Average per capita income in 1990 is approximately \$5160 (in 1990 dollars), which is significantly lower than the US average of \$19,374 ([Kalt and Taylor, 2005](#)). American Indian reservations on average are much less developed than the rest of the United States. For instance, the percentage of adults in the labor force on reservations in 1990 is 57% and has a minimum of just 36%. The unemployment rate is another useful measure of the economic conditions on and around the reservation (since individual American Indians have the option to work off the reservation as well). In 1990 the average rate of unemployment was approximately 23% with ranges as low as 4% and as high as 44%.

On average, 32% of adults aged 25 and older on the American Indian reservations have only a high school degree. We include the percent of the population with a post high school education (completed secondary or more) as a measure of human capital in order to identify an additional dimension of economic development on the reservations. There is quite a large range of values across the different tribes with respect to this variable; there is a range of 18–45% across the reservations in our sample. To account for differences in population size and land area, we also constructed a population density variable from information about the number of people living on Indian lands in 1990 and the square miles of Indian lands in 1990. This logged variable ranges in value from –2.12 to 5.45 with an average log population per square mile of 1.49.

We provide similar data for the years 2000 and the 2005–2009 time periods. We have deflated the per capita income to 1990 prices and find that there has been a pronounced increase in real per capita income to \$6,617 and \$8,400 in those two

⁴ The 1970 US Census contains an even smaller set of American Indian reservations. As a result, there are very few reservation-level observations that can be used for our analysis with the 1970 data (17 observations). Between 1900 and 1970 American Indian outcomes were reported as part of US states and counties. See also ([Anderson and Parker, 2008](#)).

⁵ The US Census Bureau began asking individual income information only starting with the 1940 US Census.

Table 1
Descriptive statistics.

	Panel A: 1900 US census data			
	Mean 1900	Std. dev.	Min.	Max.
Average age on reservation in 1900	26.036	4.043	15.333	37.400
Percent male on reservation in 1900	0.495	0.055	0.286	0.658
Percent married on reservation in 1900	0.390	0.079	0.161	0.569
Percent in labor force on reservation in 1900	0.208	0.094	0	0.365
Average occupational-income score in 1900	5.644	2.865	0	13.785
Total whiteblood in 1900	0.093	0.105	0	0.420
Percent literate on the reservation in 1900	0.166	0.114	0	0.474
Census district 1 (Mich., Wisc., Minn.)	0.086	0.282	0	1
Census district 2 (N. Dak., S. Dak., Nebr., Iowa)	0.243	0.432	0	1
Census district 3 (Oklahoma)	0.200	0.403	0	1
Census district 4 (Ariz., N. Mex., Utah, Col., Nev., Mont., Wy.)	0.357	0.483	0	1
Census district 5 (Cal., Or., Wash.)	0.114	0.320	0	1
Panel B: US census data 1990–2009				
	Mean 1990	Std. dev.	Min.	Max.
Per capita income	5157.9	1322.5	2834	8372
Log of per capita income	8.516	0.257	7.949	9.033
Percent in labor force	0.568	0.062	0.361	0.675
Unemployment rate	0.227	0.085	0.036	0.440
Percent of American Indian adults 25+ with high school degree	0.326	0.058	0.178	0.453
Log population density 1990 ^a	1.496	1.349	−2.264	5.474
	2000			
Per capita income ^b	6616.75	1635.77	3055.76	11164.13
Log of per capita income ^b	8.77	0.252	8.025	9.32
Percent in labor force	0.58	0.070	0.404	0.765
Unemployment rate	0.18	0.074	0.058	0.372
Percent of American Indian Adults 25+ with high school degree	0.401	0.104	0.214	0.827
Log population density 2000 ^a	1.68	1.453	−2.470	6.652
	2010			
Per capita income ^b	8417.9	2728.4	4611.7	17899.7
Log of per capita income ^b	8.992	0.302	8.436	9.793
Percent in labor force	0.598	0.067	0.362	0.712
Unemployment rate	0.187	0.087	0.043	0.420
Percent of American Indian Adults 25+ with high school degree	0.364	0.068	0.198	0.585
Log population density 2010 ^a	1.699	1.531	−2.141	6.748
Panel C: adoption of tribal constitutions				
	Mean	Std. dev.	Min.	Max.
Year of initial adoption of modern constitution	1943	18.4	1901	1994
Democrat administration when initial constitution adopted	0.76	0.43	0	1
Indirectly elected chief executive when initial constitution adopted	0.57	0.50	0	1

^a Computed as log of number of inhabitants on Indian lands in 1990 divided by the size of Indian lands in square miles.

^b Income per capita deflated to prices in 1990. We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience.

time periods. In general, there has been an improvement in all of the four variables as compared to the 1990 levels. Labor force participation has increased and unemployment has decreased.

Panel C of Table 1 provides information about the tribal constitutions and their amendments. The average tribe adopted the first constitution in 1943.⁶ Around 76% of tribes adopted their first constitution under a Democratic US Federal administration. At the time of the initial adoption of the constitution, approximately 57% of the tribes had an indirectly elected chief executive, where the tribal council decides from among its own members who will be the chief executive. A detailed list of the timing of the adoption of constitutions as well as the US presidencies can be found in the Appendix, see Table 10.

3. Empirical framework and data

In this section we discuss our empirical approach and provide additional background on the data used in our analysis.

⁶ Only one tribe adopted the initial constitution after 1990, namely in 1994. Dropping this tribe from the sample does not affect the empirical results.

3.1. The empirical framework

The analysis adopts a reduced form empirical framework as is standard in the literature to estimate persistent effects of historical contingencies on economic development. The framework is given by

$$Y_{it} = \beta Z_{it} + \gamma X_{it} + \varepsilon_{it}, \quad (1)$$

where Y_{it} denotes the respective measure of economic development on reservation i at time t . We focus on two outcome variables that are available in the US Census data: per capita income and labor market participation in terms of the percentage of the population in the labor force. These variables are useful indicators of economic development in different dimensions on the reservations at the time and reflect the outcome variables of primary interest. Additional results refer to unemployment and the percentage of the population with post-high school education. Development is measured at three points in time, 1990, 2000, and the period 2005–2009 since, as described above, comparable data are not available before 1990. The vector X includes controls for characteristics of the reservation in 1900, that is, prior to the adoption of the first modern constitutions.

