FINANCIAL ASSET HOLDINGS AND POLITICAL ATTITUDES: EVIDENCE FROM REVOLUTIONARY ENGLAND

ONLINE APPENDIX 1: SUPPLEMENTAL FIGURES AND TABLES

Saumitra Jha

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Table 1: **Timeline of Key Financial and Political Events, 1552-1660.**

Year	Financial	Political
1552	First joint stock company: ``the mysterie and companie of the Merchants adventurers for the discoverie of regions, dominions, islands and places unknown''. Seeks the Indies but goes North; becomes the Russia Company	
1558		Elizabeth I becomes Queen
1580	Drake's returns from circumnavigation	Elizabeth I receives 1/2 share
1585	Drake raids Spanish Atlantic ports; nationwide enthusiasm for joint stock. Privateering.	War with Spain
1592	Levant Company chartered	
1599	East India Company chartered	
1603		Elizabeth I dies, James I becomes King. War with Spain ends.
1606	Virginia Company chartered	
1611		Great Contract: Attempt to exchange customs revenue for settled parliamentary taxes fails.
1614		Addled Parliament: James I lives without parliamentary taxes
1623	Dutch destroy East India factory in Amboina, East Indies. East India shipping falls subsequently. Dorchester New England Co established.	
1624	Virginia Company charter revoked by Crown	`Happy' Parliament: Charles shows himself willing to exchange prerogative rights over foreign policy for taxation.
1625	Privateering ventures	Charles I becomes King. War with Spain and France. Charles refused tunnage and poundage (the oldest customs on wine and wool within Parliament's gift). Collects them illegally.
1628		Parliament presents Petition of Right against billeting and illegal taxation (including forced loans).
1629		Charles I disbands Parliament: The ``11 Year's Tyranny'' Begins
1630	Providence Island Company chartered	Wars with Spain and France end.
1635	John Hampden and Providence Island investors challenge `ship money' in courts	
1639		Charles attempts to impose Common Prayer book on Scotland. Leads to Bishop's War: Scots invade England
1640	Providence Island colony destroyed by Spanish.	Charles forced to summon Parliament to obtain funds to fight the Scots; `Short' Parliament lasts 3 weeks. Long Parliament summoned as Scottish situation deterioriates.
1641		Parliament tries and executes Earl of Strafford for allegedly suggesting Irish troops could be brought to England.
	Pym, Hampden and others draft *Grand Remonstrance:* the manifesto for reform.	Triennal Act passed: Charles can no longer disband Parliament; *Grand Remonstrance*;
1642	Charles seeks to arrest Pym and the other `5 Members'	Charles sends troops to Parliament to arrest `5 Members'
		Beginning of the First Civil War. Charles unfurls war banner to defend his prerogative.
1644		Charles summons MPs to Oxford.
1648		**End of the First Civil War**: Colonel Pride purges all considered willing to negotiate with the King, leaving the `Rump' Parliament in charge.
1649		Charles Executed
1652		First Anglo-Dutch War, explicitly mercantilist.
1653		Cromwell disbands Rump Parliament; the Protectorate begins.
1654		Anglo-Spanish War begins in the West Indies
1660	trade boom; secondary markets for shares begin to develop	Restoration; peace with Spain

Table 2: **Major overseas joint-stock companies, 1575–1640 and representation in the 1628 and Long Parliament**

Name	Chartered/ formed	Members+	Investors in 1628 Parliament			Investors in Long Parliament (1640)			Total MPs (1628,1642)	Profitable?*	Foreign attacks?	Royal intervention
			Father	Self	% MPs investing	Father	Self	% MPs investing				
East Indies												
Drake's circumnavigation	1577	8	0	0	0.00	0	0	0.00	0	Yes	Spanish	Elizabeth major beneficiary
Cavendish's ventures	1586	4	0	0	0.00	0	0	0.00	0	No	Spanish	
East India Co	1599	1318	14	29	5.74	30	20	3.79	42	Initially	Dutch	Crown raises customs
Courteen's East Indies Co	1635	7	0	0	0.00	0	3	0.57	3	No	Dutch	Charles shareholder
Africa trades												
Senegal Adventurers	1588	22	0	0	0.00	1	0	0.00	0	Unknown	Portuguese	
Gynney & Bynney Co	1618	38	0	0	0.00	2	1	0.19	1	No	Portuguese	Charles shareholder
Nicholas Crispe & Co	1630	3	0	0	0.00	0	1	0.19	1	Yes	French, Dutch	Patentees were courtiers
Central / South America incursion												
Other privateering	1581/ 1625	1051	20	24	4.75	16	20	3.79	40	No (on avg)	Spanish	Raleigh executed (Spanish infl.)
Guiana Co / Amazon Co	1584	105	4	12	2.38	8	8	1.52	15	No	Spanish	
Drake's 1587 voyage	1585	21	2	0	0.00	4	1	0.19	1	Yes	Spanish	Elizabeth shareholder
Fenton's voyage to Brazil	1592	42			0.00			0.00		No	Portuguese	
Bermuda Co	1612	177	3	14	2.77	6	2	0.38	14	Initially		Crown raises customs
Providence Island Co	1630	23	2	13	2.57	5	13	2.46	17	No	Spanish	
New endeavours within Europe												
Muscovy Co / Greenland Adv**	1555	211	3	5	0.99	2	2	0.38	7	Yes	Dutch	
Levant Co**	1592	572	7	6	1.19	10	7	1.33	11	Yes	Spanish, Barbary	Crown raises customs
Northwest passage exploration												
Frobisher's Voyages	1576	121	4	0	0.00	5	1	0.19	1	No		
Other NWP ventures	1584	311	7	10	1.98	17	1	0.19	11	No		
Hudson's NWP venture	1610	23	1	3	0.59	1	0	0.00	3	No		
North America												
Gilbert's enterprises	1578	147	1	1	0.20	2	1	0.19	2	No		
Gosnold's voyage	1602	5	0	0	0.00	0	0	0.00	0	Yes		
Weymouth's voyage	1605	5	1	0	0.00	1	0	0.00	0	Yes		
Other New England ventures***	1606	70	1	3	0.59	2	6	1.14	6	No		
Virginia Co (Roanoke)	1606 (1584)	1671	47	70	13.86	65	34	6.44	82	No		
Newfoundland/ N. Scotia / Canada Co	1610	58	2	2	0.40	1	3	0.57	4	No	French	Crown surrenders colonies
Baffin's NWP backers	1615	8	1	2	0.40	0	0	0.00	2	No		
Plymouth Co	1620	50	1	2	0.40	1	2	0.38	3	No		
Dorchester/ Massachusetts Bay Co	1623	123	7	22	4.36	11	21	3.98	34	No		Crown threatens charter
Total Investor Names		6956	128	218	44.95	190	147	29.36	300			
% Overseas JS Investors in Parliament			15.84	27.92		18.65	17.20		20.44			

+= Lower bound;*=Profitable for shareholders prior to Long Parliament; **= switched to regulatory company structure upon confirmation of profitability;***=Northern VA Co, New England Council and delegated patents, including Saybrook Co and Maine Exploration. For sources, please see Data Appendix. Note: 156 MPs served in both the Long Parliament and the 1628 Parliament.

Table 3: **Regression: Alternative channels: Contemporaneous Income**

Regression (OLS): Log. Income (ca. 1642-50)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Investor in Overseas Joint Stock		0.240	0.204	-0.011	0.003		0.165	-0.060
		[0.220]	[0.211]	[0.252]	[0.274]		[0.254]	[0.278]
JS Investor x Merc. Endowment		0.567	0.553	0.671	0.594		0.428	0.362
		[0.421]	[0.389]	[0.496]	[0.495]		[0.417]	[0.455]
Father Investor in Overseas Joint Stock		-0.168	-0.193	-0.287	-0.485**		-0.047	-0.460**
		[0.189]	[0.181]	[0.184]	[0.186]		[0.212]	[0.204]
Father Merchant or Apprenticed Merchant		0.337**	0.457**	0.726***	0.712**		0.459***	0.977***
		[0.145]	[0.221]	[0.267]	[0.303]		[0.163]	[0.272]
Inherited a Manor	0.324**	0.254*	0.275**	0.156	0.035	0.231	0.163	-0.102
	[0.127]	[0.130]	[0.135]	[0.246]	[0.262]	[0.157]	[0.152]	[0.227]
Inherited Land	0.427	0.624**	0.744**	0.916**	1.171***	0.496*	0.696**	1.249***
	[0.306]	[0.306]	[0.326]	[0.417]	[0.354]	[0.286]	[0.275]	[0.307]
Heir	0.227	0.305	0.276	0.333	0.421*	0.273	0.363	0.536*
	[0.188]	[0.213]	[0.213]	[0.264]	[0.245]	[0.246]	[0.232]	[0.281]
Father Knight or Baronet	0.456***	0.435***	0.495***	0.382**	0.526***	0.488***	0.467***	0.607***
	[0.093]	[0.119]	[0.133]	[0.162]	[0.148]	[0.102]	[0.121]	[0.154]
Father Noble	0.882***	0.915***	0.970***	1.574***	1.731***	0.831***	0.827**	1.964***
	[0.286]	[0.303]	[0.316]	[0.398]	[0.460]	[0.300]	[0.331]	[0.477]
Experienced Wardship	0.315***	0.315***	0.195*	0.198	0.240*	0.158	0.154	0.269
	[0.100]	[0.114]	[0.107]	[0.138]	[0.125]	[0.159]	[0.168]	[0.172]
Gentry prior to the Tudors		0.168	0.110	0.217	0.001		0.233	0.008
		[0.130]	[0.119]	[0.159]	[0.174]		[0.150]	[0.175]
Inherited Court Ties		0.157	0.156	0.047	-0.028		0.132	0.005
		[0.181]	[0.163]	[0.155]	[0.184]		[0.188]	[0.191]
Log. Min. Dist. Father's Residence to London		-0.038	-0.078	-0.079	-0.114*		-0.051	-0.111
		[0.053]	[0.055]	[0.050]	[0.059]		[0.066]	[0.066]
# Father's Addresses		-0.062	-0.148	-0.183	-0.216		-0.106	-0.277*
		[0.118]	[0.119]	[0.123]	[0.144]		[0.130]	[0.156]
Log. Lay Subsidy 1524-25, pds.					-0.044			0.647
					[0.075]			[0.418]
Joint F-test β(wealth endowments)= 0	12.97	12.07	11.97	8.53	11.7	9.67	8.42	12.29
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	No	No	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	No	No	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	No	No	Yes
Weighted by Rebel/Royalists in Sample	No	No	No	No	No	Yes	Yes	Yes
Observations	270	270	270	270	209	270	270	209
R-squared	0.21	0.27	0.34	0.59	0.63	0.20	0.28	0.69

This regression provides estimates of the effects of holding shares and of a range of wealth endowments on the log of an MP's income during the Civil War. The sample is restricted to Long Parliament MPs for whom such data exist. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1) includes the *Wealth Endowments*:Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Individual Controls add*: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary. *Constituency Controls add*: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5) adds a control for the log. lay subsidy wealth assessment of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. More royalists appear in the sample as they faced fines based upon the assessed value of their estates, so (6), (7) and (8) are the same as (1),(2) and (5) respectively but *weight rebels* in the sample more so that they match the proportions in the population.

Table 4: **Regression: Alternative channels: Ideology: Held Royal Office Prior to Long Parl.**

Regression (OLS): Held Royal Office (before LP)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Investor in Overseas Joint Stock	0.124**	0.110*	0.145**	0.150**	0.120	0.105	0.166***	0.136**	0.081
	[0.056]	[0.056]	[0.059]	[0.069]	[0.073]	[0.073]	[0.054]	[0.056]	[0.064]
JS Investor x Merc. Endowment	0.114	0.108	0.089	0.004	-0.027	0.021	0.033	0.002	0.099
	[0.123]	[0.128]	[0.129]	[0.132]	[0.158]	[0.155]	[0.095]	[0.111]	[0.147]
Father Investor in Overseas Joint Stock	-0.007	0.041	0.022	0.014	0.016	0.027	-0.021	-0.010	0.007
	[0.056]	[0.052]	[0.050]	[0.059]	[0.053]	[0.055]	[0.051]	[0.052]	[0.055]
Father Merchant or Apprenticed Merchant	-0.093*	-0.155**	-0.158**	-0.104	-0.089	-0.102	-0.156***	-0.126***	-0.109*
	[0.049]	[0.058]	[0.059]	[0.070]	[0.062]	[0.063]	[0.042]	[0.045]	[0.055]
Inherited Court Ties	0.379***	0.392***	0.376***	0.383***	0.409***	0.404***	0.310***	0.313***	0.386***
	[0.035]	[0.041]	[0.045]	[0.052]	[0.058]	[0.060]	[0.043]	[0.054]	[0.062]
Log. Min. Dist. Father's Residence to London		-0.020	-0.028**	-0.031**	-0.038**	-0.038**	-0.035***	-0.043***	-0.032*
		[0.013]	[0.013]	[0.014]	[0.015]	[0.016]	[0.012]	[0.014]	[0.018]
# Father's Addresses		-0.076**	-0.082**	-0.066*	-0.084**	-0.086**	-0.063**	-0.075**	-0.068*
		[0.032]	[0.032]	[0.038]	[0.039]	[0.040]	[0.030]	[0.034]	[0.038]
Sample	LP	LP	LP	LP	LP	LP	LP+1628 (alive)	LP+1628 (alive)	LP+1628 (partisan)
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes	No	Yes	Yes
Observations	528	528	528	528	418	409	699	530	437
R-squared	0.19	0.22	0.24	0.35	0.35	0.35	0.31	0.31	0.32

This regression provides estimates of the determinants of whether an MP held a royal office prior to 1640. (1-6) are the Long Parliament (LP) sample. (7-8) pools MPs from the 1628 parliament still alive in 1642. (9) restricts the pooled 1628 MPs to those whose Civil War allegiance was known. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1) includes controls for Father JS investor, Apprenticed or Father Merchant, Inherited a Manor, and Inherited Court Ties. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary. *Wealth Endowments* include: Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6,8-9) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6),(9) drop the county of *Middlesex* which includes London.

