Property Rights, Place-Based Policies, and Economic Development

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Outline

Conditions on Federal Reservations

Sample Averages for Individuals on and off Reservation

	1980		2010-14		2014
	On Res	**Off Res**	**On Res**	**Off Res**	**US**
High School Graduate	0.51	0.66	0.76	0.83	0.86
Employed	0.37	0.42	0.48	0.57	0.57
Conditional Wage	20290	25410	26010	32470	54000
Observations	66000	1738000	147000	2015000	

Can Land Tenure Explain Variation in Development?

- Reservations are economically lagging but not in a uniform way
- Can cross-reservation variation in land tenure explain cross-reservation variation in economic development?

Main Land Tenure Categories

- Two main land tenure categories, differentiated by legal title

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- **Fee simple (fee) land**
- Legal title: individual
- No restrictions

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- **Fee simple (fee) land**
- Legal title: individual
- No restrictions

- **Trust land**
- Legal title: federal government
- Restrictions on sales, leases, collateralization
- Tribal jurisdiction

Trust Status Introduces Distortions

- Trust status introduces market distortions through two key channels
  - High cost to transacting on trust land
  - Obstacles to accessing credit

Two Research Questions

Question 1: How do property institutions affect the level of local economic outcomes?

- Result 1: Trust status is responsible for lower wages, less labor force participation, and more unemployment

	Fee	Trust	
No Casino		- t	Result I
Casino	+ c	- t + c + c*t	Result II

Two Research Questions

Question 2: What role do property institutions play in the incidence of economic shocks?

- Result 2: Casino gaming shocks increase real wages by more on reservations with more land in trust
- Constraints on housing supply may be driving the result

	Fee	Trust	
No Casino		- t	Result I
Casino	+ c	- t + c + c*t	Result II

My Objective is to Shed Light on Long-Standing Questions

- My data set contains:
  - 2018 data on land ownership
  - Confidential demographic census data

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  - GIS data on soil quality
  - Historical agricultural census data
  - Casino gaming data
  - Data on other institutional features of reservations

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  - 2018 data on land ownership
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  - Historical agricultural census data
  - Casino gaming data
  - Data on other institutional features of reservations
- Bring insights from urban and development economics
- Help inform discussions about land use regulation on reservations

Outline

Empirical Specification

$$y_{irt} = \alpha + \beta_1 Trust_r + \beta_2 X_{irt} + \beta_3 Region_r + \beta_4 (Year)_t + \varepsilon_{irt}$$

- i: Individual
- r: Reservation
- $Region$: Census Region
- t: Year
- y_{irt}: Labor, housing, population from confidential census (1980-2014)
- $Trust_r$: Share of reservation designated as trust land

Covariates

Two Main Threats to Identification

- Endogenous assignment of property rights originally
  - 1887 Indian Allotment Act (Dawes Act)
  - Price of land predicted probability, timing, and manner of allotment (Carlson, 1983; Leonard et al., wp)
- Modern land quality selection (Akee, 2009; Akee/Jorgensen, 2014)

Change in Trust Land over Time

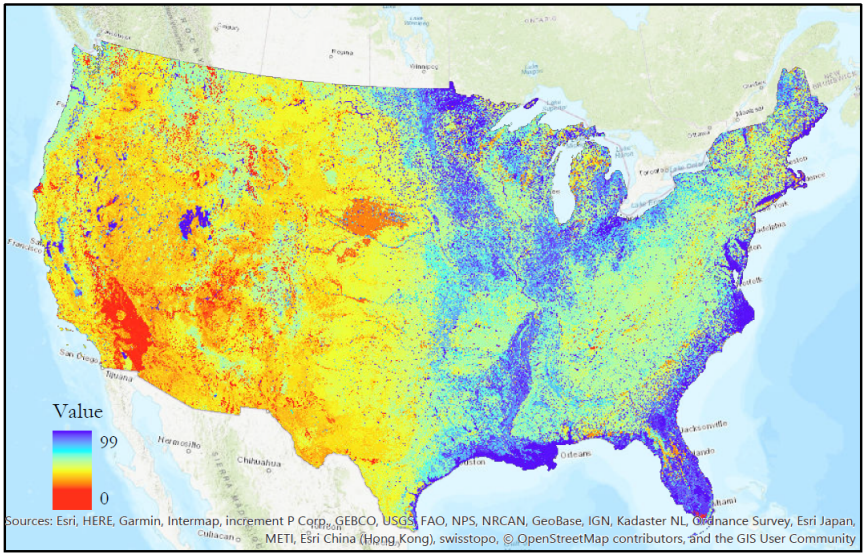
Address Endogeneity using Instrumental Variable Approach

