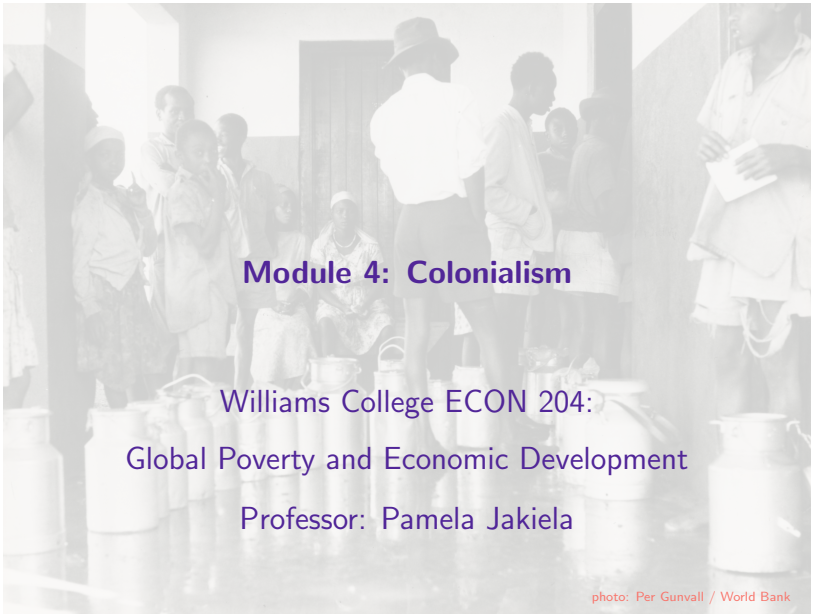


Module 4: Colonialism

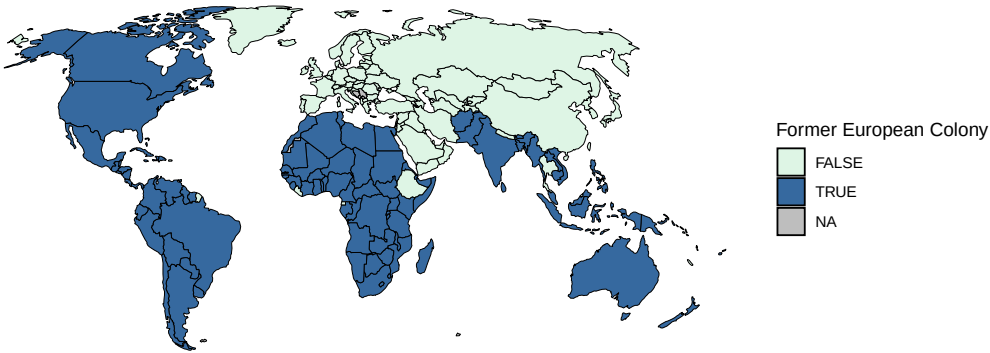
Williams College ECON 204:

