

ECONOMIC PERSISTENCE DESPITE ADVERSE POLICIES: EVIDENCE FROM KYRGYZSTAN

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Outline

1. Introduction
2. Context and data
3. Econometric model
4. Evidence
5. Exploring the mechanisms
6. Conclusion

Long run economic persistence and social mobility

- Chetty *et al.*, 2014; Chetty *et al.*, 2017, for the United States; Boserup *et al.*, 2016, for Denmark; Adermon *et al.*, 2018; Black *et al.*, 2020, for Sweden
- Clark, 2014; for specific countries, see Clark and Cummins, 2015, for Britain; Barone and Mocetti, 2016, for Italy; Clark *et al.*, 2017, for Australia

Long run economic persistence and social mobility

- Clark (2014) finds a surprisingly high degree of persistence in social status
- Alesina *et al.* (2020) - re-emergence of the inequality and rankings in economic outcomes after 1978

Traditional institutions and economic development

- Moscona et al. (2020) – ethnic groups with clan (lineage) systems are more prone to conflict
- Greif and Tabellini, 2010; 2017; De la Croix et al., 2018; Enke, 2019; Acemoglu and Robinson, 2020 – positive aspects of tribal institutions

Introduction

- Correlation between clan level material wellbeing in 1910 and 2010-2012
- Remarkable because :
 - rupture of transmission of wealth during soviet times (massive expropriation and nationalization)
 - repressive politics targeting precisely wealthy families

Introduction

- What are the channels (if not family wealth transmission)?
 - Local conditions: not only!
 - Then there has to be intergenerational transmission of intangibles:
 - Non-material scarce resources: power and politics (supportive evidence)
 - Norms and values (that would be conducive to wealth accumulation): present day values are shaped by clan characteristics of the past, supportive evidence for socialization at clan level, importance of clan identity

Historical context

- Kokand khanate
- Russian protectorate



Migration

- Abolition of serfdom 1861
- Impoverishment of the Kyrgyz population.



Left wing (*So*):

Qushchu
Saruu
Munduz
Zhetigen
Qitay
Basiz
Tebey
Chong-Bagish

Tribes of the **Ichkilik** group:

Qipchaq
Nayman
Teyit
Kesek
Zhoo-Kesek
Qangdi
Boston
Noygut
Avat
Töölös

Right wing (*Ong*)

Branch **Tagay**:

Sari-Bagish
Bugu
Solto
Tiniimseyit
Sayaq
Chekir-Sayaq
Cherik
Zhediger
Aziq
Bagish
Suu-Murun
Mongoldor
Baarin

Branch **Adigine**:

Qongurat
Zhoru
Börü
Bargi
Qara-Bagish
Sarttar

Branch **Mungush**:

Zhagalmay
Qosh-Tamga

Soviet times

- Collectivization
- Anti-tribal policies (*Asankanov et al.*, 2017, p. 501).

Sources (1)

For clan-level historical variables:

- 1907-1913 Statistical Expedition materials (Rumyantsev & Skryplev):
 - Материалы по обследованию туземного и русского старожильского хозяйства и землепользования в Семиреченской области, собранные и разработанные под руководством П.П. Румянцева
 - Пишпекский уезд
 - Прежевальский уезд
 - Материалы по киргизскому землепользованию, собранные и разработанные Сыр-Дарьинской партией
 - Сыр-Дарьинская область: Аулиеатинский уезд
 - Ферганская область: Андижанский уезд, Наманганский уезд.
 - Материалы по землепользованию кочевого киргизского населения южной части Ферганской области (Ошский, Скобелевский и Кокандские уезды)

Sources (2)

For current-day outcomes

- Life in Kyrgyzstan

For matching clans in two databases:

- Abramzon

Sources (2)

uezd	volost	aul_id	kstau_id	community	kstau	place	clan
przhevalsk	Иссенгуловская	7	37	2	Боталы Со	Кошай-кур	Абла
przhevalsk	Борукчинская	6	9	3	Шалгшима Ункур-Ита		Адораман
przhevalsk	Чоринская	6	19	7	Колмурат	Каргалык	Ак-тере
przhevalsk	Чоринская	6	1	7	Камбарале	Кугарт	Ак-терё
przhevalsk	Чоринская	6	2	7	Саке Карбо	Байдамата	Ак-терё
przhevalsk	Чоринская	6	3	7	Кеньпче Ка	Кызык	Ак-терё
przhevalsk	Чоринская	6	4	7	Каин Авло	Борду	Ак-терё
przhevalsk	Чаш-Тюбинская	3	12	4	Нарымбай	Орта-кель	Ак-чуват
przhevalsk	Чаш-Тюбинская	3	13	4	Наймамбай	Орта-кель	Ак-чуват
przhevalsk	Курмектинская	3	1	6	Сенде Мам	Кудургу	Алдиар
przhevalsk	Чаш-Тюбинская	4	1	2	Рыскулу Ка	Кельтюбск	Алдаяр
przhevalsk	Чаш-Тюбинская	4	2	2	Касек Мам	Кельтюбск	Алдаяр

hhid	h406_a
2133	АДИГИНЕ
2144	АДИГИНЕ
2146	АДИГИНЕ
4047	АЗЫК
4050	АЗЫК
8402	АЗЫК
11244	АЙБАШ
2260	АЙТКУЛУ
4086	АК КУЛАК
6451	АК СУЕК
11043	АКЖАМБА
6403	АКИР УУЛУ
6406	АКИР УУЛУ
6418	АКИР УУЛУ
4087	АККУЛАК
11108	АЛАЙ
11124	АЛАЙ
2116	АЛАКОЗ
2151	АЛАКОЗ
2148	АРЫК
2251	АРЫК
2254	АРЫК
3018	БАГЫШ
3019	БАГЫШ
3020	БАГЫШ