- Instrument predicts historical assignment of rights
- The soil drainage index, a long-run measure of soil quality (Schaetzl et al., 2009)
- The rationale:
  - The soil's ability to make water available was critical for agriculture
  - Agricultural productivity determined the price of land

Instrument Option 2

The Exclusion Restriction

Ordinal Estimates of Long-Term Soil Wetness by County



This map uses the Natural Soil Drainage Index (DI) developed by Schaetzl et al. (2009). It uses a scale ranging from 0 (for the driest soils) to 99 (open water).

Trust Status has Large, Negative Effects on Labor

The Effect of Land Tenure on the Labor Market

	Total Income		**Wage Income**		**Employment**		**Labor Force**	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Trust Share	-0.399**	-1.215***	-0.552**	-1.504***	-0.0321	-0.0668**	-0.0276	-0.0736***
	(0.193)	(0.364)	(0.235)	(0.332)	(0.0203)	(0.0301)	(0.0188)	(0.0279)
Observations	575000							
Clusters	230							

*** p<0.01, ** p<0.05, * p<0.1

OLS versus IV estimates suggest measurement error in land variable

Effects by Race

How to Interpret the Coefficients

Summary of All Results

- Reservations with a larger share of land in trust experience:
  - Lower income, employment and labor force participation
  - Lower mortgage payments, less homeownership
  - Higher rental prices (suggestive)

  Effects on the Housing Market
- The results are economically meaningful
- Less new construction suggests housing market constraints bind
- Longer commute times may suggest less firm investment

  Population Effects

Outline

Market Distortions may Justify Place-Based Policies

- Is it necessary to change the status of the land to foster development?
- Market distortions may justify place-based policies
  (Austin et al., wp; Kline/Moretti, 2014)
- Casino shocks to assess impact of place-based policies by land tenure
- Tribal gaming linked to increased economic activity
  (Evans/Topoleski, 2002; Gerstein et al., 1999; Taylor et al., 1998)

Characteristics of Adopters
Evolution of Tribal Gaming

The Incidence of Labor Demand Shocks

- Trust status may introduce frictions in re-equilibration
  - Encumbers new construction and sales
- Testable prediction (increasing share of land in trust):
  - Less elastic housing supply $\Rightarrow$ lower effective labor supply
    larger increases in wages for local population
- Welfare changes will depend also on changes in rents
- Relative size of increases in rents and wages is empirical question

Use Conditional Differences-in-Differences

1. $y_{irt} = \alpha + \beta_1 Casino_{rt} + \beta_2 X_{irt} + \beta_3 Region_r + \beta_4 (Year)_t + \varepsilon_{irt}$

2. $y_{irt} = \alpha + \beta_1 Trust_r + \beta_2 Casino_{rt} + \beta_3 (Trust * Casino)_{rt} + \beta_4 X_{irt} + \beta_5 Region_r + \beta_6 (Year)_t + \varepsilon_{irt}$

- $Casino_{rt}$: Casino adoption indicator, 1988-2013 (Wolfe et al., 2012; Mathes)
- Account for selection into gaming
- Construct inverse probability weights based on:
  - Education, PL280 (jurisdiction), employment, population, AIAN share
  - Chosen according to LASSO and past research

Evidence of Parallel Trends Violation

The Labor Market Effects of Tribal Gaming are Large

Effect of Casino Adoption on the Labor Market

	Total Income	Wage Income	Employment	Labor Force	Hours Worked
Casino	0.471***	0.285***	0.0221**	0.0422***	0.779*
	(0.0984)	(0.0971)	(0.00945)	(0.00873)	(0.467)
Observations	575000				
Clusters	230				