Global Poverty and Economic Development

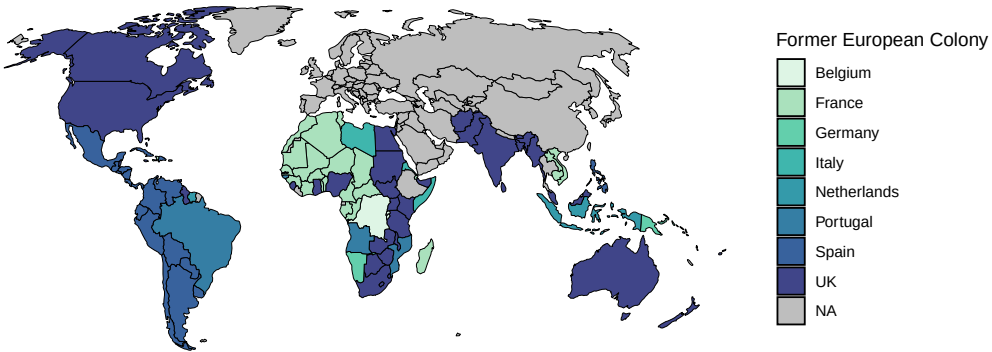
Professor: Pamela Jakiela

photo: Per Gunvall / World Bank

Fact #1: Most of the World Was Colonized by Europe



Fact #2: Different Countries Had Different Experiences with Colonialism



Fact #3: Colonialism Altered Who and What Exists Today

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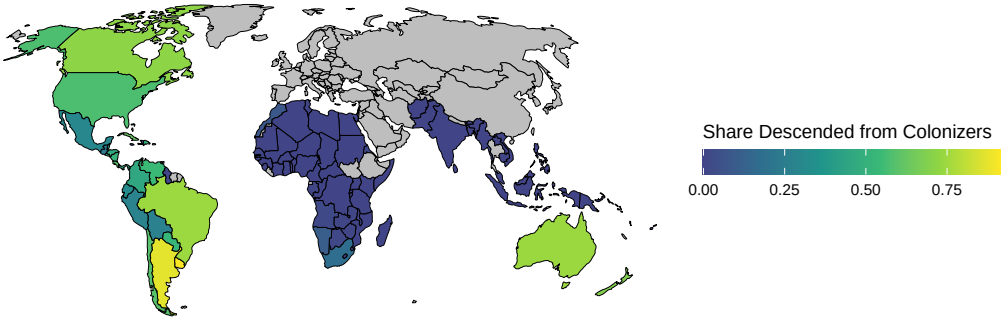

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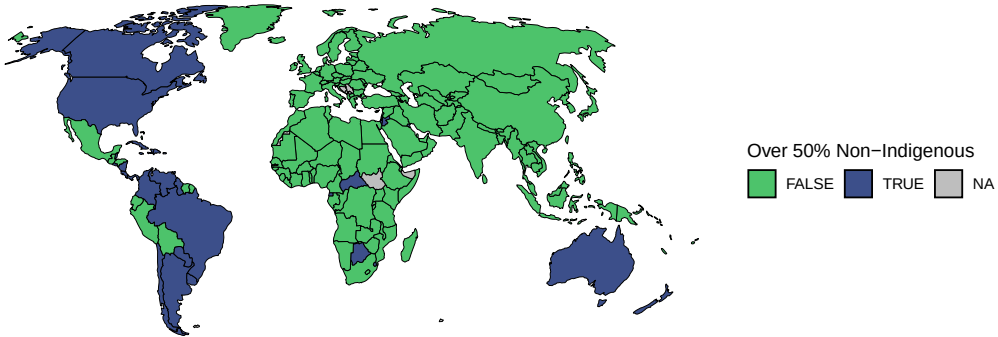


What Is the Treatment? What Is the Counterfactual?

Economists refer to the thing that didn't happen, but could have, as the **counterfactual**

- If I want to know the impact of X, I have to estimate outcomes if X didn't happen
  - The (unobserved) thing that didn't happen is the counterfactual
- Estimating causal impacts always involves comparing treated to untreated (or more treated to less treated), hoping they are otherwise similar or (would have been w/o treatment)
  - Example: Nathan Nunn compared places more exposed to slave trade to less exposed places

The paradox of colonialism: no uncolonized (low-income country) comparison group

- In some cases, less colonial engagement might be worse than more engagement
- The best we can do (usually) is to compare colonial experiences (?)

How Did Colonialism Impact Development?

1. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998):
   "Law and Finance"

2. Acemoglu, Johnson, and Robinson (2001):
   "The Colonial Origins of Comparative Development: An Empirical Investigation"

3. Sokoloff and Engerman (2000):
   "Institutions, Factor Endowments, and Paths of Development in the New World"

Why Would Colonial History (Still) Matter?