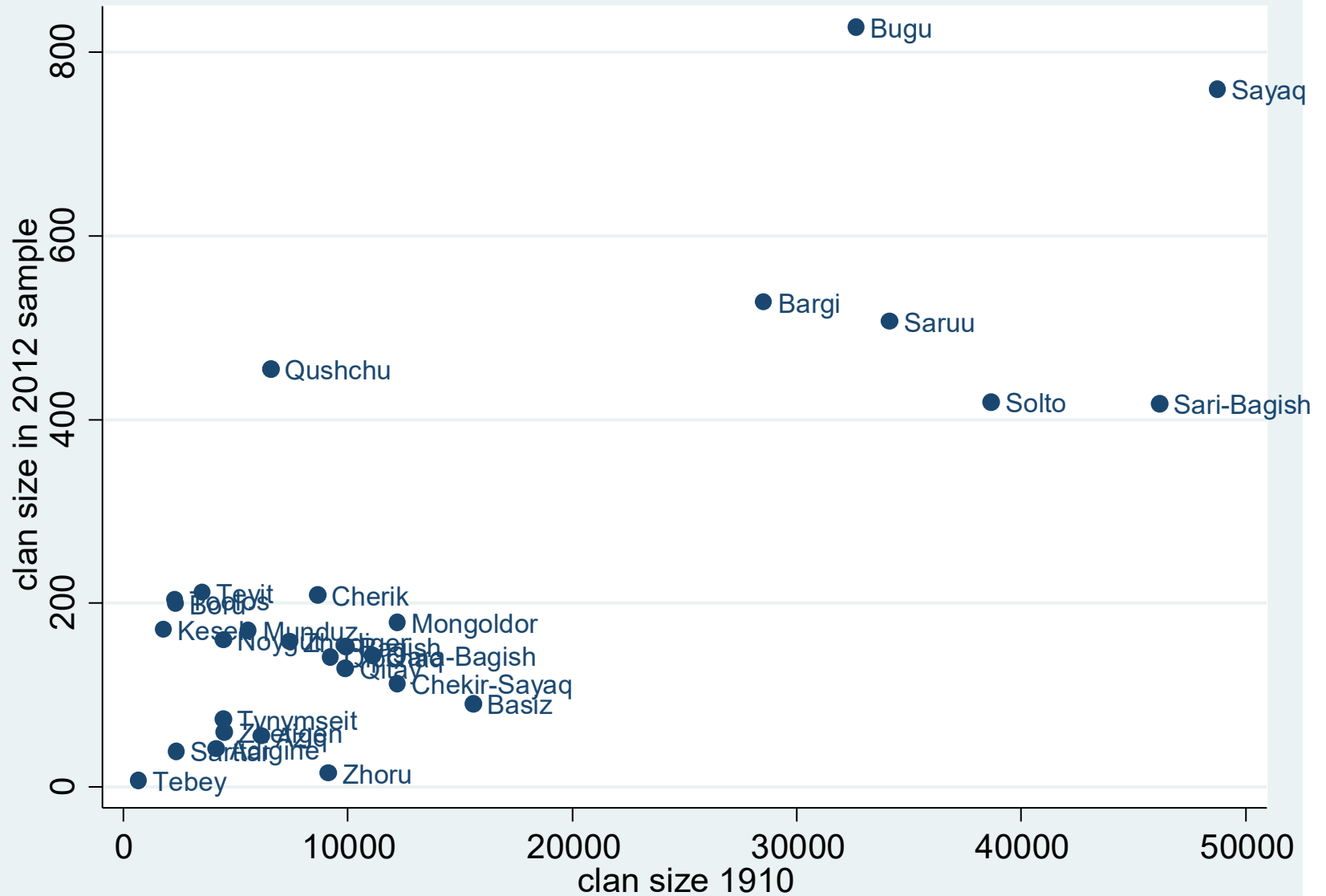
Data

- Livestock
- Land (irrigated, non-irrigated)
- Size
- Females
- Location of summer and winter pasture

Clan level outcomes in the past and in the present

- Positive correlation between:
 - Clan size in the past and clan size in the present
 - Indicators of material wellbeing in the past and in the present
 - Measures in the past: median size of livestock (equivalent horses) per capita or cultivated land per capita
 - Measures in the present: income or expenditure per capita
 - Measures of within clan inequality in the past and in the present