Table 5: **Regression: Alternative channels: Risk: Investor in Domestic Joint Stock**

Regression (OLS): Parliamentary Rebel	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A: Domestic JS Investor									
Domestic JS Investor	0.009	0.007	0.039	0.106	0.086	0.083	0.129*	0.100	0.142
	[0.081]	[0.083]	[0.087]	[0.084]	[0.097]	[0.101]	[0.071]	[0.090]	[0.099]
R-squared	0.03	0.08	0.15	0.29	0.29	0.28	0.26	0.26	0.26
B: Domestic Investor Controlling for Overseas Investment									
Domestic JS Investor	-0.075	-0.073	-0.022	0.033	-0.008	-0.014	0.091	0.058	0.056
	[0.085]	[0.082]	[0.086]	[0.078]	[0.089]	[0.094]	[0.067]	[0.085]	[0.092]
Investor in Overseas Joint Stock	0.224***	0.213***	0.163***	0.180***	0.219***	0.231***	0.110**	0.135**	0.217***
	[0.051]	[0.052]	[0.052]	[0.059]	[0.070]	[0.074]	[0.045]	[0.058]	[0.069]
R-squared	0.05	0.11	0.17	0.3	0.31	0.3	0.26	0.27	0.29
Sample	LP	LP	LP	LP	LP	LP	LP+1628 (alive)	LP+1628 (alive)	LP+1628 (partisan)
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes	No	Yes	Yes
Observations	528	528	528	528	418	409	699	530	437

Panel A provides OLS estimates of the effects of holding shares in a domestic joint stock company on the decision to rebel among MPs. **Panel B** adds a dummy indicating whether an individual also invested in overseas shares. (1-6) are the Long Parliament (LP) sample. (7-8) pools MPs from the 1628 parliament still alive in 1642. (9) restricts the pooled 1628 MPs to those whose Civil War allegiance was known. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1) includes controls for Father JS investor, Apprenticed or Father Merchant and Inherited a Manor. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary. *Wealth Endowments* include:Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6,8-9) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6),(9) drop the county of *Middlesex* which includes London.

Table 6: **Regression: Lifecycle-Pre-War Legislative: Supported Crown Advisor (1641)**

Regression (OLS): Supported Earl Strafford (1641)	(1)	(2)	(3)	(4)	(5)	(6)
Investor in Overseas Joint Stock	-0.100***	-0.099***	-0.075**	-0.083*	-0.076	-0.078
	[0.036]	[0.034]	[0.036]	[0.045]	[0.048]	[0.049]
JS Investor x Merc. Endowment	0.093**	0.091**	0.100**	0.101	0.093	0.072
	[0.038]	[0.037]	[0.048]	[0.070]	[0.067]	[0.070]
Father Merchant or Apprenticed Merchant	-0.176***	-0.164***	-0.158***	-0.166***	-0.150***	-0.147***
	[0.025]	[0.031]	[0.032]	[0.041]	[0.047]	[0.047]
Inherited a Manor	-0.018	0.008	0.009	0.040	0.095**	0.098**
	[0.036]	[0.047]	[0.045]	[0.047]	[0.044]	[0.045]
Inherited Land		-0.054	-0.064	-0.115**	-0.173***	-0.185***
		[0.043]	[0.044]	[0.054]	[0.055]	[0.058]
Heir		0.028	0.022	0.029	0.019	0.023
		[0.032]	[0.032]	[0.035]	[0.041]	[0.043]
Father Knight or Baronet		-0.063	-0.064	-0.049	-0.074	-0.074
		[0.044]	[0.043]	[0.046]	[0.050]	[0.051]
Father Noble		-0.012	-0.009	-0.040	-0.053	-0.052
		[0.073]	[0.072]	[0.083]	[0.088]	[0.089]
Experienced Wardship		-0.004	-0.004	0.021	0.020	0.023
		[0.047]	[0.048]	[0.048]	[0.048]	[0.049]
Gentry prior to the Tudors		0.046	0.046	0.047	0.044	0.043
		[0.035]	[0.037]	[0.040]	[0.041]	[0.041]
Inherited Court Ties		0.092**	0.088**	0.090**	0.115***	0.120***
		[0.035]	[0.034]	[0.039]	[0.038]	[0.040]
Attended Puritan Seminary		-0.035	-0.030	0.009	0.014	0.022
		[0.047]	[0.040]	[0.047]	[0.055]	[0.055]
Log. Lay Subsidy 1524-25, pds.					-0.016	-0.020
					[0.014]	[0.014]
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes
Joint F-test β(O JS variables)= 0	4.52	4.38	2.40	1.66	1.40	1.27
Prob>F	0.02	0.02	0.10	0.20	0.26	0.29
Observations	528	528	528	528	418	409
R-squared	0.05	0.08	0.11	0.27	0.24	0.24

This regression provides OLS estimates of the determinants of whether an MP voted against the `Attainder' of the Earl of Strafford in 1641. The Earl was Charles I's most powerful privy councillor who had suggested that Irish troops could be used to quell dissent on the mainland. He was tried in Parliament and the names of those that voted against his conviction were posted on the door of Westminster Hall. This act was seen as an overt sign of legislative support for the Crown. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1-6) is the Long Parliament sample as only votes for these MPs were recorded. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary; *Wealth Endowments* that include: Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6) drops the county of *Middlesex* which includes London.

Table 7: Regression: Lifecycle- Eve of War Financial: Subscribed to Loan for Defense of London (1642)

Regression (OLS): Subscribed Loan Def. London (1642)	(1)	(2)	(3)	(4)	(5)	(6)
Investor in Overseas Joint Stock	0.254***	0.241***	0.210***	0.228***	0.232**	0.234**
	[0.050]	[0.054]	[0.059]	[0.067]	[0.086]	[0.087]
JS Investor x Merc. Endowment	0.015	-0.002	-0.017	0.045	0.063	0.049
	[0.113]	[0.121]	[0.115]	[0.109]	[0.134]	[0.142]
Father Merchant or Apprenticed Merchant	0.081	-0.027	-0.028	-0.032	-0.030	-0.015
	[0.075]	[0.083]	[0.083]	[0.082]	[0.096]	[0.098]
Inherited a Manor	0.079	0.132***	0.138***	0.158***	0.136*	0.143*
	[0.050]	[0.047]	[0.045]	[0.058]	[0.073]	[0.075]
Inherited Land		0.006	-0.008	0.019	0.027	0.027
		[0.047]	[0.045]	[0.060]	[0.071]	[0.074]
Heir		-0.127***	-0.123***	-0.140***	-0.092	-0.106*
		[0.040]	[0.038]	[0.048]	[0.060]	[0.059]
Father Knight or Baronet		-0.069	-0.086	-0.068	-0.099	-0.107
		[0.052]	[0.054]	[0.062]	[0.066]	[0.066]
Father Noble		-0.276***	-0.301***	-0.267***	-0.330***	-0.323***
		[0.064]	[0.061]	[0.070]	[0.094]	[0.093]
Experienced Wardship		-0.018	-0.013	-0.003	0.020	0.025
		[0.067]	[0.070]	[0.066]	[0.082]	[0.082]
Gentry prior to the Tudors		-0.058	-0.059	-0.051	-0.050	-0.060
		[0.044]	[0.043]	[0.045]	[0.052]	[0.051]
Log. Lay Subsidy 1524-25, pds.					-0.022	-0.024
					[0.017]	[0.018]
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes
Joint F-test β(O JS variables)= 0	13.95	11.19	6.66	9.1	8.41	7.7
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000
Observations	528	528	528	528	418	409
R-squared	0.07	0.12	0.16	0.34	0.35	0.35

This regression provides OLS estimates of the determinants of an MP's willingness to subscribe funds for the Defense of London against potential Crown attack in 1642. In this call for funds, participation was emphasised rather than the amount, and it provides an overt signal of allegiance to Parliamentary supremacy on the eve of the Civil War. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1-6) is the Long Parliament sample as only votes for these MPs were recorded. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary; *Wealth Endowments* include: Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6) drops the county of *Middlesex* which includes London.

Table 8: **Regression: Lifecycle- Post-War Coalition: Sat in Rump Parliament (1648-52)**

Regression (OLS): Served in Rump (1648-53)	(1)	(2)	(3)	(4)	(5)	(6)
Investor in Overseas Joint Stock	0.181***	0.181***	0.177***	0.156**	0.144**	0.150**
	[0.055]	[0.052]	[0.050]	[0.059]	[0.060]	[0.064]
JS Investor x Merc. Endowment	-0.318***	-0.322***	-0.316***	-0.180	-0.178	-0.172
	[0.099]	[0.095]	[0.098]	[0.110]	[0.125]	[0.134]
Father Merchant or Apprenticed Merchant	-0.066	0.176**	0.164*	0.119	0.190*	0.179*
	[0.055]	[0.084]	[0.084]	[0.091]	[0.096]	[0.096]
Father Investor in Overseas Joint Stock	0.226***	-0.060	-0.060	-0.077	-0.102	-0.095
	[0.071]	[0.074]	[0.079]	[0.090]	[0.097]	[0.098]
Inherited a Manor	-0.010	0.004	-0.002	-0.014	-0.022	-0.038
	[0.028]	[0.044]	[0.045]	[0.055]	[0.060]	[0.061]
Inherited Land		-0.009	0.000	0.025	0.046	0.060
		[0.054]	[0.057]	[0.078]	[0.089]	[0.092]
Heir		-0.024	-0.014	-0.017	0.019	0.020
		[0.047]	[0.045]	[0.054]	[0.057]	[0.059]
Father Knight or Baronet		0.010	0.009	0.000	0.038	0.046
		[0.044]	[0.045]	[0.052]	[0.061]	[0.061]
Father Noble		-0.038	-0.019	-0.029	-0.113	-0.128
		[0.081]	[0.081]	[0.091]	[0.088]	[0.087]
Experienced Wardship		0.011	0.020	0.028	0.012	0.003
		[0.064]	[0.065]	[0.079]	[0.087]	[0.090]
Gentry prior to the Tudors		-0.055	-0.046	-0.073	-0.076	-0.064
		[0.041]	[0.042]	[0.048]	[0.059]	[0.058]
Attended Puritan Seminary		0.050	0.043	0.054	0.029	0.029
		[0.065]	[0.066]	[0.077]	[0.079]	[0.081]
Port Constituency			0.020	0.019	0.037	0.042
			[0.066]	[0.091]	[0.113]	[0.114]
Log. Lay Subsidy 1524-25, pds.					0.041*	0.046**
					[0.022]	[0.022]
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes
Joint F-test β(O JS variables)= 0	6.72	7.68	7.55	3.46	2.89	2.70
Prob>F	0.00	0.00	0.00	0.04	0.07	0.08
Observations	515	515	515	515	406	397
R-squared	0.04	0.06	0.07	0.2	0.23	0.23

This regression provides OLS estimates of the determinants of membership in the Rump Parliament that governed England from 1648 to 1653. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1-6) is the Long Parliament sample as only votes for these MPs were recorded. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary; *Wealth Endowments* include: Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6) drops the county of *Middlesex* which includes London.

Table 9: **First Stage, OLS and IV Estimates of Effect of Shareholding on Decision to Rebel, with Flexible Age Controls**

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) IV-LIML	(10) IV-LIML	(11) IV-LIML	(12) IV-LIML
Outcome	Overseas Share Investor	Overseas Share Investor	Overseas Share Investor	Overseas Share Investor	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War	Rebel, Civil War
Investor in Overseas Joint Stock					0.126** [0.062]	0.159** [0.063]	0.148** [0.066]	0.158** [0.068]	0.587 [0.421]	0.640** [0.319]	0.634* [0.328]	0.669** [0.331]
Attained Adulthood in IPO year	0.619** [0.268]	0.742** [0.304]	0.745** [0.298]	0.817** [0.315]								
Adult IPO yr x Log M.Dist Father Res. London	-0.052** [0.023]	-0.061** [0.026]	-0.062** [0.026]	-0.067** [0.027]								
Age in 1640 (years)	0.004 [0.009]	-0.003 [0.010]	-0.171* [0.091]	-0.164* [0.091]	0.010 [0.010]	0.013 [0.012]	-0.249** [0.110]	-0.252** [0.109]	0.007 [0.009]	0.014 [0.012]	-0.167 [0.128]	-0.169 [0.126]
Age^2 in 1640 (decades^2)	0.000 [0.001]	0.001 [0.001]	0.058* [0.030]	0.057* [0.030]	0.000 [0.001]	0.000 [0.001]	0.085** [0.036]	0.085** [0.036]	0.000 [0.001]	-0.001 [0.001]	0.056 [0.042]	0.056 [0.041]
Log. Min. Dist. Father's Residence to London	0.000 [0.012]	-0.001 [0.014]	-0.002 [0.015]	0.000 [0.015]	-0.014 [0.017]	-0.002 [0.019]	-0.004 [0.019]	-0.008 [0.019]	-0.008 [0.015]	0.006 [0.016]	0.005 [0.016]	-0.001 [0.015]
# Father's Addresses	0.001 [0.025]	-0.020 [0.026]	-0.021 [0.026]	-0.017 [0.025]	-0.020 [0.036]	0.002 [0.041]	-0.001 [0.040]	-0.008 [0.041]	-0.019 [0.034]	0.011 [0.037]	0.009 [0.037]	-0.001 [0.037]
Joint F-test instruments	2.67	3.13	3.23	3.55	Hansen's J (overidentifying restrictions)				0.01	0.34	0.25	0.21
Prob>F	0.08	0.06	0.05	0.04	Prob>J				0.93	0.56	0.61	0.64
Age Controls	Quadratic	Quadratic	Quartic	Quartic	Quadratic	Quadratic	Quartic	Quartic	Quadratic	Quadratic	Quartic	Quartic
Log Lay Subsidy Control and Sample	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Omit Middlesex?	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Wealth & Other Indiv. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constituency Controls and Franchise FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County of Constituency FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.36	0.38	0.38	0.36	0.33	0.34	0.35	0.34				
Observations	522	412	412	404	522	412	412	404	522	412	412	404

(1-4) provide the First Stage estimate of two instruments: the effect of whether an MP turned 21 in an IPO year and the interaction between that variable and the log minimum distance of the MP's father's residence to London on the MP's decision to hold overseas shares.(5-8) show that the OLS estimate of the effect of holding overseas shares on the decision to rebel is robust to controlling for flexibly for age. (9-12) provide the IV estimates using the two instruments. I report LIML coefficients and standard errors (the 2SLS estimates are similar.) The Hansen's J statistic fails to reject the null that the over-identifying restrictions implied by the second instrument are valid. (1-2),(5-6) and (9-10) include quadratic controls for the age of the MP in 1642, while (3-4),(7-8) and (11-12) include quartic controls for age. The IV results are reassuringly similar to the local IV estimates. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. Individual Controls include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary and Wealth Endowments that included:Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. Constituency Controls add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log. Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (2-4),(6-8),(10-12) add a control for the log. lay subsidy wealth assessment of the constituency in 1524-25, and restricts the sample to the core set of taxpaying constituencies. (4),(8) and (12) drop the county of Middlesex which includes London.

