

Appendix - For online publication

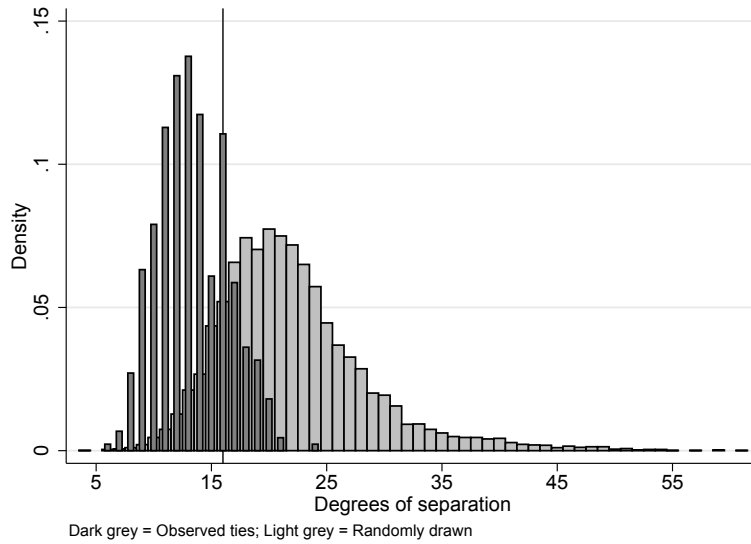
Figure A1: Sample of comparative revenue statement for Fiji 1854 (Blue Book)

[30] COMPARATIVE YEARLY STATE.

Specify each separate Tax or Duty.	Amount collected in the Year 1854 in Pounds Sterling.		Amount collected in the Year 1853 in Pounds Sterling.	
	£	s. d.	£	s. d.
Customs Revenue	69,412	5 7	69,756	9 4
Light Dues . . .	2,358	12 7	2,437	10 3
Rents of Crown Lands Proceeds of Crown Lands and Rents deemed	821	14 3	721	11 7
Licence Fund Fines and Forfeitures . . .	789	1 5	1,152	8 2
Fees from Public Officers	334	18 7	565	17 8
From North American (Clergy) Estimate . . .	300	-	300	-
Raised by Loan under Colonial Acts . . .	6,000	-	2,425	-
Treasury Notes . . .	-	-	3,466	13 4
Loan from Savings Bank	-	-	12,403	9 4
From Estate of late Governor	-	-	300	-
Postal Revenue . . .	261	1 4	309	8 2
Patents	10	-	20	-
Cashier of Savings Bank	65	-	-	-
Telegraph (Labourers)	620	5 5	-	-
Through Post Office . . .	3	9 4	-	-
Norwegian Brig Bunde	30	18 4	-	-
Total	81,007	6 10	93,857	17 10

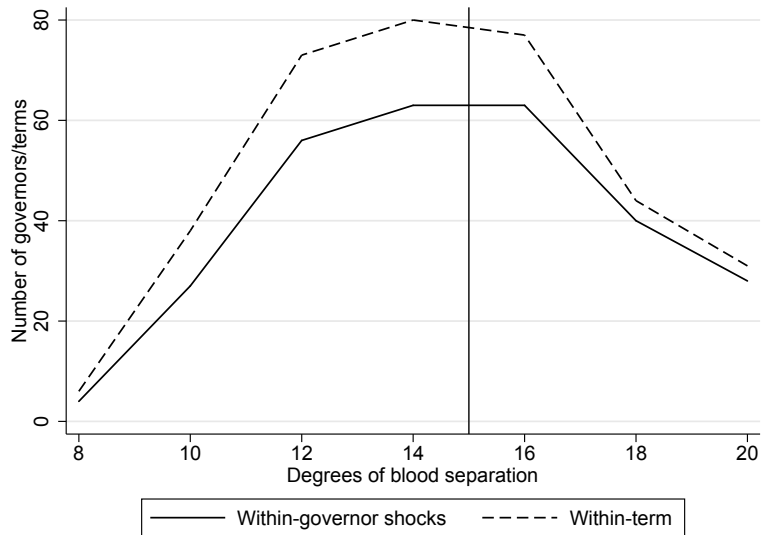
Notes: Sample of comparative revenue statement for Fiji 1854 from the Blue Book. Each row records the revenue for a specific source (e.g. customs revenue). The two columns report the revenue in the current (1854) and the previous year (1853).

Figure A2: Distribution of degrees of separation and cut-off



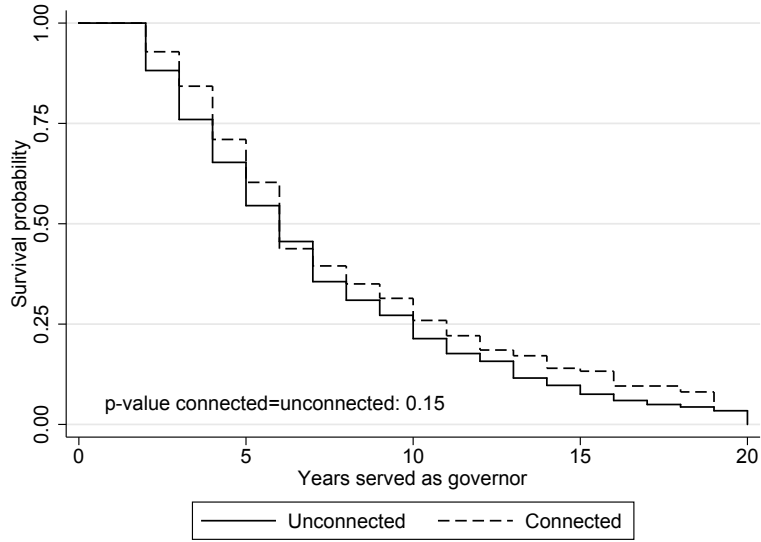
Notes: Dark grey is the distribution of observed degrees of separation in the Colonial Office, light grey is the distribution for randomly drawn pairs from the population of the Peerage dataset. Vertical line marks the 16 degrees of separation cut-off.

Figure A3: Size of switcher sample and cut-off for shared ancestry



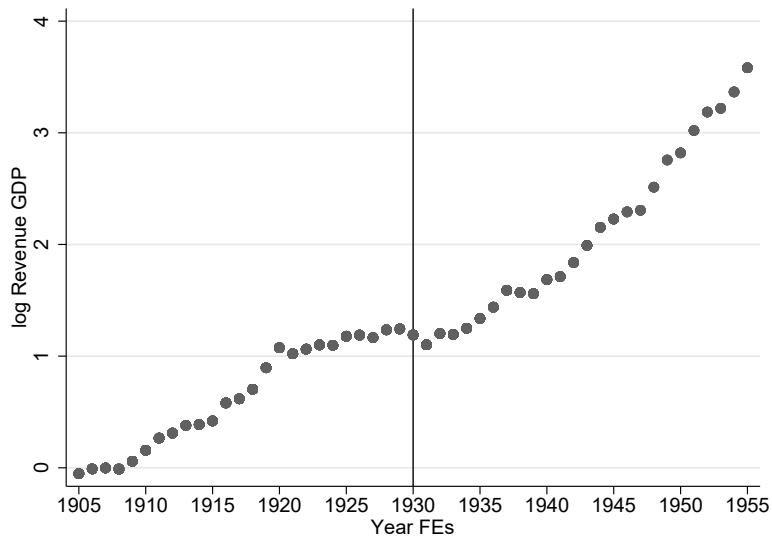
Notes: Number of governors/governor-colony spells that experience a within-shock to connections as a function of the cut-off for connectedness

Figure A4: Retirement by connectedness - Survival estimates



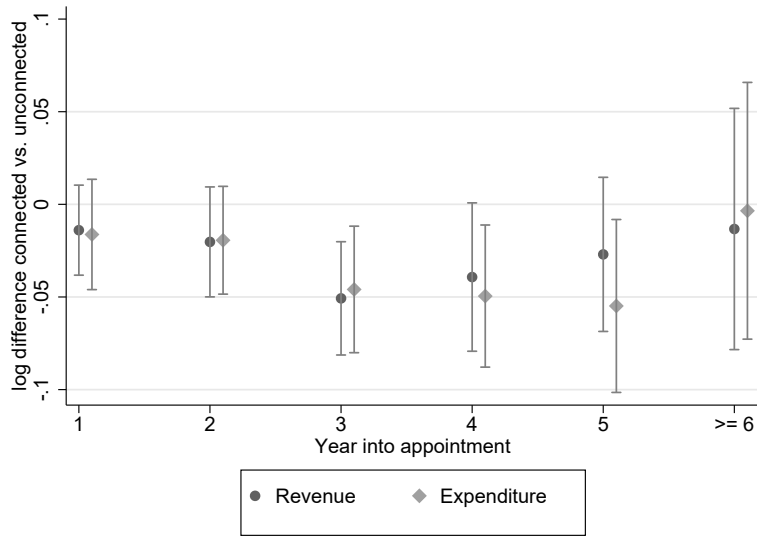
Notes: Kaplan-Meier survival estimates. Absorbing state is retirement from Colonial Office. Reporting the p -value for test of equality of survivor functions.

Figure A5: Revenue performance over time - Year FEs



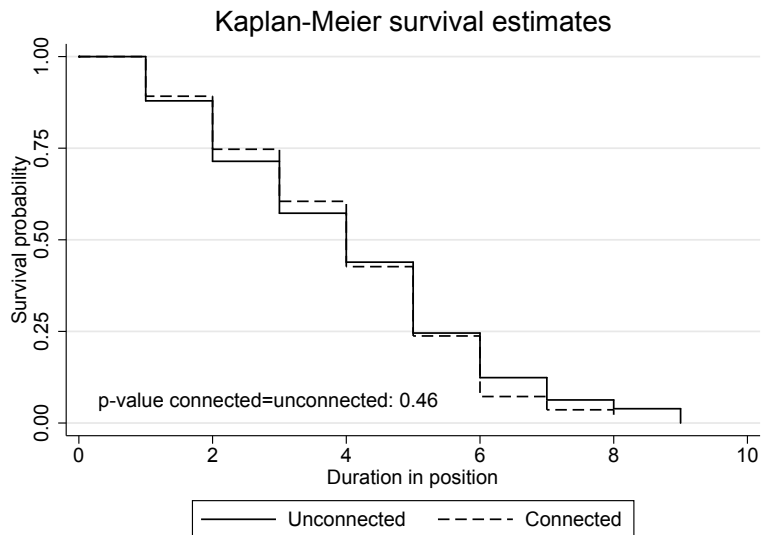
Notes: Reporting year FEs (τ_t) for a regression of (log) total revenue on position FEs and year FEs, i.e. $y_{ist} = \mu_{is} + \tau_t + \varepsilon_{ist}$.

Figure A6: Fiscal performance and connectedness by year into appointment



Notes: Impact of connectedness on (log) revenue and expenditure by year into appointment. Reporting 90% confidence intervals.