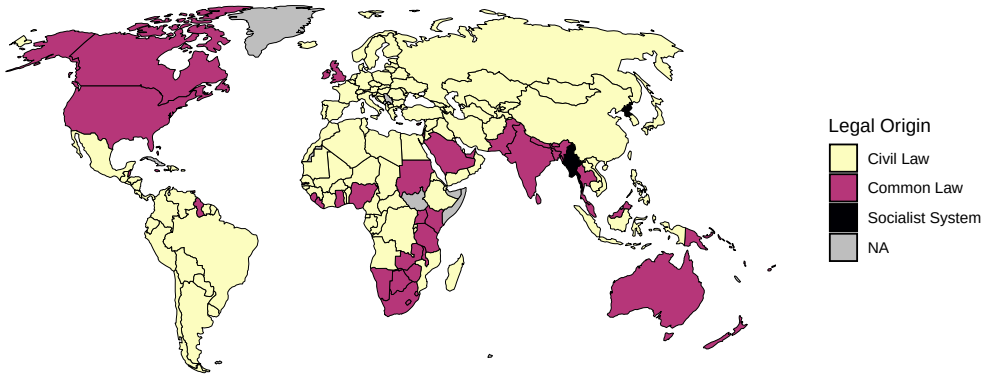
Institutions: "the rules of the game in society" (North 1990)

- Formal institutions: government, laws, constitutions, etc.
- Informal institutions: cultural norms, beliefs, rules-of-thumb, etc.
- Influence incentives to invest and trade (through property rights, trust, etc.)

Institutions change slowly ("institutional inertia")

- Many current borders reflect colonial boundaries
- Most countries did not completely replace court systems, tax codes, etc. at independence
- Cultural practices are typically passed from one generation to the next

Legal Origins



The Legal Origins of Investor Protections

Common law (British system) vs. civil law (Roman/Napoleonic/German/Scandinavian)

- Common law is based on legal precedents, civil law on legislation and written statutes
- La Porta et al. (1998): laws protecting investors (vis-a-vis managers) and creditors are stronger in common law countries than in civil law (esp. French system) countries
- Greater investor protections $\Rightarrow$ more access to equity financing for firms (?)

Are former British colonies are wealthier than other former colonies (today)?

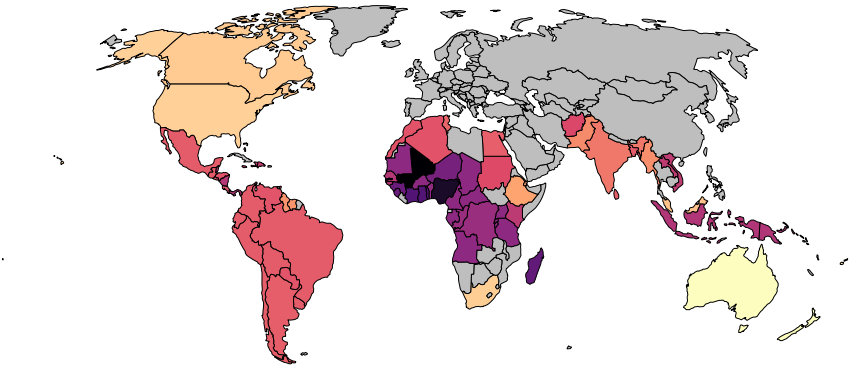
- If so, is it because of stronger investor protections?

Can the identity of the colonial power be used as an **instrument** for investor protection?

Do Legal Origins Explain Economic Development?

Countries:	All	Former Colonies	Former Colonies	Former Colonies
	(1)	(2)	(3)	(4)
Common law	-0.071	0.514**		0.184
	(0.184)	(0.211)		(0.331)
British colony			0.536**	0.376
			(0.209)	(0.327)
Observations	180	96	96	96

Settler Mortality



Settler Mortality and Protection of Property Rights

Colonial settlers created institutions that protected (their) property rights

- Disease environment $\rightarrow$ settler mortality $\rightarrow$ extractive institutions
- Acemoglu, Johnson, and Robinson (2001) use settler mortality as an instrument for good institutions (specifically, protection of property rights, lack of expropriation risk)
- Argue settler colonialism led to good institutions, extractive colonialism to bad institutions

Proposed causal pathway:

- $\downarrow$ settler mortality $\rightarrow \uparrow$ settlers $\rightarrow$ institutions to protect settlers' property $\rightarrow$ growth

What are the potential problems with their argument?

