The Professors Who Would Become Popes: Academic Human Capital and Elite Selection in Premodern Europe

Online Appendix

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Appendix A. Popes: additional estimates

Table A1 reports Poisson pseudo-maximum likelihood estimates on the outcomes in levels. Odd columns include prior teaching experience only; even columns add period dummies and the duration of the pontificate, which enters as exposure for the three counts, so that the models explain the number of acts per month of pontificate, and as a regressor for the Treccani entry. As in the least-squares estimates of Table 2, the coefficient on prior teaching experience is not significant for any of the four outcomes. We also estimated negative binomial models, which do not impose the equality between variance and mean implied by the Poisson distribution; the coefficient on prior teaching experience remains not significant for all four outcomes.

Table A2 reports the robustness of Tables 3 and 4 to narrower definitions of academic teaching, built from the teaching records of each academic pontiff in the RETE database.

Table A1: Prior teaching experience and measurable papal activity: Poisson estimates

	Dependent variable: outcome in levels							
	Bulls		Cardinals created		Canonizations		Treccani entry	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Prior teaching experience	−0.36	0.43	0.05	0.06	−0.15	0.36	0.09	−0.02
	(0.38)	(0.33)	(0.23)	(0.18)	(0.35)	(0.23)	(0.16)	(0.12)
Length of pontificate (log)								0.24***
								(0.04)
Constant	4.12***	−1.57***	2.99***	−1.35***	0.23	−4.12***	10.77***	9.22***
	(0.20)	(0.22)	(0.10)	(0.16)	(0.16)	(0.27)	(0.07)	(0.17)
Period dummies	No	Yes	No	Yes	No	Yes	No	Yes
Duration as exposure	No	Yes	No	Yes	No	Yes	No	No
Pseudo-R^2	0.01	0.68	0.00	0.20	0.00	0.23	0.00	0.58
Observations	124	124	127	127	132	132	130	130

Notes: Poisson pseudo-maximum likelihood on the outcomes in levels; heteroskedasticity-robust standard errors in parentheses. $\exp(\beta)-1$ is the proportional difference associated with prior teaching experience. Odd columns: prior teaching experience only. Even columns: period dummies (999–1123, 1124–1304, 1305–1377, 1378–1449, 1450–1599, 1600–1800; reference 999–1123) and the duration of the pontificate. For the three counts (columns 2, 4, 6) duration enters as exposure, i.e. log duration as an offset with coefficient one, so that the model explains the number of acts per month of pontificate; for the Treccani entry (column 8), which does not accrue over the pontificate, log duration enters as a regressor. For the Treccani entry, the three antipopes without an entry in the *Enciclopedia dei Papi* are excluded. Duration is floored at half a month. Pseudo-R^2: one minus the ratio of residual to null deviance. Least-squares estimates are in Table 2. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A2: Family origin and prior teaching experience of pontiffs: alternative definitions of academic teaching

	(1) Baseline	(2) University only	(3) Firmly documented	(4) Both restrictions
Academic pontiffs	22	20	19	17
of known origin	19	17	17	15
% non-noble	53	53	59	60
% high nobility	5	6	6	7
elected after 1600	0	0	0	0
Linear probability models, dependent variable: academic pontiff				
Non-noble family	0.219^{**}	0.199^{**}	0.245^{***}	0.224^{**}
	(0.094)	(0.091)	(0.093)	(0.090)
Non-noble family, with period dummies	0.198^{**}	0.164^{**}	0.226^{***}	0.191^{***}
	(0.079)	(0.071)	(0.077)	(0.069)
High nobility	-0.219^{***}	-0.191^{***}	-0.191^{***}	-0.164^{***}
	(0.058)	(0.056)	(0.056)	(0.054)
High nobility, with period dummies	-0.164^{***}	-0.119^{**}	-0.127^{**}	-0.082^{*}
	(0.056)	(0.048)	(0.053)	(0.044)
Observations	109	109	109	109

Notes: Popes and antipopes elected between 999 and 1800 with known family origin. Column 1 reproduces the coding of Table 3. Column 2 counts only teaching at a university, excluding pontiffs whose recorded teaching took place only in cathedral schools (Sylvester II, Urban II). Column 3 excludes pontiffs whose teaching is recorded in the RETE database only through weak links or approximate dates (Alexander III, Gregory VIII, Innocent VII); Pius V, whose teaching at Pavia is recorded as a weak link (Section 2), is kept. Column 4 applies both restrictions. Each coefficient comes from a separate regression; period dummies as in Table 4. Heteroskedasticity-robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix B. The cardinal electors

This appendix documents the data on the cardinal electors used in Sections 3.3 and 3.4. Section B.1 describes the construction of the data, Section B.2 compares the electors with the cardinals they elected, and Section B.3 reports estimates of which electors were elected.

B.1 Data

Electors. The unit of observation is a cardinal present at a papal election. For the 89 elections between 1143 and 1800 for which the *Sede Vacante* lists of John Paul Adams give the cardinals attending and those absent, we take these lists and match each name to the corresponding biography in Miranda (1998), using the name, the title church and the dates of creation and death; doubtful matches were resolved by hand. For the other elections (those before 1143, the Avignon election of 1378, the antipopes elected at Peñíscola and Basel, and the election of Innocent IX in 1591), we take the cardinals whom Miranda reports as having participated. Where the two sources disagree, we follow Adams, whose lists rest on conclave diaries and on the subscriptions of the period (Adams, n.d.). Table B1 summarizes the coverage of the data by period. The complete list, with the source of each observation and all the discrepancies between Adams and Miranda, is available in the replication files.