In particular, the vector contains the following characteristics of the reservation in 1900: average age, the proportion of women in the population, the proportion of the population that is married, labor force participation rates, a measure of intermarriage, an occupational-income index measure, and literacy rates. Additionally, X includes controls for reservation characteristics such as log per capita income or the lagged levels of the outcome variables at $t - 1$. This accounts for observable differences in economic development as well as for convergence.⁷ The binary variable Z takes the value of 1 if the party of the US President was Democrat at the time of the American Indian constitutional adoption and 0 if it was Republican. Throughout we report estimates of robust standard errors that allow for clustering at the state level. The coefficient of interest is β , as it reflects the potential influence of exogenous factors at the critical juncture of the adoption of a democratic constitution.

3.2. US Presidential Party and the adoption of American Indian constitutions

We motivate our focus on the party of the US President on long-run economic outcomes for American Indian tribes by examining the historical background for American Indian tribes during the 20th century. In the late 19th century, the political and legal landscape had changed dramatically for American Indian tribes. The US Federal government reduced the standing of tribal nations to domestic-dependent nations and there began an erosion of rights and protections such as the loss of autonomy and treaty rights. In order to deal more effectively with the US Federal government and the US states, American Indian tribes began to establish centralized governments. Additionally, there were new economic opportunities at the local level that necessitated the adoption of constitutions. Robert Miller notes that by the early 20th century, the US Congress had opened up the possibility of leasing land and natural resources on American Indian reservations that had previously been forbidden under the Trade and Intercourse Act since 1790 (Miller, 2012, p. 44). The adoption of a constitution and establishment of a functioning government provided tribes with a legally recognized political body to sign and approve lease documents with non-Indian businesses and developers. The necessity of having a tribal constitution was directly related to the localized economic opportunities that were unique to each tribe. These opportunities were independent of the party of the US President; instead, they were determined by natural resource endowments and resource prices both of which are outside the control of the US President.⁸ Indeed, if there were a direct effect via the party of the US President, this would affect all American Indian tribes equally. Unreported additional evidence on the timing of constitutional adoption suggests that there was little to no relationship between the party of the US President and the incentives at the tribal level to adopt a constitution.

In order to establish and adopt formal constitutions, many American Indian tribes sought help and assistance from the Bureau of Indian Affairs (BIA). The BIA operates under the Secretary of the Interior and is appointed by the US President. Congress authorizes and appropriates the budget of the Bureau of Indian Affairs as noted in the US Constitution and supported by numerous US Supreme Court rulings (Deloria and Wilkins, 1999, pp. 42; 71–73). Specifically, the BIA was tasked with responding to requests for assistance in drafting constitutions (Wilkins, 2002, p. 134–135). The initiative had to come from the tribes, and the Bureau was not empowered to seek out tribes itself. While there may have been no explicit directive, there appears to have been at least indirect influence in terms of political institutions.

Once a constitution was proposed or considered, the Bureau of Indian Affairs potentially exerted influence and pressure on the kinds of political institutions that could be adopted. The nature and type of constitution eventually adopted by American Indian nations might have been heavily influenced the Bureau of Indian Affairs, which is subordinate to the Secretary of the Interior of the US Federal Government. The approval and influence of constitution-type is therefore related to the political position of the respective US Presidential administration. For ideological reasons, the two dominant parties, the Republican and the Democrat party, exhibit different predispositions towards the organization of the state, which arguably also influenced their attitudes towards the way American Indian tribes were to organize their governance. Despite the changes in party ideologies over time, the relative differences across US parties in this respect persisted for most of the 20th century. According to Gerring (1998), the

⁷ Various combinations of different 1990 control variables do not significantly affect the observed results. Therefore, we use the log per capita income measure as the primary 1990 control variable in our preferred specification. See also the robustness results in Section 4.2.

⁸ At least, this was true after the period of relocation of tribes, and under the assumption that the President did not systematically affect resource prices to accommodate certain tribes. Unreported estimates of linear probability models whether a tribe adopted a constitution during a particular year that include tribe and year fixed effects suggest that tribe and year specific characteristics significantly affected the timing of the initial adoption of a constitution.

Table 2

Comparison of tribal nations characteristics adopted under Republican and Democratic administrations.

	Constitution adopted under						Mean difference (<i>t</i> -test)
	Democrat presidential admin.			Republican presidential admin.			
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	
Year of adoption	53	1941	12.29	17	1949	30.28	−1.683
Av. age on reservation in 1900	53	26.147	4.230	17	25.689	3.490	0.403
% Male on reservation in 1900	53	0.490	0.058	17	0.510	0.043	−1.274
% Married on reservation in 1900	53	0.389	0.086	17	0.393	0.056	−0.172
% in labor force on reservation in 1900	53	0.208	0.098	17	0.208	0.084	0.001
Av. occ.-inc. score in 1900	53	5.551	2.938	17	5.931	2.691	−0.473
Total whiteblood in 1900	53	0.080	0.095	17	0.133	0.125	−1.867
% Literate on reservation in 1900	53	0.155	0.107	17	0.200	0.134	−1.450
Distance to nearest city (miles)	53	128.21	87.05	17	148.65	102.94	−0.806
Aggregate GDP per capita at adoption	53	1759	4111	17	7570	7222	−3.756
Log population density 1990	53	1.523	1.239	17	1.414	1.687	0.288

Republican party has had two separate eras. Republican Presidents such as Theodore Roosevelt envisioned US Federal programs as a means to dismember tribal institutions and to increase assimilation following the federal ideal. During the more recent epoch, the so-called Neoliberal Epoch, which spanned the period of 1928–1992, the Republican position was characterized by a consistent dislike disapproval of big government (Gerring, 1998, p. 140) and by anti-communist and anti-socialist sentiments (Gerring, 1998, p. 152–153). On the other hand, the Democrats have had two major eras over the 20th century, the Populist Epoch which spanned 1896–1948 and was characterized as by a move towards increasing public goods for the population and by an increased push for transparency in government and campaign finance reform while fighting corruption of big businesses (Gerring, 1998, p. 194–195). The second era, the Universalist Epoch spanned 1952–1992 and during this era, the Democrats expanded the state sector (Gerring, 1998, p. 204). The second epoch was characterized by an expansion of the same ideals of the Populist Epoch to other previously overlooked groups such as US minorities (hence the name Universalist Epoch). It was thus a continuation of redistributive policies and an expansion of the egalitarian agenda to social and political realms (previously it was primarily to economic realms), whereas the preference for redistributive policies actually dates back as far as 1896 (Gerring, 1998, p. 229–233). This suggests that there are persistent ideological differences between the two parties that might imply substantially different preferences for the design of constitutions of American Indian tribal nations.⁹