Figure A7: Exit (governor-colony) by connectedness - Survival estimates



Notes: Kaplan-Meier survival estimates. Absorbing state is exit from position. Reporting the p -value for test of equality of survivor functions.

Figure A8: Sample of trade tax exemption laws (Blue Book)

9

Specification of Taxes, Duties, &c.

Act of Colonies which levied.

EXEMPTIONS.—Continued.

Machinery.—Under Ordinance No. 2 of 1859, and Minute of 8th June, 1865.

All descriptions of Marine, Locomotive, Stationary, and Portable Steam Engines, their Boilers, and Gear, whole, or in parts	} Free.
Machinery adapted to Windmills	
Every description of Machinery for lifting, forcing, and conducting water	
Machinery for the manufacture of Sugar, Hydraulic, and Screw presses	
Cranes, Crab Winches, and Screw Jacks	
Pulpers, Peelers, and Winnowing Machines, whole, or in parts	
Tile, Brick, and Pipe making machines	
Printing and Lithographic Presses	
Fibre, Cotton Carding, Weaving and Spinning Machines	
Nasmyth's Hammers	
Lathes	
Punching, Drilling, Shearing, Planing, Sawing, and Screw making Machines	
All materials and plant imported for the construction of the Railway between Colombo and Kandy, certified by the Chief Resident Engineer as required for that purpose	
Manures	
Paper	
Pepper, Black	
Regimental Clothing, Necessaries, and Accoutrements, imported for the use of Her Majesty's Land and Sea Forces	
Seeds intended for Agricultural and Horticultural purposes, including Plants	
Specimens illustrative of Natural History	
Tanks (Iron)	
Whale Oil	

Ordinances No. 18 of 1852, No. 9 of 1853, No. 2 of 1856, No. 2 of 1859, and No. 3 of 1862.

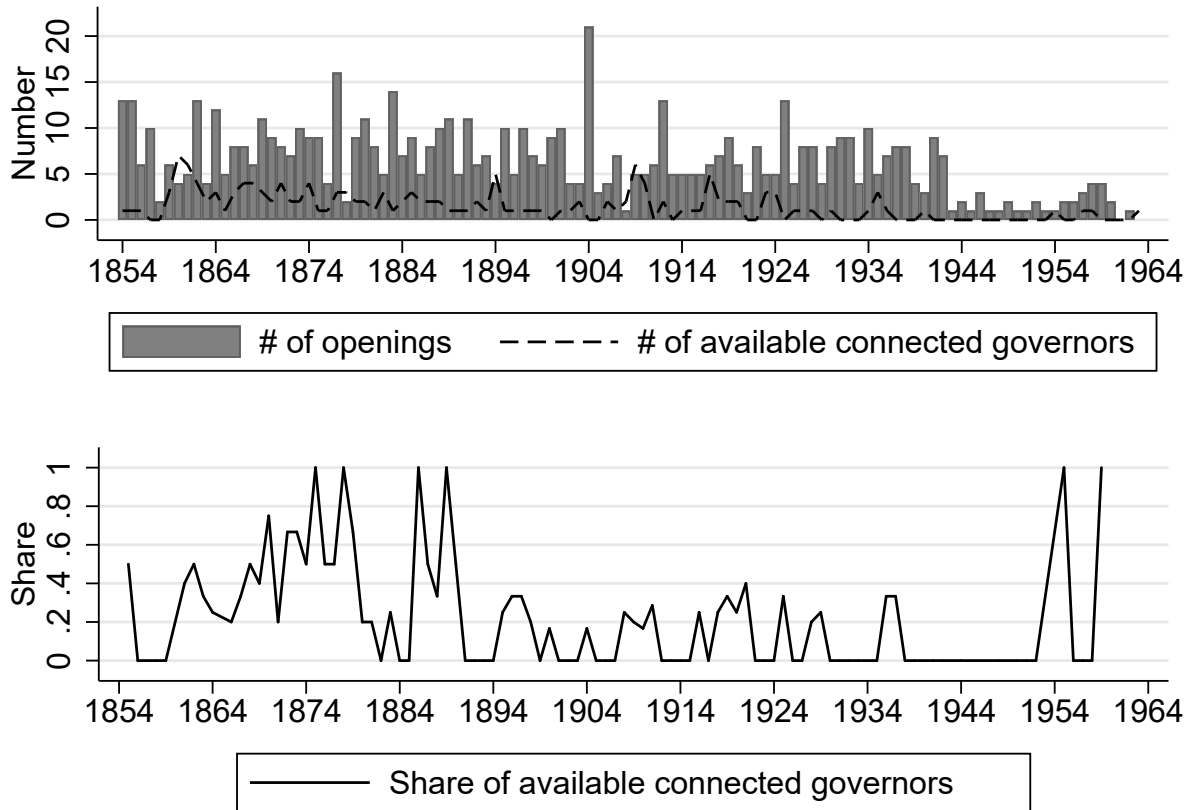
EXPORT DUTIES.

DUTIES OF CUSTOMS payable on Goods, Wares, and Merchandize, being the Growth, Produce, or Manufacture of the Island of Ceylon, exported to parts beyond seas.

ARTICLES.	RATE OF DUTY.		
	£	s.	d.
Arrecanuts	-	-	- the cwt. 0 0 4
Cinnamon	-	-	- the Bale of 100 lbs. net. 0 2 0
Coffee	-	-	- the cwt. 0 1 0
Coin Yarn, Fibre, Rope, and Junk	-	-	- the cwt. 0 0 3

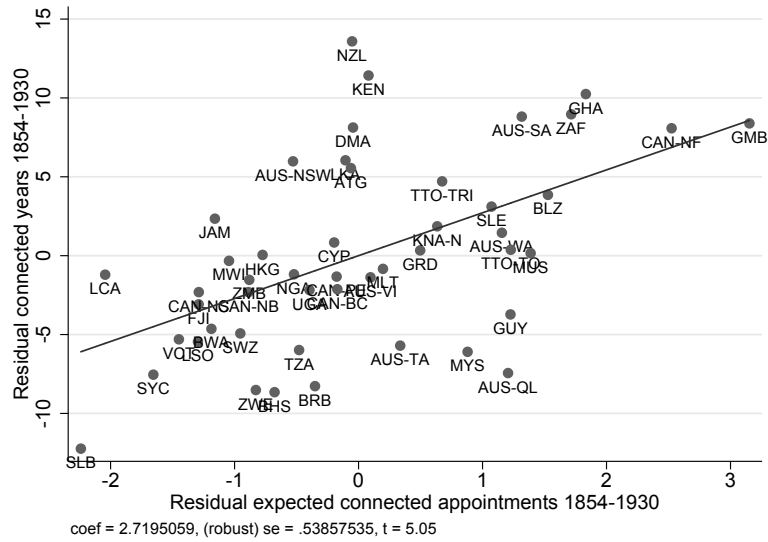
Notes: Sample of customs tax exemptions laws from the 1869 Ceylon Blue Book.

Figure A9: Share of available connected governors - breaking down sources of variation



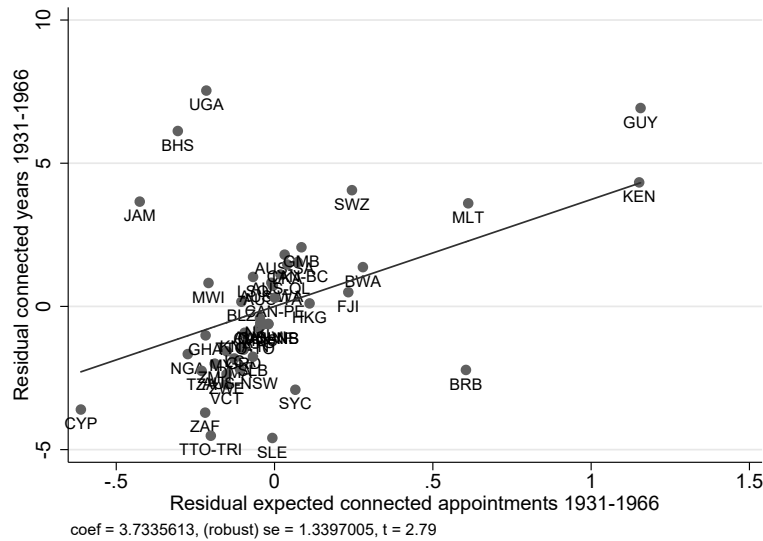
Notes: Showing the sources of variation for the instrument described in equation (5). Top figure shows the number of governorships that need to be filled (i.e. are beyond the statutory six year term limit, $\sum_i \mathbf{1}[T_{it} \geq 6]$) and the number of available connected governors (i.e. those who are connected and beyond the statutory six year term limit, $\sum_i \mathbf{1}[T_{it} \geq 6] \times c_{it}$). Bottom figure shows the share of available connected governors (i.e. the number of available connected governors divided by the total number of serving governors, $p_{it} = (\sum_i \mathbf{1}[T_{it} \geq 6] \times c_{it}) / (\sum_i \mathbf{1}[T_{it} \geq 6])$).

Figure A10: Connected years and expected number of appointments 1854-1930 (First stage)



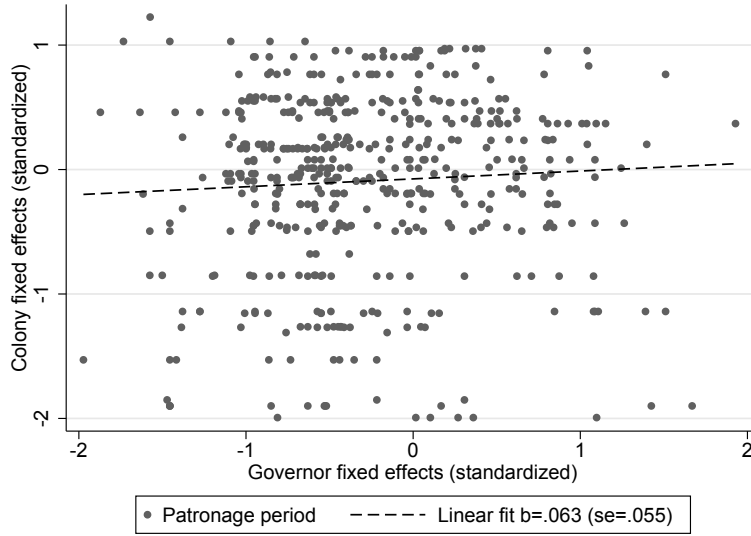
Notes: Partial correlation between the connected years and the expected number of appointments 1854-1930, first-stage, controlling for the years under British rule, (log) initial governorship salary, the share of land area within tropics and absorbing continent fixed effects. Robust standard errors.