*** p<0.01, ** p<0.05, * p<0.1

- There's in-migration Effects on Population
- Wage effects are greater for AIAN Effects by Race
- There are differential effects over time Event Study, Employment
- There are large effects on housing Effects on Housing Market

The Casino Shock Narrows Income Gap

Effect of Casino Adoption by Land Tenure Status on the Labor Market: Rural Reservations

	Total Inc	Wage Inc	Total Earn	Employ	Labor Force	Hours
Casino	0.223**	0.13	0.239**	0.0155	0.0296***	0.422
	(0.105)	(0.0983)	(0.0947)	(0.0116)	(0.00999)	(0.444)
Trust Share Demeaned	-0.951***	-0.484	-0.497*	-0.0384	-0.0512**	-1.940*
	(0.245)	(0.336)	(0.259)	(0.0275)	(0.0212)	(1.146)
Casino*Trust	1.053***	0.504	0.554**	0.0378	0.0640***	2.701**
	(0.257)	(0.313)	(0.277)	(0.0295)	(0.0239)	(1.196)
Observations	381000					

*** p<0.01, ** p<0.05, * p<0.1

Results for Full Sample

IV Results

The Casino Shock Widens the Rental Price Gap

Effect of Casino Adoption by Land Tenure Status on Housing Market: Rural Reservations

	Mortgage	Rental Price	Pay Rent	Num Rooms	Commute
Casino	0.0135	0.275***	0.0460***	0.00648	-0.0681**
	(0.361)	(0.100)	(0.0170)	(0.0438)	(0.0312)
Trust Share Demeaned	-2.959***	-0.0279	0.0216	-0.474***	0.194***
	(0.745)	(0.148)	(0.0255)	(0.102)	(0.0555)
Casino*Trust	2.188***	0.520**	0.0755*	0.428***	-0.188***
	(0.797)	(0.245)	(0.0444)	(0.101)	(0.0570)
Observations	381000				

*** p<0.01, ** p<0.05, * p<0.1

Results for Full Sample
IV Results
Spillover Effects

Concluding Remarks

- The level effect of trust status on the labor market is negative
- However, demand-driven approaches appear to allow wages to catch up on reservations with more trust land
- Larger increases in welfare with increasing share in trust
- Points to the importance of jointly considering land use regulations and place-based policies in Indian Country

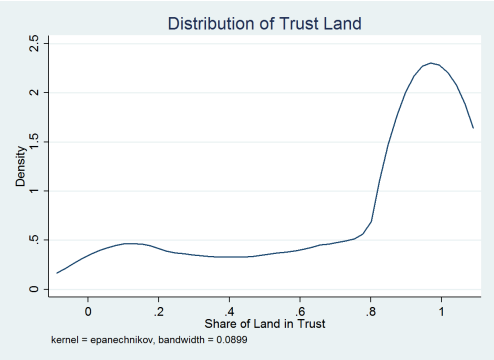
Ongoing Research Agenda

- Effect of property rights on entrepreneurship
  - National Establishment Time Series (NETS) data
- Richer housing data to quantify constraints in the housing market
  - Zillow data or Corelogic
- These additional steps would shed light on mechanisms at work