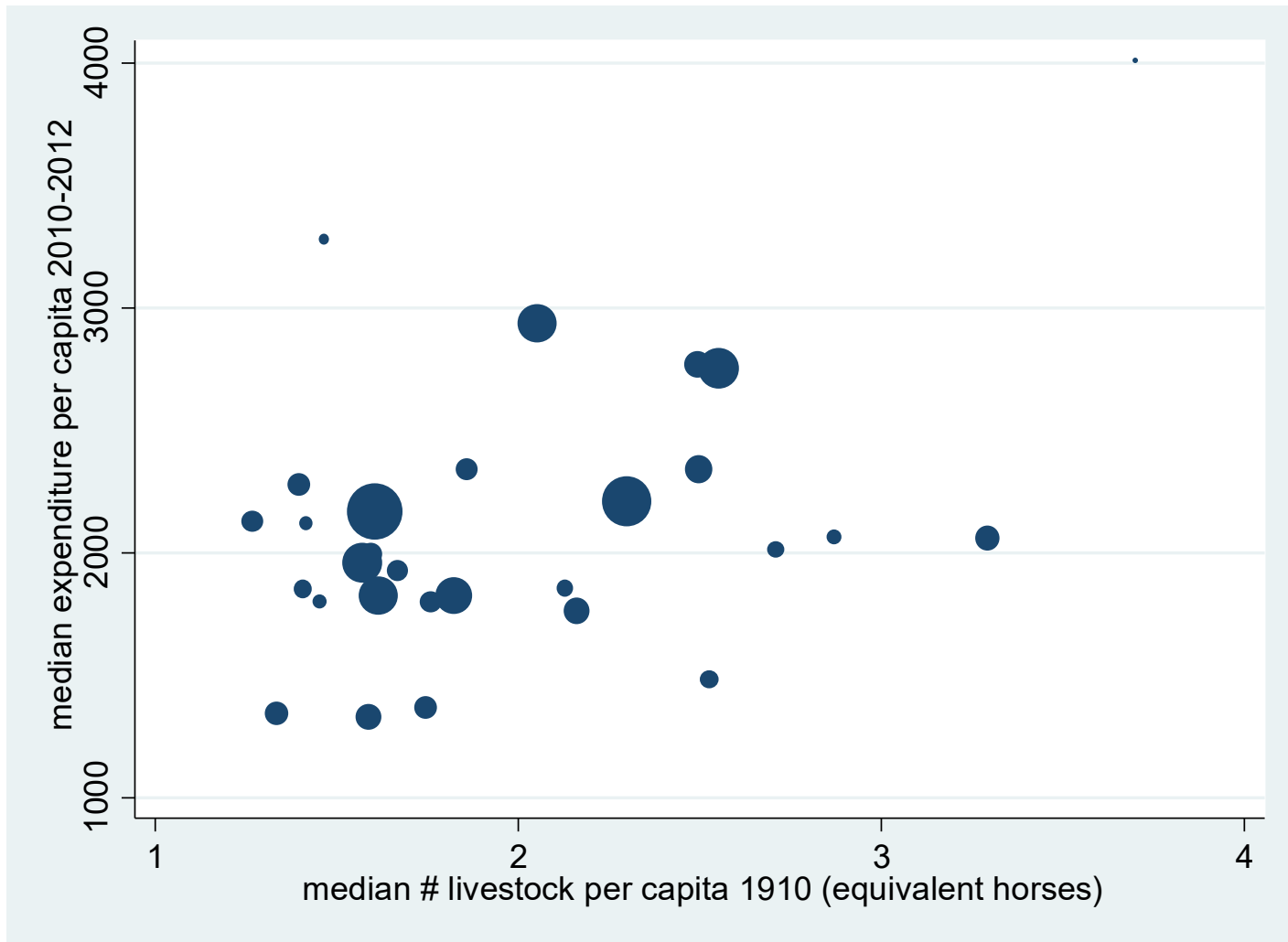
Clan sizes in 1910 and 2012



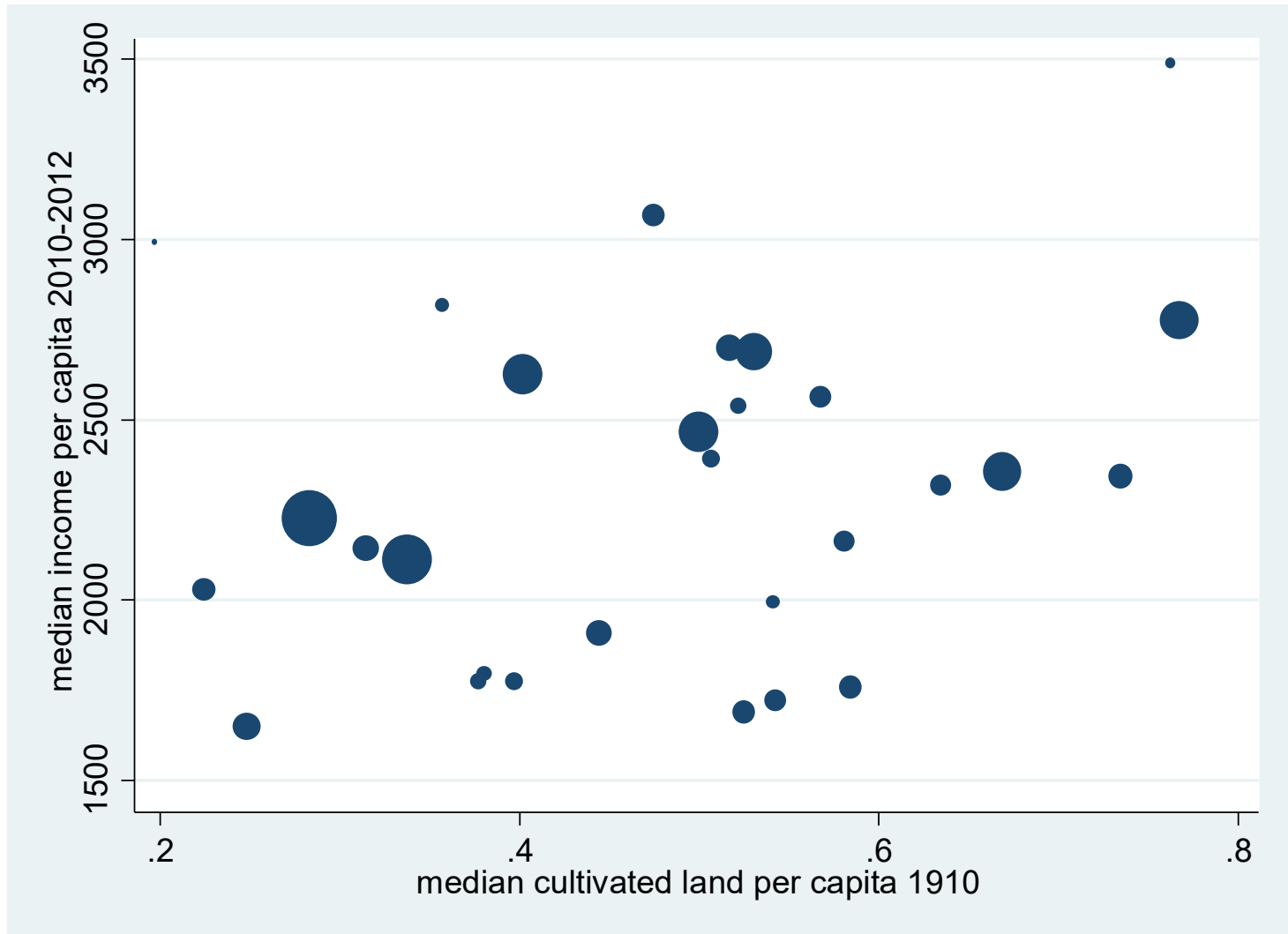
Clan wealth in 1910 (livestock) and in 2010 (income)