Figure A11: Connected years and expected number of appointments 1931-1966 (First stage)



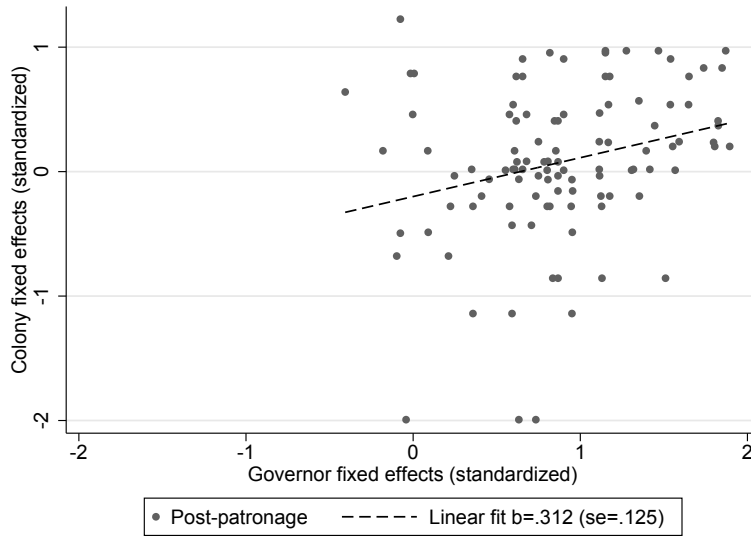
Notes: Partial correlation between the connected years and the expected number of appointments 1931-1966, first-stage, controlling for the years under British rule, (log) initial governorship salary, the share of land area within tropics and absorbing continent fixed effects. Robust standard errors.

Figure A12: Matching assortativeness before the removal of patronage



Notes: The relationship between colony and governor fixed effects for the patronage period (1854-1930). Reporting the estimated slope and corresponding robust standard errors.

Figure A13: Matching assortativeness after the removal of patronage



Notes: The relationship between colony and governor fixed effects for the post-patronage period (1931-1966). Reporting the estimated slope and corresponding robust standard errors.

Table B1: British colonies and territories ($N = 70$)

Colony	Start	End	Modern territory (+ marks still dependent)
Antigua	1854	1871	Part of Antigua & Barbuda
Bahamas	1854	1964	Bahamas
Barbados	1854	1884	Barbados
Basutoland	1884	1946	Lesotho
Bechuanaland	1891	1941	Botswana
Bermuda	1854	1941	Bermuda+
British Columbia	1860	1866	Province of Canada
British Guiana	1854	1966	Guyana
British Honduras	1854	1942	Honduras
Cape of Good Hope	1854	1908	Part of South Africa
Cayman Islands	1919	1939	Cayman Islands+
Ceylon	1854	1944	Sri Lanka
Cyprus	1879	1955	Cyprus
Dominica	1856	1932	Dominica
Falkland Islands	1854	1959	Falkland Islands (Islas Malvinas)+
Fiji	1876	1940	Fiji
Gambia	1854	1945	Gambia
Gibraltar	1854	1947	Gibraltar+
Gold Coast	1850	1946	Ghana
Grenada	1854	1946	Grenada
Heligoland	1854	1889	Part of Germany
Hong Kong	1854	1959	Hong Kong (SAR, PR China)
Ionian Islands	1854	1863	Part of Greece
Jamaica	1854	1960	Jamaica
Kenya	1922	1962	Kenya
Labuan	1856	1887	Part of Malaysia

Lagos	1862	1904	Part of Nigeria
Leeward Islands	1885	1945	Dissolved into Antigua & Barbuda, British Virgin Islands, Montserrat, St. Kitts & Nevis, Anguilla and Dominica
Malta	1854	1960	Malta
Mauritius	1854	1946	Mauritius
Montserrat	1858	1888	Montserrat+
Natal	1854	1907	Part of South Africa
Nevis	1854	1882	St. Kitts & Nevis
New Brunswick	1854	1865	Province of Canada
New South Wales	1854	1901	State of Australia
New Zealand	1854	1920	New Zealand
Newfoundland	1855	1932	Province of Canada
Nigeria	1914	1939	Nigeria
Northern Nigeria	1900	1913	Unified as Nigeria after 1913
Northern Rhodesia	1924	1948	Zambia
Nova Scotia	1854	1866	Province of Canada
Nyasaland	1903	1938	Malawi
Palestine	1921	1944	Israel, State of Palestine
Prince Edward Island	1854	1871	Province of Canada
Queensland	1860	1901	State of Australia
Seychelles	1903	1939	Seychelles
Sierra Leone	1854	1943	Sierra Leone
Solomon Islands	1920	1941	Solomon Islands
Somaliland	1902	1938	Somalia
South Australia	1854	1902	State of Australia
Southern Nigeria	1900	1913	Unified as Nigeria after 1913
Southern Rhodesia	1924	1932	Zimbabwe
St. Christopher	1854	1893	St. Kitts & Nevis

St. Helena	1854	1958	St. Helena, Ascension & Tristan da Cunha+
St. Lucia	1854	1959	St. Lucia
St. Vincent	1854	1986	St. Vincent & Grenadines
Straits Settlements	1865	1938	Malaysia
Swaziland	1906	1947	Swaziland
Tanganyika	1920	1961	Tanzania
Tasmania	1854	1909	State of Australia
Tobago	1854	1898	Part of Trinidad & Tobago
Trinidad	1854	1899	Part of Trinidad & Tobago
Trinidad & Tobago	1899	1945	Trinidad & Tobago
Turks & Caicos	1851	1946	Turks & Caicos
Uganda	1901	1945	Uganda
Vancouver Island	1862	1863	Part of Canada
Victoria	1855	1899	State of Australia
Virgin Islands	1856	1932	British Virgin Islands+
Western Australia	1854	1913	State of Australia
Zululand	1887	1986	Part of South Africa

Table B2: Determinants of governor salaries

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: log Governor salary in GBP					
Mean of dep. var	7.929	7.922	8.262	7.929	8.250	8.250
log Revenue in GBP	0.355*** (0.022)				0.279*** (0.042)	0.276*** (0.043)
log Population		0.295*** (0.041)			0.064* (0.035)	0.082** (0.037)
log Settler mortality			-0.113*** (0.040)		-0.001 (0.036)	-0.054 (0.055)
log Distance to London				0.164 (0.183)	-0.083 (0.131)	-0.402 (0.337)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Continent FEs	-	-	-	-	-	Yes
Observations	3,510	3,270	2,213	3,510	2,096	2,096
Within R^2	0.768	0.531	0.106	0.0136	0.730	0.760

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) salary in GBP paid to a governorship in a given year. (log) Revenue is the total annual revenue in the colony. (log) Population is the total population size in the colony. (log) Settler mortality is the log settler mortality rate from Acemoglu et al. (2001). (log) distance to London is the log distance (in km) to London from the colony's capital. Continent fixed effects include dummy for Africa, Europe, North America, Latin America, Asia and Oceania. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B3: Connectedness between Secretary of State and governor: Correlation matrix

	(1)	(2)	(3)	(4)	(5)
	Shared ancestry	Both aristocrats	Both Etonian	Both Oxbridge	Connected
(1) Shared ancestry	1.000	0.424	0.135	0.048	0.818
(2) Both aristocrats	0.424	1.000	0.252	0.120	0.392
(3) Both Etonian	0.135	0.252	1.000	0.083	0.273
(4) Both Oxbridge	0.048	0.120	0.083	1.000	0.482
(5) Connected	0.818	0.392	0.273	0.482	1.000

Notes: Unit of observation is the Secretary of State-governor pair ($N = 1,518$). Sample period 1854-1966. Reporting the correlation coefficient between the different measures of connectedness. Connected is the combined dummy that is 1 if the governor and Secretary of State share either common ancestry, are both aristocrats, both went to Eton or both studied at Oxford or both at Cambridge.

Table B4: Within-governor - switcher sample

	(1)	(2)	(3)	(4)
	Mean	Demeaned within governor Connected	Unconnected	<i>p</i> -value diff
Total years served	7.379	0.054 (4.619)	-0.072 (4.290)	0.764
Duration in position	2.369	0.049 (1.943)	-0.066 (1.823)	0.357
Transfer	0.108	-0.008 (0.289)	0.011 (0.322)	0.191
Retire	0.098	-0.007 (0.282)	0.009 (0.301)	0.322
Observations	977 (28%)	559	418	
Number of governors	96 (21%)			

Notes: Average characteristics (demeaned within governor) for the same governor when connected and unconnected. Showing mean and standard deviations (in parentheses). Total years served is the total years served as a governor in the Colonial Office. Duration in position is the years in the current governorship. Transfer is a dummy that is 1 if the governor was transferred to another colony. Retire is a dummy that is 1 if the governor exited the Colonial Office. *p*-value for mean comparison is computed with robust standard errors, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B5: Descriptive statistics between within-governor switchers and always/never connected

	(1)	(2)	(3)	(4)
	Full governor sample $N = 456$		Mean difference connection switching ($N = 96$) –	
	Mean	Standard deviation	Always connected	Never connected
Peerage	0.085	0.280	-0.422***	0.024*
Civil servant	0.274	0.446	0.173**	0.198***
Military	0.360	0.480	0.275**	-0.065
Politician	0.087	0.283	-0.186	0.058**
Eton	0.109	0.312	-0.126*	0.154***
Oxford	0.178	0.383	-0.038	0.250***
Cambridge	0.150	0.358	-0.001	0.138***
Age at entry	49.153	9.855	-0.219	-1.638
Age at retirement	56.697	9.054	3.902***	1.663
Years served	7.697	5.410	3.537***	3.036***
Colonies served	1.793	1.263	0.858***	1.832***
Average salary	3655.38	2148.62	-709.848**	1213.911***
Highest salary	4085.20	2379.15	-495.494	1585.237***
Lowest salary	3205.70	2158.85	-1128.178***	738.612***
Award received	0.020	0.058	-0.009	0.003
Years connected	2.317	4.368	-0.817	5.822***

Notes: Descriptive governor characteristics: mean, standard deviation (in parentheses) and mean comparison between switchers and always connected governors (Column 3) and never connected governors (Column 4). Peerage is a dummy that is 1 if the governor is a Duke, Marquess, Earl, Viscount or Baron. Civil servant/military/politician are dummies that are 1 if the governor served as a civil servant/in the military/as a politician before assuming the first governorship. Eton/Oxford/Cambridge are dummies that are 1 if the governor was educated in the named institutions. Age at entry (retirement) is the age of the governor at time of first (last) governorship. Years served is the total number of years served as governor. Colonies served is the number of colonies served as governor. Average (highest/lowest) salary is the mean (highest/lowest) salary earned throughout the governor career. Award received is the share of governors who received the highest distinction of GCMG/GCB. Years connected is the total number of years connected to the Secretary of State. Number in parentheses denotes the minimum number of observations across all variables.