Outline

There is an Emerging Indigenous Land Rights Literature

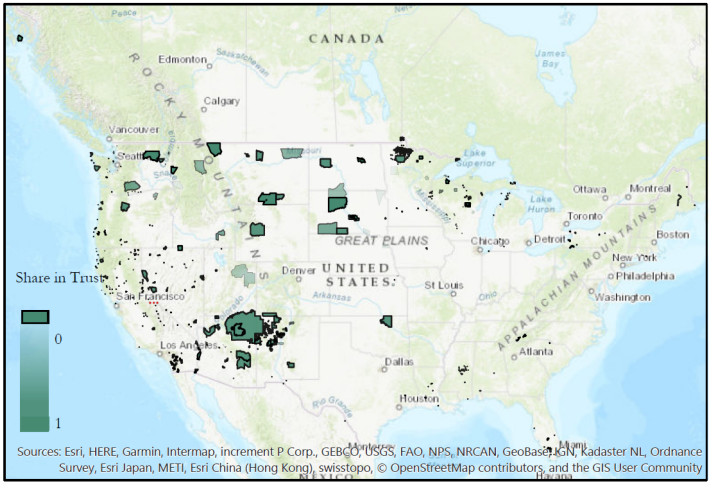
- There is a growing body of quantitative research on the effects of indigenous land rights in North America
- In the United States: Russ/Stratmann (2015); Anderson/Lueck (1992); Carlson (1981); Trosper (1978); Leonard et al. (wp)
  - Natural experiment: Akee/Jorgensen (2014), Akee (2009)
- In Canada: Aragon/Kessler (2018); Pendakur/Pendakur (2017); Aragon (2015)
- My research complements this work by:
  - Accounting for the endogeneity of rights
  - Relying on 2018 land data for reservations nationwide
  - Contextualizing the effects in a local labor market framework



Trust Share Descriptives

	Minimum	Mean	Maximum	Standard Deviation
Trust Share	0.001445	0.765278	1	0.329719

Share of Land in Trust on Federal Reservations



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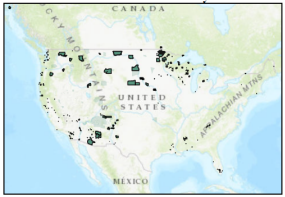
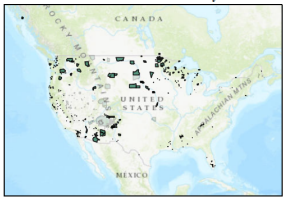
The Evolution of Tribal Gaming, 1990-2014

Reservations with Casinos by 1990

Reservations with Casinos by 1995



Reservations with Casinos by 2000



Reservations with Casinos by 2014

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How to Interpret the Coefficients

- Trust share is a continuous variable between 0 and 1
- Interpret inverse hyperbolic sine transformation as appx logarithmic
- One sd increase is appx 33 percentage points (0.33 units)
  - $\hat{\beta} * (1/3)$ gives the response to a 1 sd change
- $\hat{\beta} = -0.552$ suggests a 1 sd change in trust share corresponds to 18% decrease in wage income
- Given \$20,000 annual wage income in 2000, that would be \$3,600
- Benchmarking:
  - Leonard et al. (wp): 15-30% effect size on income
  - Aragon (2015): 13%
- 1 sd change in trust share = appx 1 pp change in employment

There is Little Change in Land Tenure

Change in Trust Land Between 2003 and 2018

	Min	P10	P25	P50	Mean	P75	P90	Max
Percent Change	0.0001	0.0117	0.0605	0.2025	0.3534	0.5798	0.93922	1.3606
Correlation between 2003 and 2018: 0.99***								

- The changes are being driven by a few large reservations
- When I convert variable to share of reservation land, 30% of reservations do not change between 2003 and 2018

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Characteristics of Casino Adopting Reservations: Sample Averages

	Adopters	**Non-Adopters**
Trust Share	0.71	0.8
Land Area (Acre)	240000	310000
Reservation Population	3908	3009
AIAN Population Share	0.59	0.71
Number Reservations	150	80

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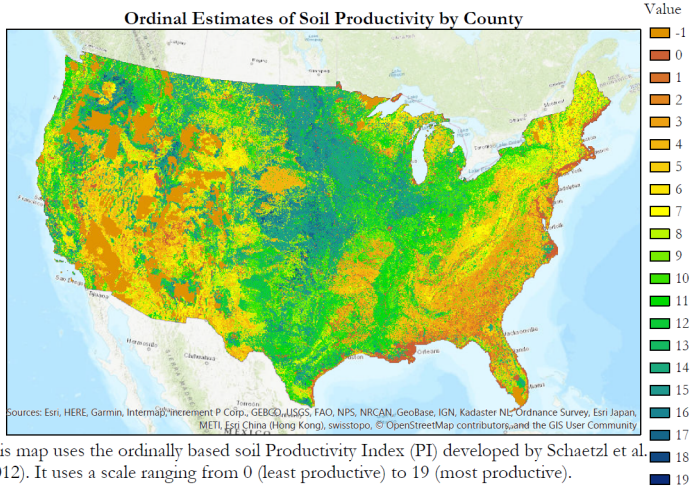
Control Variables