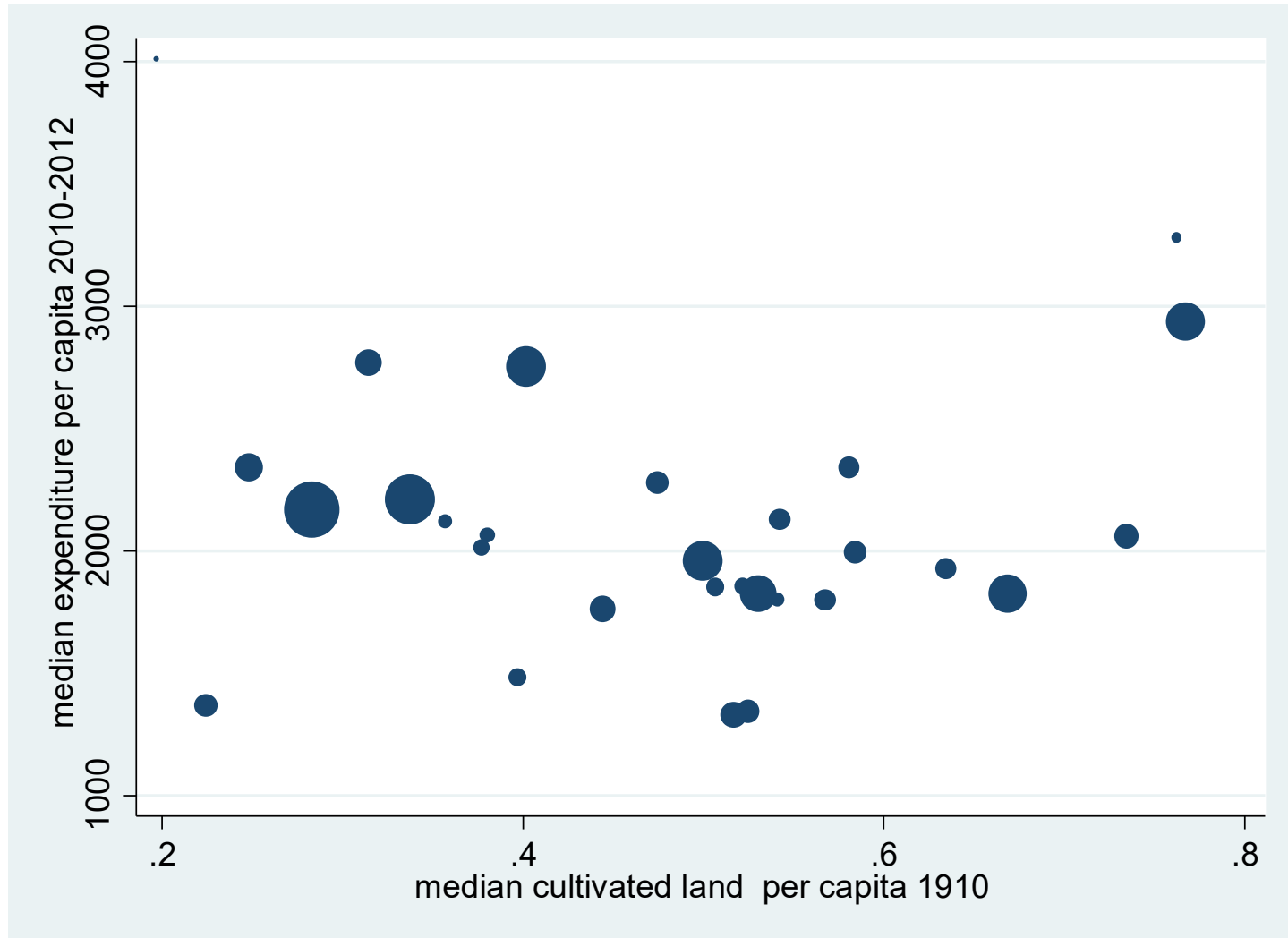
Clan wealth in 1910 (livestock) and in 2010 (expenditure)