Electors as the pool of candidates. The comparison between electors and elected rests on the assumption that the cardinals present at each election were both the candidates and the voters. The assumption holds well from the late 12th century. The decree *In nomine Domini* of Nicholas II (1059) reserved a leading role in the election to the cardinal bishops; the Third Lateran Council (1179) extended the vote to all cardinals and required a two-thirds majority; Gregory X's constitution *Ubi periculum* (1274) introduced the conclave (Baumgartner 2003). Nearly all popes were chosen among the cardinals present: of the 106 elections in our data, 93 elected a cardinal present at the election, two a cardinal absent from it (Clement IV in 1265 and Adrian VI in 1522), and eleven a non-cardinal, among them Celestine V (1294), Clement V (1305), Urban V (1362) and Urban VI (1378). Comparing the elected with all living cardinals, present or absent, gives the same results (Table B6, Panel A). The assumption holds less well in three periods: in Avignon, where the college was dominated by cardinals from southern France recruited through the Curia (Guillemain 1962); during the Great Schism, when each obedience had its own, smaller college (Rollo-Koster 2022); and at Constance and Basel, where the cardinals voted together with delegates of the council. At Constance (1417) thirty representatives of the nations joined the cardinals in the election of Martin V, and at Basel (1439) the antipope Felix V was elected by a committee in which only one cardinal sat (Brandmüller 1991–97; Stieber 1978). For these elections our lists, which include only cardinals, describe the pool of candidates better than the electorate.

Family origin. Family origin is the status of the father's family at the cardinal's birth, in four categories: unknown; non-noble (peasants, artisans, merchants, notaries, jurists, physicians); lesser nobility and urban patriciates, including families described only as noble; and high nobility. The high nobility comprises comital, ducal and princely houses and ruling dynasties, the Roman

baronial families (Orsini, Colonna, Savelli, Conti, Caetani), the great Neapolitan houses, the Medici, Este, Gonzaga and Sforza, and the Venetian and Florentine patriciates. Nobility acquired before birth counts; nobility acquired later, for instance through an uncle's pontificate, does not. Each cardinal was coded by hand from his biography in Miranda (1998) and, where this was silent, from the *Dizionario Biografico degli Italiani* and the *Enciclopedia dei Papi*; the source and the degree of certainty of each code are recorded in the data. Cardinals who became popes keep the code used for the popes in Section 3, so that the two sets of estimates rest on the same classification. Miranda describes the family of 96% of the electors from 1404 onwards, but of only 48% of earlier electors; the shares in Table B2 are computed on cardinals of known origin.

Teaching and university studies. A cardinal is coded as having taught if Miranda's biography reports a teaching position (professor, lector, regent, a chair) held by the cardinal himself at a university, a *studium* or a school, or if he is matched to a person of the RETE database with a teaching position at a university, *studium*, cathedral school or college, following the same criterion as for the popes in Section 2. Teaching only in the *studia* and convents of a religious order, titles such as *magister* or *scholasticus* without a teaching position, and membership of academies, monastic communities and honorific positions, which RETE also records, are not counted. Cardinals whose university teaching is reported by Miranda but was not recorded in RETE were added to the database. The match with RETE uses surname, first name and years of birth and death; pairs not identical in name were checked one by one, and doubtful identifications are not counted. Teaching is counted at any date, before or after the creation as cardinal; only six cardinals taught exclusively after their creation, and restricting the measure to teaching before the cardinalate leaves the results unchanged (Table B5). The two sources overlap only partly (99 cardinals are identified by both, 27 by Miranda only, 68 by RETE only; Table B1), which is why we combine them. Among the cardinals elected pope, the automatic coding identifies all 17 whom we classify as academic pontiffs (Table 1), and ten more whose teaching the hand verification of Section 2 did not confirm; for the cardinals elected pope we therefore use the hand-verified coding, which refers to teaching before the election, and column 6 of Table B4 shows the estimates with the automatic coding for all cardinals. University studies equal one if Miranda reports a degree or studies at a university, a *studium* or in a university town.

B.2 Electors and elected

Table B2 describes, by period, the cardinals present at the elections and the cardinals they elected. Table B3 compares the elected with a simple benchmark: the number of elected popes with a given characteristic that we would observe if, in each election, the elected had been drawn at random from the cardinals present. The totals before and after 1600 are discussed in Sections 3.3 and 3.4. By period, the excess of cardinals who had taught among the elected is concentrated in the Avignon period (4 against 1.6 expected), and the excess of non-noble cardinals in 1450–1599 (9 non-noble popes against 3.1 expected, and 5 from the high nobility against 8.5). After 1600 the elected match the composition of the college in social origin (6 from the high nobility against 8.3 expected, 3 non-noble against 1.5), and none of the cardinals who had taught was elected (1.7 expected). Figure B1 shows the same evidence election by election. Panel (a) shows that

Table B1: Cardinal electors: sources and coverage

	Elections		Electors		% of elector observations		
Period	All	Adams list	Obs.	Cardinals	Origin known	Univ. studies	Taught
1058–1123	8	0	117	90	18	7	3
1124–1304	35	30	678	301	44	31	9
1305–1377	7	7	147	99	78	54	30
1378–1449	13	10	188	107	85	57	26
1450–1599	23	22	870	331	95	56	18
1600–1800	20	20	1,115	530	98	72	8
1058–1800	106	89	3,115	1,372	81	55	13

Sources of the teaching variable (cardinals, automatic coding)	
Miranda and RETE	99
Miranda only	27
RETE only	68

Notes: Papal elections 1058–1800, including those of antipopes; "Adams list": elections for which Adams (n.d.) lists the cardinals attending; observations are cardinals present at an election. Lower panel: cardinals coded as having taught at a university, *studium* or school at any date, by source of the information, before the hand verification of the cardinals later elected pope.

cardinals with teaching experience did not disappear from the conclaves after 1600, although none of them was elected; panel (b) shows that the share of the high nobility in the college changed little over the centuries, and that before 1600 the elected often came from below the high nobility.