Table 10: **Regression: Alternative Joint Stock Investor Codings**

Regression (OLS): Parliamentary Rebel	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(A) Confirmed Biographical Matches only									
O. JS Investor (Keeler+HPT confirmed only)	0.198***	0.190***	0.143***	0.169***	0.201***	0.212***	0.104**	0.136**	0.200***
	[0.046]	[0.049]	[0.052]	[0.062]	[0.071]	[0.075]	[0.051]	[0.063]	[0.070]
R-squared	0.05	0.1	0.16	0.3	0.3	0.3	0.26	0.26	0.28
Proportion Overseas JS Investor	0.159	0.159	0.159	0.159	0.175	0.164	0.148	0.168	0.173
(B) Feasible Investor Name Matches									
O. JS Investor (Rabb: possible name matches)	0.172***	0.152***	0.120***	0.161***	0.185***	0.191***	0.115***	0.126***	0.198***
	[0.043]	[0.044]	[0.042]	[0.052]	[0.055]	[0.057]	[0.035]	[0.046]	[0.057]
R-squared	0.05	0.10	0.16	0.3	0.31	0.3	0.26	0.27	0.28
Proportion Overseas JS Investor	0.237	0.237	0.237	0.237	0.251	0.240	0.250	0.271	0.261
Sample	LP	LP	LP	LP	LP	LP	LP+1628 (alive)	LP+1628 (alive)	LP+1628 (partisan)
Indiv. Wealth and Other Endowment Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Franchise (1628) FE and County of Const. FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Log Lay Subsidy Control and sub-Sample	No	No	No	No	Yes	Yes	No	Yes	Yes
Omit Middlesex?	No	No	No	No	No	Yes	No	Yes	Yes
Observations	528	528	528	528	418	409	699	530	437

This regression provides estimates of the effects of holding overseas shares on the decision to rebel among MPs under different algorithms for matching joint stock investors to MPs. **Panel A** restricts those that were considered overseas investors only to the set identified in biographies by the *History of Parliament Trust*, the *Dictionary of National Biography* or *Keeler (1954)*. **Panel B** expands the possible matches to all those MPs with name matches that were alive and over 15 years old. (1-6) are the *Long Parliament* (LP) sample: a decision not to rebel implies being a royalist. (7-8) *pools MPs from the 1628 parliament still alive in 1642*: for these 1628 MPs, Rebel=0 indicates `did not rebel'. (9) restricts the pooled 1628 MPs to those whose *Civil War allegiance was known*: Rebel= 0 again indicates royalist. Robust standard errors clustered at the county of most recent constituency. *10%,**5%,***1%. (1) includes controls for Father JS investor, Apprenticed or Father Merchant and Inherited a Manor. *Individual Controls* include: Father JS investor, Apprenticed or Father Merchant, Gentry before Tudors, Inherited Court Ties, Log. Minimum Distance of Father's Address to London, Number of Father's Addresses, Attended a Puritan Seminary; *Wealth Endowments* include: Inherited a Manor, Inherited Land, Heir, Father Knight or Baronet, Father Noble and Experienced Wardship. *Constituency Controls* add: Puritan Ministers per capita in county 1600, Catholic Recusants per capita in county 1600, Borough, Port, Log. Population Density, Constituency in Royal Demesne 1415, Constituency contains Castle 1415, Log Distance: Constituency to London, Constituency Experienced Contest in LP election, Constituency Experienced Contest in 1603-1628 elections, Log. # Voters 1628 (estd). (5-6, 8-9) add a control for the log. lay subsidy *wealth assessment* of the constituency in 1524-25, and restricts the sample to a core set of taxpaying constituencies. (6,9) drop the county of *Middlesex* which includes London.

Table 11: **Rebellion in the House of Lords by Overseas Joint Stock Investment (Means)**

	House of Lords (All)	Investor in O. JS	Other	Pr(T < t)	Of Age in IPO Yr	Other	Pr(T < t)
Parliamentary Rebel (1644 or earlier)	0.348	0.480	0.297	0.0527*	0.563	0.301	0.0239**
	(0.479)	(0.510)	(0.460)		(0.512)	(0.462)	
N	89	25	64		16	73	
Investor in Overseas JS	0.281				0.375	0.260	0.1804
	(0.452)				(0.500)	(0.442)	
N	89				16	73	

This table provides means comparisons of the decision to hold overseas shares and to rebel during the Civil among members of the House of Lords, by whether the noble turned 21 in an IPO year. Observe that the patterns of investment and rebellion mimic the House of Commons, though shareholding was more common (28% of the Lords hold overseas shares) and rebellion less common (34.8% of nobles ultimately rebelled). Yet, 48% investor-nobles rebelled compared to 29.7% of non-investors. 37.5% of those that come of age in IPO years were investors, compared to 26% in other years, and 56.3% of those that come of age in IPO years rebelled, versus 30.1% of those that came of age in other years. Political allegiance based upon of the "List of Lords that have absented themselves from the Parliament, and are now with his Majesty at York" (May 1642), compiled by Lord Dudley North and Sir Robert Greville, Lord Brooke (reprinted in Tonson, Tonson, Millar and Sandby, eds (1763)), adjusting for defections up to 1644 using Peacock, ed (1863), Firth (1910), biographies from the Oxford Dictionary of National Biography and History of Parliament Trust.

Table 12: Rebel MPs for Whom Shares Increased the Probability of Rebellion above 50%.

Name	Constituency	Predicted Prob. Rebel*	Prob. Net of Share Effect*	Adult in IPO Year	Specification (of Switch+)	Leadership Role in Parl. Coalition**	Royal Offices	Father's Occupation	Overseas Joint Stock Companies
North, Roger	Eye, Suffolk	0.768	0.496	0	p		Gent Privy Chamber	gentleman	Guiana
Darley, Henry	Northallerton, Yorks.	0.762	0.490	0	p c			gentleman	Mass Bay, Providence Isl., Saybrook
Barnardiston, Nathaniel	Suffolk	0.761	0.490	0	p			gentleman	East India, Mass Bay
White, John	Southwark, Surrey	0.760	0.488	0	p f			gentleman	East India, New England, Plymouth, Privateering, Mass Bay, Virginia
Vane Jr, Henry	Hull, Yorks.	0.752	0.480	0	p c	Grand Remon.	Treasurer of the Navy	gentleman and courtier	New England, Saybrook
Fiennes, James	Oxfordshire	0.748	0.477	0	p			noble: Viscount Say	Providence Isl.
Clotworthy, John	Maldon, Essex	0.743	0.472	0	p			soldier-adventurer	New England
Harley, Robert	Herefordshire	0.743	0.471	0	p f l		Master of the Mint	gentleman	Virginia
Moundeford, Edmund	Norfolk	0.742	0.471	0	p			gentleman	Providence Isl.
Fowell, Edmund	Ashburton, Devon	0.739	0.468	0	p			gentleman	Privateering
Stephens, Edward	Tewkesbury, Gloucs.	0.735	0.463	yes	p f l w i			gentleman courtier	East India
Walsingham, Thomas	Rochester, Kent	0.730	0.458	yes	w i		Gent Privy Chamber	gentleman	Virginia
Hampden, John	Buckinghamshire	0.724	0.452	0	p	1 of `5 Members'		gentleman	Saybrook
Haselrig, Arthur	Leicestershire	0.720	0.449	0	p	1 of `5 Members'		gentleman	Saybrook
Hodges, Thomas	Cricklade, Wiltshire	0.716	0.444	yes	w			gentleman	Virginia
Cheeke, Thomas	Harwich, Essex	0.714	0.443	0	p			gentleman	Amazon, Bermuda, Guiana, Virginia
DEwes, Symonds	Sudbury, Suffolk	0.707	0.436	yes	w i			barrister	New England, Providence, Isl.
Parker, Thomas	Seaford, Cinque Ports	0.705	0.434	0	p				Virginia
Knollys Sr, Francis	Reading, Berkshire	0.694	0.422	0	p		Keeper Windsor Forest	gentleman and courtier	Drake, Frobisher, Gilbert, Privateering, Virginia
Whitelocke, Bulstrode	Great Marlow, Bucks	0.686	0.414	0	p l			judge	Poole Venturers
Saint John, Oliver	Totness, Devon	0.684	0.413	0	p c f l	Grand Remon.	Solicitor to the King	gentleman	Africa, Providence Isl., Virginia
Pelham, Henry	Grantham, Lincs.	0.682	0.411	yes	w i			gentleman	Virginia
Moore, Poynings	Haslemere, Surrey	0.682	0.411	0	p			gentleman and courtier	Virginia
Brereton, William	Cheshire	0.674	0.403	0	p c			gentleman	Mass Bay, New England
Hippisley, John	Cockermouth, Cumbs.	0.670	0.398	0	p c		Equerry of the Stables	gentleman	Privateering
Trevor, John	Grampound, Cornwall	0.665	0.393	0	p		Customs Farmer	gentleman	Virginia
Gerard, Gilbert	Middlesex	0.661	0.390	0	p l		Clerk Duchy Lancs	courtier	Providence Island
Middleton, Thomas	Denbighshire	0.658	0.386	0	p		Surveyor of Customs	grocer	Privateering
Rudyard, Benjamin	Wilton, Wiltshire	0.652	0.380	0	p c l		Gent Privy Chamber	gentleman	Providence Isl.
North, Dudley	Cambridgeshire	0.638	0.366	yes	p c f l w i			noble: Lord North	Guiana
Pym, John	Tavistock, Devon	0.635	0.363	yes	p w i	1 of `5 Members', Grand Remon	Receiver-General	gentleman and lawyer	Bermuda, Saybrook, Providence Isl.
Long, Walter	Ludgershall, Wiltshire	0.619	0.347	0	p			gentleman	Barbary
Selden, John	Oxford University	0.614	0.343	yes	p w i			minstrel	Virginia
Vane Sr, Henry	Wilton, Wiltshire	0.612	0.340	yes	p c w i		Comptroller of King's Household	soldier	Virginia
Strode, William	Berealston, Devon	0.610	0.339	0	p c f	1 of `5 Members'		gentleman	New England
Holles, Denzil	Dorchester, Dorset	0.595	0.323	0	p c l	1 of `5 Members'		noble: Earl Clare	New England
Erle, Walter	Weymouth, Dorset	0.565	0.294	0	p	Grand Remon.		gentleman	New England, Plymouth, Virginia
Popham, Francis	Minehead, Somerset	0.527	0.255	0	p		Other	gentleman	New England, Virginia

*Predicted probability of rebellion in these two columns based upon probit regression with personal endowment controls as in Table 1. Similarly, the counterfactual probability is calculated by subtracting estimated ATT effect of shareholding on shareholders or LATE effect on shareholders who came of age in an IPO year.+: Specifications under which the MP is predicted to go from below 50% probability of rebellion to above 50%. p: Probit (Personal); c: Probit(adds Constituency controls); f:OLS:(adds Franchise and County FE); l: adds lay subsidy control in lay subsidy sample; w: IV(Wald Estimator); i: IV(Local LATE). **: Leadership Roles in the Parliamentary Coalition include being selected as 1 of `Five Members' the King viewed as ringleaders and sought to arrest in 1642. Grand Remonstrance refers to membership in the committee responsible for framing the major offer of reform terms prior to violent conflict. Nathaniel Fiennes and Sir John Culpepper were in the committee but were not switchers according to our estimates.