Finally, it is important to stress that the party of the US President has no direct (if any at all) influence on the funding of American Indian tribal nations. Funding for American Indian tribal nations is appropriated by the US Congress and has no relationship to (prior, present, or future) US Presidential administrations. In fact, funding for large programs such as education and health care provision are often tied to simple formulas based on population size (see, for instance, Office, 2003, p. 6). Additionally, most federal funding is related to prior treaty conditions set in the 19th Century and there have been no new treaty negotiations at all in the 20th Century with American Indian tribes. This implies that for institutional reasons the party of the US President at the time of the adoption of a new constitution has very little influence on economic decisions of direct relevance for American Indian tribes.

3.3. Comparisons of tribal characteristics in 1900 by US Presidential Party

In Table 2 we compare the tribal characteristics from the 1900 US Census for the tribes that adopted a constitution under a Republican or Democratic US Presidential administration. The numbers suggest that there is little or no difference in American Indian tribes which adopted constitutions under Democratic or Republican US Presidents. Based on 1900 observable characteristics we do not find that on average there is a statistically significant difference across the two tribal groups. When comparing the means of the 1900 characteristics between the two types of tribes, we find that none of the characteristics are statistically significant. The only variable with a statistically significant difference at the 10% level is the total percentage of white blood, suggesting that tribes that have adopted a constitution under a Republican presidential administration tend to have slightly higher levels of white blood in 1900. This difference, while marginally statistically significant, is about 5 percentage points on average and hence not large in absolute terms, such that, for both types of reservations, the population is still fairly homogenous with a high degree of American Indian blood in 1900. Additionally, it should be noted that these blood quantum variables are based not on self-identification but via observations of the census enumerator. Overall, the descriptives show that tribes were very similar in terms of demographic composition and labor force participation. Most importantly, the two types of tribes do not differ along the other economically meaningful variables such as the occupational-income index score, literacy rates and labor force participation rates.

⁹ This also follows from the compatibility of the ideological positions with different constitutional designs, see, e.g., Persson et al., 2000; Persson and Tabellini, 2003.

Table 3
Party of President at adoption and subsequent development.

Dependent variable	Log income p.c.			% in labor force		
	1990 (1)	2000 (2)	2010 (3)	1990 (4)	2000 (5)	2010 (6)
Democratic US President at time of initial adoption	0.115*** (0.044) [.036;.18]	0.108*** (0.036) [.04;.18]	0.215*** (0.044) [.12;.29]	0.029** (0.012) [.001;.05]	0.030*** (0.006) [.01;.05]	0.047*** (0.012) [.02;.07]
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	70	70	70	70	70
R-squared	0.573	0.572	0.415	0.248	0.452	0.378

Results from OLS regressions. Standard errors clustered at the state level in parentheses; 95% confidence bands based on bootstrapped standard errors in brackets. Controls 1900 include average age, fraction males, fraction married, share of population in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900. Region controls include binary indicators for four Census districts. We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience.

* Indicates significance at 10-percent level.

** Indicates significance at 5-percent level.

*** Indicates significance at 1-percent level.

4. Empirical results

4.1. Presidential administration at adoption and economic performance: main results

Table 3 presents the results of cross-sectional OLS regressions of economic development in terms of log income per capita and the population share in the labor force, respectively, at different points in time as the dependent variable on the presidential party variable and controls. The estimated coefficients of the party of the President at the time of the adoption of the constitutions in the respective tribal reservations is statistically significant and economically relevant in magnitude. In particular, the results suggest that, conditional on observed differences across tribes, income per capita differs by approximately .1–.2 log points depending on the party of the President, while the population share in the labor force differs by about 3–5%. Random effects panel estimates that use the pooled sample and control for period (wave) fixed effects, lagged values of the dependent variables, income and labor force participation, as well as other time-varying variables, such as unemployment and educational attainment deliver essentially identical results. The party of the US President at the time of initial constitutional adoption affects income per capita by about .08–0.15 log points and labor force participation by about 3%.¹⁰

Taken as a whole our results provide evidence that historical accidents may have long-lasting effects on economic development outcomes. In our setting, the role of the political party of the US President appears to have a persistent effect on outcomes such as per capita income and labor force participation. We explore other potential factors that may be contributing to our observed results in the next subsections.

4.2. Robustness analysis

The main threat for identification is the existence of a third variable that correlates both with the party of the US President at the time of the initial adoption of a constitution and development outcomes. In the following analyses, we conduct extensive robustness checks relating to other factors at the initial adoption of constitutions and to heterogeneity across tribes.

Natural resources and macroeconomic conditions. Since the decision whether and when to adopt a constitution was driven mainly by local economic conditions, we estimated extended versions of the baseline specification that also include indicators for natural resources as well as proxies for the macroeconomic conditions during the adoption of the first constitution, as additional controls. We use information from Tiller (1996) on coal, natural gas or oil, mining, agriculture, timber, or fisheries to account for primary sector activities and availability of natural resources. In these extended specifications, natural resource indicators serve as proxies for the time-invariant unobserved heterogeneity related to the reasons behind the timing of the adoption of the first constitution.¹¹ Alternatively, we estimate the model with a control for aggregate GDP per capita during the year of the

¹⁰ See Table 11 in the Appendix for details.