B.3 Which electors were elected?

Estimates. Table B4 reports conditional logit estimates of the probability of being elected, with one group per election, for the 93 elections in which the elected was a cardinal present at the election. The comparison is therefore always between cardinals who sat in the same conclave, which absorbs differences in the size and composition of the college across periods. The controls are years since creation as cardinal, age at election where known, and the length of the cardinal's entry in Miranda, which captures the fact that the biographies of cardinals who became pope are longer and more detailed and therefore more likely to mention studies and teaching. Teaching experience raises the odds of election by about 51% when it enters alone (column 1), but the coefficient is not significant, and it falls to about zero once university studies and seniority are included (columns 3–5); with the automatic coding for all cardinals it is positive and significant at the 10% level (column 6), since the hand verification removed more claimed teaching positions among the elected than it added. Non-noble origin almost triples the odds of election (odds ratio 2.7 in column 3) and is significant at the 1% level in all specifications with controls; the coefficient on high nobility is negative but not significant. University studies are the strongest predictor of election (odds ratio 5.2).

Robustness. Table B5 re-estimates column 3 of Table B4 changing one choice at a time: count-

Table B2: Cardinal electors and the cardinals they elected, by period

		Cardinal electors present						Cardinal elected pope				
			Origin	% of known origin		%			% of known origin		%	
Period	Elections	n	known %	Non-noble	High nob.	Taught	Univ.	n	Non-noble	High nob.	Taught	Univ.
1058–1123	8	117	18	14	43	3	7	6	25	25	17	17
1124–1304	35	678	44	11	39	9	31	30	27	36	13	67
1305–1377	7	147	78	11	29	30	54	5	40	0	80	100
1378–1449	13	188	85	13	33	26	57	10	20	50	30	100
1450–1599	23	870	95	13	39	18	56	22	41	23	23	91
1600–1800	20	1,115	98	8	40	8	72	20	15	30	0	95
1058–1800	106	3,115	81	11	39	13	55	93	28	30	18	81

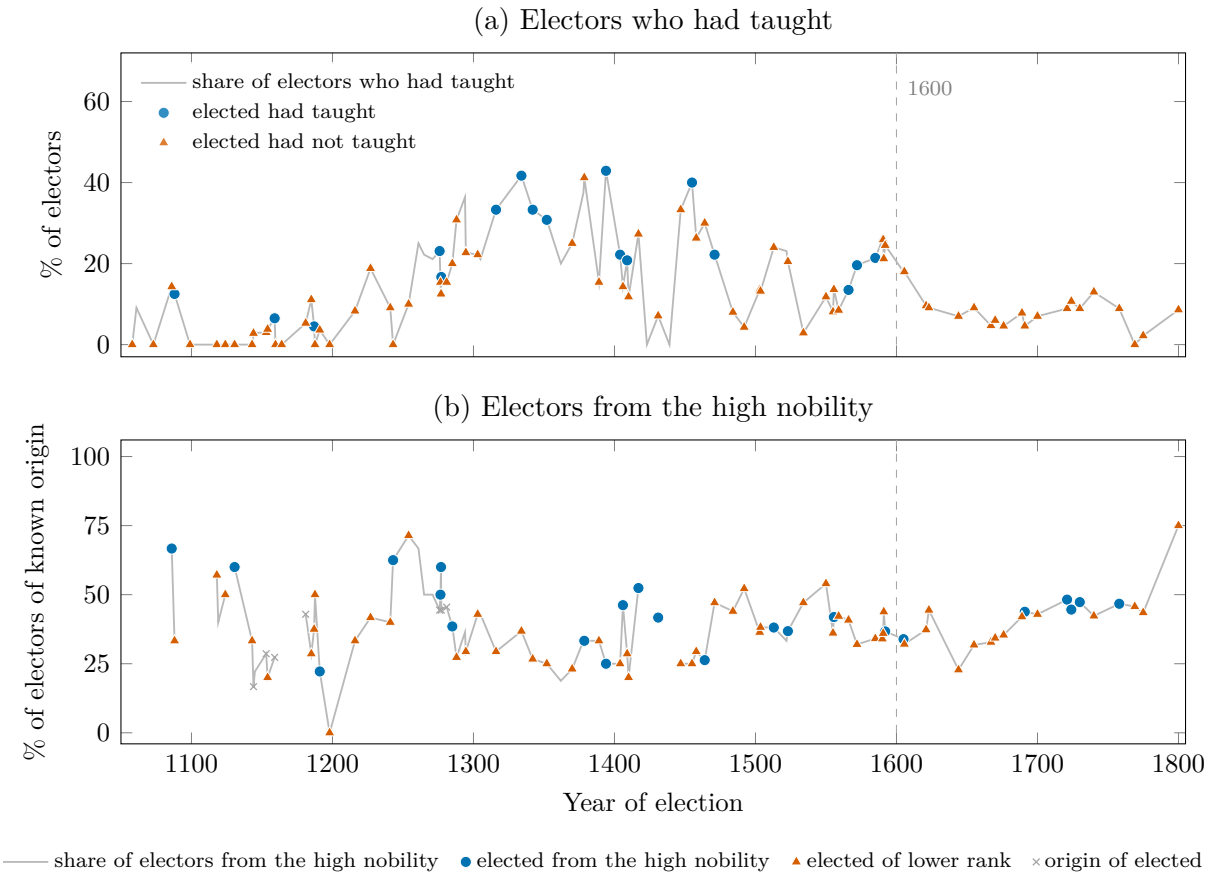
Notes: Papal elections 1058–1800, including those of antipopes. Electors: one observation per cardinal and election, for the cardinals present at the election. Electors: lists from Adams (n.d.) where he gives them (1143–1800, 89 elections) and from Miranda (1998) otherwise. Elected: the cardinal elected pope, when he was a cardinal present at the election (pontiffs elected from outside the college, such as Urban V or Urban VI, or in absentia, such as Adrian VI, are excluded). Family origin: status of the father's family at the cardinal's birth (Appendix B.1); "% of known origin" is computed on cardinals whose family origin is known; the third category, lesser nobility and urban patriciates, is the complement. "Taught": a teaching position at a university, *studium* or school at any date, before or after the cardinalate, reported by Miranda or recorded in the RETE database; for the cardinals later elected pope, the hand-verified coding of Table 1. "Univ.": Miranda's entry reports university studies or a degree. See Appendix B.1 for the construction of the data.