Table 13: **Rebel MPs for Whom Shares the Probability of Rebellion above 50% (contd).**

Name	Constituency	Predicted Prob. Rebel*	Prob. Net of Share Effect*	Adult in IPO Year	Specification (of Switch+)	Leadership Role in Parl. Coalition**	Royal Offices	Father's Occupation	Overseas Joint Stock Companies
Ingram, Arthur	Callington, Cornwall	0.939	0.668	yes	w		Customs Farmer	tallowchandler	Guiana, East India, Virginia
Pennington, Isaac	London, Middlesex	0.933	0.662	yes	w			fishmonger	East India, Levant, Russia, Privateering
Evelyn, John	Bletchingley, Surrey	0.926	0.655	yes	w		Gunpowder Monopolist	gunpowder monopolist	East India, Virginia
Soame, Thomas	London, Middlesex	0.912	0.641	yes	1 w		Other	merchant	East India, Levant, Russia, Privateering, Virginia
Pelham, Thomas	Sussex	0.909	0.637	yes	w			gentleman and ironmaster	Virginia
Stephens, Nathaniel	Gloucestershire	0.875	0.603	yes	w			gentleman	East India
Rolle, Samuel	Devon	0.847	0.575	yes	w			gentleman	Privateering
Gollop, George	Southampton, Hants	0.842	0.570	yes	w			yeoman	Privateering
Venn, John	London, Middlesex	0.840	0.568	0	1			yeoman	Mass Bay
Rolle, John	Truro, Cornwall	0.834	0.563	0	c			gentleman	Levant
Craddock, Matthew	London, Middlesex	0.830	0.558	0	1			rector	East India, Mass Bay, Russia, Privateering
Barrington, Thomas	Colchester, Essex	0.805	0.534	yes	w			gentleman	Providence Isl.
Green, Giles	Corfe Castle, Dorset	0.787	0.516	0	1		Surveyor of Saltworks	merchant	New England
Roe, Thomas	Oxford University	0.785	0.513	yes	w i		Ambassador to Great Mogul, Privy Councillor	haberdasher	Guiana, East India, Levant, New England, Virginia
Spurstow, William	Shrewsbury, Salop.	0.782	0.510	0	c f l			wool merchant	East India, Mass Bay
Masham, William	Essex	0.775	0.503	yes	w i			client of Earl Essex	Providence Isl, Virginia
Browne, John	Dorset	0.773	0.501	0	c f l			gentleman	New England

*Predicted probability of rebellion in these two columns based upon probit regression with personal endowment controls as in the paper's Table 3 [Col 1]. Similarly, the counterfactual probability is calculated by subtracting estimated ATT effect of shareholding on shareholders or LATE effect on shareholders who came of age in an IPO year.+: Specifications under which the MP is predicted to go from below 50% probability of rebellion to above 50%. p: Probit (Personal); c: Probit(adds Constituency controls); f:OLS:(adds Franchise and County FE); l: adds lay subsidy control in lay subsidy sample; w: IV(Wald Estimator); i: IV(Local LATE). **: Leadership Roles in the Parliamentary Coalition include being selected as 1 of 'Five Members' the King viewed as ringleaders and sought to arrest in 1642. Grand Remonstrance refers to membership in the committee responsible for framing the major offer of reform terms prior to violent conflict. Nathaniel Fiennes and Sir John Culpepper were in the committee but were not switchers according to our estimates.

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Table 14: **Royalist MPs for Whom Shares Raised the Probability of Rebellion above 50%.**

Name	Constituency	Predicted Prob. Rebel*	Prob. Net of Share Effect*	Adult in IPO Year	Specification (of Switch+)	Royal Offices	Father's Occupation	Overseas Joint Stock Companies
Bludder, Thomas	Reigate, Surrey	0.776	0.505	Yes	w i	Gent. Privy Chamber	merchant	Virginia
Brooke, John	Appleby, Westmorland	0.788	0.516		c	Constable Dover Castle	gentleman courtier	Guiana, New England, Virginia
Crispe, Nicholas	Winchelsea, Cinque Ports	0.883	0.611		f	Customs Farmer	salter	Africa, Courteen's EIC, East India, Privateering, Barbary Co
Danby, Thomas	Richmond, Yorkshire	0.704	0.433		p c		gentleman	Virginia
Fanshawe, Thomas	Hertford, Hertfordshire	0.578	0.307		p	King's Remembrancer	courtier	Virginia, East India
Ferris, Richard	Barnstaple, Devon	0.776	0.505		l		merchant	Privateering
Harrison, John	Lancaster, Lancashire	0.831	0.559	Yes	w	Customs Farmer	clothier	East India, Virginia
Hotham, John	Beverley, Yorkshire	0.672	0.400	Yes	p c l w i	Governor of Hull	gentleman	East India
Jacob, John	Rye, Cinque Ports	0.840	0.568	Yes	w i	Customs Farmer	customs farmer	East India
Leveson, Richard	Newcastle Lyme, Staffs.	0.778	0.507		c f	Steward, Newcastle manor	gentleman	Virginia
Matthew, Roger	Dartmouth, Devon	0.835	0.564		f		pikeman	Newfoundland, Privateering
Palmes, Guy	Rutlandshire	0.686	0.414		p		gentleman courtier	Virginia
Poole, William	Honiton, Devon	0.714	0.443	Yes	p c w i		gentleman	New England
Porter, Endymion	Droitwich, Worcs.	0.590	0.318		p c f l	Customs Farmer	gentleman	Courteen's EIC, Privateering
Rich, Robert Lord	Essex	0.655	0.384		p	Gent. Privy Chamber	noble (Earl Warwick)	New England's Co
Windebank, Francis	Corfe Castle, Dorset	0.655	0.383		p	Secretary of State	courtier	Courteen's EIC

*Predicted probability of rebellion in these two columns based upon probit regression with personal endowment controls as in the paper's Table 3 [Col 1]. Similarly, the counterfactual probability is calculated by subtracting estimated ATT effect of shareholding on shareholders or LATE effect on shareholders who came of age in an IPO year.+: Specifications under which the MP is predicted to go from below 50% probability of rebellion to above 50%. p: Probit (Personal); c: Probit(adds Constituency controls); f:OLS:(adds Franchise and County FE); l: adds lay subsidy control in lay subsidy sample; w: IV(Wald Estimator); i: IV(Local LATE)

Figure 1: **Public Acts (and Ordinances) of Parliament passed, 1550-1750.** 'Acts of Parliament' required both a majority within both Houses of Parliament and the signature of the Crown. During the Civil War (1642-1648), 'Ordinances' which did not require a majority in the Lords or bear the King's signature were passed. From 1653, the Protector– Oliver Cromwell– assumed Crown veto rights. Notice that prior to the Long Parliament, Parliament met and passed bills much less frequently than even after the Restoration of 1660. This was particularly true during the reigns of James I and Charles I where either Parliament did not sit, or no legislation was passed (as in the 'Addled Parliament' of 1614). An exception is the Parliament of 1624, where Charles, against his father's advice, stood willing to cede control of Crown prerogative rights over foreign policy to grants of taxation. Sources: Crabb (1841),Firth and Rait, eds (1911)

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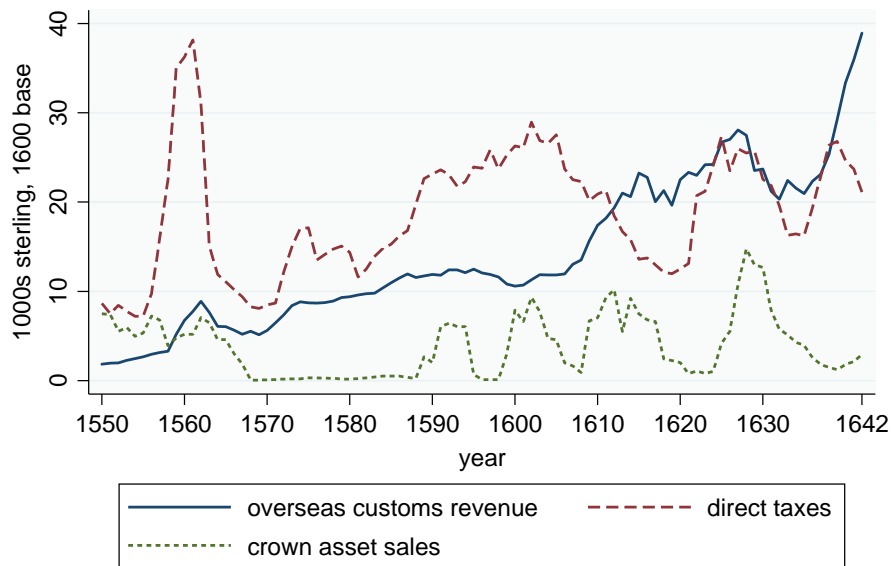
Figure 2: **The Rise of Overseas Customs Revenues prior to the Civil War (1642).** (source: own calculations based upon O'Brien and Hunt (1993, 1999) in the European State Finance Database, *moving averages*). These are the major sources of Crown revenue. Notice that overseas customs revenue rose from insignificant in the mid-sixteenth century to the majority of Crown revenues on the eve of the Civil War (1642). Direct taxes mainly include parliamentary grants of taxation, but also (from 1628 onwards), encompass forced loans and ship money revenues. Notice that the two dips in direct taxes in the early seventeenth century correspond to a period were no bills are being passed in Parliament (Figure A1.1). James I and Charles I appear to be using customs revenue to substitute for parliamentary taxes.
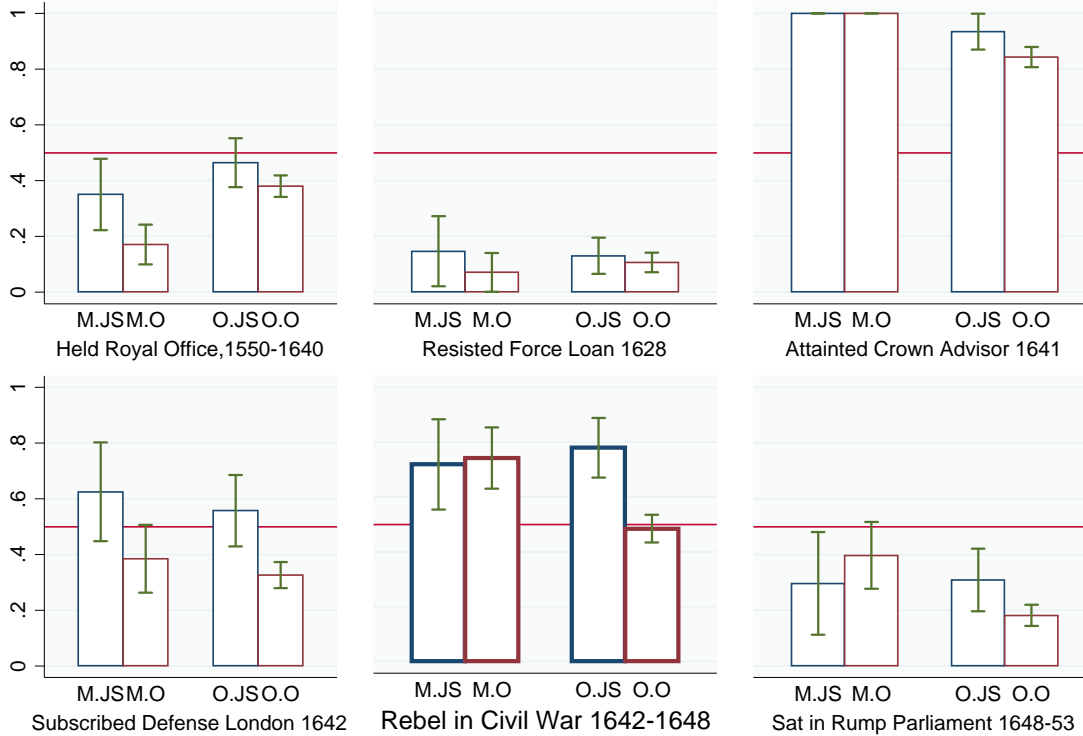
Figure 3: **Political Actions by MPs over Time, by Mercantile Endowments and Overseas Joint Stock Investment.** NB: Each graph represents the simple proportions of each group taking the action. **(M.JS): mercantile investors.(M.O): mercantile non-investors; (O.JS): non-mercantile investors; (O.O): non-mercantile non-investors.** *Held Royal Office*: 1628 and Long Parl. MPs who held royal patronage posts or court offices prior to 1641. *Resisted Force Loan 1628*: 1628 MPs summoned or punished by the Privy Council for resisting the collection of a Forced Loan seen as extra-constitutional. *Attainted Crown Advisor 1641*: Long Parl. MPs that did not vote against the Attainder (and thus execution) of the Earl of Strafford, a Chief Crown advisor, who counselled the King to bring Irish troops to the mainland.*Subscribed Defense of London 1642*: Long Parl. MPs who subscribed to a loan for the defense of London against potential attack by Royalist troops, where participation was emphasised (see Appendix). *Rebelled 1642-1648*: Long Parl. MPs who rebelled, and in particular, did not follow King's summons to Oxford Parliament or were subsequently expelled or forced to pay fines for royalism (Brunton and Pennington 1954). 1648-53: *Sat in Rump Parl.*: Long Parl. MPs (still alive) that were not secluded for perceived willingness to compromise with the King in 1648, and sat in the 'Rump' Parliament that initiated England's naval expansion.
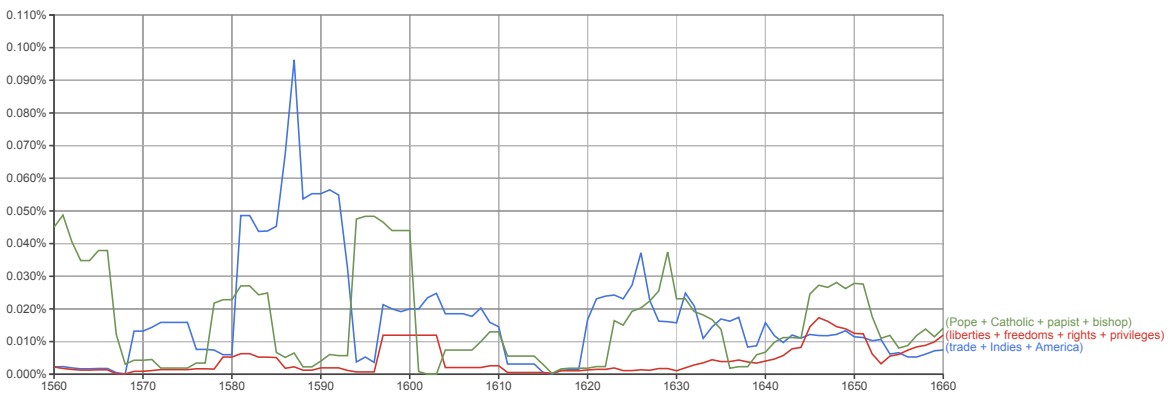
Figure 4: **Discourse prior to and during the Civil War, 1560-1660.**