Table B6: Change in Secretary of State, political turnover and colony performance

	(1)	(2)	(3)	(4)
	New Secretary of State			
Mean of dep. var	0.366	0.366	0.361	0.361
New Party $t - 1$	0.462*** (0.11)			0.485** (0.23)
New Prime Minister $t - 1$		0.336*** (0.10)		0.007 (0.21)
Revenue growth $t - 1$			0.462 (0.94)	0.702 (0.96)
Decade FEs	11	11	11	11
Linear trend	Yes	Yes	Yes	Yes
Observations	109	109	108	108

Notes: Unit of observation is the year. Sample period 1854-1966. Dependent variable is a dummy for whether a new Secretary of State was appointed in given year. New party (New Prime Minister) is a dummy if the ruling party (prime minister) came to power in a given year. Revenue growth is the average revenue growth in the colonies. All explanatory variables are lagged (contemporaneous effects are all insignificant). Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B7: Within-appointment - switcher sample

	(1)	(2)	(3)	(4)
	Demeaned within position			p -value
	Mean	Connected	Unconnected	diff
Total years served	5.907	0.012 (1.898)	-0.016 (1.800)	0.876
Duration in position	2.543	0.010 (1.877)	-0.014 (1.782)	0.895
Transfer	0.086	-0.003 (0.252)	0.004 (0.264)	0.718
Retire	0.104	-0.015 (0.267)	0.021 (0.309)	0.142
Exit (Transfer or retire)	0.182	-0.017 (0.360)	0.023 (0.397)	0.183
Observations	581 (17%)	333	248	
Number of governors	89 (20%)			
Number of governor-colonies	112 (15%)			

Notes: Average characteristics (demeaned within governor-colony/appointment) for the same governor in the same colony when connected and unconnected. Showing mean and standard deviations (in parentheses). Total years served is the total years served as a governor in the Colonial Office. Duration in position is the years in the current governorship. Transfer is a dummy that is 1 if the governor was transferred to another colony. Retire is a dummy that is 1 if the governor exited the Colonial Office. Exit is a dummy that is 1 if the governor exited the position (was either transferred or retired) p -value for mean comparison is computed with robust standard errors, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. $p < 0.01$.

Table B8: Promotions, connectedness and revenue performance

	(1)	(2)	(3)	(4)	(5)
		Promoted		Retire	Transfer
Mean of dep. var	0.0624	0.0624	0.0624	0.129	0.0706
Connected	-0.022 (0.022)	-0.033 (0.023)	-0.034 (0.023)	-0.021 (0.026)	-0.038* (0.023)
Average growth (%)	-0.001 (0.001)	-0.002* (0.001)	-0.002* (0.001)	0.003*** (0.001)	-0.002** (0.001)
End of term $\mathbf{1}[T_{it} \geq 6]$	0.100*** (0.027)	0.014 (0.034)	0.002 (0.035)	0.225*** (0.050)	0.000 (0.038)
Average growth (%) \times Connected		0.002 (0.002)	0.002 (0.002)	-0.000 (0.002)	0.002 (0.002)
End of term $\mathbf{1}[T_{it} \geq 6] \times$ Average growth (%)		0.013** (0.005)	0.015*** (0.005)	-0.014** (0.006)	0.014*** (0.005)
End of term $\mathbf{1}[T_{it} \geq 6] \times$ Connected		0.133* (0.068)	0.189** (0.080)	0.024 (0.104)	0.249*** (0.079)
End of term $\mathbf{1}[T_{it} \geq 6] \times$ Average growth \times Connected			-0.017 (0.013)	0.022 (0.017)	-0.021 (0.013)
Colony FEs	Yes	Yes	Yes	Yes	Yes
Governor FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Time varying controls	Yes	Yes	Yes	Yes	Yes
Spell length dummies	Yes	Yes	Yes	Yes	Yes
Observations	3,269	3,269	3,269	3,269	3,269

Notes: Replicating Jia et al. (2015). Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is a dummy for a promotion, as defined by being allocated to a higher salaried colony (Columns 1-3), a dummy for retiring from the colonial service (Column 4) and a dummy for being transferred (Column 5). Connected is a dummy that is 1 if the governor is connected to the Secretary of State. Average growth is the growth in revenue in the colony of the serving governor up to the given year in, defined as the (log) change in revenue between last year and the first year of appointment, normalized by $\times 100$ to ease readability. End of term is a dummy that is 1 if the governor is beyond the 5th year in the appointment. Time-varying controls comprise the number of colonies the governor has served in. Spell length FEs are dummies for each year of the term. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B9: Descriptive statistics: Modern outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>N</i>	Mean	SD	Percentile		
				25%	50%	75%
Connected years 1854-1930	48	12.979	12.767	1	9.5	19.5
Exp. # connected appointments 1854-1930	48	2.261	1.535	0.633	2.95	3.516
Connected years 1931-1966	49	2.959	4.082	0	0	5
Exp. # connected appointments 1931-1966	49	0.163	0.354	0	0	0.333
Tariff rate (weighted) in % (WITS)	48	7.060	5.795	1.9	7.205	10.38
Number of tariff lines in 1,000 (WITS)	44	73.716	73.323	24.362	41.226	107.812
Avg import-export reporting gap (WITS)	45	12.025	1.657	10.817	11.511	13.889
(log) Clearing customs 2015 (DB)	48	3.467	1.391	2.944	3.705	4.479
(log) Paying taxes 2015 (DB)	48	5.055	0.479	4.700	4.985	5.322
Tax/GDP 2010 (subnational)	48	19.760	8.604	13.635	18.725	24.148
Tax/GDP 2010 (country-level, ICTD)	49	20.331	7.306	13.531	22.572	26.195
Non-tax revenue/GDP 2010 (ICTD)	49	5.707	4.838	1.950	5.092	7.401
Direct tax revenue/GDP 2010 (ICTD)	49	9.755	5.940	5.454	7.819	15.581
Indirect tax revenue/GDP 2010 (ICTD)	49	10.499	4.777	7.576	9.231	13.109
Goods and sales tax revenue/GDP 2010 (ICTD)	48	7.348	2.958	5.150	7.187	9.009
Trade tax revenue/GDP 2010 (ICTD)	48	3.231	3.899	0.430	1.825	5.457

Notes: Unit of observation is the region/state. Descriptive statistics for the cross-section of modern-day outcomes for the sample of independent states. Connected years is the number of years under a connected governor in the colonial period 1854-1930. Expected # connected appointments is the number predicted using the share of available governors. Tariff rate is the weighted average tariff rate. Number of tariff lines is the total number of tariff lines in 1,000. Average import-export reporting gap proxies for the extent of customs misreporting, calculated as: $\log(\sum_i^N N^{-1} |X_{is} - Z_{is}|)$. WITS = World Integrated Trade Solutions database. Clearing customs is the days needed to clear customs, defined as the average days to comply with border regulation for both import and exports. Paying taxes (hours) is the hours needed to comply with tax regulation. DB = Doing Business Indicators. Subnational Tax/GDP (Rev/GDP) in 2010 is the tax (public revenue) over GDP ratio in 2010. The remaining tax sources come from the ICTD = International Center for Tax and Development: country-level tax revenue over GDP, the share of non-tax (including natural resources) revenue over GDP, the share of direct tax, the share of indirect taxes and its breakdown by goods and services tax and trade taxes.

Table B10: GDP per capita and measures of institutional quality

	(1)	(2)	(3)	(4)	(5)
		State capacity measures 2010			
	log GDP pc 2010	Days enforce contract	Quality judicial	Days reg. property	Quality land admin
Mean of dep. var	2.227	2.227	6.311	2.534	9.110
Connected years 1854-1930	0.022 (0.037)	0.013 (0.011)	0.013 (0.011)	-0.009 (0.011)	0.001 (0.015)
Connected years 1931-1966	-0.059 (0.101)	-0.023 (0.027)	-0.023 (0.027)	0.018 (0.041)	0.015 (0.058)
Estimation	IV	IV	IV	IV	IV
Controls	Yes	Yes	Yes	Yes	Yes
Continent FEs	Yes	Yes	Yes	Yes	Yes
First-stage $F_{IV1854-30}$	14.29***	24.66***	24.66***	24.66***	24.66***
First-stage $F_{IV1931-66}$	8.89***	9.10***	9.10***	9.10***	9.10***
Data source	PWT8.1		Doing Business		
Observations	44	48	48	48	48

Notes: Unit of observation is the post-independence country or sub-national province corresponding to the historical colony. Dependent variables are (log) GDP per capita (PWT8.1, $rgdpna$ series, Column 1) and Doing Business Indicators (Columns 2-5) for the (log) days needed to enforce contract, an index for the quality of judicial institutions, the days to register property and an index for the quality of the land administration. Connected years is the number of connected years in the colonial sample period 1854-1930 (1931-1966). Controls include the years of British colonization, the initial governor salary of the historical colony and the share of the region/state within the tropics. Continent FEs include dummy for Africa, Europe, North America, Latin America, Asia and Oceania. Reporting Sanderson and Windmeijer (2016) F -statistics for the instruments. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B11: Connected governors and fiscal capacity in 2010 - Reduced form

	(1)	(2)	(3)	(4)	(5)	(6)
	Share of tax revenue (% of GDP) - Subnational 2010					
Mean of dep. var	19.76	19.76	19.76	19.76	19.76	19.76
Connected years 1854-1930	-0.196 (0.173)		-0.201 (0.170)			
Connected years 1930-1966		-0.177 (0.322)	-0.202 (0.340)			
Exp. connected years 1854-1930				-1.963** (0.805)		-1.973** (0.824)
Exp. connected years 1930-1966					-0.192 (2.457)	0.435 (2.158)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Continent FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48	48	48	48	48	48

Notes: Unit of observation is the post-independence country or sub-national province corresponding to the historical colony. Connected years is the number of connected years the country/province was administered by connected governors between 1854-1930 (under patronage) and 1931-1966 (post-patronage). The dependent variable is the regional tax/GDP ratio in 2010. The expected number of connected appointments calculated based on the cumulative share of available governors the year before the appointment, calculated separately for 1854-1930/1931-1966. All specifications include continent fixed effects for Africa, Europe, North America, Latin America, Asia and Oceania as well as the years of British colonization, the initial governor salary of the historical colony and the share of the region/state within the tropics as controls. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B12: Tax/GDP and connectedness - Balanced sample 1990, 2000, 2010

	(1)	(2)	(3)	(4)
	Subnational tax revenue/GDP (%)			
	Full	1990	2000	2010
Mean of dep. var	19.76	20.58	18.95	19.77
Connected years 1854-1930	-0.721*** (0.261)	-0.744* (0.443)	-0.871** (0.443)	-0.936* (0.490)
Connected years 1931-1966	-0.049 (0.969)	2.067* (1.140)	1.475 (0.937)	2.089** (1.018)
Estimation	IV	IV	IV	IV
Controls	Yes	Yes	Yes	Yes
Continent FEs	Yes	Yes	Yes	Yes
First-stage $F_{IV1854-30}$	26.17**	7.86**	7.86**	7.86**
First-stage $F_{IV1931-66}$	8.03***	12.12***	12.12***	12.12***
Observations	48	29	29	29