Table B3: Elected popes and a random draw from the electors, by period

	Taught				Non-noble family				High nobility		
Period	Elections	Expected	Elected	p	Elections	Expected	Elected	p	Expected	Elected	p
1058–1123	6	0.3	1	0.251	4	1.1	1	1.000	1.6	1	0.458
1124–1304	30	2.7	4	0.267	22	2.2	6	0.015	9.5	8	0.325
1305–1377	5	1.6	4	0.041	5	0.6	2	0.109	1.4	0	0.189
1378–1449	10	2.4	3	0.433	10	1.3	2	0.363	3.3	5	0.931
1450–1599	22	4.0	5	0.364	22	3.1	9	0.002	8.5	5	0.087
1600–1800	20	1.7	0	1.000	20	1.5	3	0.184	8.3	6	0.207
Before 1600	73	10.9	17	0.031	63	8.4	20	<0.001	24.3	19	0.094
After 1600	20	1.7	0	1.000	20	1.5	3	0.183	8.3	6	0.207
1058–1800	93	12.6	17	0.107	83	9.9	23	<0.001	32.6	25	0.047

Notes: Elections in which the elected was a cardinal present at the election. "Expected": number of elected popes with the characteristic if, in each election, the elected had been drawn at random from the cardinals present, i.e. the sum over elections of the share of electors with the characteristic. Family origin: elections in which the origin of the elected is known, shares computed on electors of known origin. p: one-sided probability, under the random draw, of a count at least as large as the one observed (taught, non-noble) or at most as large (high nobility), from 200,000 simulations of independent draws across elections.

Figure B1: Cardinal electors and the elected, conclave by conclave, 1058–1800



Notes: One point per papal election 1058–1800 (two elections in the same year are shifted slightly). Lines: share of the cardinals present who had taught at a university or school at any date (panel a) and share of the high nobility among the cardinals present of known origin (panel b; elections with fewer than three electors of known origin are not plotted). Markers: the cardinal elected pope, placed on the line of his election; elections in which the elected was not a cardinal present at the election have no marker. Dashed line: 1600. Teaching of the elected: hand-verified coding of Table 1. Before 1600, cardinals who had taught made up on average 24% of the electors in the conclaves won by a cardinal who had taught, and 12% in the others.

Table B4: Which cardinal electors were elected? Conditional logit estimates

	Dependent variable: elected pope						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All elections				Adams lists	Auto. coding	LPM
Taught (at any date)	0.41	0.33	−0.11	−0.32	−0.06		0.001
	(0.29)	(0.31)	(0.32)	(0.33)	(0.32)		(0.012)
Taught (automatic coding for all)						0.55*	
						(0.28)	
Non-noble family		1.17***	0.98***	0.94***	0.93***	0.92***	0.053***
		(0.29)	(0.30)	(0.30)	(0.31)	(0.30)	(0.019)
High nobility		−0.03	−0.40	−0.37	−0.48	−0.29	−0.005
		(0.27)	(0.29)	(0.30)	(0.31)	(0.29)	(0.007)
Origin unknown		−1.65***	−0.92**	−0.66	−0.71	−0.94**	−0.042***
		(0.43)	(0.44)	(0.46)	(0.49)	(0.44)	(0.013)
University studies			1.65***	1.38***	1.73***	1.52***	0.041***
			(0.34)	(0.34)	(0.37)	(0.34)	(0.007)
Years as cardinal (/10)			0.40***	0.25**	0.34***	0.40***	0.013***
			(0.10)	(0.12)	(0.11)	(0.10)	(0.004)
Age at election (/10)				0.30***			
				(0.11)			
Age unknown				−0.04			
				(0.82)			
Length of Miranda entry (log)			1.08***	1.06***	0.92***	1.08***	0.036***
			(0.29)	(0.31)	(0.31)	(0.29)	(0.008)
Elections	93	93	93	93	80	93	93
Observations (elector × election)	2,888	2,888	2,888	2,888	2,629	2,888	2,888