Frequency of words used each year (relative to all words that year) in the Google 2012 NGram corpus in English (all). This contains around 15% of all books published since the invention of the printing press. '+' indicates the sum of the frequencies of two or more series. Notice the big spike in references to 'trade', 'Indies' and 'America' following Drake's circumnavigation in 1580, and raid on the silver fleet in 1585. Contemporary discussion of these terms fluctuates over time but remains comparable to and often exceeds rhetorical terms referencing Catholicism and rights and privileges prior to the outbreak of Civil War in 1642.
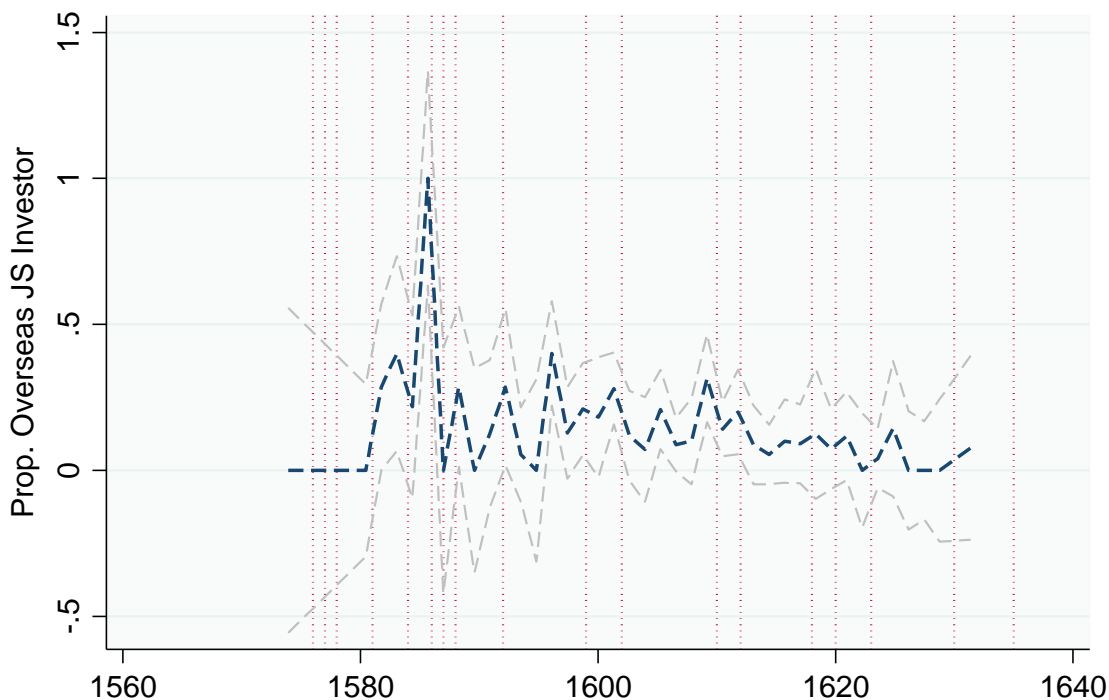
Figure 5: **Proportions Investing in Overseas Shares by Age of Majority in Calendar Time: 1603-1628 MPs alive in 1641**

This graph presents the proportion of MPs that turned 21 in a particular year that invest in overseas joint stock companies, drawing upon all MPs that sat in the Parliaments of 1603- 1628 that were still alive in 1641, with the mean proportions smoothed locally across nearby years using weights from an *epanechnikov* kernel with a bandwidth of 0.3 (N= 729 MPs). Observe that MPs that came of age just before or during IPO years for overseas joint stock companies (red dotted lines) often appear more likely to invest that those that come of age just after. Drake's circumnavigation (returning in 1580) and raid of the Spanish silver fleet (1585) coincide with large spikes in investment propensities and mimic the spikes in written discourse in Fig A1.4. Investment data are based upon the *History of Parliament Trust* volumes, and thus likely to be a lower bound.
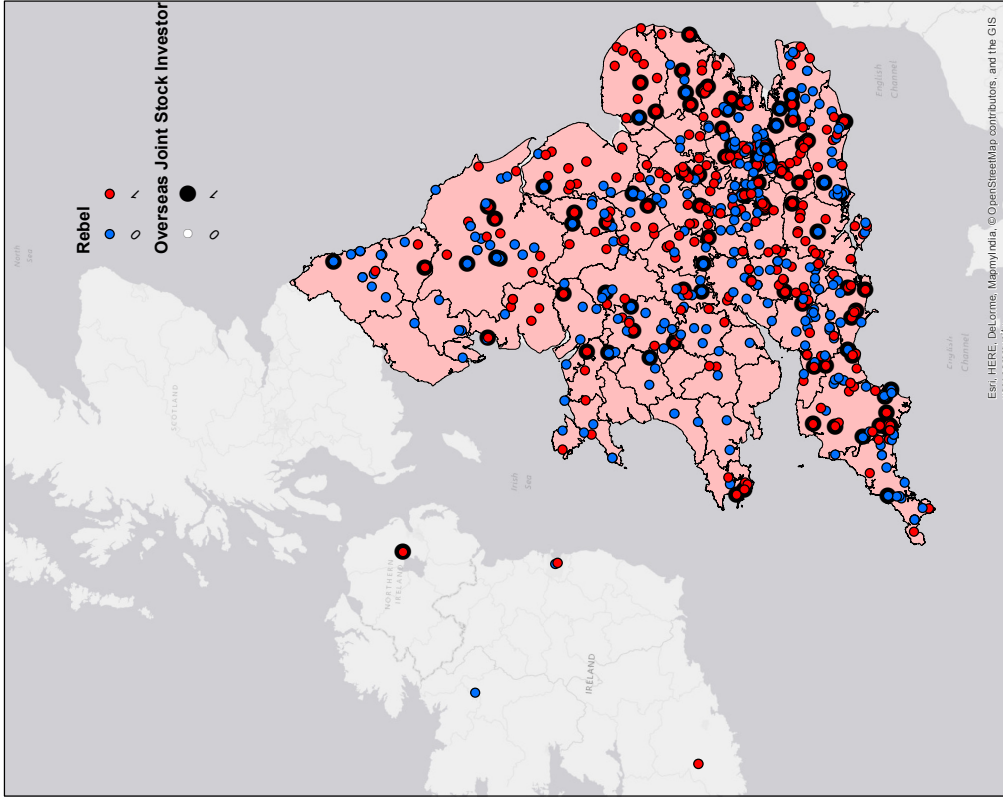
(a) Of Age: IPO years
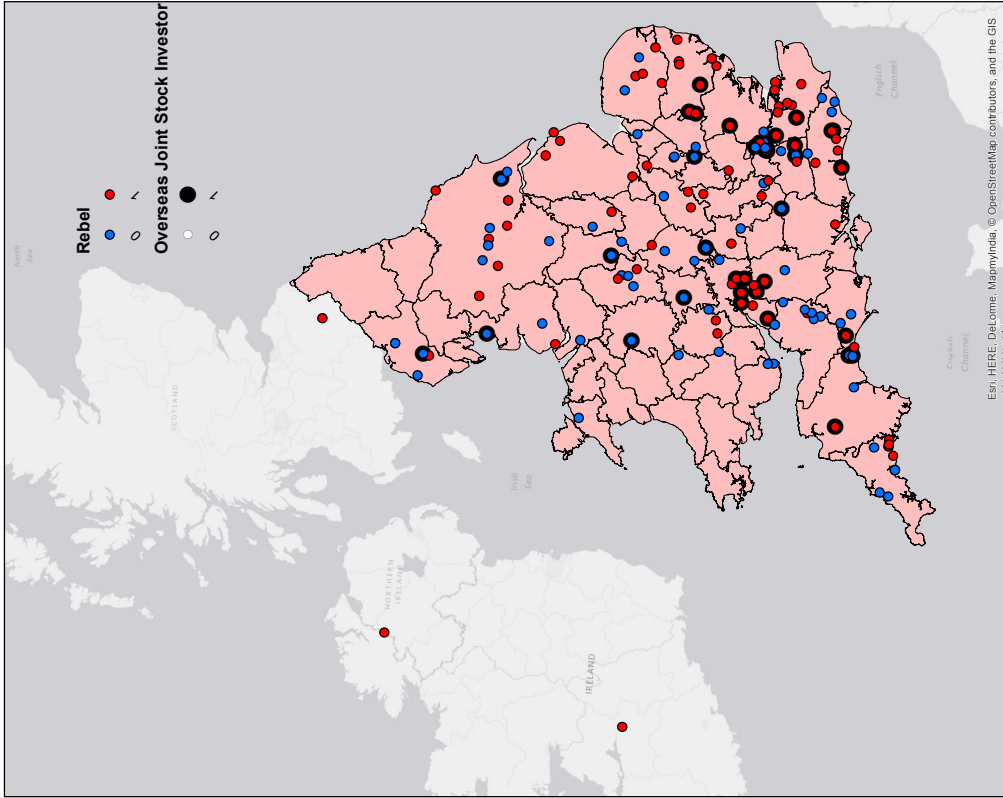
(b) Of Age: Other years

Figure 6: **Overseas Investment and Civil War Rebellion by Father's Address and Adulthood in an IPO year**

MPs with parental addresses closer to London and certain Atlantic outports like Bristol and in the West Country were more likely to invest and to rebel. Those that came of age in other years also invested but were less affected by childhood locational ties. Pooled sample including all MPs that sat in the 1628 (and were alive in 1641) and the Long Parliament.
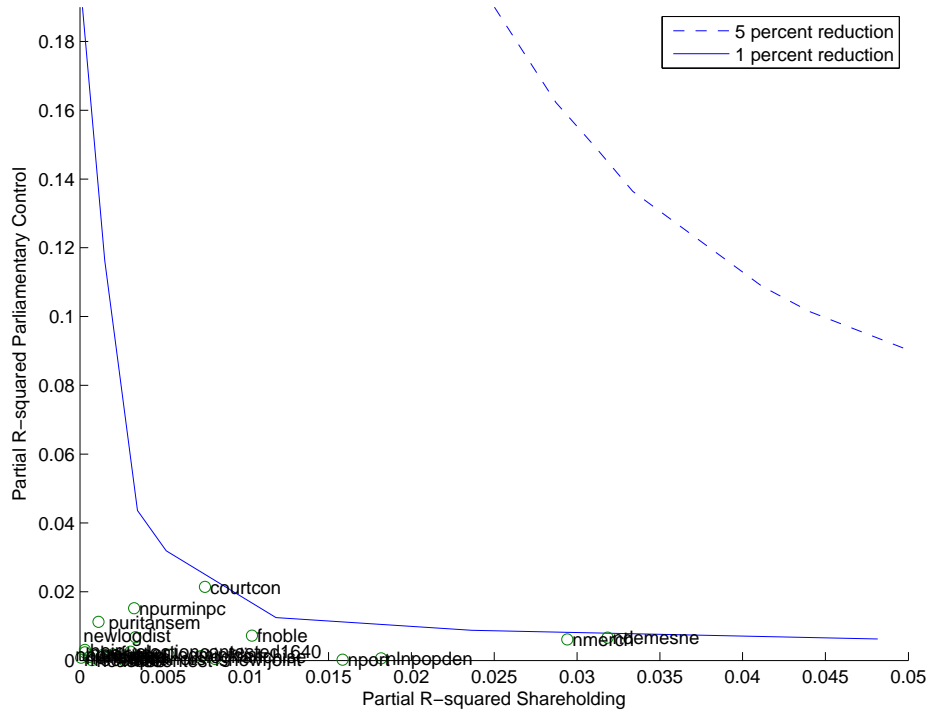
Figure 7: **Assessing Sensitivity to an Unobserved Covariate.** Partial correlations between observed personal and constituency covariates, shares and rebellion relative to thresholds necessary for a single unobserved binomial covariate to reduce the effect of shares on support for Parliament to insignificance at the 5% and 1% levels. *courtcon: Inherited Court Ties; nmerch: Father Merchant or Apprenticed Merchant; ndemesne: Constituency lies in the Crown demesne 1415; lnpopden: Log Population Density in County (1600); fnoble: Father Noble; npurminpc: Puritan Ministers per 1000 in county; puritansem: Attended Puritan seminary; newlogdist : Log. Distance from Constituency to London; nport: Port Constituency.* Observe that none of our observables are sufficiently correlated to reduced effect to insignificance at either level. Those that come closest are inherited court ties and mercantile endowments. As we show, our main effect comes from non-merchants. Further the correlation with inherited court ties ironically goes in the opposite direction to our effect, as investors were more likely to have court ties, but court ties correlate with lowered propensities to rebel.