Notes: Unit of observation is the post-independence country or sub-national province corresponding to the historical colony. Connected years is the number of years with a connected governor between 1854-1930 (under patronage) and 1931-1966 (post-patronage). The dependent variable is the regional tax/GDP ratio in 2010 for the full sample (Column 1), and a balanced sample for 1990, 2000 and 2010 (Columns 2-4). The number of connected years between 1854-1930 / 1931-1966 is instrumented by the expected number of connected appointments calculated based on the share of available governors the year before the appointment separately calculated for 1854-1930 / 1931-1966. All the specifications include continent fixed effects for Africa, Europe, North America, Latin America, Asia and Oceania as well as the years of British colonization, the (log) initial governor salary of the historical colony and the share of the region/state within the tropics as controls. Robust standard errors in parentheses. Reporting Sanderson and Windmeijer (2016) F -statistics for the instruments. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B13: Public finance and the impact of connected appointments

	(1)	(2)	(3)	(4)	(5)	(6)
	Public finance growth over the appointment					
	Public revenue				Expenditure	
Mean of dep. var	0.173	0.173	0.173	0.173	0.173	0.166
Connected years	-0.007 (0.005)			-0.129 (0.091)		
Prob. connected appointment		-0.115** (0.054)	-0.092* (0.052)		-0.101* (0.057)	-0.055 (0.066)
Prob. connected × Reform dummy					0.054 (0.121)	0.021 (0.121)
Connected years + Connected years × Reform dummy	-	-	-	-	-0.047 (0.106)	-0.034 (0.099)
Estimation	OLS	OLS	OLS	IV	OLS	OLS
Colony FEs	No	No	Yes	No	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Prev. spell FEs	Yes	Yes	Yes	Yes	Yes	Yes
First-stage F statistic	-	-	-	4.06**	-	-
AR Chi-test ($H_0 : \beta_{IV} = 0$)	-	-	-	3.23*	-	-
Confidence set (95%)	-	-	-	[-0.30; 0.04]	-	-
Observations	598	598	591	591	591	589

Notes: Unit of observation is the appointment. Sample period 1854-1966. Dependent variable is the growth in public revenue (Columns 1-5) and the expenditures (Column 6) over the entire appointment. Connected years is the number of years the appointment was administered by a connected governor. Prob. of connected appointment is the share of governors that are connected and beyond the six year term limit (and hence available for reshuffle) the year prior to the appointment. Reform dummy is a dummy that is 1 after 1930. Controls comprise the (log) salary at the start of the appointment, a linear time trend and spell length FEs. Previous spell FEs are dummies for the previous appointment's length. The F-test is the Kleibergen-Paap test statistic, the AR Chi-test statistic reports the fully weak instrument robust Anderson-Rubin test statistic for the null hypothesis $H_0 : \beta_{IV} = 0$. The weak IV robust 95% confidence set is computed as described in Chernozhukov and Hansen (2008). Robust standard errors are clustered at the year and state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C1: Robustness: Salary, connectedness to PM and heterogeneity

	(1)	(2)	(3)	(4)
	log Governor salary in GBP			
Mean of dep. var	7.929	7.929	7.929	7.929
Connected	0.097*** (0.036)	0.098*** (0.035)	0.101*** (0.036)	0.090** (0.040)
Connected to PM		0.076 (0.133)		
Connected × Election			-0.018 (0.021)	
Connected × Tory party				0.013 (0.040)
Controls	Yes	Yes	Yes	Yes
Governor FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Observations	3,510	3,510	3,510	3,510

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) salary in GBP paid to a governorship in a given year. Connected is a dummy that is 1 if the governor and Secretary of State share either common ancestry, are both aristocrats, both went to Eton or studied at Oxford or Cambridge. Connected to PM is the same measure for the governor and the Prime Minister in office. Election is a dummy that is 1 if there was a general election in the given year. Tory is a dummy that is 1 if the government in power is the Tory/Conservative party. The remaining explanatory variables drop one type of connections from the combined measure in turn. Controls are the number of colonies the governor has served up to the given year. Spell length FEs are dummies for each year of the term. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C2: Robustness: Alternative clustering of standard errors

	(1)	(2)	(3)	(4)	(5)	(6)
	log Salary		log Revenue		log Expenditure	
Mean of dep. var	7.929	7.929	12.31	12.31	12.33	12.33
Connected	0.097***	0.127***	-0.040**	-0.055***	-0.029	-0.042*
<i>Standard errors</i>						
Governor-Secretary of State (dyadic)	(0.036)	(0.043)	(0.017)	(0.021)	(0.019)	(0.023)
Governor & Secretary of State (2 way)	(0.039)	(0.044)	(0.021)	(0.023)	(0.021)	(0.026)
Dyadic & Year (2 way)	(0.036)	(0.044)	(0.019)	(0.022)	(0.020)	(0.023)
Connected \times Reform dummy		-0.123**		0.061*		0.053
<i>Standard errors</i>						
Governor-Secretary of State (dyadic)		(0.043)		(0.021)		(0.023)
Governor & Secretary of State (2 way)		(0.057)		(0.039)		(0.032)
Dyadic & Year (2 way)		(0.056)		(0.038)		(0.041)
Governor FEs	Yes	Yes	No	No	No	No
Governor-Colony FEs	No	No	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,510	3,510	3,510	3,510	3,510	3,510

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) total salary in GBP for the governorship (Columns 1-2), the (log) total revenue (Columns 3-4) and the (log) total expenditure (Columns 5-6). Connected is a dummy that is 1 if the governor and Secretary of State share either common ancestry, are both aristocrats, both went to Eton or studied at Oxford or Cambridge. The asterisks report the preferred (dyadic governor-secretary clustered) standard errors * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Alternative clustering specifications are reported in parentheses. These include two-way clustering on the governor and secretary level, as well as two-way clustering on the dyadic *and* year level.

Table C3: Robustness: Governor salary and connectedness, dropping connection types

	(1)	(2)	(3)	(4)	(5)
		log Governor salary in GBP			
Mean of dep. var	7.929	7.929	7.929	7.929	7.929
No. colonies served	0.223*** (0.035)	0.225*** (0.035)	0.224*** (0.035)	0.222*** (0.035)	0.222*** (0.035)
Connected	0.097*** (0.036)				
Connected excl. Ancestry		0.122*** (0.040)			
Connected excl. Aristocrats			0.114*** (0.036)		
Connected excl. Eton				0.076* (0.040)	
Connected excl. Oxbridge					0.098** (0.048)
Year FEs	Yes	Yes	Yes	Yes	Yes
Governor FEs	Yes	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes	Yes
Observations	3,510	3,510	3,510	3,510	3,510

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) salary in GBP paid to a governorship in a given year. No. of colonies served is the number of colonies the governor has served in up to the given year. Connected is a dummy that is 1 if the governor and Secretary of State share either common ancestry, are both aristocrats, both went to Eton or studied at Oxford or Cambridge. The remaining explanatory variables drop one type of connections from the combined measure in turn. Spell length FEs are dummies for each year of the term. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C4: Robustness: Governor salary, connectedness and 1930 reform

	(1)	(2)	(3)	(4)	(5)	(6)
	log Governor salary in GBP					
Mean of dep. var	7.929	7.916	7.922	7.929	7.929	7.929
Connected	0.127*** (0.043)	0.113*** (0.042)	0.137*** (0.046)	0.130*** (0.044)	0.131** (0.051)	0.068 (0.058)
Reform 1930 × Connected	-0.123** (0.056)	-0.159*** (0.056)	-0.103* (0.059)	-0.118** (0.056)		
Reform 1920 × Connected					-0.081 (0.055)	
Reform 1910 × Connected						0.056 (0.070)
Connected + Reform × Connected	0.004 (0.040)	-0.045 (0.044)	0.033 (0.041)	0.011 (0.041)	0.050 (0.033)	0.123*** (0.041)
Sample	Full sample	Drop WW I/II	Drop depression		Full sample	
UK GDP growth × Connected	-	-	-	Yes	-	-
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Governor FEs	Yes	Yes	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes	Yes	Yes
Time-varying controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,510	3,177	3,357	3,510	3,510	3,510

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) salary in GBP paid to a governorship in a given year. Connected is a dummy that is 1 if the governor and Secretary of State share either common ancestry, are both aristocrats, both went to Eton or studied at Oxford or Cambridge. Controls are the number of colonies the governor has served up to the given year. Spell length FEs are dummies for each year of the term. Column 1 is the baseline specification. Column 2 drops the years of World War I and II, Column 3 drops the UK Great Depression years (1929-1932), Column 4 allows connectedness to vary with the UK GDP per capita growth rates (Maddison Project 2013). Columns 5-6 use dummies for placebo reforms in 1920 and 1910. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C5: Robustness: Fiscal performance - Growth rates

	(1)	(2)	(3)	(4)
	Revenue growth		Expenditure growth	
Mean of dep. var	0.045	0.045	0.045	0.045
Connected	-0.037** (0.017)	-0.042** (0.021)	-0.006 (0.020)	0.013 (0.024)
Reform dummy × Connected		0.023 (0.032)		-0.080** (0.038)
Connected + Connected × Reform dummy	-	-0.019 (0.024)	-	-0.066 (0.030)
Governor-Colony FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Observations	3,412	3,412	3,407	3,407

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the annual revenue growth (Columns 1-2) and expenditure growth (Columns 3-4). Connected is a dummy that is 1 if the governor is connected to the Secretary of State. Reform dummy is a dummy that is 1 after 1930. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C6: Robustness: Revenue performance - Subsamples

	(1)	(2)	(3)	(4)
	log Revenue in GBP			
	Drop moved immediately	Drop first&last year	Appointed connected	Appointed unconnected
Mean of dep. var	12.31	12.29	13.26	13.00
No. colonies served	0.068 (0.063)	0.322*** (0.052)	0.247** (0.099)	0.137 (0.089)
Connected	-0.053*** (0.020)	-0.073*** (0.024)	-0.058* (0.031)	-0.064** (0.031)
Governor-Colony FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Observations	3,465	2,002	987	985

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) total revenue. Connected is a dummy that is 1 if the governor is connected to the Secretary of State. Column 1 drops the switchers who move immediately after experiencing a shock to connections. Column 2 drops the first and last year of the appointment in the switcher sample. Column 3 is the sample of those who are appointed connected. Column 4 is the sample of those who are appointed unconnected. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C7: Robustness: Revenue performance - Bounding selective exit

	(1)	(2)	(3)	(4)	(5)
	log Revenue in GBP				log Exp
	Main	Trend	Trend+2%	Trend+4%	Trend+4%
Connected	-0.040** (0.017)	-0.033* (0.020)	-0.038* (0.020)	-0.043** (0.020)	-0.033* (0.020)
No. colonies served	0.068 (0.063)	0.066 (0.063)	0.065 (0.063)	0.064 (0.063)	0.082 (0.059)
Governor-Colony FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes	Yes
Observations	3,510	3,622	3,622	3,622	3,622