Notes: One observation per cardinal present at an election. Columns (1)–(6): conditional (fixed-effects) logit, with one group per election, so that each elector is compared only with the other electors of the same conclave; coefficients are log odds ratios. Column (5) keeps the elections for which Adams (n.d.) gives the list of cardinals present (1143–1800). Column (6) codes teaching with the same automatic rules for all cardinals, including those later elected (see text). Column (7): linear probability model with election fixed effects, standard errors clustered by cardinal. Elections in which the elected was not a cardinal present at the election are excluded, as are electors with unknown date of creation. Reference category for family origin: lesser nobility and patriciate. Teaching: a teaching position at a university or school at any date, before or after the cardinalate, reported by Miranda or recorded in the RETE database; for cardinals later elected pope, the hand-verified coding of Table 1 (column 6: automatic coding). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ing only teaching that preceded the cardinalate, excluding the elections of antipopes, restricting the sample to the elections before 1600 and to those from 1143 covered by Adams' lists, and coding the teaching of the cardinals not elected pope from the RETE database only. The results do not change: teaching has no significant effect once university studies and seniority are controlled for, university studies and non-noble origin remain strong predictors of election, and the coefficient on high nobility is negative in all specifications; it is significant (at the 10% level) only when the elections of antipopes are excluded.[1]

Table B5: Which cardinal electors were elected? Robustness

	(1) Baseline	(2) Taught before cardinalate	(3) Without antipopes	(4) Before 1600	(5) From 1143 (Adams period)	(6) Teaching from RETE only
Taught	−0.11	0.04	−0.14	0.12	−0.06	0.07
	(0.32)	(0.32)	(0.33)	(0.34)	(0.32)	(0.32)
Non-noble family	0.98***	0.97***	0.96***	1.16***	0.93***	0.97***
	(0.30)	(0.30)	(0.31)	(0.35)	(0.31)	(0.30)
High nobility	−0.40	−0.37	−0.60*	−0.41	−0.48	−0.37
	(0.29)	(0.29)	(0.31)	(0.35)	(0.31)	(0.29)
University studies	1.65***	1.62***	1.61***	1.55***	1.73***	1.62***
	(0.34)	(0.34)	(0.34)	(0.36)	(0.37)	(0.34)
Years as cardinal (/10)	0.40***	0.40***	0.42***	0.46***	0.34***	0.40***
	(0.10)	(0.10)	(0.11)	(0.13)	(0.11)	(0.10)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Elections	93	93	85	73	80	93
Observations	2,888	2,888	2,763	1,778	2,629	2,888

Notes: Conditional logit, one group per election, as in column 3 of Table B4; other controls: origin unknown, length of the Miranda entry. (2) teaching only before the creation as cardinal; (3) elections of antipopes excluded; (4) elections before 1600 (after 1600 no elected pope had taught, so the coefficient on teaching is not identified); (5) elections from 1143, the period covered by Adams' lists; (6) teaching of the cardinals not elected pope coded from the RETE database only, without the information in Miranda. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Candidates and academic popes. Table B6 reports three further checks. Panel A compares the elected with all the cardinals alive at the election, including those absent from the conclave (545 cardinal–election pairs, mostly from Adams' lists of absent cardinals); the results are those of Table B3: before 1600, 18 elected popes had taught against 11.6 expected, 22 were of non-noble birth against 8.8, and 19 came from the high nobility against 26.1. Panel B splits the elections before 1600 according to whether the elected had taught: the deviation from the benchmark

1. The coefficient on high nobility depends on the classification of family origin. When the cardinals created from 1503 onwards who did not become popes are coded with lexical rules applied to Miranda's "Birth" section, which class every titled family and every family described as ancient and illustrious as high nobility, the coefficient becomes −0.99 (significant at the 1% level), while the coefficients on teaching, non-noble origin and university studies change little. We keep the classification used for the popes, so that electors and elected are coded on the same scale.

in social origin is larger in the elections won by a cardinal who had taught (7 non-noble popes against 1.7 expected, 1 from the high nobility against 4.5) than in the others (13 against 6.7, and 18 against 19.8). Panel C shows that the conditional logit estimates are unchanged when absent cardinals are included (column 1), and that the interaction between teaching and non-noble origin is small and not significant (columns 2 and 3).

Table B6: Electors and elected: candidates, teaching and family origin

	Elections	Expected	Elected	p
Panel A. Candidates: all living cardinals, present or absent				
Before 1600				
Taught	75	11.6	18	0.027
Non-noble family	65	8.8	22	<0.001
High nobility	65	26.1	19	0.038
After 1600				
Taught	20	1.6	0	1.000
Non-noble family	20	1.4	3	0.164
High nobility	20	8.8	6	0.146
Panel B. Electors present, elections before 1600, by teaching experience of the elected				
Elected had taught				
Non-noble family	14	1.7	7	<0.001
High nobility	14	4.5	1	0.033
Elected had not taught				
Non-noble family	49	6.7	13	0.007
High nobility	49	19.8	18	0.343

Panel C. Conditional logit: dependent variable elected pope

	(1) All living cardinals	(2) Electors present, interactions	(3) Electors present, interactions, before 1600
Taught	−0.11	−0.24	0.03
	(0.31)	(0.39)	(0.41)
Non-noble family	1.05***	0.86**	1.04**
	(0.29)	(0.36)	(0.43)
High nobility	−0.39	−0.42	−0.44
	(0.29)	(0.29)	(0.36)
Taught × non-noble		0.41	0.32
		(0.63)	(0.68)
University studies	1.65***	1.67***	1.57***
	(0.33)	(0.34)	(0.37)
Absent from the conclave	−2.39***		
	(0.73)		
Other controls	Yes	Yes	Yes
Elections	95	93	73
Observations	3,471	2,888	1,778

Notes: Panel A: as Table B3, but the elected is compared with all the cardinals alive at the election, present or absent (absent cardinals from the lists of Adams (n.d.) and from Miranda); elections in which the elected was a cardinal, including Clement IV (1265) and Adrian VI (1522), elected in absentia. Panel B: as Table B3, elections before 1600, separately for the elections won by a cardinal who had taught and for the others. Panel C: conditional logit with one group per election, controls as in column 3 of Table B4; column (1) adds an indicator for cardinals absent from the conclave. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix C. Family origin of popes and antipopes, 999–1800

This appendix reports, for each of the 133 popes and antipopes elected between 999 and 1800, the coding of family origin used in Tables 3–5 of the paper, with the source of each case. Table C1 summarizes the coding by period; Table C2 gives the coding of each pontiff.