Individual level controls:

- Whether speak another language (culture)
- Age, age^2, gender
- Race determined by multiple regression bridging method (Liebler, 2008)

Reservation level controls:

- Geography
  - Proximity to nearest metropolitan area
  - Size of reservation
- Strength of institutions
  - PL280
  - Per capita payments
  - Strength of constitution
- Land buyback controls
- Degree of fractionation
  - Index constructed using LASSO analysis



This map uses the ordinally based soil Productivity Index (PI) developed by Schaetzl et al. (2012). It uses a scale ranging from 0 (least productive) to 19 (most productive).

Instrument 2: Historical Agricultural Farm Value

- Instrument #2 is the average value of farmland and buildings per acre at the county level
  - Averaged across 1880-1910
- The rationale behind the instrument is largely the same
- Leonard et al. (wp) have shown it to be predictive of the propensity and timing of allotment
- The value of the land and farms is the best measure of scale of farms (Carlson, 1983)
- In most specifications, this instrument has Chi-sq p-value of appx .01 and F-stat $>$ 10,000

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Labor Market Effects are Larger for AIAN

Labor Market Effects by Race

	Wage Income				Employment			
	American Indian		White		American Indian		White	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Trust Share	-0.274	-2.896**	-0.580**	-0.749**	-0.0216	-0.211**	-0.0112	0.0318
	(0.297)	(1.137)	(0.294)	(0.327)	(0.0262)	(0.0954)	(0.0269)	(0.0440)
Observations	233000		309000					
Clusters	230							

*** p<0.01, ** p<0.05, * p<0.1

Notes: IV test stats: For AIAN: Chi-sq P-val: 0.0196; C-D Wald F stat: 24000; For White: Chi-sq P-val: 0.0091; C-D Wald F-stat: 150000. Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects and the following set of covariates: age, age^2, gender, race, indicator of speaking another language. Trust share appears as a fraction less than 1. Total income and wage income are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Number of observations have been rounded according to Census confidentiality rules.

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Effect of Casino Adoption on Population Characteristics

	AIAN Pop Share	**Moved Recently**	**Commute Time**
Casino	-0.156*	0.0680***	-0.114***
	(0.0875)	(0.0216)	(0.0298)
Observations	575000		
Clusters	230		

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Commute time is an indicator of whether an individual travels more than 45 minutes to get to work. New construction is an indicator of whether house was built in past five years. Observations are weighted by the inverse probability of casino adoption. Number of observations are rounded per Census confidentiality rules.

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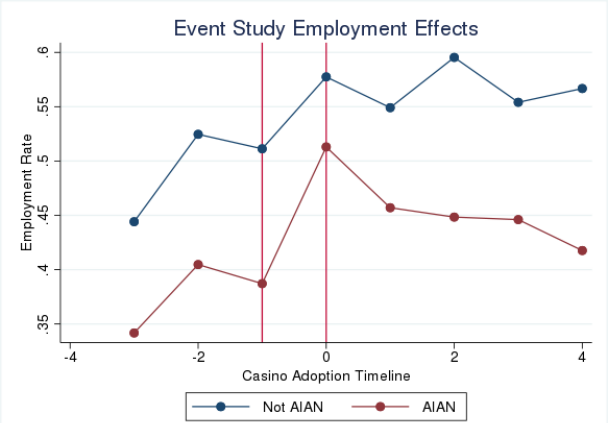
Effect of Casino Adoption by Race

	Wage Income		**Commute Time**	
	AIAN	White	AIAN	White
Casino	0.510***	-0.0136	-0.115***	0.0488**
	(0.147)	(0.170)	(0.0127)	(0.0206)
Observations	233000	309000		
Clusters	230			