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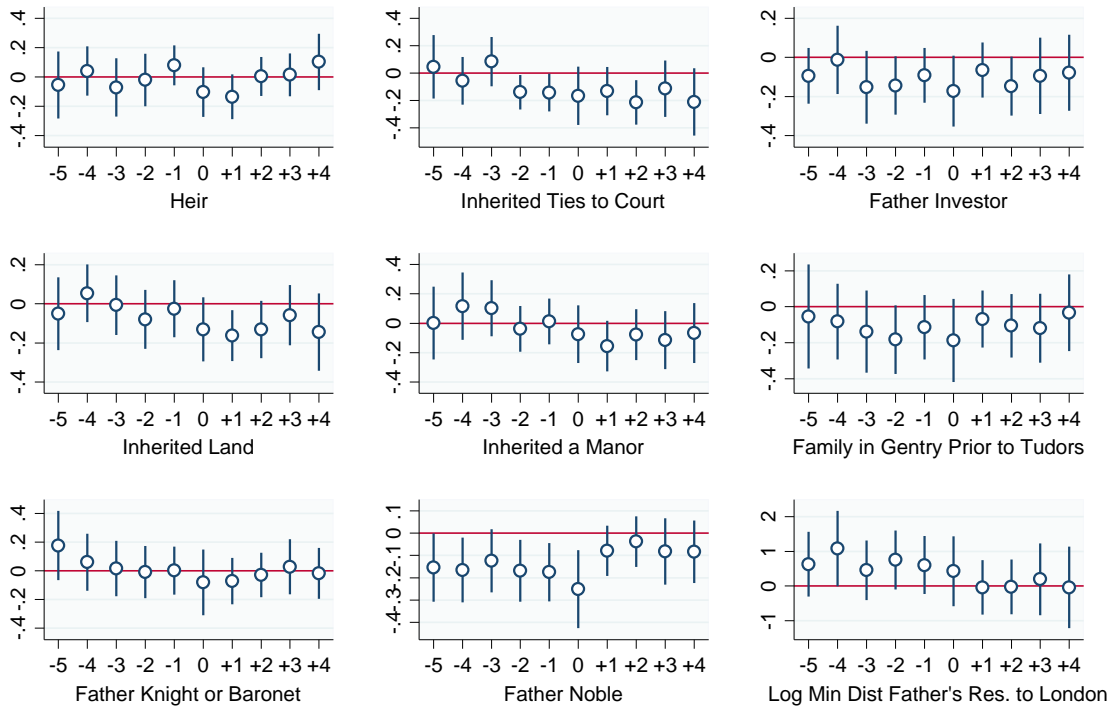
Figure 8: **Endowed Characteristics by Age of Majority before and after an IPO year: Long Parliament.** OLS coefficients of probability of investment and rebellion on indicator variables for whether a Long Parliament MP turned 21 in the year of an overseas IPO (0) or the least number of years came of age before an overseas IPO (-1 to -5) and after an overseas IPO (+1 - +5). The comparison is restricted only to MPs that fall within the 5 year-before and -after window. Standard errors clustered at the county level. Notice that there are no significant spikes in an IPO year for most other endowed characteristics, including key determinants of wealth, and the propensity for an MP's father to invest in joint stock. There is one exception: MPs are less likely to have fathers who are nobles.
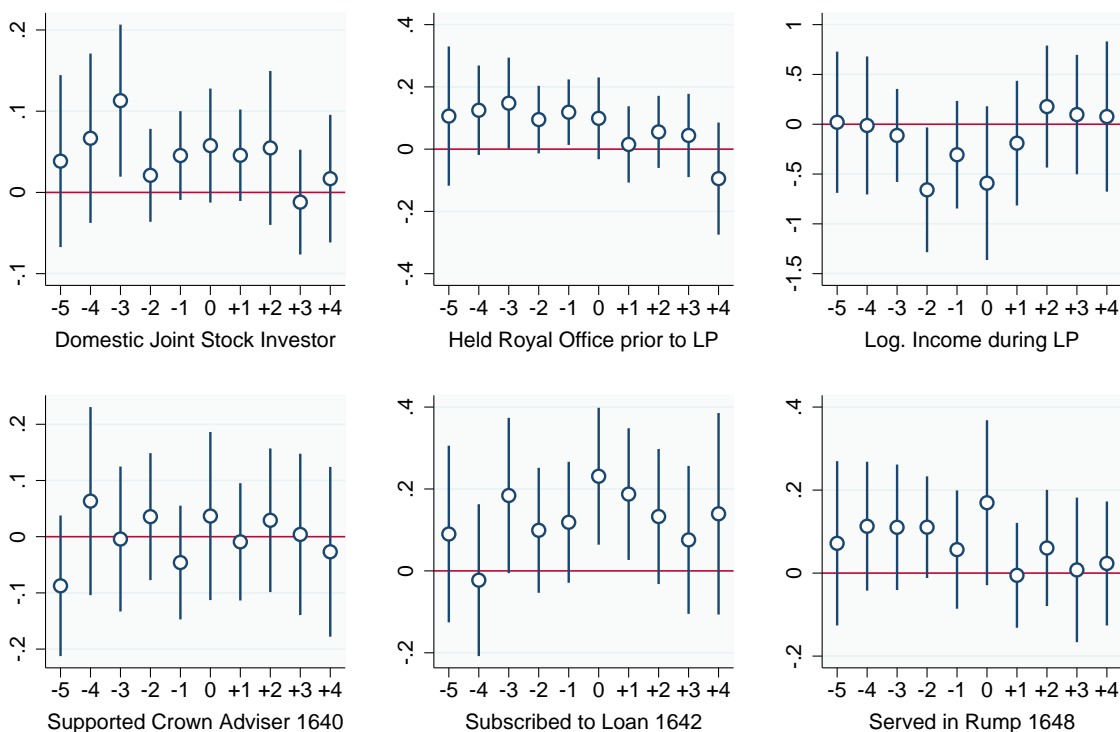
Figure 9: **Channels and Outcomes by Age of Majority before and after an IPO year: Long Parliament** OLS coefficients of probability of investment and rebellion on indicator variables for whether a Long Parliament MP turned 21 in the year of an overseas IPO (0) or the least number of years came of age before an overseas IPO (-1 to -5) and after an overseas IPO (+1 - +5). The comparison is restricted only to MPs that fall within the 5 year-before and -after window. Standard errors clustered at the county level. Observe that MPs that come of age in an overseas IPO year are not any more likely to invest in a *domestic* joint stock company (another indicator of risk preference), nor are they less likely to hold court office. They are not significantly richer during the Long Parliament. They are however, more likely to subscribe to the loan of 1642 in defense of London against royal forces and to sit in the 'Rump Parliament' that ruled England following the Civil War.
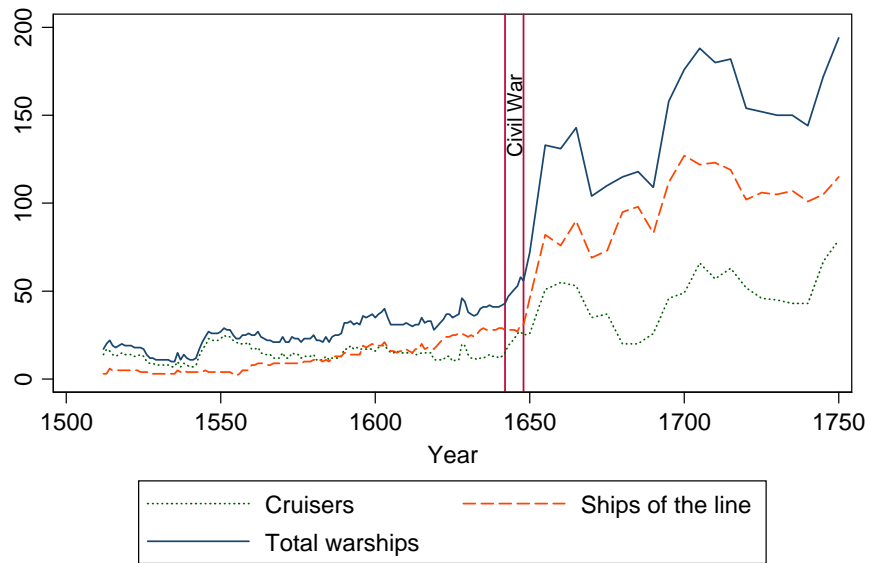
(a) Warships in the Royal Navy, 1518-1750

(b) The Royal Navy and its rivals, 1640-1715

Figure 10: **The Emergence of the Royal Navy following the Civil War.**
source: own calculations from ship lists in Rodger (1997,2004). *Cruisers*: ships > 100 tons burthen;
Ships of the line: > 500 tons & 50+ guns. The naval classification of "ships of the line" was introduced
midway through this period, so ships from the preceding period are classified using the definition above.
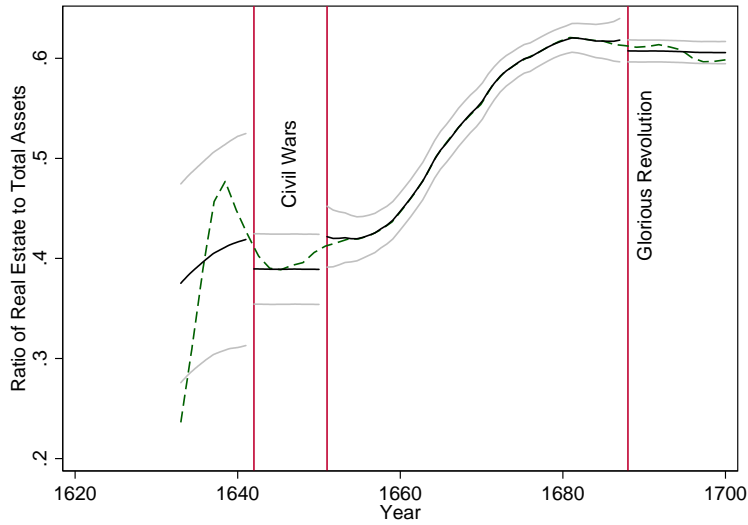
(a) Ratio of Real Estate to other assets in New England
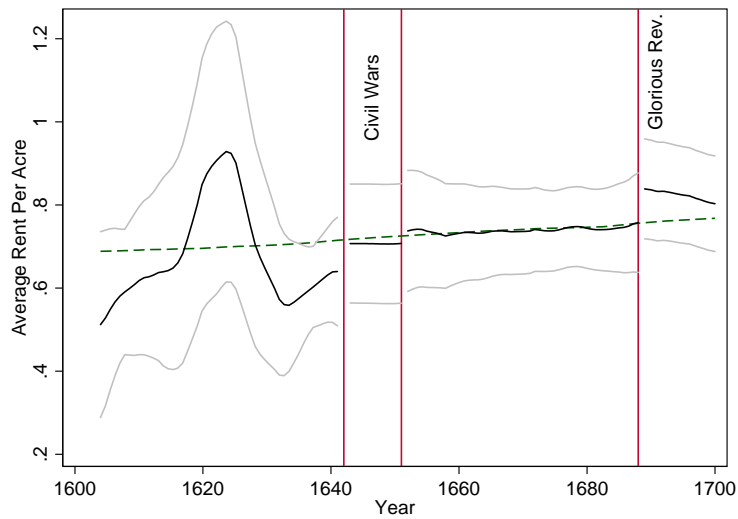
(b) Rental values per acre in England

Figure 11: **Real Estate Values and Portfolio Changes in England and New England.**

(A) This presents the estimated ratio of real estate to total asset holdings among property holders by the year that a will was probated, with the mean ratios smoothed locally across nearby years using weights from a triangle kernel with ROT bandwidth. The data are drawn from administrative records of 13,674 probated estates of landholders between the years 1631 and 1776 from the colonies of Massachusetts, Connecticut, and New Hampshire (Main et al., 2013). Structural breaks are included at the onset and conclusion of the English Civil War and at the onset of the Glorious Revolution. The ratio of the value of real estate to mobile assets appears to rise dramatically after the English Civil War, consistent with a perceived reduction in political risk. (B) For comparison, Clark (1996) provides data on rental values per acre among lands included as charitable bequests. These show limited change in the return on land in England during the 17th century, and little difference before or after the Civil War and the Glorious Revolution.

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FINANCIAL ASSET HOLDINGS AND POLITICAL ATTITUDES: EVIDENCE FROM REVOLUTIONARY ENGLAND

ONLINE APPENDIX 2: DATA

SAUMITRA JHA

March 11, 2015

1 Individual Endowment Data

An advantage of examining the Long Parliament is that its members were deemed historically important enough that over the centuries, a series of pushes have been made to gather the original sources that document the lives of individual members. Thus, the lives of members of the Long Parliament have been remarkably well-documented in biographical sources. This study in particular simply uses the classification as Royalist or "Rebel" of Brunton and Pennington (1954), who based their decision to classify a member as a Royalist based upon a series of factors, chiefly attendance at the King's Oxford Parliament, disablement as a Royalist from the Westminster Parliament and Royalist fines. In the absence of the data compiled here, nor the use of contemporary econometrics, the work of Brunton and Pennington however found no systematic economic or social differences between Royalists and Parliamentarians, a result that may have dissuaded systematic follow up until now.

1.1 Biographical Data

This paper combined the classification used by Brunton and Pennington with the contemporary biographies that were compiled by Mary Frear Keeler (Keeler, 1954). Here is a typical entry from the 548 members of the Long Parliament, Keeler documents:

> Piers Edgcombe (1609-1667) of Mount Edgcombe, Cornwall, near Plymouth, was a member for Camelford 1640-22 January 1644. He was the head of an ancient and distinguished house. His grandfather, Piers (1536-1607), son of Richard Edgcombe, had been sheriff and M.P. and been interested in Sir Richard Grenville's projects for exploring the distant seas and in developing the mines of western Britain and Ireland. Sir Richard Edgcombe (d. 1639), father of the MP, was a member of the Council for New England, a JP, a

sheriff and DL in Cornwall, MP for Grampound and Bossiney. He was one of the royalists who supported the cause of Buckingham against the attacks of Eliot's faction in the early years of King Charles. Piers, the eldest son of Sir Richard by his second wife, Mary, daughter of Sir Thomas Coteeles of London, was aged eleven in 1620. He studied at St. John's, Cambridge, matriculating in 1626, and was probably the "Perseus Esgaimb" who was admitted to study at Leyden University in June 1629. In the preceding year, while still under age, he was successful among five candidates at the parliamentary election at Newport, Cornwall. In 1636 he married Mary, daughter of John Glanville of Broad Hinton, Wilts, receiving with her a portion of £3000, and three years later succeeded to the Edgcombe estate. He had some responsibilities for the defenses of Plymouth in 1639.