C.1 Coding

Categories. The status of the father's family at the time of the pontiff's birth is coded on a three-level scale. The scale follows a distinction common in the historiography of the Italian and European nobilities between the titled and feudal high nobility, a lesser nobility of knights and vassals, and urban patriciates whose noble standing rested on local institutions rather than on titles (Donati 1988; Dewald 1996; Scott 1995). *Non-noble* families include peasants, artisans, merchants (including wealthy ones), notaries, jurists, physicians and non-noble landowners. The *lesser nobility and patriciate* includes minor local nobility, knights, lords of modest fiefs and vassals (*valvassori*, *capitanei*; Keller 1995; Jones 1997), and the urban patriciates (e.g. Genoa, Siena, Bologna). The *high nobility* includes comital, ducal and princely houses, the great Roman baronial families (Tusculum, Crescenzi, Orsini, Colonna, Savelli, Conti; Wickham 2015; Carocci 1993), ruling dynasties such as the Medici, and the Venetian and Florentine patriciates, treated as high nobility because of their political weight. Origin is coded as *unknown* when the sources say nothing about the family, or conflict without a prevailing view.

Rules. The status of the father's family at birth is coded, not the status reached after the election: the Barberini (Urban VIII), merchants, are coded non-noble. When the mother ranked higher than the father, the father's status is coded and the mother's is noted (e.g. Urban VI). Nobility acquired before birth counts: the Rezzonico (Clement XIII), entered in the Venetian Golden Book in 1687, before the pope's birth in 1693, are coded high nobility. Urban patriciates are coded as lesser nobility, except the Venetian and Florentine ones; Alexander VIII (Ottoboni, Venetian *cittadini*, admitted to the patriciate only in 1646, when the Republic sold patrician status to raise funds for the War of Candia) is coded non-noble (Romano 1987; Hunecke 1997).

Sources. The *Enciclopedia dei Papi* (Istituto dell'Enciclopedia Italiana 2000) for all 110 popes and for 21 of the 23 antipopes; the Italian Wikipedia for the antipopes Clement VIII (Gil Sánchez Muñoz) and Benedict XIV (Bernard Garnier), who have no entry in the *Enciclopedia*. For each pontiff, Table C2 gives a summary in English and the relevant passage of the source in the original Italian, with a link to the entry.

Uncertain cases. Family origin is coded as unknown for 24 pontiffs: John XVIII (1003), Gregory VI* (1012), Sylvester III (1045), Gregory VI (1045), Nicholas II (1058), Paschal II (1099), Theodoric* (1100), Adalbert* (1101), Sylvester IV* (1105), Gregory VIII* (1118), Celestine II* (1124), Innocent II (1130), Lucius II (1144), Eugene III (1145), Anastasius IV (1153), Alexander III (1159), Callixtus III* (1168), Lucius III (1181), Innocent V (1276), John XXI (1276), Martin IV (1281), Nicholas V* (1328), Clement VIII* (1423), Benedict XIV* (1424). These pontiffs are

excluded from the shares and regressions of Tables 3–5 of the paper.

Table C1: Family origin of popes and antipopes by period

	Pontiffs			Family origin			
Period	All	Antipopes	Academic	Non-noble	Lesser nob.	High nob.	Unknown
999–1123	30	8	2	3	7	10	10
1124–1304	39	7	4	9	10	9	11
1305–1377	8	1	6	2	5	0	1
1378–1449	14	7	4	3	3	6	2
1450–1599	23	0	6	10	8	5	0
1600–1800	19	0	0	3	10	6	0
999–1800	133	23	22	30	43	36	24

Notes: Popes and antipopes, by date of election. "Academic": pontiffs who held a teaching position before their election (Table 1 of the paper). The figures coincide with Tables 3–5 of the paper.