Clan wealth in 1910 (cultivated land) and in 2010 (income)



Clan wealth in 1910 (cultivated land) and in 2010 (expenditure)





	median income / cap (2010-12)	median expenditure / cap (2010-12)	median horses / cap (1910)	median area / cap (1910)
median income / cap (2010-12)	1			
median expenditure / cap (2010-12)	0.4631*	1		
median horses / cap (1910)	-0.1186	0.4248*	1	
median area / cap (1910)	0.4420*	0.0418	-0.1017	1

Past characteristics of the clan and individual outcomes today

- Econometric model:

$$Y_{icg} = \alpha' X_i + \beta' X_c + \gamma_g + \varepsilon_{ic}$$

Y_{icg} : outcome of individual i of clan c in geo-cluster g

X_i : individual controls

X_c : clan characteristic in the past

γ_g : geographical cluster fixed effect

ε_{ic} : standard errors clustered at the clan level

- We run weighted regressions (by the size of the clan in the past).

Income and expenditure in 2011-2012 as a function of clan characteristics

Panel 1: Household per capita income, per capita expenditure and asset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	z-sc. inc. 2011-13	z-sc. exp. 2011-13	Mean inc. 2011-13	Mean exp. 2011-13	Asset index	Any land owned	Land per cap	Irrig. land per cap
<i>Specification 1: Composite index of 1910 wealth (z-score)</i>								
Wealth 1910	0.195** (0.076)	0.171*** (0.049)	0.472** (0.184)	0.271*** (0.078)	0.348* (0.193)	-0.028 (0.051)	-0.090** (0.042)	-0.095** (0.038)
<i>N</i>	1,324	1,343	1,324	1,343	1,343	1,343	1,343	1,343
<i>Specification 2: 1910 land and livestock ownership (z-score)</i>								
Land	0.105** (0.040)	0.127*** (0.026)	0.254** (0.097)	0.201*** (0.042)	0.200 (0.160)	0.017 (0.015)	-0.047* (0.024)	-0.053** (0.022)
Livestock	0.078 (0.128)	-0.025 (0.108)	0.189 (0.310)	-0.039 (0.172)	0.104 (0.210)	-0.096** (0.043)	-0.040 (0.030)	-0.032 (0.029)
<i>N</i>	1,324	1,343	1,324	1,343	1,343	1,343	1,343	1,343