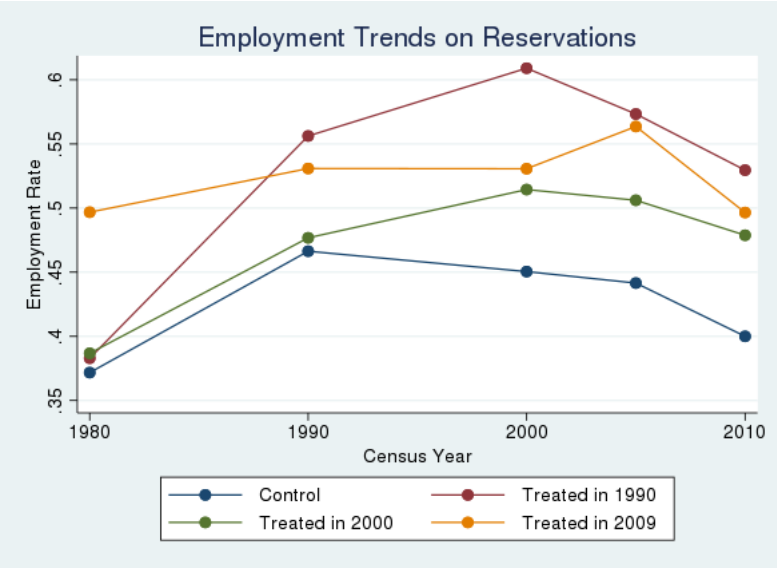
*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Commute time is an indicator of whether an individual travels more than 45 minutes to get to work. Wage income is in 2000 dollars and transformed by the inverse hyperbolic sine function. Observations are weighted by the inverse probability of casino adoption. Number of observations are rounded per Census confidentiality rules.

Back



Notes: This figure depicts an event study specification with a 20-year estimation window, only including individuals residing on reservations that adopted a casino at some point. The casino was opened at some point in the period between -1 and 0. Each unit on the x-axis represents a 5-year bin of time.


Employment Trends on Reservations
Employment Rate
.35
.4
.45
.5
.55
.6
1980
1990
2000
2010
Census Year
Control
Treated in 1990
Treated in 2000
Treated in 2009

The Exclusion Restriction

- Identifying assumption: long-run soil quality affects outcomes today only through the assignment of property rights
- Potential concern #1: soil quality in 1880 is correlated with soil quality today, and soil quality today affects economic outcomes
  - Control for measure of soil quality today
    - Soil productivity index PI Map
  - Agriculture is not as important today
    - 2% of AIAN operated farms in 2007 (USDA Census of Agriculture)
  - Soil drainage is not as critical in agriculture today
    - The 1902 Reclamation Act spurred large-scale irrigation
- Potential concern #2: persistence in economic outcomes
  - Almost all economic activity hinged on agriculture at the time of allotment
  - The industry rapidly declined thereafter
    - 1910-1940: little westward expansion, few technological improvements

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Trust Status Affects the Housing Market

Effect of Trust Land on the Housing Market

	Mortgage		Rental Price		Homeowner		Number of Rooms	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Trust Share	-1.859***	-2.971***	0.139	0.364	-0.0802**	-0.151**	-0.204***	-0.317***
	(0.444)	(0.512)	(0.195)	(0.368)	(0.0349)	(0.0671)	(0.0635)	(0.0603)
Observations	575000							
Clusters	230							

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Trust share appears as a fraction less than 1. Mortgage and rental price are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Rental price is the midpoint of an interval variable. Number of rooms is a binary indicator of whether number of rooms is greater than the median. Number of observations have been rounded according to Census confidentiality rules.

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Trust Status Affects the Movement of People

Effect of Trust Land on Population Characteristics

	AIAN Pop Share		**Commute Time**		**New Construction**	
	OLS	IV	OLS	IV	OLS	IV
Trust Share	0.305***	0.391**	0.0703**	0.123***	-0.0330***	-0.0702***
	(0.0899)	(0.190)	(0.0271)	(0.0287)	(0.0120)	(0.0179)
Observations	575000					
Number of clusters	230					

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Trust share appears as a fraction less than 1. Commute time is an indicator of whether an individual travels more than 45 minutes to get to work. New construction is an indicator of whether house was built in past five years. Number of observations have been rounded according to Census confidentiality rules.