¹¹ Table 13 in the Appendix replicates the main results for an extended specification that includes resource controls (Table 12 in the Appendix contains the respective descriptive statistics.). In the panel estimates in Panel B of the Table, we also include a variable which measures the years since constitutional adoption. This variable accounts for time effects or potential time trends in the adoption of a constitution. The years since adoption variable controls for the possibility that tribes that adopt their first constitution early on are systematically different from tribes that adopt their constitutions later. For instance, years of governing may play a role in the efficiency and efficacy of government operations and economic development. If this were the case and the timing of the adoption was correlated with the party of the US President, this would render the exclusion restriction invalid and the identification flawed.

Table 4

Robustness: Roosevelt Administration, Indian Reorganization Act and subsequent development.

Dependent variable	Log income p.c.			% in labor force		
	1990 (1)	2000 (2)	2010 (3)	1990 (4)	2000 (5)	2010 (6)
Democrat US President at time of initial adoption	0.090** (0.036)	0.114** (0.054)	0.156*** (0.052)	0.031* (0.018)	0.023* (0.012)	0.045*** (0.013)
Indian reorganization act adopted by tribe	0.063*** (0.024)	0.054 (0.035)	0.122** (0.049)	0.019 (0.014)	0.013 (0.012)	0.037*** (0.014)
F.D.Roosevelt US President at Time of Initial Adoption	-0.020 (0.051)	-0.061 (0.077)	-0.027 (0.094)	-0.020 (0.016)	-0.002 (0.021)	-0.033* (0.020)
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	70	70	70	70	70
R-squared	0.580	0.579	0.434	0.264	0.457	0.432

Results from OLS regressions. Standard errors clustered at the state level in parentheses. Controls 1900 include average age, fraction males, fraction married, share of population in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900. Region controls include binary indicators for four Census districts.

We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience.

* Indicates significance at 10-percent level.

** Indicates significance at 5-percent level.

*** Indicates significance at 1-percent level.

initial adoption of a constitution to account for a systematic influence macroeconomic conditions.¹² In both cases, the estimates are almost unchanged compared to the baseline results, suggesting that tribal fixed effects related to resources or temporal phenomena are unlikely to have confounded the main result.

Exceptional circumstances during the administration of Franklin D. Roosevelt. The fact that a substantial fraction of American Indian constitutions were adopted during the presidential administration of Franklin D. Roosevelt may be another concern for the analysis. This administration was exceptional in several ways, including the length of Roosevelt's tenure in office and the extraordinary effects of the Great Depression and World War II. Controlling for the Great Depression separately does not affect the results.¹³ Allowing for separate effects of the Roosevelt administration and other Democrat administrations does not appear to create a significant difference in outcomes either.¹⁴

Additionally during this time period, Congress passed a new law, the Indian Reorganization Act (IRA), through which tribes could reform their governing institutions and be 'recognized' by the US Federal government (Rusco, 2006). To ease this process, the Bureau of Indian Affairs formalized the constitutional templates available to tribes for governance reform. American Indian tribes could decide whether to adopt the guidelines and rules of the IRA by popular vote. Some American Indian tribes with previous constitutions and governing documents adopted the IRA as the basis of their government. In other cases, American Indian tribes without any formal governing documents also adopted the IRA form of governance. Other American Indian tribes rejected the IRA outright and remained with their existing governance structures. It is important to note that US Federal funding was not linked to the adoption of this program. The program was voluntary and tribes were able to vote on whether they would adopt the IRA or not. Overall, these extremely unusual circumstances may have an effect on our observed outcomes. Our results may be driven by the Roosevelt administration or the effect of the IRA instead of reflecting differences between Democrat and Republican Presidential administrations.

To test this possibility, we construct additional controls in terms of a binary indicator that takes the value of 1 during the Roosevelt administration and zero otherwise. Further, we control for the Indian Reorganization Act (IRA) using a binary variable that is coded as one if a tribal government adopts the IRA as its governance form and zero otherwise. The corresponding results are shown in Table 4.¹⁵ The coefficients on Democrat US President remain positive and range in statistical significance between the 5% and 1% levels in both the cross-section and panel regressions. The coefficient on the Roosevelt variable never reaches statistical significance in any of these specifications. On the other hand the IRA variable is positive and significant in some cases. The coefficients are also statistically significant in the panel regressions for all six models. Two things should be noted, however.

¹² See Table 14 in the Appendix.

¹³ See Table 15 in the Appendix.

¹⁴ See the results in Table 16 in the Appendix for details.

¹⁵ The corresponding panel estimates are shown in Table 17 in the Appendix. Note that the FDR and the IRA variables are not perfectly collinear. The FDR variable takes value one during the presidency of Franklin D. Roosevelt that lasted from 1933 to 1945. In contrast, the Indian Reorganization Act became effective in 1934. Moreover, the IRA variable indicates whether a given tribe adopted the guidelines and rules of the IRA. This means that by construction IRA is coded zero before the IRA came into place (1934), but to be coded 1 it must be that the tribe actively adopted IRA rules, which could be the case during or even after the Roosevelt-presidency, and which was not automatically the case. In coding the IRA variable, we used data provided in the document by Haas (1947), which evaluates the adoption of the Indian Reorganization Act. This implies that the indicators for the Roosevelt administration and for the IRA are not identical. All results remain unchanged when only adding one of these variables as controls, see Table 21 in the Appendix. Similarly, the results remain unchanged when controlling for adoption of the constitution during the general allotment act. Detailed results are available upon request.

Table 5
Congress and US President party dominance at adoption and subsequent development.

Dependent variable	Log income p.c.			% in labor force		
	1990 (1)	2000 (2)	2010 (3)	1990 (4)	2000 (5)	2010 (6)
Democratic US President at time of initial adoption	0.112*** (0.042)	0.134* (0.073)	0.284*** (0.053)	0.022* (0.013)	0.018 (0.015)	0.053*** (0.009)
Democratic Dominated US Congress at time of initial adoption	0.007 (0.054)	−0.050 (0.086)	−0.127* (0.072)	0.013 (0.009)	0.021 (0.019)	−0.012 (0.015)
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	70	70	70	70	70
R-squared	0.573	0.575	0.432	0.252	0.462	0.389

Results from OLS regressions. Standard errors clustered at the state level in parentheses. Controls 1900 include average age, fraction males, fraction married, share of population in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900. Region controls include binary indicators for four Census districts.

We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience.

* Indicates significance at 10-percent level.