Income and expenditure in 2011-2012 as a function of clan characteristics

Panel 2: Individual human capital and men's fathers' socio-economic status

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Educ (years)	Height	BMI	Firstborn weight	Father educ.	Father unskill.	Father in agricult.	Father good pos.
Specification 1: Composite index of 1910 wealth (z-score)								
Wealth 1910	0.116 (0.449)	0.548 (1.239)	0.930*** (0.256)	0.118*** (0.036)	-0.155 (0.436)	-0.111* (0.056)	-0.175* (0.097)	0.098 (0.079)
<i>N</i>	1,590	1,555	3,253	1,459	1,143	1,079	1,106	1,079
Specification 2: 1910 land and livestock ownership (z-score)								
Land 1910	-0.065 (0.205)	1.131** (0.497)	0.515*** (0.147)	0.049*** (0.015)	0.088 (0.199)	-0.039 (0.034)	-0.082 (0.051)	0.086* (0.046)
Livestock	0.438 (0.379)	-2.405** (1.024)	0.321 (0.306)	0.090*** (0.028)	-0.536 (0.640)	-0.097 (0.060)	-0.102 (0.098)	-0.044 (0.071)
<i>N</i>	1,590	1,555	3,253	1,459	1,143	1,079	1,106	1,079

Persistence

- Persistence rate 0.61 between generation
- Most studies (with exception of Clark 2014) report lower persistence estimates
- Surprisingly high persistence in Kyrgyzstan despite 70 years of socialism

Within inequality



Social capital in the Soviet period

- Social/political capital of a tribe – representation in the political elite during the Soviet period.
- Use data on Supreme Soviet members (biographies) – 1972, 1976

Social capital in the Soviet period

- Econometric model:

$$SharePolElite_c = \alpha' X_c + \beta ShareTribe_c + \varepsilon_c$$

- $SharePolElite_c = \frac{MP_c}{\sum MP}$
- We run weighted regressions (by the size of the clan in the past).

Social capital in the Soviet period

	(1) Share elite from tribe	(2) Share elite from tribe	(3) Share elite from tribe
Share tribe in pop 1910	0.859*** (0.100)	0.856*** (0.106)	0.810*** (0.096)
Tribe wealth 1910 (z-score)	0.038* (0.020)		
Tribe land/cap 1910 (z-score)		0.019 (0.011)	
Tribe livestock/cap 1910 (z-score)		0.020 (0.015)	
Tribe land/cap 1910 (desyatinas)			0.065** (0.027)
Tribe livestock/cap 1910 (horses)			0.018** (0.007)
Constant	0.005 (0.008)	0.005 (0.009)	-0.068*** (0.023)
<i>N</i>	33	33	33

Mechanisms

- Transmission of assets through inheritance is limited
- Not through education
- Cultural traits?

Mechanisms

- Transmission of social capital
- Politicians in the Soviet times played along the tribal lines (Junushaliev 2003)

Conclusion

- High persistence of wealth and inequality
- Wealth taxation isn't effective
- Vilfredo Pareto (1897): 'in all places and at all times, the distribution of income remains the same. Neither institutional change nor egalitarian taxation can alter this fundamental constant of social sciences'

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- Thank you!

Descriptive statistics: historical data

- (Imported) haymaking is already widespread.
- Agriculture and irrigated agriculture are widely practiced (pre-Russian tradition).
- Geographic and tribe specific outcomes