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Effect of Casino Adoption on the Housing Market

	Mortgage	**Rental Price**	**Homeowner**	**Number Rooms**
Casino	1.142***	0.197**	-0.0337*	0.148***
	(0.281)	(0.0885)	(0.0182)	(0.0396)
Observations	575000			
Clusters	230			

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Mortgage and rental price are in 2000 dollars and transformed by the inverse hyperbolic sine function. Number of rooms is a binary indicator of whether housing unit consists of above the median number of rooms. Observations are weighted by the inverse probability of casino adoption. Number of observations are rounded per Census confidentiality rules.

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Effect of Casino Adoption by Land Tenure Status on the Labor Market

	Total Income		**Wage Income**		**Employment**		**Labor Force**	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Casino	0.317***	0.221**	0.244**	0.211*	0.0199	0.0231**	0.0366***	0.0194
	(0.0915)	(0.0983)	(0.109)	(0.119)	(0.0121)	(0.0108)	(0.00983)	(0.0120)
Trust Share Demeaned	-0.744***	-1.761***	-0.368	-1.155*	-0.028	-0.0328	-0.0155	-0.130**
	(0.209)	(0.461)	(0.236)	(0.615)	(0.0257)	(0.0507)	(0.0237)	(0.0626)
Casino*Trust	0.591**	0.646	0.0535	-0.625	-0.00249	-0.0812*	-0.00227	0.0434
	(0.243)	(0.516)	(0.268)	(0.680)	(0.0276)	(0.0491)	(0.0246)	(0.0534)
Observations	575000							
Clusters	230							

*** p<0.01, ** p<0.05, * p<0.1

Notes: IV test stats: Chi-sq P-val: 0.003; C-D Wald F stat: 47000. Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects and the following set of covariates: age, age^2, gender, race, indicator of speaking another language. Trust share is demeaned and appears as a fraction less than 1. Total income and wage income are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Observations are weighted by the inverse probablity of casino adoption. Number of observations have been rounded according to Census confidentiality rules.

Effect of Casino Adoption by Land Tenure Status on Housing Market

	Mortgage		Rental Price		Homeowner		Number of Rooms	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Casino	0.406	0.483*	0.12	-0.185	-0.0345*	0.00583	0.0143	-0.00746
	(0.328)	(0.278)	(0.109)	(0.231)	(0.0194)	(0.0337)	(0.0419)	(0.0465)
Trust Share Demeaned	-2.815***	-2.381**	0.0243	-0.839	-0.0672***	0.0014	-0.444***	-0.396*
	(0.708)	(0.926)	(0.139)	(1.056)	(0.0248)	(0.166)	(0.0994)	(0.211)
Casino*Trust	1.341*	-0.244	0.592***	1.889**	-0.0885*	-0.255	0.337***	0.208
	(0.723)	(1.097)	(0.224)	(0.845)	(0.0465)	(0.161)	(0.0919)	(0.146)
Observations	575000							
Clusters	230							

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Trust share is demeaned and appears as a fraction less than 1. Mortgage and rental price are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Rental price is the midpoint of an interval variable. Number of rooms is a binary indicator of whether housing unit has more than the median number of rooms. Observations are weighted by inverse probability of casino adoption. Number of observations have been rounded according to Census confidentiality rules.

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Effect of Casino Adoption by Land Tenure Status on the Labor Market: Rural Reservations (IV DI)

	Total Income	**Wage Income**	**Total Earnings**	**Employment**	**Labor Force**	**Hours Worked**
Casino	0.122	0.0938	0.166	0.0199	0.015	0.181
	(0.110)	(0.153)	(0.122)	(0.0129)	(0.0132)	(0.492)
Trust Share Demeaned	-1.687***	-0.925	-0.695	0.0214	-0.0878	-0.507
	(0.611)	(0.820)	(0.619)	(0.0471)	(0.0707)	(2.038)
Casino*Trust	0.424	-0.682	-0.523	-0.106	0.0367	-1.188
	(0.977)	(1.095)	(0.965)	(0.0760)	(0.0755)	(2.847)
Observations	381000					