** indicates significance at 5-percent level.

*** Indicates significance at 1-percent level.

First, the magnitude of these coefficients are always smaller than that of the Democrat US President coefficients. Second, the IRA was voluntary and is likely heavily influenced by endogenous selection. Therefore, these estimates should be interpreted carefully as selection bias might affect the results for long-run tribal outcomes. Ultimately, inclusion of these additional control variables does not diminish the effects of the party of the US President at the time of constitutional adoption. Further robustness checks regarding the influence of independent judiciaries in the context of Public Law 280 also leave the main results unchanged.¹⁶

Party control of US Congress during initial adoption. An additional confounding factor may be that the party of the US Congress, instead of the US President, affects long-run economic outcomes for American Indians. Congress provides the appropriations for all US Federal government activities and may play a role in providing resources or endowments to specific American Indian tribes. To rule out this possibility we construct control variables for the party control of the US Congress. Specifically, we create variables that measure whether both houses of Congress were controlled by the Democratic party at the time of the initial adoption of the American Indian constitutions. Table 5 presents the results for specifications that include an indicator for Democratic control of both houses of the US Congress at the time of the initial constitutional adoption.¹⁷ In both the cross-section and panel regressions, the coefficients on Democratic US President remains positive and statistically significant in all but one regression. The coefficients on Democratic control of the US Congress performs erratically and is not consistently statistically significant. Overall, the evidence suggests that there is very little role of the party in control of the US Congress at the time of the tribal constitutional adoption on long-run economic outcomes.¹⁸

Other unobserved heterogeneity. The results so far suggest that including the additional controls does not significantly change the magnitude of the estimated coefficient.¹⁹

A more systematic way to examine the role that unobserved heterogeneity potentially plays in determining the observed results is to gauge the additional variation that would be required in terms of unobserved heterogeneity relative to the included heterogeneity to account for the entire effect of interest (Altonji et al., 2005). The results from such an investigation suggest that, in order to explain the entire effect, any systematic variation in the unobserved heterogeneity that is included in the error term would have to account for about two times the variation of all included controls when looking at income. For the percent in the

¹⁶ See Tables 22 and 23 in the Appendix for details.

¹⁷ We also constructed variables that control separately for the party domination in House and Senate. The main result is similarly unaffected, details are available upon request.

¹⁸ It should be noted in this context that all of the tribes examined here are federally-recognized by the US Federal government and hence are eligible for the exact same types and amounts of federal programs which are all Congressionally appropriated. There is no differential treatment by the US Federal government and the Bureau of Indian Affairs in terms of federal funding or appropriations. The adoption of a constitution does not determine whether federally-recognized American Indian tribes receive federal funding – that is determined by existing federal treaties and obligations. Federal recognition of an American Indian tribe differs from the adoption of written constitution. There are other state-recognized and non-recognized indigenous peoples in the US that are not included in this analysis for the specific reason that they would face very different economic and social opportunities. These indigenous peoples are not recognized by the US Federal government as sovereign and self-governing and therefore do not receive Federal funding.

¹⁹ Estimation results presented Table 20 in the Appendix account for unobserved heterogeneity at the state level. In Table 24 in the Appendix, we provide results for extended panel specifications that include all previously mentioned variables as well as some additional ones such as the distance to the nearest city, lagged dependent variables and other controls. Distance to the nearest city controls for the potential economic effects of off-reservation economic activity and selective out-migration. Inclusion of those variables and lagged dependent variables do not significantly diminish our main findings.

labor force variable, the heterogeneity included in the error term would have to account for about nine times the variation to explain the full effect. It therefore seems implausible that the entire effect is driven by systematic unobserved heterogeneity.²⁰

Placebo estimates. We also conducted a series of placebo regressions using the initial values of our control variables from the 1900 census as outcome variables.²¹ We find that the effect of adopting a constitution under a Democratic US President is statistically insignificant in five out of the six regressions. The only coefficient that is statistically significant at the 10% level is for the average occupational index score. These results indicate, if anything, the tribes that adopt a constitution under a Democratic US President tend to be about four tenths of a category poorer than those that adopt under a Republican US President.

Outliers. Given the small number of observations, the results might be sensitive to outliers. To verify the robustness of our findings, we trim the sample by dropping the outliers from the top and bottom 1% from each dependent variable. The results suggest that the main findings are not affected strongly by outliers; if anything, the point estimates appear larger when eliminating outliers.²²

5. Potential channels

5.1. Presidential administration at adoption and constitutional design

Constitutional design is a prime candidate to explain how our reduced form effects may determine long-run economic outcomes for American Indian tribes. In this section, we proceed first by exploring the influence of the party of the US President on different aspects of constitutional design and institutions. We then investigate whether these various institutions actually have an effect on long-run economic outcomes.

Under Democratic leadership in the Bureau of Indian Affairs, Felix Cohen, in the 1930s, drafted a document for the writing of tribal constitutions with numerous suggestions. This memorandum provided extensive information on the clauses and contents of a constitution. Additionally, the document provided a model constitution in the appendix. This model contained a single type of institution for the election of chief executives – an indirectly elected executive or parliamentary-type system (Cohen, 2007). Beyond this influence, the Bureau of Indian Affairs had approval power over the nature of the American Indian tribal constitutions. This provides an additional testable hypothesis for the channel through which the party of the President might affect development – namely the form of state. Given the previous discussion, one might conjecture that under Democratic US Presidents there was a systematic tendency to favor the adoption of the parliamentary type chief executive, while under Republican US Presidents there was a tendency to favor the adoption of the direct election of the chief executive, i.e., a presidential form of government. One reason for the difference is that there were differences in opinions in the two political parties on the idea of assimilation and appropriate political institutions. Theodore Roosevelt, a Republican President one generation earlier, saw allotment as a useful tool for dismembering American Indian tribe and transforming them into idealized American farmers. The imposition of a presidential system of government was one method of assimilating the American Indian tribes into the US model of governing. On the other hand, the Democrats and their administration paid more attention to the pre-existing social and political structures. Many American Indian tribes' political traditions employed more communal approaches to decision-making, which are closer to a parliamentary type of government. (Champagne, 2006, p. 14).