C.2 Pontiffs

Table C2: Family origin of each pontiff, with source

Pontiff	Election	Academic	Family origin	Summary and source
999–1123				
Sylvester II Gerbert of Aurillac	999	✓	Non-noble	Humble origins in Aquitaine ('ex infimo genere'). *"La sua origine umile giustifica l'assenza della data di nascita [...]; "ex infimo genere procreatus" (Ademaro)"* [Treccani]
John XVII John Sicco	1003		Lesser nobility and patriciate	Family unknown; probably from the leading urban stratum of Rome. *"Non si conosce nulla delle sue origini familiari [...] egli doveva comunque provenire dal ceto eminente cittadino"* [Treccani]
John XVIII John Fasanus	1003		Unknown	Reportedly son of a priest, Urso; no information on status. *"egli sarebbe stato figlio del presbitero Urso e di Stefania (nessuna indicazione di status)"* [Treccani]
Sergius IV Peter 'Bucca Porci'	1009		Non-noble	Son of a shoemaker. *"Era figlio di Pietro ("Peruncius" secondo alcune fonti) e Stefania [...] il mestiere del padre, calzolaio"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Benedict VIII Theophylact of Tusculum	1012		High nobility	Son of Gregory, count of Tusculum; brother of John XIX. *"Teofilatto nacque da Gregorio, conte di Tuscolo, e da Maria, e fu fratello di Romano (Giovanni XIX)"* [Treccani]
John XIX Romanus of Tusculum	1024		High nobility	Son of Gregory, count of Tusculum; brother of Benedict VIII. *"Terzo figlio di Gregorio, conte di Tuscolo, e di Maria, e dunque fratello di papa Benedetto VIII"* [Treccani]
Benedict IX Theophylact of Tusculum	1032		High nobility	Son of Alberic III, count of Tusculum; nephew of Benedict VIII and John XIX. *"A Teofilatto, figlio di Alberico III, conte di Tuscolo [. . .] fu eletto certamente grazie all'appoggio della famiglia"* [Treccani]
Sylvester III John of Sabina	1045		Unknown	Family origins unknown. *"Di lui non si conoscono le origini familiari né si hanno informazioni riguardo al luogo e alla data di nascita"* [Treccani]
Gregory VI John Gratian	1045		Unknown	Family origins obscure (Pierleoni kinship is a late tradition). *"anche le sue origini familiari sono oscure (la parentela con i Pierleoni è notizia molto tarda)"* [Treccani]
Clement II Suidger of Morsleben	1046		High nobility	Saxon high nobility. *"apparteneva a una famiglia dell'alta nobiltà sassone"* [Treccani]
Damasus II Poppo of Brixen	1048		Lesser nobility and patriciate	Noble family or 'of some rank'; parents unknown. *"da famiglia nobile o comunque di un certo rango. Non si conosce il nome dei suoi genitori"* [Treccani]
Leo IX Bruno of Egisheim-Dagsburg	1049		High nobility	Son of Count Hugh of Egisheim. *"dal conte Ugo d'Eguisheim e da sua moglie Helvide (di Dabo?)"* [Treccani]
Victor II Gebhard of Dollnstein- Hirschberg	1055		Lesser nobility and patriciate	Local nobility, related to the imperial house; family not identified. *"gli storici non sono riusciti ad accertare a quale famiglia della nobiltà locale [appartenesse] Gebhard [legami di parentela con la casa imperiale]"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Stephen IX Frederick of Lorraine	1057		High nobility	Son of Gozelo, duke of Lotharingia; house of Ardennes. *"Federico delle Ardenne o di Lorena era figlio di Gozelon, duca di Lotaringia"* [Treccani]
Nicholas II Gerard of Burgundy	1058		Unknown	Only his Burgundian origin is known. *"Sappiamo infatti solo che Gerardo era originario della Borgogna (nascita illegittima riferita solo da Benzone d'Alba)"* [Treccani]
Alexander II Anselm of Baggio	1061		Lesser nobility and patriciate	Milanese capitanei family (captaincy of the pieve of Cesano). *"La sua famiglia, di Baggio, aveva il capitanato della pieve di Cesano ed era strettamente legata alla corte imperiale"* [Treccani]
Gregory VII Hildebrand of Sovana	1073		Non-noble	Very probably of modest social origin. *"Molto probabilmente di origine sociale modesta"* [Treccani]
Victor III Dauferius (Desiderius)	1086		High nobility	Branch of the princely family of Benevento. *"Dauferio nacque nel 1027 da un ramo della famiglia principesca di Benevento"* [Treccani]
Urban II Odo of Châtillon	1088	✓	Lesser nobility and patriciate	Modest family of knights, vassals of the counts of Champagne. *"Di modesta famiglia di cavalieri [. . .] L'attribuzione di U. ad una famiglia di antica nobiltà è infondata"* [Treccani]
Paschal II Rainerius of Bleda	1099		Unknown	Family and birth entirely unknown. *"Si ignora tutto della famiglia e della nascita di Raniero"* [Treccani]
Gelasius II John of Gaeta	1118		Lesser nobility and patriciate	Noble family of Gaeta. *"nacque [. . .] da Giovanni Coniuolo, appartenente ad una nobile famiglia di Gaeta"* [Treccani]
Callixtus II Guy of Burgundy	1119		High nobility	Son of William, count of Burgundy. *"Figlio di Guglielmo conte di Borgogna, ed imparentato per parte di madre con i duchi di Normandia"* [Treccani]
Gregory VI* Gregory	1012		Unknown	Family origins, birthplace and date unknown. *"Non si conoscono le sue origini familiari, né il luogo e la data di nascita"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Benedict X* Giovanni Mincio	1058		High nobility	Probably of the counts of Tusculum (son of Guido, son of Alberic III, or nephew of Benedict IX). *"Secondo il Borgia [...] Giovanni fosse figlio di un Guido, figlio a sua volta di Alberico III di Tuscolo; il Bossi lo identifica con il vescovo di Labico, indicato come nipote di Benedetto IX e pertanto tuscolano"* [Treccani]
Honorius II* Cadalus	1061		Lesser nobility and patriciate	Lombard-origin milites; father viscount of Verona. *"di origine longobarda, sia nato verso il 1010 da Ingone [...] in "milites" originari probabilmente di Monselice [...] è detto "vicecomes de civitate Verone""* [Treccani]