*** p<0.01, ** p<0.05, * p<0.1

Notes: IV estimates using mean drainage index instrument. Chi-sq P-val: 0.0049; C-D Wald F stat: 30000. Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects and the following set of covariates: age, age^2, gender, race, indicator of speaking another language. Trust share is demeaned and appears as a fraction less than 1. Total income, wage income, earnings are in 2000 dollars and have been transformed by the hyperbolic sine function. Observations are weighted by inverse probability of casino adoption. Observations come from set of rural reservations. Number of observations have been rounded according to Census confidentiality rules.

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Effect of Casino Adoption by Land Tenure Status on Housing Market: Rural Reservations (IV DI)

	Mortgage	Rental Price	Pay Rent	Number of Rooms	Commute Time
Casino	0.205	-0.147	-0.0241	-0.0179	-0.0654*
	(0.313)	(0.332)	(0.0548)	(0.0456)	(0.0373)
Trust Share Demeaned	-1.943**	-1.496	-0.2	-0.266	0.228
	(0.934)	(0.966)	(0.148)	(0.168)	(0.148)
Casino*Trust	-1.61	3.510***	0.593**	0.238	-0.0464
	(1.987)	(1.354)	(0.234)	(0.168)	(0.172)
Observations	381000				

*** p<0.01, ** p<0.05, * p<0.1

Notes: IV estimates using mean drainage index instrument. Chi-sq P-val: 0.0049; C-D Wald F stat: 30000. Robust standard errors clustered by reservation are in parentheses. All regressions include year and region fixed effects. Trust share is demeaned and appears as a fraction less than 1. Mortgage and rental price are in 2000 dollars and have been transformed by the hyperbolic sine function. Rental price is the midpoint of an interval variable. Number of rooms is a binary indicator of whether housing unit has more than the median number of rooms. Observations are weighted by inverse probability of casino adoption. Observations come from the set of rural reservations. Number of observations have been rounded according to Census confidentiality rules.

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Spillover Effects of Casino Adoption by Land Tenure Status: IV Results

	Wage Income	**Employment**	**Rental Price**	**Recently Moved**
Casino	0.139	0.0463**	0.166	-0.0706*
	(0.213)	(0.0229)	(0.193)	(0.0372)
Trust Share Demeaned	0.449	0.153	0.325	-0.250**
	(0.972)	(0.0974)	(0.659)	(0.122)
Casino*Trust	-0.157	-0.157**	0.0391	0.307**
	(0.589)	(0.0717)	(0.551)	(0.138)
Observations	11130000			
Clusters	230			

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by county are in parentheses. All regressions include year and region fixed effects. Labor market regressions include the following set of covariates: age, age^2, gender, race, indicator of speaking another language. Trust share is demeaned and appears as a fraction less than 1. Total income, wage income, and rental price are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Recently moved is an indicator of having moved in the past ten years. Number of observations have been rounded according to Census confidentiality rules.

Spillover Effects of Casino Adoption by Land Tenure Status

	Wage Income	**Employment**	**Rental Price**	**Recently Moved**
Casino	0.321*	0.0242*	0.248***	-0.0123
	(0.165)	(0.0133)	(0.0746)	(0.00898)
Trust Share Demeaned	0.118	0.0014	0.167	-0.0330***
	(0.144)	(0.0166)	(0.153)	(0.0118)
Casino*Trust	-0.730**	-0.0526**	-0.255	0.0648***
	(0.314)	(0.0237)	(0.188)	(0.0199)
Observations	11130000			
Clusters	230			

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors clustered by county are in parentheses. All regressions include year and region fixed effects. Labor market regressions include the following set of covariates: age, age^2, gender, race, indicator of speaking another language. Trust share is demeaned and appears as a fraction less than 1. Total income, wage income, and rental price are in 2000 dollars and have been transformed by the inverse hyperbolic sine function. Recently moved is an indicator of having moved in the past ten years. Number of observations have been rounded according to Census confidentiality rules.

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