Factor Endowments and Wealth Inequality

Motivating example: Jamaica vs. Canada

- Jamaica was a British colony, economy based on sugar plantations staffed by slaves
- Settler mortality in Jamaica was just above the mean/median in AJR sample of countries
- Agroecological conditions made it suitable for sugar cultivation (using slave labor)
- Jamaica was the most unequal place on Earth in 1774 (Panza et al. 2017)

Engerman and Sokoloff (1997) argue that plantation agriculture was individually profitable for landowners, but led to the development of "bad" institutions that preserved wealth inequality

- Geography $\rightarrow$ sugar plantations $\rightarrow$ land/wealth inequality $\rightarrow$ lack of inclusive institutions
- Example: more limits on the franchise in the 1900s in former plantation economies

Factor Endowments and Wealth Inequality

Evidence that does not support Engerman and Sokoloff's hypothesis:

- Looking across Caribbean island economies, Nunn (2008) finds that both plantation slavery and **non-plantation slavery** are associated with lower income per capita in the present
- Acemoglu, Bautista, Querubin, and Robinson (2008) find that 19^{th} century land inequality in Cundinamarca, Colombia, is **positively** correlated with school enrollment today
- Consistent with Dell and Olken (2020), who find that areas of Java where Dutch built sugar factories, forced farmers to grow sugar are wealthier today than surrounding areas

Potential interpretations:

- Slavery is bad (for long-run development), whether or not it involves plantations
- When institutions are weak, ruling elite can lobby for public goods provision
- Dynamic effects of inequality on long-run growth/development are context-specific

Colonialism: Natural Experiments

Three studies estimating the impacts of colonialism:

- Feyrer and Sacerdote (2009): islands
- Banerjee and Iyer (2010): land revenue systems in British India
- Donaldson (2018), Burgess and Donaldson (2012): railroads in British India

Islands as Natural Experiments

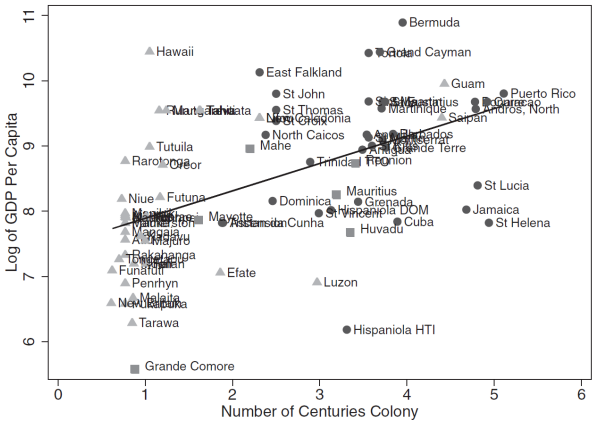
Feyrer and Sacerdote (2009): compile data set on 81 small, tropical islands

- Colonized between 1492 (Haiti) and 1916 (Funafuti)
- Earliest colonies (particularly in the Caribbean) were dominated by sugar plantations
- Earlier colonization meant more years of imperial trade

Empirical specification: regress **log income in 2000** on **years as a colony**

- Treat years colonized as plausibly exogenous (natural experiment)
- Control for ocean absolute latitude, land area
- Also show results using wind-related variables as instruments for discovery