In 1640 Edgcombe was elected in the Spring and the fall as MP for Camelford. He voted against the attainder of Strafford, and absented himself at the outbreak of hostilities. The House ordered that he be brought up in custody in November 1642, but did not vote for his disablement until 1644. After fighting for the king, he surrendered his command and in 1647 arranged to compound for his estates. He served again in parliament after the Restoration, and died on 6 January 1666/7. Edgcombe's will, dated 12 May 1666, was proved 14 May 1667. His epitaph describes him as "a pattern to posterity, and an honour to an age he lived in; a master of languages and sciences, a lover of the king and church, which he endeavoured to support to the utmost of his power and fortune."

Of Edgcombe's fortune there are numerous evidences. Carew commented on the excellence of his mansion at Mount Edgcombe. His father's properties at the time of his death included thirteen manors and other holdings in Devon and Cornwall. Piers owned furthermore some Hampshire properties inherited from his mother's family, and he bought a Sussex manor in 1641. His compounding papers reveal a yearly income of over £1200, but it may have been nearer £2000 and one observer reported it to be £3000. His fine, set first at a tenth, £2513, was afterwards changed because of an undervaluation and also because of the intercession of Lord Fairfax on his behalf. Edgcombe planned a portion of £5000 for his eldest daughter when he made his will in 1666.

Piers Edgcombe was a brother of Richard Edgcombe, a brother-in-law of William Glanville and a relative through his grandmother of Alexander Luttrell, all fellow parliament men of 1640." (pg 163-164)

For each entry of this kind, I merged this data with that of Brunton and Pennington 1954, who classified Piers as both a Royalist and a Straffordian (one who both voted and was present during the attainder of Thomas Wentworth, the Earl of Strafford in 1640). Pier's claim to be of ancient family (and thus bearing a coat of arms prior to the reign of the Tudors- a check of the "emergent gentry" hypothesis of Rajan and Zingales (2003), Moore (1966) and Tawney (1941)) can be checked by following the entries for his parents and grandparents using the Dictionary of National Biography, the History

of Parliament Trust and heralds' visitations. His other biographical information, including status as heir, attendance at particular colleges (in this case not a predominantly Puritan seminary, as classified by Keeler (1954),McGrath (1967) or Porter (1958)) and the number of inherited manors are directly coded. His father's entry in the Dictionary of National Biography, the History of Parliament Trust and *ancestry.com* were used to assess or confirm other endowed variables as well as giving Piers an entry of 13 inherited manors. Piers's income is estimated as a simple average of all available estimates, with aggregate wealth measures put into per year terms. His shareholding and that of his father and father-in-law are matched to the lists of all shareholders in major joint stock companies compiled in the Appendix by Theodore Rabb 1967 and extended and corrected based on these biographies and primary sources.[1] We find that Pier's father was invested in the New England company and the Royal Mines, though he himself lacked such investments. His constituency of Camelford is matched to geographic, noble and Crown demesne data drawing mainly upon the author's constructed GIS of historic constituencies in England, the Historical Atlas of England by Falkus and Gillingham, eds (1987), estimates of population change by Wrigley (1985), diocesan records on Puritans and Catholics listed in McGrath (1967)), the Tudor lay subsidy (Sheail, 1998) and documentation of Elizabethan ports by Willan (1968). Among companies, the classification of profitability is drawn from company balance sheets in the relevant volumes of Scott (1910).

1.2   Matching Investor Names

To match joint stock investors to members of parliament and their fathers, I first enter all investments mentioned in Keeler (1954), the History of Parliament, and the Oxford Dictionary of National Biography. I then draw upon the list of 6,336 investors listed in the charters and transfer lists for each of the major joint stock companies between 1575 and 1630, compiled by Rabb (1967). Rabb's data contains lists of all MPs that sat between 1580 and 1630 which he matched to the members of parliament that sat in this period. This naturally includes all members of 1628 parliament as well as members of the Long Parliament who sat in previous parliaments. Rabb consulted the History of Parliament volumes available at the time to make these matches, however did not have the 1604-1629 volumes that were published in 2010, so we have better information than he did. In particular, if an MP takes a break from parliamentary service, (like Sir Henry Finch, who sat between 1593 and 1597 but then again in 1614), Rabb often treats him as a separate person. Rabb also attempts to classify individuals by the source of their wealth. Usefully for us, he is conservative about matching MPs to investors, and sometimes classifies investor as separate from the MP even if they are the same person according to the biographical data.

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[1]An example of these corrections: Rabb understandably conflates three generations of MPs all called Sir Francis Knollys (or Knowles), perhaps under the assumption that no one man would invest in joint stock companies over the entire 1575-1630 period that he covers. In fact, many of the investments were taken by Sir Francis Knollys (1553-1648), around 90 years old at the time of the Long Parliament, who sat in his first Parliament in 1576, engaged in privateering expeditions in the 1580s, yet in contrast to his father (1512-1596) and son (1592-1643), remained one of the Long Parliament's most active members. Use of the detailed biographical information available to us allows such corrections.

Table 1: **Data sources**

Variable	Original source	Secondary source
Individual data		
Supporter of Parliament 1642-48	Commons lists (1642-48), Compounding Committee (1642-48)	Keeler (1954), Brunton & Pennington (1954), DNB (2007)
Opposed Attainder of Strafford 1641	List posted on door of Westminster Hall 1641	Brunton and Pennington (1954)
Loan for the Cause 1642	Commons lists (1642-48)	Keeler (1954)
Served in Rump Parliament 1648	Commons lists 1648	Brunton and Pennington (1954)
Income (1640s)	Compounding Committee, Probate records	Keeler (1954), HPT
Holder of Royal Office	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
(Father) Investors in (unprofitable) joint stock company	Charters (1575-1640), Company books (1575-1640)	Scott (1912), Rabb (1998), Keeler (1954), Willan (1968b), Newton (1914)
Apprenticed Merchant or Father Merchant	Charters (1575-1640), Company books (1575-1640)	Scott (1912), Rabb (1998), Keeler (1954), Willan (1968b)
Father's Addresses and Distances to London	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT coded into GIS
Heir	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Inherited manors	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Inherited land	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Experienced wardship	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Armigerous before Tudor dynasty	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Inherited Court Ties	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Father knight or baronet	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Father noble	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Age, Date of birth & death	Biographies with multiple sources	Keeler (1954), DNB (2007), HPT
Attended puritan college/ seminary	Emmanuel & Sidney Sussex College members lists	Keeler (1954), DNB (2007)
Constituency data		
Borough	Commons lists (1642-48)	Keeler (1954), DNB (2007), HPT
Elizabethan port	Customs revenue lists (late 16C)	Willan (1968)
Puritan ministers per capita	Diocesan records (1600)- assigned to county in ratio of area in diocese	Usher (1910), McGrath (1967)
Catholic Recusants per capita	Diocesan records (1600)- assigned to county in ratio of area in diocese	Usher (1910), McGrath (1967)
In royal demesne	Traditional Demesne (in 1415)	Falkus and Gillingham (1987)
Castle in constituency	Castles extant in 1415	Falkus and Gillingham (1987)
Population of county	1834 enumeration abstract (estimates) backcasted using births and deaths in parish records.	Wrigley and Schonfield (1981)
# Voters, 1628		Calculated from Keeler (1954) and HPT constituency volumes
Electoral Contests, 1603-1628, 1640		Calculated from Keeler (1954) and HPT constituency volumes
Franchise Rights, 1628	Electoral returns	HPT constituency volumes
Borough and County Lay Subsidy contributions	Tudor lay subsidy assessments (1524-25)	Sheail (1998)

Abbreviations: HPT: History of Parliament Trust (forthcoming), DNB: Oxford Dictionary of National Biography

My matching algorithm is as follows:

1. First, I observe that if an MP's (and father's) name or alternative spellings does not appear in Rabb at all, the person cannot have invested in the lists Rabb catalogues. Those are confirmed null values.

2. Check each MP's name (and father's) alternative spellings for parliamentary participation in 1628 and other parliaments, as well as knighthood or nobility rank dates and then by 'class'.

3. Check concordance of investments with Keeler, the Dictionary of National Biography and the History of Parliament Trust volumes. If sources agree or overlap on investments, record these as a 'good' match.

4. Within each investment for MP who had served in a previous parliament, check that the years the individual is an MP is the same, the year of knighthood (or lack of knighthood) is the same as in Rabb's list and that investments are feasible (by birth and death dates)-i.e. investors cannot invest after they are dead or before they are born. Further limit investors whose fathers do not appear in the lists (and thus did not inherit shares) to being at least 15 for a "good" match.

5. For MPs or fathers that did not sit in previous parliaments and have no investments in the biographical sources, check the feasibility of investments of namesakes (by birth and death dates). If so, record as a "possible" match.

6. Flag those of gentry who have feasible memberships in regulatory mercantile companies as "unlikely".

7. For multiple possible namesake matches, eliminate any that can be eliminated using a search of Parliamentary biographies for other namesakes, and note down those remaining as a "possible" match.

8. Use a similar approach for the Saybrook patentees (1632) and members of the Providence Island Co (1630-40).

The main body of the paper records results based upon 'good' matches. As Table A1.10 reveals, our results are robust to limiting the matches only to those mentioned explicitly in Keeler and the History of Parliament Trust as well as expanding to the broader set of "possible" namesake matches.

2 Parliamentary Representativeness, Representation and Constituency Data

A natural question is how the sample of MPs are selected relative to the population of England and Wales. In this section, I address this question both by comparing the individual characteristics of MPs to the broader social tables, and by examining the process of parliamentary selection itself. The latter will also motivate our choice of controls and the use of the lay subsidy as a useful sample of core constituencies.

2.1 Representativeness

Members of Parliament were definitely selected from the elites. Table 2 compares the social classification of fathers of members of the Long Parliament and 1628 Parliament with Lindert and Williamson (1982) estimates of the relative incomes and proportions of different social groups in 1688.[2] These incomes can be created to generate a measure of relative income for the fathers of MPs. As the table suggests, MPs disproportionately come from families of the nobility, gentry, lawyers, crown officeholders and merchants.[3] These social tables also allow a basic comparison of income– the average MP's father in 1628-1642 came from a class which had an average yearly income 690% of the average Englishman in 1688, with the median MP's father being a gentleman with around 410% of the average yearly income.[4] These wealth differences, along with the fact that MPs were more likely to be regular visitors to London, the financial capital, may account for the fact that among this elite group, the information costs of learning about shares were likely to be considerably less important than for the general population, and may explain why wealth endowments do not appear to be correlated with the propensity to hold shares among MPs.

It is also useful to note that even after the trade boom from 1660-1688, merchants comprised only 2.85% of the population, 11.5% of national income and 10.6% of the fathers of MPs. In contrast, non-noble gentry comprised a comparable 3% of the population, 13.9% of national income but around 52% of the fathers of Long Parliament MPs.

2.2 Representation

Long Parliament MPs were, of course, selected by an explicit process of representation. There has been surprisingly little work done on the extent and the changes in franchise requirements during this period.[5] According to Plumb (1969)[pg.103] 'By the Long Parliament [the electorate] reached down not only to the minor gentry and rich merchants, but to yeomen, craftsmen, shopkeepers in the majority of towns and all the counties." Beyond this qualitative account, systematic data on the franchise size are sparse and incomplete for specific years for this period. However, for each constituency, we can sum estimates from the closest year to 1628 for which we have figures to get a sense of the franchise in 1628. This is 144,737, or around 2.9% of the population of England and Wales.[6] Since 1429, all English and Welsh county seats had the same franchise-

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[2]Since there was a trade boom between 1660 and 1688, these tables probably over-state the relative wealth of merchants.

[3]There are some self-made exceptions, of course. John Selden was the son of a minstrel, while Roger Matthew's father was mustered as a pikeman.

[4]Since MPs are likely drawn from the upper part of the distributions for these classes, these numbers are likely to be lower bounds.

[5]For the post-Civil War period, however, see Kishlansky (1986).