TRIBE	WING	N	Herd size / capita	Share horses	Farmed land / capita	Share sedentary	Supply Labour	Hay / animal	Share w/ alfalfa	Prop of men	Nomads
Qipchaq	ICKKILIK	38	1.74	0.24	0.56	0.47	0.03	2.61	0.52	0.56	0
Kesek	ICKKILIK	18	1.18	0.22	0.44	0.87	0.04		0.24	0.55	0
Teyit	ICKKILIK	24	1.67	0.29	0.47	0.24	0.01		0.00	0.55	0
Noygut	ICKKILIK	14	1.13	0.17	0.54	0.35	0.02		0.46	0.55	0
Toolos	ICKKILIK	32	2.75	0.36	0.57	0.30	0.11	2.74	0.54	0.56	0
Sarttar	ONG-ADIGINE	11	1.24	0.55	0.41	0.23	0.05	1.15	0.30	0.54	0
Qara-Bagish	ONG-ADIGINE	30	1.65	0.47	0.63	0.19	0.03	4.10	0.24	0.56	1
Bargi	ONG-ADIGINE	157	1.64	0.44	0.73	0.43	0.04	4.61	0.26	0.56	0
Boru	ONG-ADIGINE	22	1.85	0.49	0.35	0.08	0.03	2.81	0.04	0.57	0
Adigine	ONG-ADIGINE	26	1.46	0.46	0.53	0.46	0.05	4.01	0.46	0.55	0
Zhoru	ONG-ADIGINE	57	1.38	0.51	0.78	0.06	0.02	8.66	0.08	0.57	0
Zhediger	ONG-TAGAY	47	2.03	0.35	0.58	0.25	0.02	2.21	0.31	0.55	0
Cherik	ONG-TAGAY	194	3.02	0.43	0.29	0.30	0.07	4.80	0.01	0.55	1
Aziq	ONG-TAGAY	118	3.49	0.42	0.51	0.17	0.12	2.56	0.27	0.56	0
Bugu	ONG-TAGAY	734	2.17	0.50	0.36	0.31	0.06	2.94	0.17	0.55	1
Mongoldor	ONG-TAGAY	318	2.95	0.44	0.51	0.26	0.11	4.21	0.19	0.55	1
Chekir-Sayaq	ONG-TAGAY	266	2.59	0.44	0.58	0.26	0.04	6.26	0.21	0.56	1
Sari-Bagish	ONG-TAGAY	712	2.83	0.45	0.58	0.31	0.06	2.92	0.31	0.56	1
Solto	ONG-TAGAY	531	2.68	0.49	0.82	0.27	0.21	3.96	0.55	0.56	1
Tynymseit	ONG-TAGAY	85	3.62	0.41	0.36	0.18	0.05	4.33	0.03	0.54	1
Bagish	ONG-TAGAY	61	1.42	0.51	0.70	0.27	0.03		0.37	0.56	1
Sayaq	ONG-TAGAY	689	2.44	0.48	0.44	0.19	0.07	3.93	0.17	0.56	1
Saruu	SOL	247	1.51	0.44	0.49	0.28	0.08	1.39	0.32	0.55	0
Tebey	SOL	18	4.52	0.40	0.32	0.13	0.07	1.58	0.16	0.56	0
Zhetigen	SOL	91	2.44	0.43	0.55	0.27	0.12	4.58	0.13	0.55	1
Basiz	SOL	60	1.42	0.52	0.62	0.13	0.01	3.17	0.10	0.57	0
Qitay	SOL	108	1.88	0.39	0.61	0.38	0.11	5.06	0.56	0.56	1
Munduz	SOL	28	2.83	0.47	0.73	0.24	0.02		0.26	0.54	0
Qushchu	SOL	62	1.92	0.56	0.56	0.29	0.08	3.82	0.23	0.55	1

Correlation in tribe level characteristics

	herd size / cap	horses / herd size	cultivated area / cap	share sedentary hh	share hh supplying labour	hay stack / animal	share hh w/ alfalfa	men / (men + women)	pre-russian nomads?
herd size / cap	1								
horses / herd size	-0.1267	1							
cultivated area / cap	-0.0892	0.0673	1						
share sedentary hh	-0.2004	-0.2933	0.1105	1					
share hh supplying labour	0.2716	0.1243	0.5332*	-0.0694	1				
hay stack / animal	0.0552	-0.0115	0.255	-0.165	0.0322	1			
share hh w/ alfalfa	-0.086	-0.0603	0.7787*	0.2907	0.6650*	-0.1273	1		
men / (men + women)	0.0377	0.1767	0.1773	-0.3475*	-0.0607	0.1877	-0.0284	1	
pre-russian nomads?	0.4425*	0.3646*	-0.1212	-0.0592	0.2366	0.2493	-0.0461	0.0457	1