Notes: Unit of observation is the governor-year. Sample period 1854-1966. Dependent variable is the (log) total revenue in Columns 1-4. Connected is a dummy that is 1 if the governor is connected to the Secretary of State. Column 2 assumes that revenue growth follows the pre-trend after the governor has exited. Column 3 and 4 assume growth increases by 2% and 4% points above the trend. Column 5 uses (log) total expenditure as the dependent variable. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C8: Robustness: Strategic non-compliance with six year term limit

	(1)	(2)	(3)	(4)	(5)	(6)
	Duration of previous appointment					
	Less than 6 years		6 years		More than 6 years	
Mean of dep. var	0.596	0.596	0.320	0.320	0.085	0.085
log Salary in GBP	-0.078 (0.074)	-0.040 (0.088)	0.001 (0.076)	-0.036 (0.087)	0.076 (0.052)	0.076 (0.054)
Prob. connected appointment	-0.047 (0.142)	1.042 (0.944)	0.105 (0.141)	-0.965 (1.044)	-0.058 (0.041)	-0.076 (0.274)
log Salary in GBP × Prob. connected appointment		-0.135 (0.118)		0.133 (0.130)		0.002 (0.035)
Colony FEs	Yes	Yes	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	591	591	591	591	591	591

Notes: Unit of observation is the appointment. Sample period 1854-1966. Dependent variables are dummies for whether the previous appointment was terminated early (Columns 1-2), on time (Columns 3-4) and late (Columns 5-6). Prob. of connected appointment is the share of governors that are connected and beyond the six year term limit (and hence available for reshuffle) the year prior to the appointment. Controls comprises the (log) salary for the governorship and the spell length. Robust standard errors are clustered at the year and state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C9: Robustness: Placebo first-stage with leads and lags

	(1)	(2)	(3)	(4)
	Connected appointment			
Mean of dep. var	0.305	0.302	0.305	0.299
Prob. connected appointment $t - 3$		-0.072 (0.066)		-0.081 (0.080)
Prob. connected appointment $t - 2$		0.041 (0.108)		0.014 (0.103)
Prob. connected appointment $t - 1$	0.197** (0.076)	0.225*** (0.084)	0.160* (0.086)	0.196** (0.091)
Prob. connected appointment t			0.072 (0.084)	0.057 (0.083)
Prob. connected appointment $t + 1$			0.060 (0.109)	0.037 (0.115)
Controls	Yes	Yes	Yes	Yes
Colony FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Prev. spell FEs	Yes	Yes	Yes	Yes
Observations	591	506	509	462

Notes: Unit of observation is the appointment. Sample period 1854-1966. Dependent variable is a dummy that is 1 if the governor was appointed connected. The independent variable is the share of connected governors who are available for reshuffle (i.e. have served beyond their 5th term) with different leads and lags. Controls include (log) salary of the governor and the spell length. Previous spell FEs are dummies for the previous appointment's length. Robust standard errors in parentheses, clustered at the dyadic governor-secretary of state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C10: Robustness: Tax/GDP and connectedness - Bootstrap and weak IV robust inference

	(1)	(2)	(3)	(4)
	Share of tax revenue 2010 (% of GDP)			
Mean of dep. var	19.76	19.76	19.76	19.76
Exp # connected 1854-1930	-1.963**			
<i>Robust SEs</i>	(0.804)			
<i>Bootstrap SEs</i>	(0.886)			
Exp # connected 1931-1966		-0.192		
<i>Robust SEs</i>		(2.456)		
<i>Bootstrap SEs</i>		(3.884)		
Connected years 1854-1930			-0.722***	
<i>Robust SEs</i>			(0.261)	
<i>Bootstrap SEs</i>			(0.379)	
Connected years 1931-1966				-0.051
<i>Robust SEs</i>				(0.579)
<i>Bootstrap SEs</i>				(5.009)
Estimation	Reduced form OLS		Instrumental variable	
Controls	Yes	Yes	Yes	Yes
Continent FEs	Yes	Yes	Yes	Yes
F-test statistic (Kleibergen-Paap)	-	-	25.5***	7.77***
AR Chi-test ($H_0 : \beta_{IV} = 0$)	-	-	5.40**	0.01
Confidence set (95%)	-	-	[-1.48; -0.16]	unidentified
Observations	48	48	48	48

Notes: Unit of observation is the post-independence country or sub-national province corresponding to the historical colony. Connected years is the number of years with a connected governor between 1854-1930 (under patronage) and 1931-1966 (post-patronage). The dependent variable is the regional tax/GDP ratio in 2010. The number of connected years between 1854-1930 / 1931-1966 is instrumented by the expected number of connected appointments calculated based on the share of available governors the year before the appointment separately calculated for 1854-1930 / 1931-1966. All the specifications include continent fixed effects for Africa, Europe, North America, Latin America, Asia and Oceania as well as the years of British colonization, the (log) initial governor salary of the historical colony and the share of the region/state within the tropics as controls. Reporting robust standard errors and bootstrapped standard errors (1000 repetitions). The F-test is the Kleibergen-Paap test statistic which is equivalent to the Sanderson and Windmeijer (2016) conditional F-statistic, the AR Chi-test statistic reports the fully weak instrument robust Anderson-Rubin test statistic for the null hypothesis $H_0 : \beta_{IV} = 0$. The weak IV robust 95% confidence set is computed as described in Chernozhukov and Hansen (2008). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C11: Robustness: Tax/GDP and historical connectedness - controls

	(1)	(2)	(3)	(4)	(5)
		Modern tax/GDP ratio			
Mean of dep. var	19.76	19.76	19.42	20.07	20.07
Connected years 1854-1930	-0.721*** (0.261)	-0.877** (0.343)	-0.937** (0.445)	-0.439* (0.238)	-0.447 (0.546)
Connected years 1931-1966	-0.049 (0.969)	-0.056 (1.019)	0.123 (1.158)	-0.124 (0.957)	-0.032 (0.908)
Years of British colonization	0.083 (0.056)	0.090 (0.060)	0.103 (0.083)	0.059 (0.056)	0.047 (0.080)
Area tropics	-0.222*** (0.079)	-0.246*** (0.086)	-0.275** (0.123)	-0.252*** (0.084)	-0.248** (0.098)
log Initial governor salary	1.890 (3.278)	2.913 (3.757)	2.189 (3.998)	0.097 (3.626)	0.489 (4.392)
Landlocked		-5.734 (5.692)			-4.778 (5.786)
Ethnic fractionalization			6.834 (13.261)		-4.998 (10.436)
log Genetic distance				-0.977 (1.994)	-0.201 (2.607)
Estimation	IV	IV	IV	IV	IV
Continent FEs	Yes	Yes	Yes	Yes	Yes
First-stage $F_{IV1854-30}$	26.17***	26.17***	13.68***	11.18***	11.18***
First-stage $F_{IV1931-66}$	8.03***	8.03***	9.96***	6.31**	6.31**
Observations	48	48	46	34	34

Notes: Unit of observation is the region/state. The dependent variable is the regional tax/GDP ratio in 2010. Connected years is the number of years with a connected governor between 1854-1930 (1931-1966). Years of British colonization is the years under British rule. Area tropics is the share of land area that lies in the tropics. Initial governor salary is the (log) amount of the first governor salary fixed for the governorship. Landlocked is a dummy that is 1 if the colony has no direct access to the sea. Ethnic fractionalization measures are from Alesina (2003). Genetic distance to UK is from Spolaore and Wacziarg (2009). Continent fixed effects include dummy for Africa, Europe, North America, Latin America, Asia and Oceania. Reporting Sanderson and Windmeijer (2016) F -statistics for the instruments in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A Appendix: Conceptual framework

I introduce a model of job allocation and career concerns for two purposes. First, to make precise the distinction between patronage and social connections. Second, to guide the interpretation of the empirical analysis by delineating two margins through which patronage impacts performance: (i) by affecting the allocation of governors and (ii) their effort on the job. I derive three predictions that guide the empirical analysis in Sections 3 and 4.

A.1 Technology, preferences and incentives

For parsimony and without loss of generality, I consider a setting with two colonies and two governors. One colony is large ($s = 1$), and the other colony is small ($s = 0$). One governor is connected ($c = 1$) and the other is unconnected ($c = 0$). The Crown's objective is to maximize colonial revenue less wage bill across both colonies. The objective function is $W = y_{c1} + y_{c0} - w_1 - w_0$, where y_{cs} is the revenue generated by the governor with connectedness c in the colony with size $s = \{1, 0\}$. The salary of the governor in colony s is denoted $w_s > 0$. As is common in bureaucracies, salaries w_s are fixed across positions and exogenous. Matching the empirical setting, salaries are increasing in the colony's size so that $w_1 > w_0$. The revenue of governor c in colony s is given by $y_{cs} = \kappa\theta_c m_s + e_c$, where e_c denotes the privately observed effort, θ_s the observed ability of the governor, and m_s the size of the colony.⁵⁶ Revenue generation capacity is higher in the larger colony, so that $m_1 > m_0 > 0$. The parameter $\kappa > 0$ measures the strength of the complementarity between ability and colony size.

The Secretary of State's utility depends on a fixed salary f , the welfare of the organization W and the salary of the subordinate governors $w_{S(c)}$,

$$U^S = f + gW + \sigma_1 w_{S(1)} + \sigma_0 w_{S(0)} \quad (7)$$

where $s = S(c)$ returns the colony size of the governor with connectedness $c = \{0, 1\}$.

Patronage enters as the parameter $g \geq 0$. This captures the quality of governance and de-

⁵⁶Allowing the return to effort to vary by colony size does not affect results (See Appendix Section A.4). I assume constant returns to effort to simplify the exposition.

termines the Secretary of State's degree of alignment with the organization's objective. Under patronage ($g \rightarrow 0$), the Secretary of State has full discretion in the allocation of governors. A civil service reform that limits the extent of patronage, then, constitutes an upward shift in the parameter g . Clearly, this specification abstracts from the potential upside of patronage as $g > 0$ is always weakly decreasing the organizational welfare. This however comes at no empirical loss as my setting uncovers large costs of patronage.

Social connections enter as the Secretary of State's private preference. Similar to Prendergast and Topel (1996) and Bandiera et al. (2009), the Secretary of State's utility depends on the salary of his subordinate governors. The parameter σ_c captures the Secretary of State's preference for the governor with connectedness c . The Secretary of State has a greater preference for the connected governor so that $\sigma_1 > 0$ and $\sigma_0 = 0$.