In the empirical analysis, the hypothesis that the party of the President at the adoption of the constitution might affect development through the design of the constitution can be tested by using different measures of constitutional design. We begin with the analysis of an empirical model similar to that in specified in Eq. (1) above, but with different measures of constitutional design as the outcome variables for the effect of the party of the US President at the time of adoption of the first constitution. In particular, we use binary indicators of constitutional articles that determine whether the executive is elected directly or indirectly, whether the tribal council is elected directly or indirectly, whether there is an independent judiciary, whether elections are staggered, as well as continuous variables that reflect the term length and the size of the tribal council.

Table 6 presents reduced form estimates of whether the party of the US President at the time of the initial adoption of the respective tribal constitution had an effect on different aspects of this constitution. The results suggest that tribes that adopted their initial constitution under a Democratic US President and federal administration are more likely to exhibit an indirect election of the executive, reflecting a parliamentary form of state as compared to a direct election of the executive that is closer to a presidential form of state. Moreover, tribes that adopted their initial constitution under a Democratic US President are less likely to have a constitutional article referring to an independent judiciary. Both are potential candidates for the channel through

²⁰ Appendix Tables 19 and 20 provide a comparison of reduced form estimates for different specifications with the pooled samples for log income per capita and percent in the labor force as the dependent variables in the baseline specification or in the specification with state fixed effects, respectively. The first specification is parsimonious and only includes the survey wave dummy variables and the regional controls. The second specification includes the baseline controls and lagged dependent variables. The third specification includes, in addition, other lagged variables and the fourth specification includes agricultural and natural resource measures. The coefficient of interest (democratic administration at the time of adoption of the first constitution) in the reduced form is 0.139 in the parsimonious specification. It drops to 0.075 in the extended specification for income. For percent in the labor force, the drop in coefficient size is even smaller, from 0.028 to 0.025. The gain in explained variation in terms of R-squared when going from the parsimonious to the full specification is around 0.156 for log income per capita and 0.26 for the percent in the labor force.

²¹ The results are presented in Table 25 in the Appendix.

²² See Table 26 in the Appendix.

Table 6

Party of President at adoption and design of initial constitution.

Dependent variable	Executive indirectly elected? (1)	Tribal council directly elected? (2)	Judiciary exists? (3)	Staggered election (4)	Term length (5)	Size of tribal council (6)	Operates a Casino? (7)
Democratic US President at time of initial adoption	0.313*** (0.070)	0.053 (0.115)	−0.212*** (0.063)	0.088 (0.212)	2.528 (1.794)	−2.451 (4.213)	0.050 (0.125)
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	68	70	68	68	68	70
R-squared	0.405	0.300	0.462	0.161	0.133	0.213	0.235

Results from OLS regressions, standard errors clustered at the state level in parentheses. Controls 1900 include average age, fraction males, fraction married, fraction in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900. Region controls include binary indicators for four Census districts. We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience. * indicates significance at 10-percent level. ** indicates significance at 5-percent level.

*** indicates significance at 1-percent level.

which the reduced form effect on development differences operate. There is no indication of differences in other constitutional details depending on the party of the US President at the time of adoption. As additional outcome variable we include an indicator whether a tribe operates a casino. There is no effect of the party of the US President at the time of initial adoption on casino operations, suggesting that casino operations are unlikely to be a factor that can account for the main result.

5.2. Constitutional design as potential channel

In order to investigate whether the effect of the presidential administration at the initial adoption of a constitution can indeed account for long-run development through the design of the constitution, this section presents an instrumental variables approach.

5.2.1. Empirical strategy

Suppose the constitutional design is measured by a binary measure I_i . For concreteness, this design feature can be taken to be whether the initial constitution of tribe i calls for the chief executive to be indirectly elected ($I_i = 1$). The indicator is zero ($I_i = 0$) when the chief executive is directly elected. In light of the political economy literature, an indirectly elected executive reflects a form of state represented by a parliamentary system, while a directly elected executive is more akin to a presidential system. Differences in the way the executive is elected reflect differences in the accountability of the executive, and therefore an institutional environment that differs in terms of its conduciveness for economic development (see, for instance, the findings from the cross-country literature, e.g., [Persson and Tabellini, 2003, 2004](#)).

Without additional assumptions, it is not obvious that β in an estimation framework

$$Y_{it} = \beta I_i + \gamma X_{it} + \varepsilon_{it} \quad (2)$$

is actually identified, because endogeneity problems might bias the estimates. While in the current application reverse causality is less of an issue given that outcomes are measured considerably later than the initial adoption of a constitution, third factors and unobserved heterogeneity might provide serious threats to identification. To bias the results, such an unobserved factor would have to be related to the development prospects of a tribe and reflect an affinity for a particular type of government based on their historical methods of political organization ([Cornell and Kalt, 1995a, 2000](#)), such that I is correlated with ε . Consistent with the weak results on the effect of form of state on economic development in the early literature on this topic, OLS estimates deliver no coherent pattern.²³ However, it might be that on average both aspects (the cultural affinity and the economic prospects) surrounding the choice of a form of government (presidential vs. parliamentary systems) work in opposite directions, which would imply a systematic downward bias toward zero in the OLS estimates. In this context, the party of the President at the time of the adoption of the first constitution might provide a legitimate instrument in order to account for these identification problems regarding the effect of constitutional design on development, because it is strongly correlated with the form of government but not with a particular tribe's affinity to a particular way of electing executives.

Based on the previous results, we therefore employ an instrumental variables approach using as instrument the binary indicator variable, Z , which takes the value of 1 if the party of the US President at the time of the initial adoption of the American Indian constitution was Democrat and 0 if it was Republican. The instrumented variable, I , is a binary indicator for a constitutional design feature. Based on the results of [Table 6](#), we use the form of state variable that takes value 1 if the respective political institution is characterized by indirectly elected executives, and 0 if not. Alternatively, we use an indicator for an independent judiciary. Consequently, our first stage regression when considering initial institutions in terms of I as in (1) is given by

$$I_i = \lambda Z_i + \mu X_i + u_i \quad (3)$$

²³ See [Table 27](#) in the Appendix.

Table 7

Party of President at adoption and subsequent development: iv estimates.