Islands as Natural Experiments



Islands as Natural Experiments

	(1) Log GDP per Capita	(2) Log GDP per Capita	(3) Log GDP per Capita—IV	(4) Log GDP per Capita	(5) Log GDP per Capita—IV	(6) Log GDP per Capita	(7) Log GDP per Capita—IV	(8) Infant Mortality per 1,000	(9) Infant Mortality per 1,000—IV
Number of centuries a colony	0.42 (0.076)***	0.491 (0.110)***	0.712 (0.253)***					−3.885 (1.472)**	−13.47 (5.434)**
First year a colony				−0.456 (0.112)***	−0.883 (0.354)**	−0.342 (0.108)***	−0.626 (0.304)**		
Final year a colony						0.409 (0.755)	0.527 (0.874)		
Remained a colony in 2000						0.954 (0.311)***	0.81 (0.373)**		
Abs (latitude)		0.053 (0.012)***	0.054 (0.011)***	0.06 (0.012)***	0.068 (0.016)***	0.038 (0.012)***	0.046 (0.015)***	−0.797 (0.207)***	−0.841 (0.225)***
Area in millions of sq km		−20.374 (3.894)***	−21.738 (3.970)***	−26.34 (5.142)***	−34.764 (8.252)***	−15.071 (5.383)***	−20.769 (7.148)***	266.288 (147.186)*	325.479 (138.716)**
Island is in Pacific		0.752 (0.464)	1.018 (0.559)*	0.782 (0.510)	1.364 (0.762)*	0.664 (0.491)	1.043 (0.641)	−8.476 (9.329)	−20.036 (14.379)
Island is in Atlantic		0.425 (0.395)	0.188 (0.477)	0.471 (0.396)	0.019 (0.568)	0.319 (0.383)	0.043 (0.481)	−5.161 (8.540)	5.14 (8.501)
Constant	7.472 (0.205)***	6.033 (0.552)***	5.484 (0.834)***	15.026 (1.872)***	22.302 (5.894)***	4.879 (15.218)	7.406 (17.308)	44.914 (11.085)***	68.754 (21.610)***
Observations	81	81	81	81	81	81	81	81	81
R-squared	0.273	0.527	0.498	0.488	0.396	0.655	0.616	0.371	0.063

We regress Log GDP per capita and infant mortality on the number of years the island spent as a colony of a European power. Columns 1, 2, 4, 6, and 8 are OLS. Columns 3, 5, 7, and 9 are two-stage least squares where we instrument for centuries of colonial rule or the first year as a colony using the twelve-month average and standard deviation of the east-west wind speed for each island. In the IV columns, we do not instrument for final year a colony or "remained a colony" in 2000. We obtain similar IV results when we use LIML rather than two-stage least squares.

Robust standard errors in parentheses. We cluster at the island group level since several of the islands (such as the Cook Islands and the Federated States of Micronesia) are used as separate observations from a cluster of politically related yet geographically distinct islands.

*significant at 10%; **significant at 5%; ***significant at 1%.

source: Feyrer and Sacerdote (2009)

Islands as Natural Experiments

	(1) Number Centuries a Colony	(2) Log GDP per Capita	(3) First Year a Colony	(4) Log GDP per Capita	(5) First Year a Colony	(6) Log GDP per Capita	(7) Infant Mortality per 1,000
East-west vector of wind	−0.236	−0.167	0.184	−0.167	0.173	−0.11	3.198
	(0.070)***	(0.071)**	(0.073)**	(0.071)**	(0.069)**	(0.062)*	(0.884)***
Monthly standard dev. of east-west vector	0.508	0.395	−0.273	0.395	−0.258	0.193	−6.296
	(0.238)**	(0.271)	(0.208)	(0.271)	(0.222)	(0.246)	(3.444)*
Final year a colony					0.615	0.083	
					(1.370)	(0.991)	
Remained a colony after 2000					−0.472	1.122	
					(0.532)	(0.381)***	
Abs(latitude)	0.015	0.064	0.002	0.064	0.009	0.04	−1.045
	(0.013)	(0.014)***	(0.015)	(0.014)***	(0.016)	(0.014)***	(0.189)***
Area in millions of sq km	8.532	−15.606	−21.322	−15.606	−19.914	−8.544	211.544
	(4.671)*	(4.664)***	(4.251)***	(4.664)***	(8.585)**	(5.757)	(150.690)
Island is in Pacific	−1.494	−0.033	1.625	−0.033	1.579	0.063	0.292
	(0.354)***	(0.524)	(0.422)***	(0.524)	(0.420)***	(0.498)	(8.445)
Island is in Atlantic	0.782	0.778	−0.716	0.778	−0.678	0.494	−4.836
	(0.362)**	(0.553)	(0.409)*	(0.553)	(0.427)	(0.531)	(8.572)
Constant	0.756	5.968	18.172	5.968	6.008	4.746	57.651
	(0.833)	(0.913)***	(0.926)***	(0.913)***	(27.032)	(19.224)	(14.206)***
Observations	81	81	81	81	81	81	81
R-squared	0.681	0.435	0.737	0.435	0.744	0.62	0.425
F statistic for Instruments	5.81	3.06	3.18	3.06	3.15	1.61	6.75
p-value	.005	.055	.049	.055	.050	0.208	.002