In the absence of performance pay, career incentives induce the governor to exert effort. The total benefit of governor c when allocated to colony s is,

$$U^G(e_c) = w_s + \beta V(y_s(e_c), c, g) - \frac{1}{2\theta_c} e_c^2 \quad (8)$$

In addition to a fixed salary w_s , the governor also enjoys a promotion prospect with utility of $V(y_s(e_c), c, g)$. This continuation value depends on the observed revenue performance, social connections and patronage. It can be interpreted as a future promotion, or the progression into a more distinguished job outside the organization. Specifically, the promotion prospect is linearly increasing in the observed revenue performance and connectedness to the superior, so that $V_y(g) > 0$, $V_{yy}(g) = 0$ and $V(y, 1, g) > V(y, 0, g)$. Those with better performance and enjoying social connections have greater chances of securing a profitable job in the future. These returns, however, will depend on the prevailing institutional environment, as captured in the patronage parameter g . Finally, $\beta \in [0, 1]$ is the discount rate and governor c faces a disutility of effort of $\frac{1}{2\theta_c} e_c^2$, which is decreasing with governor ability.

A.2 Effort choice and allocation decision

The governor chooses effort levels $e_c \geq 0$ to maximize utility as shown in equation (8). The first order condition yields governor c 's optimal effort,

$$e_c^* = \theta_c \beta V_y(c, g) \quad (9)$$

Governor effort is increasing in ability θ_c and in the degree to which higher revenue performance translates into better promotion prospects $V_y(c, g)$. Taking ability and effort choices of the governors as given, the Secretary of State chooses the optimal allocation to maximize his own utility. The Secretary of State will allocate the connected governor to the large colony if,

$$g \left(y_{11}(e_1^*) + y_{00}(e_0^*) \right) + \sigma_1 w_1 > g \left(y_{01}(e_0^*) + y_{10}(e_1^*) \right) + \sigma_1 w_0 \quad (10)$$

A.3 Results: Allocation and performance

Result 1: Allocation. In the presence of patronage, the connected governor is more likely to be allocated to the large and higher salaried colony than the unconnected governor.

The connected governor is allocated to the large colony if,

$$\frac{\sigma_1}{g} \geq - \left(\theta_1 - \theta_0 \right) \frac{m_1 - m_0}{w_1 - w_0} \kappa \quad (11)$$

The inequality (11) trivially holds if the connected governor is of higher ability ($\theta_1 > \theta_0$) as there is no conflict of interest between the personal bias and the revenue maximizing allocation in that case. If the connected governor is of lower ability, however, the Secretary of State trades off the private gain from assigning the connected governor to the large and higher salaried colony against the potential loss in revenue associated with misallocating the governor. As patronage increases ($g \rightarrow 0$), the private gain more likely outweighs the potential revenue loss. This implies that connected governors are screened less on ability. There is no trade-off when the connected governor is more able than the unconnected governor. As patronage is curtailed ($g \rightarrow \infty$), the assignment is increasingly merit-based.

Equation (11) bears two empirical implications. First, to disentangle differential ability $\theta_1 - \theta_0$ from the extent to which favoritism is feasible, I estimate the promotion gap between the connected and unconnected governor of same ability using the within-governor identification in Section 3. Second, the extent to which the connected governor with same ability is allocated to the large colony depends on the interaction between social connections and patronage (σ_1/g). This motivates the double-differences strategy where I study the impact of patronage on socially connected governors before and after the removal of patronage.

Result 2: Performance. *Under patronage, connected governors exert more (less) effort if social connections and performance are complements (substitutes) for promotions.*

Comparing revenue performance within governor and colony identifies the effort effect,

$$\text{Incentive effect} = \Delta y^*|_{\theta,s} = \Delta e^*|_{\theta,s} = \theta\beta \left(V_y(1, g) - V_y(0, g) \right) \quad (12)$$

Under the prevailing extent of patronage g , the impact of social connections on revenue performance is ambiguous. If connections and performance are complements in the governor's promotion prospect $V_y(1, g) > V_y(0, g)$. The connected governor then exerts more effort than the unconnected governor. The most prominent example for this is the case of loyalty, where the connected governor's promotion prospect also depends on how well the Secretary of State performs.⁵⁷ The connected governor, however, exerts less effort than the unconnected governor if connections and performance are substitutes. In the extreme case, the connected governor's promotion prospect does not depend on performance so that $V_y(1, g) = 0$, whereas the unconnected governor needs to exert effort to gain promotions $V_y(0, g) > 0$.

The difference in revenue generation while holding constant ability and colony identifies the incentive effect. I estimate the performance gap using the within-position identification in Section 4. Furthermore, estimating equation (12) before and after the removal of patronage in a double-differences provides an additional test for whether social connections and performance are substitutes or complements for promotions under two different allocation regimes.

⁵⁷The promotion prospect, for example, could depend on the governor's own revenue performance and the Secretary of State's utility, $V(y_{cs}, c, g) = \alpha y_{cs} + \sigma_c U^S$.

Result 3: Misallocation. *The removal of patronage improves the match quality between governor and colony. The impact of patronage extends beyond the incentive effect by inducing misallocation.*

The observed revenue difference between a connected and unconnected governor holding the colony constant is,

$$\text{Incentive + Selection effect} = \Delta y^*|_s = \kappa m_s (\theta_1 - \theta_0) + \beta \left(\theta_1 V_y(1, g) - \theta_0 V_y(0, g) \right) \quad (13)$$

This comparison captures both selection and incentive effects. The first term is the selection effect. In the presence of complementarities between governor ability and colony size $\kappa > 0$, governor and colonies are assortatively matched to maximize revenue. Patronage lowers the connected governor's threshold for the allocation to the large colony (11). This increases the range in which the ability of the connected governor is lower, increasing the likelihood of misallocation. The second term is the incentive effect, which is similar to (12) but now allows ability to vary across governors since higher ability governors exert more effort. The sign of the incentive effect will now depend on the difference in governor ability and the complementarity or substitutability between social connections and performance (Result 2).

I estimate the combined incentive and selection effect in Section C.2 by exploiting a six year rotation rule to predict connected appointments holding constant fixed colony-level characteristics. This allows me to estimate the effect of appointing a connected governor across positions. Again, interacting connected appointments with the removal of patronage in a double-difference allows me to test whether the combined effect varies by the degree of patronage.

A.4 Extension: Colony-specific return to effort

In the basic model, the return to effort did not depend on the assigned colony. Similar to the span-of-control argument, however, effort could also have a greater impact in the large colony. I therefore extend the revenue generation function to allow effort and colony size to be complements, $y_{cs} = \kappa \theta_c m_s + m_s e_{cs}$. The corresponding effort now varies by colony size, $e_{cs} = \theta_c \beta V_y(c) m_s$. This is because the continuation value depends on revenue, and the same

amount of effort now generates a higher revenue return in the larger colony.

The allocation problem remains as before: the Secretary of State chooses the allocation to maximize utility. The only difference is that effort does not cancel out as its return depends on whether it is exerted in the large or small colony.

The resulting condition now extends to following: the Secretary of State will allocate the connected governor to the large colony if the extent of patronage is high,

$$\frac{\sigma_1}{g} \geq -\frac{(m_1 - m_0)}{(w_1 - w_0)} \left((\theta_1 - \theta_0)\kappa + \beta \left(V_y(1) - V_y(0) \right) (m_1 + m_0) \right) \quad (14)$$

In the absence of patronage and ability differences, the connected governor is only promoted if he exerts higher effort ($V_y(1) > V_y(0)$).

B Data appendix

B.1 Historical fiscal data

The main source of historical colonial revenue and expenditure data are the Colonial Blue Books, a set of standardized yearly reports providing detailed information about public revenue and spending, trade and socio-economic indicators for over 80 colonies covering the period 1821-1949 (Banton, 2008). This unique data source has remained largely untapped among economists (with the notable exception of Dippel et al. 2015) but enables the construction of long series of comparable measures on a wide range of variables (such as sources of revenue income, spending patterns, salaries, education, newspapers). The original set of Blue Books is stored at the National Archives, with incomplete subsets stored at the University Library in Cambridge and the University of London Commonwealth Library.

I digitized data on revenue and expenditures from the full set of 3,905 Blue Books. The main part of interest was the Section “Comparative Statement of Revenue and Expenditure” (Appendix Figure A1). This section provides a breakdown of both revenue and expenditures for two years: the current year of the Blue Book, and the previous year. Since I collected data from all Blue Books, this provided an additional redundancy to validate the quality of the

fiscal data across all the years. All monetary values are typically listed in pounds. When needed, the local currency (e.g. Hong Kong Dollar, Sri Lankan rupees) was converted at the historical exchange rate provided by the Blue Book.

The breakdown broadly follows two patterns: it lists the ordinary expenditures for the colonial bureaucracy (civil establishment) and the extra-ordinary expenditures accruing to the various departments. Ordinary expenditures comprise salaries, allowances and pensions paid to colonial civil servants and are grouped by function (e.g. revenue collection, education, police and gaols). These closely resemble the Ministries in later periods. Extra-ordinary expenditures typically encompass unexpected expenditures (e.g. following natural disasters) or investments in public works. As the Blue Books were not compiled across the entire period of the colonies (with most discontinued shortly after WWII), I extend these series using reported aggregates provided by the Colonial Lists. This allows me to extend the series up to 1966. The disadvantage, however, is that the Colonial Lists only provide aggregates without the finer breakdowns from the Blue Books.

B.1.1 Harmonizing revenue and spending breakdown

I also digitize and construct breakdowns of the aggregate revenue and expenditure. The main challenge here lies in the changing definitions of the subitems. For example, one Blue Book may list a detailed breakdown of each department's disbursed salaries, while the subsequent year may only report the total. Similarly, police expenditures may have been grouped with the spendings for prisons in one year but then reported separately in the other.

To construct consistent series, I digitized the section "Net Abstract of Revenue and Expenditures" from all Blue Books. This is the section that precedes the "Comparative statement". Unlike the "comparative statements", this section only provides the breakdown of the current reporting year. The advantage, however, lies in its finer granularity: positions that may have been grouped in the "Comparative statement" are separately reported in the "Net Abstract".

In the second, step I harmonized the series, focusing on several broad groups: On the revenue side, I distinguish between external and internal revenue. External revenue comprise customs revenue and duties collected at the entry points (typically ports). Internal revenue

comprise revenue raised within the colonies, such as income tax, hut taxes, poll taxes, land revenue, fees and duties. On the expenditure side, I focus on two broad groups of spending. First, I focus on expenditures in revenue collection. This comprises expenditures made for the collection of customs, but also the raising of direct taxes. I use this as a direct measure for investments in fiscal capacity. Second, I harmonize expenditure series on public works and infrastructure investments. This position includes public works, expenditures for roads, bridges, repairs for public buildings, as well as spendings on civil engineers.

Despite all my efforts in providing harmonized breakdowns, data constraints and changing definitions still reduce the final sample size of these breakdowns. In the paper, however, I provide evidence that the main results are robust for the subsample. This alleviates concerns of sample selectivity.