Dependent variable	Indirect elect. ex. 1st stage	Log income p.c.			% in labor force		
		1990 (1)	2000 (2)	2010 (3)	1990 (4)	2000 (5)	2010 (6)
Democratic US President at time of initial adoption	0.313*** (0.080)						
Predicted indirect elect executive when initial constitution adopted		0.369** (0.178)	0.342** (0.134)	0.688*** (0.194)	0.092* (0.051)	0.095*** (0.026)	0.149*** (0.046)
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	70	70	70	70	70	70
Kleinbergen–Paap F stat		15.86	15.86	15.86	15.86	15.86	15.86

Results from 2SLS, standard errors clustered at the state level in parentheses. Results in Column “1st stage” are first stage estimates for specifications as in equation (3); the corresponding F-statistic is 15.18. Results in columns (1)–(3) are second stage results for log income per capita as dependent variable in the outcome regression, results in columns (4)–(6) are second stage results for the fraction in the labor force. Controls 1900 include average age, fraction males, fraction married, fraction in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900. Region controls include binary indicators for four Census districts. We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience.

* Indicates significance at 10-percent level.

** Indicates significance at 5-percent level.

*** Indicates significance at 1-percent level.

Provided that for political and ideological reasons Democratic Presidential administrations were more favorable to indirect democratic structures than Republican administrations as was discussed above, the instrumented variable is expected to be positively related to whether the political party of the US President at the time of adoption was a Democrat.²⁴

The assumption for identification of the effect is that the instrumental variable, Z , is not related to the error term in the respective outcome Eq. (2) above. There is no evidence that American Indian tribes were making their decisions about whether to adopt a formal constitution based on the political party of the US President or the executive branch appointees either in the historical record or examining empirically the years of adoption. Instead, the historical evidence suggests that the primary motivation for adopting a formal constitution was based on individual reservation-based conditions and was divorced from conditions in Washington, D.C. Additionally, there is no evidence that tribes attempted to game the system and wait for a different US President and a change in political appointees in the executive branch; empirically, there are no large numbers of constitutional adoptions after an election when the party of the US President changes (see Appendix Table 10). In this context it is also useful to recall that the party of the US President at the time of adoption of the constitution has no differential (if at all) influence on the funding of American Indian tribal nations in the future, as was discussed in Section 3.

5.2.2. Two stage least squares results for constitutional design

The results provided in Table 6 indicate that there are two potential constitutional details that are related to the party of the US President at the time of constitutional adoption. The first is whether a chief executive is directly elected and the second is the existence of a judiciary branch. The results indicate that having an indirectly-elected chief executive is inversely related to having a judicial branch in the initial constitution. We ran first-stage regressions explaining both of these constitutional details with the party of the US President at the time of constitutional adoption. For the judicial branch variable, however, the Kleibergen–Paap F-statistic was never larger than 3. On the other hand, the Kleibergen–Paap F-statistic was always larger than 15 in magnitude in the cross-section regressions and ranged between 15 and 18 for the indirectly elected executive variable in the panel estimations. Given that the first-stage results indicate only a weak relationship between the party of the US President at the time of constitutional adoption and the existence of a tribal judicial branch, we only examine the role of an indirectly elected chief executive in the two-stage least square estimates that follow.

Table 7 presents the results from 2SLS regressions for indirectly-elected chief executive on long-run economic outcomes. Column (1) contains the first stage estimates of the instrumented variable as in (3). We regress whether the chief executive, as defined in the adopted tribal constitution, is indirectly elected. The first stage regression contains the standard control variables from earlier regressions and whether the party of the US President at the time of the constitutional adoption was a Democrat or not. The instrument has a positive and statistically significant effect on the constitutional design at initial adoption. This result indicates that, as expected, tribes that adopted their initial constitution under a Democrat President were more likely to have indirectly-elected chief executives. Columns (1)–(6) present estimates for outcome variables (log per capita income and percent in the labor force) at the three different time periods. The results indicate that indirectly-elected chief executives have a

²⁴ We find no evidence for tribes predominantly adopting new constitutions immediately after or immediately before a change in the US President from one party to the other, or presidential elections. For instance, only 2 tribes adopt a constitution within 2 years of the change in political party; dropping these observations does not change our results. Additionally, the geographic distribution of tribes that adopt constitutions does not exhibit any systematic pattern.

positive and statistically significant effect on the outcome variables at all three time periods. Constitutional design has significant effects on economic performance. Tribes with constitutions that stipulate indirectly elected executives have consistently higher per capita income and larger labor force participation rates in all time periods in our study. In light of the OLS estimates, this suggests that, due to some unobserved factor, for instance because of cultural or historical reasons, tribes with a lower potential for long-run economic outcomes have a preference for an indirectly elected chief executives.²⁵

Replicating the analysis using the pooled panel data for all three time periods delivers qualitatively similar to the cross-section 2SLS results even when controlling for the various additional control and lagged variables.²⁶

5.3. Predictions from political economy and poverty

The findings presented so far suggest that constitutional design has a robust causal effect on economic development. In particular, constitutions stipulating indirect elections of the executive that resemble parliamentary forms of government appear to have a better economic performance, in terms of average per capita income and labor force participation rates. These effects are not explained by other characteristics such as years since adoption, distance to the nearest city, or casino operations, nor through other facets of the political institutions (such as the existence of an independent judiciary or staggered election terms), nor by a systematic selection of tribes given the results of the placebo estimates. Given the relationship between constitutional design, in terms of an indirectly-elected chief executive, and the observed long-run economic outcomes, we end our analysis by exploring potential policy channels through which the constitutional design affects development.

Some positive political economy theories investigate the role of form of state for redistribution and fiscal policy. According to these theories, a presidential regime implies lower incentives for legislative cohesion and more separation of powers than a parliamentary regime (see, e.g., [Persson et al., 2000](#); [Persson and Tabellini, 2000, 2003](#)). As a consequence, a parliamentary regime is expected to exhibit more redistribution toward a majority and less underprovision of public goods, whereas a presidential regime exhibits more redistribution toward powerful minorities and more underprovision of public goods.²⁷ The intuition is that parliamentary systems subject executives to the parliamentary or council approval by design, thereby enforcing a greater need for compromise and balancing of interests. Presidential systems, on the other hand, imply greater autonomy for the executive for particular policies.