Columns 1, 3, and 5 are the first-stage regressions corresponding to columns 3, 5, and 7 in table 2. Columns 2, 4, 6, and 7 are the reduced forms for columns 3, 5, 7, and 9 in table 2. Table 2 column 9 has the same first stage as table 2 column 3. *F*-statistics in the first-stage columns are for the instruments alone. We obtain similar IV results when we use LIML rather than two-stage least squares.
Robust standard errors in parentheses. Standard errors are clustered at the island group level.
*significant at 10%; **significant at 5%; ***significant at 1%.

source: Feyrer and Sacerdote (2009)

Islands as Natural Experiments

	(1) Log GDP per Capita	(2) Log GDP per Capita—IV	(3) Log GDP per Capita	(4) Log GDP per Capita
Centuries a colony before 1700	−0.152	−1.338	−0.020	−0.097
	(0.177)	(0.810)	(0.210)	(0.221)
Centuries a colony after 1700	1.146	1.915		
	(0.163)***	(0.604)***		
Centuries a colony 1700–1900			0.840	0.875
			(0.244)***	(0.233)***
Centuries a colony after 1900			2.246	−0.354
			(0.536)***	(0.975)
Remained a colony in 2000				1.070
				(0.346)***
Abs (latitude)	0.049	0.032	0.044	0.036
	(0.011)***	(0.018)*	(0.011)***	(0.011)***
Area in millions of sq km	−14.990	0.660	−6.892	−17.582
	(6.370)**	(16.164)	(7.547)	(6.425)***
Island is in Pacific	1.295	1.709	1.005	1.090
	(0.391)***	(0.618)***	(0.429)**	(0.415)**
Island is in Atlantic	0.316	0.455	0.310	0.304
	(0.337)	(0.573)	(0.336)	(0.338)
Constant	4.843	3.827	4.353	6.218
	(0.493)***	(1.174)***	(0.580)***	(0.759)***
Observations	81	81	81	81
R-squared	0.638	0.385	0.663	0.693

Columns 1, 3, and 4 are OLS. Column 2 instruments for centuries a colony before and after 1700 using the east and north vectors of wind and their standard deviations.
Robust standard errors in parentheses. Standard errors are clustered at the island group level.
*significant at 10%; **significant at 5%; ***significant at 1%.

source: Feyrer and Sacerdote (2009)

Islands as Natural Experiments: Takeaways

An additional century as a European colony is associated with (and may have caused) an approximately 50 percent increase in income per capita in 2000

- Effect driven by years as a colony after 1700
- Years as a Spanish or Portuguese island colony did not increase income
- Effects driven by British, French, and Dutch colonies
- Implication: in some cases, colonization was good for economic development

There are some important caveats, however:

- Generalizability: result is specific to small, island colonies
- Describes incomes of people alive today, not incomes of indigenous populations