B.2 Identifying social connections

The main source of genealogical data is drawn from the database The Peerage (thePeerage.com), obtained on the 20th of June 2015. The data provides a genealogical survey of the peerage of Britain as well as the royal families of Europe, including the family trees of the British elite.

The dataset covers 664,265 individuals over more than 500 years including their family relationships. The data contains the full names and date of birth, as well as the details of the spouse, parents and children. I convert the family trees into 1,271,854 undirected links. To avoid concerns of endogenous network formation, I drop marriage links and focus only on blood-relatedness. Dropping marriages reduces the number of undirected links to 1,008,986.

In the second step, I match each of the 456 governors and 39 Secretary of States for the Colonies to the unique identifiers provided in the Peerage dataset. A match is defined as an identical name and birthday. Ambiguous matches, for example due to changing aristocrat titles, are resolved by consulting the UK Who is Who or the Oxford Dictionary of National Biography. Only two Colonial Secretaries cannot be matched (George Hall, Arthur Jones). Both are politicians of the Labour party not from elite backgrounds. 34% of the governors are reliably matched in the Peerage data. I assume that the missing individuals are not connected. This is not a restrictive assumption as the family trees of the Colonial Secretaries are fully

mapped out. A governor not included in the family tree, then, is unconnected.

For governors and Colonial Secretaries matched to the Peerage data, I compute the shortest distance using Dijkstra's algorithm (?), implemented using Matlab's *graphshortestpath* package. Two individuals are *connected* if the degree of separation is less than 16. Finally, to verify the data quality, I drew a random sample of 5 connected governors and manually traced the connection from the governor to the superior Colonial Secretary. In addition, I validated the genealogical data with data provided by Ancestry.com.

B.3 Computing additional performance measures

B.3.1 Sentiment analysis of parliamentary debates

I extracted the full set of parliamentary debates from the *Hansard* to compute the number of times a colony has been mentioned in the parliamentary debates and the associated sentiment of the mention. This allows me to compute a dummy that is 1 if the colony has been mentioned in a given year. To measure the sentiment, I then use the R's *qdap polarity* tool to compute sentiments associated with the mentions. Intuitively, the procedure assigns a positive/negative sentiment to each word and then weights these words depending on the context. For example, a negative word like "punishment" is amplified if it is preceded by a magnifying adjective, like "severe". Similarly, the sign is reversed if the word is preceded by a negator, like "not". See <http://trinker.github.io/qdap> for a detailed description of the procedure. I then compute the average sentiment based on all speeches in a given year that mentioned a given colony.

B.3.2 Social unrest based on newspaper reports

To measure social unrest, I collected data from historical newspapers to generate a dummy that proxies social unrest. The data is drawn from all London-based newspapers found in the *The British Newspaper Archive* in December 2015. For each year between 1854-1966, I count the frequency in which a colony is mentioned in conjunction with following keywords: (i) riot (ii) arrest (iii) killed (iv) murder. For example, the number of times Jamaica was mentioned together with the keyword "killed" spiked at 1008 in 1866, right after the Morant Bay rebellion.

To alleviate concerns over measurement errors (e.g. that colony and keywords are mentioned in distinct articles that are mistakenly misclassified), I standardize the frequency of mentions within the colony for each keyword and compute an average for each colony-year based on all four keywords. I then focus on “extreme cases” by defining social unrest to take a value of 1 if the average standardized unrest index exceeds the 95th decile.

C Regression appendix

C.1 Revenue performance and promotions

As Table B8 shows, governors are promoted based on revenue performance. In line with the fixed six year term limit, governors are 10% points more likely to be promoted after completing the fifth year (Column 1). While governors who are connected or experienced faster revenue growth during their term are not more likely to be promoted on average, they are more likely to experience a promotion towards the end of their term (Column 2). They are also less likely to be retired and more likely to be laterally transferred (Column 4-5).

A key determinant for whether the impact of patronage is positive or negative is whether connections and performance are complements or substitutes for promotions (Prediction 2 in the model). In contrast to Jia et al. (2015) who find connections and performance to be complements among modern day provincial governors in China, the results in Table B8 suggests that connections and performance are substitutes in this setting: a connected governor with high revenue growth is not more likely to be promoted, retired or transferred. This holds irrespective of whether the governor has completed the six year term (Column 3).

C.2 Effect of appointing a connected governor

The estimated effects in previous section, by nature of the within-appointment variation, are conditional on governors who were not moved to another colony. While this alleviates concerns over unobserved governor heterogeneity, these effects hold constant the selection margin and identify only within-governor changes, which, interpreted through the lens of the

conceptual framework, only capture incentive effects.

Patronage, however, also affects the selection of governors (Result 3). In presence of complementarities between ability and colony size, high ability governors should be allocated to the largest colonies. Under patronage, however, favoritism may induce misallocation as the Secretary of State screens less on ability. To motivate the test for selection effects, I first provide descriptive evidence consistent with selection. Figures A12 and A13 plot the relationship between colony and governor fixed effects for the pre- and post-patronage period. The estimates are based on (log) revenue as the dependent variable and a variant of the specification (3), where I now separately estimate colony and governor fixed effects.⁵⁸ While there is no association between governor and colony fixed effects in the patronage period (Figure A12), the association is significant and positive for post-patronage appointments (Figure A13).⁵⁹ The figure also shows the shift towards higher governor fixed effects. Seen through the lens of the model, this increase in the matching assortativeness suggests an improvement in the overall matching efficiency.

This subsection now proceeds to estimate the causal impact of appointing a connected governor. In contrast to the within-appointment performance results (Section 4), the comparison across appointments will capture both the incentive and selection effects of social connections (Result 3). The results can also serve as a validation of the performance results using an alternative identification strategy.

Let the index st denote the appointment in colony s at time t . Let $y_{st+n_{st}}$ be the revenue or expenditure level at the end of the appointment, where n_{st} is the duration of the appointment. By the colonial regulations, this duration is fixed for six years. The fiscal growth over the appointment period is then estimated using two-stage least-squares:

$$g_y = \beta \times C_{st} + \gamma' x_{st} + \mu_s + \varepsilon_{st} \quad (15)$$

where $g_y = \log(y_{st+n_{st}}/y_{st})$ and $C_{st} = \sum_t^{t+n_{st}} c_{I(s,t)st}$ is the number of connected years in the

⁵⁸The results are comparable using (log) expenditure as the alternative outcome variable. Specifically, I estimate following augmented model: $y_{ist} = \beta \times c_{it} + \gamma' x_{it} + \theta_i + \mu_s + \tau_t + \delta_s \times t + \varepsilon_{ist}$, where θ_i is the governor fixed effect, μ_s the colony fixed effect and $\delta_s \times t$ captures colony-specific trends.

⁵⁹The relationship remains significant for the post-patronage period when using bootstrapped standard errors.

appointment. $i = I(s, t)$ is a function that returns the governor i serving in colony s at time t .

The main challenge in estimating the effect of appointing a connected governor is that connected governors are not randomly allocated. Indeed, previous results suggest that connected governors are more likely to be allocated to higher salaried governorships which also tend to be in larger colonies. To estimate the causal effect of social connections on the extensive margin, I therefore require an instrument that predicts the likelihood of a given colony to receive a connected governor, but that is otherwise unrelated to colony-level characteristics. The instrument p_{t-1} , exploiting the interaction between the fixed term rotation and the turnover of the Secretary of State, is described in the main Section 5.2.⁶⁰

With colony fixed effects μ_s absorbing time-invariant cross-colony differences, the identifying variation of the instrument p_{t-1} is temporal and driven by the share of connected governors who are available for transfers. To ensure that the results are not driven by growth picking up over time while the share of connected appointments declines, I include a linear time trend in the control vector x_{st} .⁶¹ The vector also comprises the (log) initial governor salary of the appointment and spell length fixed effects.⁶² Perhaps most importantly, I include previous spell duration dummies to control for whether the previous appointment ended regularly. This alleviates concerns that appointments were systematically terminated early (or later) when many connected governors had to be reshuffled. Finally, the errors are clustered by year and colony. The year level corresponds to the identifying source of variation, and the colony clustering accounts for serial correlation within a colony over time.

The reduced form and IV estimates are summarized in Table B13 and suggest the presence of negative selection effects. As expected, the OLS is upward biased: while OLS shows no difference in the revenue growth between a connected and unconnected appointment, as measured by the connected years (Column 1), the reduced form estimate in Column 2 suggests that a higher probability of being allocated a connected governor is associated with significantly lower revenue growth over the entire appointment. As before, the inclusion of colony

⁶⁰A threat to the exclusion condition is that the share of connected governors is correlated with the “tightness” of the internal labor market which, in turn, may directly impact the match quality. Reassuringly, however, the correlation between the share of connected governors and the ratio of vacancies/available governors is 0.009.

⁶¹The results are also robust to quadratic trends and decade fixed effects, though the first-stage is weaker.

⁶²The length of the spell is uncorrelated with the instrument. The inclusion serves to obtain more precise estimates.

fixed effects leaves the point estimate nearly unchanged (Column 3). In order to facilitate the comparison of the estimated magnitudes with those recovered from the intensive margin in previous section, Column 4 reports the instrumental variable estimate. The point estimate, insignificant due to the weak first stage, suggests that an additional year under a connected governor is associated with a 13% point lower revenue growth over the appointment.

Mirroring the analysis in previous section, Column 5 tests if the negative impact of connected appointments is mitigated after the abolition of patronage. Given the weak first stage, I only report the reduced form estimates. As before, the negative impact of social connections is mitigated after 1930. The last column repeats the same estimation for public expenditures. The corresponding spending declines as well, consistent with the estimates based on within-position variation in connections. Once again, the negative impact is mitigated after the removal of patronage. The fiscal performance results using two different identification strategies are consistent: connected governors perform worse both within and across appointments.

C.3 Mapping colonies into modern day countries

Relating historical colony-level variation to contemporary requires a mapping of colonial territories into modern countries and subnational units. This is straightforward for the majority of colonies which can be directly mapped into modern countries. For Australia and Canada, historical colonies can be mapped into subnational provinces. I omit two dependencies that cannot be mapped into modern regions,⁶³ as well as the set of small island territories that still remain dependencies of the UK.⁶⁴ The Appendix provides a detailed summary of the mapping process. When using country-level data, I impute the same value for all subnational provinces, implicitly assuming that within-country differences have been equalized. For the main result on tax/GDP, however, I compute the corresponding subnational values from statistical yearbooks of the modern countries. Appendix Table B9 provides the summary statistics for the modern outcomes and explanatory variables.

⁶³Heligoland is a tiny island that is now part of Germany, Ionian Islands are a group of isles now part of Greece.

⁶⁴The 7 colonies that are still part of Britain are small entities: Bermuda, Cayman Islands, Falkland Islands, Gibraltar, Montserrat, St. Helena, British Virgin Islands.