[6]This estimate is calculated using the closest estimate of the franchise for each constituency recorded in Keeler (1954) and the 1603-30 and 1660-1690 volumes of the History of Parliament Trust. This number seems plausible given the ballpark figure of around 200,000 voters suggested by historians for the reign of William III (1689-1702) (Plumb, 1969). This would be around 3.63% of the population (comparable to the franchise under the Great Reform Act of 1832 of 4.2%) and around 13% of the adult

Table 2: Fathers of MPs Relative to Social Tables for England 1688

Class	Social Group	Number of People, 1688	% of Population	Income per capita (in £ per annum)	Income in terms of per capita mean	Equivalent Definition	Number of Fathers (Long Parliament)	% of MPs	Number of Fathers (Pooled)	% of MPs
High Titles and Professions	Temporal Lords	8000	0.14	151.50	15.83	Temporal Lords	48	8.78	68	7.56
	Spiritual Lords	520	0.01	65.00	6.79	Spiritual Lords	2	0.37	3	0.33
	Knights and Baronets	20600	0.36	81.57	8.52	Knights and Baronets	174	31.81	281	31.22
	Esquires and Gentleman	150000	2.64	39.26	4.10	Esquires and Gentleman	108	19.74	217	24.11
	Office-Holders	70000	1.23	25.71	2.69	Held Government Office	210	38.39	319	35.44
	Law	56434	0.99	22.00	2.30	Law	48	8.78	87	9.67
	Clergymen, greater	10000	0.18	14.40	1.50	Clergymen, greater	0	0.00	1	0.11
	Clergymen, lesser	50000	0.88	10.00	1.05	Clergymen, lesser	3	0.55	6	0.67
	Science and Liberal Arts	64490	1.13	12.00	1.25	Science and Liberal Arts	3	0.55	6	0.67
Commerce	Merchants (not Shopkeepers or Tradesmen)	161926	2.85	38.99	4.07	Merchants (not Shopkeepers or Tradesmen)	58	10.60	96	10.67
	Shopkeepers and Tradesmen	457668	8.04	10.00	1.05	Shopkeepers and Tradesmen	7	1.28	17	1.89
Industry and Building	Building Trades	328581	5.78	5.60	0.59	Building Trades	0	0.00	0	0.00
	Artisans, Handicrafts and Manufacturing	759863	13.36	9.88	1.03	Artisans, Handicrafts and Manufacturing	22	4.02	40	4.44
	Miners	64080	1.13	3.30	0.34	Miners	0	0.00	0	0.00
Agriculture (excluding laborers)	Farmers and Freeholders (excluding laborers)	1192336	20.96	10.24	1.07	Farmers and Holders of Land (Below Manorial)	45	8.23	72	8.00
Military and Maritime (excluding traders)	Common Seamen	150000	2.64	6.70	0.70	Common Seamen	0	0.00	1	0.11
	Common Soldiers	70000	1.23	7.00	0.73	Common Soldiers	1	0.18	1	0.11
	Naval Officers	20000	0.35	20.00	2.09	Naval Officers	0	0.00	1	0.11
	Military Officers	16000	0.28	15.00	1.57	Military Officers	9	1.65	20	2.22
Laborers and Poor	Laborers and the Poor	2038823	35.84	3.13	0.33	'Mean' and 'Obscure'	4	0.73	12	1.33
Total		*5689321*	*100*	*9.57*	*1*	*Total*	*742*	*135.65*	*1248*	*138.67*

	Long Parliament Income per capita (in £ per annum)	Income in terms of per capita mean	Pooled MP Income per capita (in £ per annum)	Income in terms of per capita mean
Implied Mean	64.94	6.79	64.02	6.69
Implied Median	39.26	4.10	39.26	4.10

NB: Social Tables are consolidated from Peter Lindert and Jeffrey Williamson's (1982) updated version of Gregory King's 1688 estimates for England, based upon income tax data. Since there was a trade boom from 1660, 1688 data probably over-estimate the relative numbers and wealth of merchants in 1640. In the Parliament data, the numbers sum to greater than 100%, because individuals have overlapping roles, such as officeholding. We estimate average implied income by taking the sum over all roles and dividing by the number of members of parliament. Pooled data (N=900) refers to members of both the 1628 Parliament and the Long Parliament. Long Parliament data refers to members of the Long Parliament (N=547).

any males possessing 40 shillings worth of free hold land were entitled to vote. Inflation over time had significantly increased this franchise (Figure 1). Within the boroughs, a variety of franchises existed, from the rotten borough of Old Sarum, where 11 holders of burgages in an otherwise unoccupied ploughed field had the franchise to Westminster, which allowed all of its 25,000 male inhabitants to vote in 1679. For each constituency, I create an estimate of the number of voters in 1628, as well as indicator variables for the set of different size of groups in Table 3. I also coded whether there was an electoral contest during the Long Parliament (true of 23.5% of counties and 23.3% of boroughs) or in the period 1603-1640 (39.2% and 22.8% respectively). These contests could be close elections, but in the latter case could also be the submission of 'double returns'- rival sets of individuals claiming the right to the franchise.

2.3 The Lay Subsidy of 1524-25

The Tudor Lay Subsidy of 1524-25 was one of the first major assessments of income wealth in England since 1334, and was the basis of many subsequent assessments. A group of commissioners were sent to each village and received statements of personal wealth from each man. If they doubted his assessment, he could be summoned to re-appear, with he and his neighbours examined, and penalties put in place for perjury. (Sheail, 1998)[pg.22]. The tax liability was determined as the maximum of the following items.

1. 1 shilling in the £(5%) was levied on an annual income of land and other sources.

2. 1 shilling in the £(5%) was levied on the capital value of moveables worth £20 or upward.

3. 6d in the £(2.5%) was levied on the capital value of moveables worth £2 and upward but less than £20 .

4. 4d in the £(1.67%) was levied on the capital value of moveables worth £1 and under £2.

5. 4d was paid by those aged 16 years and above who earned wages of and in excess of £1 a year. (Sheail (1998)[pg.31] based upon *Statutes of the Realm*,111, pg 230-41).

The survey lists this included every man worth at least £1 and more in value.[7] According to Sheail (1998)[pg.35] the daily wage was 6d, so 240 days of work would exceed one pound. Thus "a man with a £1 assessment represented a family with a low standard of living, dependent on seasonal or periodic work" and this clause meant the tax was essentially yielded a poll tax as a lower bound, with a progressive income tax above that.

Figure 2 shows the relative wealth of the lay subsidy borough constituencies. Constituencies that did not appear as separate jurisdictions at the time of the lay subsidy were the rottenest boroughs (that lacked any taxpayers) as well as Wales, the Cinque

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male population.

[7]As a tax on the laity, it exempted "all goods, catelles Juels and ornamentes of Churches or Chapelles and all other thynges ordeigned for the honour and svyce of Almyghty God" (Sheail, 1998)[pg.20]. Clerical wealth that fell outside this category was taxed, however.
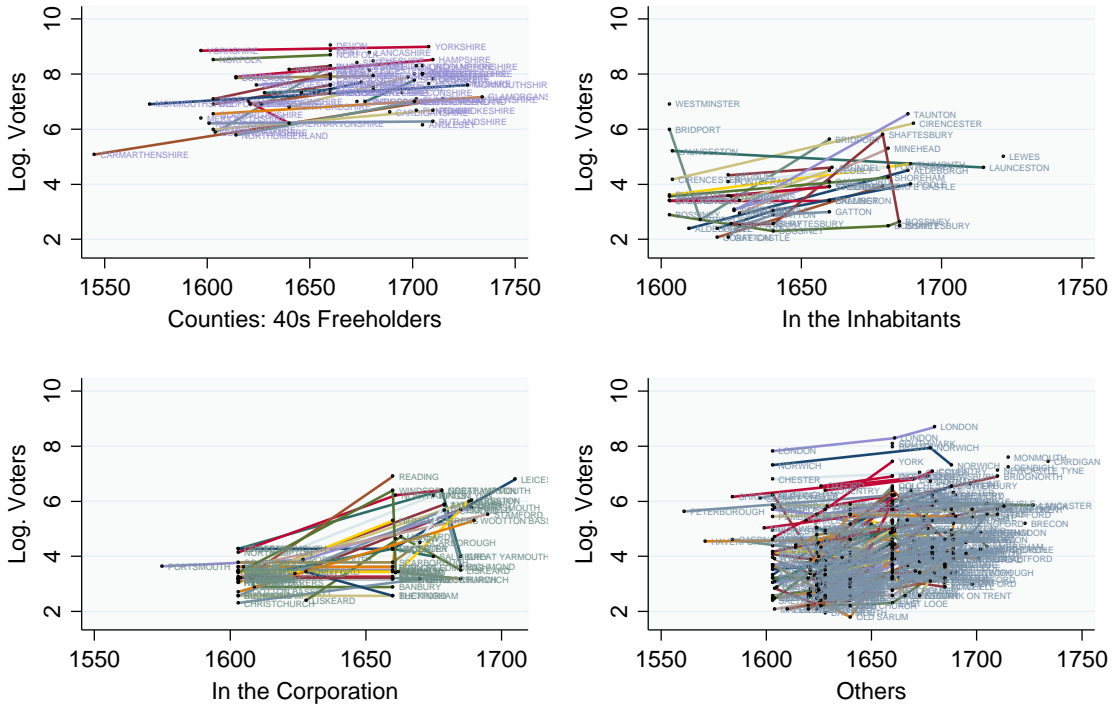
Figure 1: **Expansion of the Franchise, ca. 1600-1710.** County franchises expanded over the 17th century, due to both inflation, which lowered the effective value of the 40 shilling freehold threshold, and population growth. Among boroughs, the broadest franchises were those which allowed all inhabitants to vote (NB: Westminster, with the largest franchise of all boroughs and counties, allowing all 25000 male inhabitants to vote in 1679 is excluded from the top right.) The smallest franchises tended to be in closed corporations, but many of these opened voting rights over this period (bottom left). There was significant variation in the initial size and the direction of these changes in the 17th century, however, with the Restoration-era borough franchises becoming more restrictive in some cases as the Crown challenged charters (bottom right). Sources: 17th century constituency volumes of the History Parliament Trust and Keeler (1954)

Ports at the channel and frontier counties, such as Westmorland, which had separate taxation arrangements, and over which the Crown enjoyed greater discretion and influence. However, those that remain constitute arguably the 'core' of England's urban population.

As Table 3 suggests, the mean county returned £1738.28 in taxes, while the average borough paid £101.12. An increase in the return in the lay subsidy in 1524 of 1% is associated with an increase in 0.69% in the number of voters in 1628, and enfranchised borough constituencies were responsible for at least 22.48% of the assessed tax.

Table 3: Constituencies, Voting Rights and Franchise Size

Right of Election in 1628	Seats	%	Voters, ca 1628	SD	Mean Voters, 1603-1710	SD	Mean Max. Voters, 1603-1710	SD	Largest Franchise, 1603-1710	% 1+ Contest 1603-28	% Contest Long Parl	# Lay Subsidy 1524	Mean # Taxpayers 1524-43	SD	Mean Lay Subsidy 1524 (£s)	SD
County Seats (40 s freeholders)	52	19.476	2211.63	1944.40	2465.07	1865.91	2747.92	1907.94	8500	39.2%	23.5%	33			1738.28+	1258.83+
Borough Seats			157.97	364.36	284.37	975.38	437.02	1781.53	25000	22.8%	23.3%		190.53	224.31	101.12	579.58
freemen	79	29.7	273.77	458.53	357.95	592.95	473.13	800.27	6000	24.1%	21.5%	51	314.00	297.85	234.12	1028.10
corporation	34	12.78	29.75	15.32	117.42	120.75	237.56	262.38	1000	23.5%	20.6%	32	209.21	174.60	62.85	81.72
burgesses	31	11.65	44.98	61.69	115.02	142.16	220.39	281.48	1400	22.6%	19.4%	20	104.61	66.91	28.96	33.25
inhabitants	24	9.02	80.69	200.38	628.64	2636.54	1185.17	5075.38	25000	37.5%	25.0%	19	111.23	80.29	32.74	37.55
burgage-holders	15	5.64	35.80	26.43	54.72	28.37	78.07	36.50	180	13.3%	13.3%	14	41.63	32.37	6.72	7.56
inhabitant ratepayers	8	3.01	296.31	297.57	491.55	556.38	740.00	1070.89	3250	25.0%	37.5%	7	147.20	103.94	78.30	137.78
enfranchised 1640	7	2.63	150.43*	94.77*	136.50	62.00	161.86	83.37	300	0.0%	14.3%	5	89.73	62.81	14.55	11.21
freeholders	4	1.5	16.38	5.50	80.98	41.87	145.50	79.32	225	0.0%	25.0%	4	82.75	33.22	14.29	12.05
burgesses and freeholders	2	0.75	23.00	12.73	58.33	26.40	107.50	45.96	140	50.0%	50.0%	2	54.00	36.77	16.25	14.73
resident freemen	2	0.75	185.00	162.63	185.00	162.63	185.00	162.63	300	0.0%	0.0%	2	107.00	100.41	25.96	33.38
scholars of the university	2	0.75	350		350.00		350.00		350	50.0%	0.0%	2	108.50	3.54	12.44	2.37
corporation and resident freeholders	1	0.38	2900		2900.00		2900.00		2900	0.0%	0.0%	1	1101.00		448.50	
freeholders or burgesses	1	0.38	13		44.00		75.00		75	100.0%	100.0%	0				
freemen & freeholders	1	0.38	12		37.00		50.00		50	0.0%	0.0%	1	36.00		10.53	
freemen &-holders paying scot/lot	1	0.38	17		40.67		75.00		75	100.0%	0.0%	1	160.00		48.20	
inhabitant burgage-holders	1	0.38	15		54.33		100.00		100	0.0%	100.0%	1	45.00		5.85	
inhabitant freeholders	1	0.38	20		31.50		56.00		56	0.0%	100.0%	1	26.50		2.25	
inhabitant freemen	1	0.38	19		17.50		19.00		19	100.0%	0.0%	0				
Total Borough Seats:	215	80.524	33963.03		61140.30		93958.98		234103			164	31247.41		16583.96	
Total England and Wales	267	100.00	146756		186859		234103									
Franchise as % of 1600 Population			2.94		3.74		4.68									

Total First Survey Lay Subsidy (1524) 73740

Enfranchised Borough Contribution (%) 22.49

NB These figures excluded Durham and County Durham, both enfranchised in 1673. 1628 estimates are based upon the closest year to 1628 where a figure exists. 1628 estimates are based upon the closest year to 1628 where a figure exists. *=7 constituencies were enfranchised in 1640, and are assigned 1640 estimates. + = County averages include the borough totals within them. *Mean Voters* refers to the average recorded number of voters between 1603 and 1710. *Mean Max. Voters* refers to the average of the highest number of voters recorded between 1603 and 1710. Contests include electoral contests, double returns and challenges in the Committee of Privileges in Parliament to voters' rights. Sources: HPT constituency volumes (1603-1628 and 1660-1710) and Keeler (1954). % Franchise is based upon the commonly accepted estimate of approximately 5 million population in 1600. % Borough Contribution to the lay subsidy is based upon the total for England in the first survey. Note that Wales, Cheshire and the Marcher Counties in the north were omitted from the lay subsidy assessment.

Figure 2: **Constituencies recording taxes paid in the 1524-1525 lay subsidy.**
Notice that these constituencies exclude Wales, the Cinque Ports at the channel and frontier counties which had separate taxation arrangements, and over which the Crown enjoyed greater discretion and influence (white dots). Source:Sheail (1998).

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