Due to the lack of direct information about redistribution, it is not possible to directly test for the prediction that parliamentary systems tend to have higher redistribution. Instead, we try to investigate this assertion by considering poverty, which reflects the ultimate outcome that is addressed by redistribution. In particular, we construct a proxy of poverty by measuring the share of all households on reservations with an income below the contemporaneous median household income in the US as a whole. The results are shown in Columns (1)–(3) of [Table 8](#).²⁸ They suggest that poverty is indeed lower in tribes that adopted their initial constitution under a Democrat presidential administration.²⁹ This finding implies that the reduced form effect does not only affect average income but the entire distribution – in particular incomes at or below the median.

We conduct additional analysis using two-stage least squares. We instrument indirect election of the chief executive with the party of the US President at the time of constitutional adoption. The results, shown in Columns (4)–(6) of [Table 8](#) indicate that an indirectly-elected chief executive results in a reduction in the percent of American Indian households on the reservation below the US average poverty line. This evidence is consistent with the form of state serving as a potential channel for the results. Taken together, the results of this section provide suggestive evidence that a parliamentary system produces outcomes that benefit the broad majority.

²⁵ A concrete example may help to further illustrate this point. As noted by [Cornell and Kalt \(1995, 2000\)](#), some tribes generally have a preference for more egalitarian, consensus-making government types based on their pre-existing preferences and cultural affinity. These tribes are more likely to select a parliamentary-type system based on their pre-existing preferences (e.g., the Sioux tribes), whereas other tribes have a preference for more centralized governing authority and would thus be more likely to select a presidential-type system (e.g., Apache tribes). However, there might be a systematic correlation between this institutional preference and the potential for economic development due to other unobserved factors (such as latent abilities, innovation or business experience). Using purely observational data, it might thus not be possible to detect differences in economic development outcomes between these two types of political institutions. In our specific example, a tribe that selects directly elected chief executive may be doing better on average in the long-run not because of the effect of the political institution but because they have an unobserved factor that has a positive effect on economic outcomes. The reverse may hold for tribes that choose an indirectly elected chief executive, so that the two effects are canceling each other out. As a consequence, these two contradictory effects may produce a null result in OLS estimates of the development effect of the form of government. In this context, the party of the US President as an instrument can help eliminating the correlation between the latent development potential and the preference for a particular type of government, and thereby identify the effect of political institutions on economic development.

²⁶ See [Table 28](#) in the Appendix. The results are unaffected by including additional controls, such as natural resources, see [Table 29](#) in the Appendix, or when controlling for the other details of the constitution investigated before, details are available upon request.

²⁷ Similar implications follow from the model of [Coate and Knight \(2011\)](#) for the distinction of a mayor-council form of government (that resembles a directly elected executive in our data) and a council-manager form of government (that resembles an indirectly elected executive).

²⁸ [Table 30](#) in the Appendix contains the respective panel estimates.

²⁹ It is worth noting that additional results in changes also reveal a faster reduction of poverty in these tribal nations, which is not due to a reduction in the overall poverty in the US as a whole, given that poverty levels in the US in terms of the population below the poverty threshold actually went up. Also, very similar results obtain when poverty is measured by the fraction of households with household income below 15,000 USD (deflated to 1990 prices), which indicates a relative as well as absolute reduction in poverty in tribes with indirectly elected executives relative to directly elected executives.

Table 8

Poverty levels and party of president at adoption.

Dependent variable	% households below US median household income					
	OLS			2SLS		
Year	1990 (1)	2000 (2)	2010 (3)	1990 (4)	2000 (5)	2010 (6)
Democratic US President at time of initial adoption	−0.026*** (0.009)	−0.042*** (0.013)	−0.067*** (0.014)			
Predicted indirect elect executive when initial constitution adopted				−0.084*** (0.028)	−0.136*** (0.045)	−0.214*** (0.063)
Controls 1900	Yes	Yes	Yes	Yes	Yes	Yes
Region controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70	70	70	70	70	70
R-squared	0.483	0.423	0.243			

Columns (1)–(3): Results from OLS regressions. Columns (4)–(6): Results from 2SLS. Standard errors clustered at the state level in parentheses. Controls 1900 include average age, fraction males, fraction married, share of population in the labor force, fraction non-Indians (or mixed race), average occupation-income score, percent literate, interaction between fraction non-Indians and percent literate, all measured on the reservation level in 1900, as well as log population density in the respective year. Region controls include binary indicators for four Census districts. First stage results are displayed in Column “1st stage” in Table 7; the corresponding F-statistic is 15.18. We refer to the averaged outcomes from the American Community Survey for 2005–2009 as 2010 for convenience. * indicates significance at 10-percent level. ** indicates significance at 5-percent level.

*** indicates significance at 1-percent level.

6. Concluding remarks

This paper has presented an investigation of the effects of historical contingencies on long-run economic development by analyzing the effect of the party of the US President at the time of the first adoption of democratic constitutions by American Indian nations. The research is based on a novel panel data set which includes information on tribal political institutions for 70 of the largest American Indian tribes that adopted democratic governments and written constitutions during the 20th century. The estimation results indicate that the party of the President at the time of the adoption of a democratic constitution has a long-lasting effect on tribal economic development. Our results are robust to repeated cross-section analysis and panel specifications and the inclusion of a substantial number of control variables. The findings contribute to the literature on the role of historical factors for long-run economic outcomes.

Going beyond the reduced form results, we have also investigated the potential channels through which the party of the US President affects the long-run economic outcomes for these American Indian tribes. A likely candidate appears to be the actual design of the tribal constitutions. We find strong evidence for differences in political institutions by the party of the US President. One political institution in particular appears to be the most important in explaining the observed long-run differences in economic outcomes – whether the chief executive is indirectly elected or not. The evidence is substantially weaker for other political institutions such as tribal council size, staggered elections and the existence of a judiciary. Finally, we have examined political economy aspects related to the effect on poverty rates, with results indicating that the party of the US President also affected poverty rates through the form of state.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at [10.1016/j.jce.2015.08.004](https://doi.org/10.1016/j.jce.2015.08.004).

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