Clement III* Wibert of Parma	1080		High nobility	Family related to the Canossa; brother later count of Parma. *"Wiberto (Guiberto), nato nella famiglia nobile dei da Correggio imparentati con la dinastia canossiana a Parma"* [Treccani]
Theodoric* Theodoric	1100		Unknown	Nothing known. *"Nessuna notizia sulla famiglia"* [Treccani]
Adalbert* Adalbert	1101		Unknown	Nothing known. *"Nessuna notizia sulla famiglia"* [Treccani]
Sylvester IV* Maginulf	1105		Unknown	Probably Roman; nothing known of parents or status. *"al momento di assumere l'alto incarico egli era arciprete di S. Angelo, il che farebbe supporre un'origine familiare romana (nessuna notizia su genitori e condizione)"* [Treccani]
Gregory VIII* Maurice Burdinus	1118		Unknown	Nothing known. *"Anche sulla famiglia di Maurizio Burdino nulla è noto"* [Treccani]
1124–1304				
Honorius II Lamberto Scannabecchi	1124		Non-noble	Bolognese family of modest condition. *"nacque da una famiglia bolognese di modeste condizioni"* [Treccani]
Innocent II Gregorio Papareschi	1130		Unknown	Trastevere family; social rank unknown. *"il rango sociale della famiglia di I. è sconosciuto (famiglia di Trastevere, poi detta Papareschi)"* [Treccani]
Celestine II Guido di Castello	1143		Lesser nobility and patriciate	Noble Tuscan family. *"di nobile famiglia e qualificato come toscano dai contemporanei"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Lucius II Gherardo Caccianemici	1144		Unknown	Bolognese; link to the 'de Urso' family unproven. *"tali evidenze non sono sufficienti per collocare il personaggio all'interno della famiglia "de Urso""* [Treccani]
Eugene III Bernardo Pignatelli (of Pisa)	1145		Unknown	Conflicting sources: noble (late) vs. 'homo rusticanus' (St Bernard). *"Fonti discordanti: origine nobile (Paganelli di Montemagno, Roncioni) vs "homo rusticanus" (san Bernardo)"* [Treccani]
Anastasius IV Corrado della Suburra	1153		Unknown	Roman, from the Suburra district; father possibly Benedetto. *"Al secolo Corrado, figlio, forse, di un Benedetto, era romano di nascita ed originario della "regio" detta della Suburra"* [Treccani]
Adrian IV Nicholas Breakspear	1154		Non-noble	Son of a poor cleric in minor orders. *"Secondo taluni, Nicola sarebbe stato figlio di un chierico povero, rivestito solo degli ordini minori"* [Treccani]
Alexander III Rolando of Siena	1159	✓	Unknown	Son of a certain Ranuccio of Siena; Bandinelli attribution is late. *"figlio di un Ranuccio, senese (il legame con la nobile famiglia Bandinelli è attribuzione tarda del Ciacconio)"* [Treccani]
Lucius III Ubaldo Allucingoli	1181		Unknown	Only his origin from Lucca is known. *"Nessuna notizia sulla famiglia; solo l'origine lucchese di Ubaldo Allucingoli"* [Treccani]
Urban III Uberto Crivelli	1185		Lesser nobility and patriciate	Prosperous Milanese family of the valvassori. *"da una prospera famiglia dell'aristocrazia milanese [...] Appartenenti al ceto dei "valvassori""* [Treccani]
Gregory VIII Alberto di Morra	1187	✓	Lesser nobility and patriciate	Son of Sartorius, of an important family of Benevento. *"era figlio di un certo "Sartorius", di una importante famiglia di quella città [Benevento]"* [Treccani]
Clement III Paolo Scolari	1187		Non-noble	Roman family of high social standing but not aristocratic. *"Apparteneva a una famiglia romana del rione Pigna, di elevato livello sociale ma non aristocratica"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Celestine III Giacinto Bobone	1191		High nobility	Son of Pietro Bobone, founder of the Orsini family. *"da Pietro Bobone, capostipite della nobile famiglia che assumerà il nome Orsini"* [Treccani]
Innocent III Lotario dei Conti di Segni	1198		Lesser nobility and patriciate	Father of the local landed nobility of Segni; mother of the Roman Scotti. *"padre Trasmundo "de comitibus Signie" (membro della nobiltà fondiaria locale, non conte di Segni); madre Clarissa degli Scotti"* [Treccani]
Honorius III Cencio	1216		Non-noble	Non-prominent social background. *"Egualmente a un ambiente sociale non preminente [. . .] sembra escludere una provenienza sociale molto elevata"* [Treccani]
Gregory IX Ugolino dei Conti di Segni	1227		Lesser nobility and patriciate	Conti di Segni; relative of Innocent III. *"patre de comitibus Signie, felicis memorie dominum Innocentium papam tertium tertio gradu consanguinitatis attingens"* [Treccani]
Celestine IV Goffredo da Castiglione	1241		Lesser nobility and patriciate	Noble Milanese family named after its fief (Castiglioni). *"discendeva dalla nobile famiglia milanese che prese il nome dal possesso del principale suo feudo [Castiglioni]"* [Treccani]
Innocent IV Sinibaldo Fieschi	1243		High nobility	Fieschi, counts of Lavagna, among the most powerful families of eastern Liguria. *"La famiglia paterna era una delle più potenti della costa orientale della Liguria [Fieschi, conti di Lavagna]"* [Treccani]
Alexander IV Rinaldo di Jenne	1254		Lesser nobility and patriciate	Son of the feudal lord of Jenne; related to Gregory IX. *"figlio di Filippo, feudatario di Ienne [. . .] imparentato (ma non risulta come e perché) con Ugolino [Gregorio IX]"* [Treccani]
Urban IV Jacques Pantaléon	1261		Non-noble	Son of a shoemaker; not noble but probably well off. *"il padre di Jacques abbia esercitato il mestiere di artigiano di calzature [. . .] Non era quindi nobile, ma probabilmente era di agiata condizione"* [Treccani]
Clement IV Guy Foucois	1265		Non-noble	Father a judge of modest means in the service of the count of Toulouse. *"Il padre, titolare di un modesto patrimonio, era un giudice al servizio del conte Raimondo V di Tolosa"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Gregory X Tedaldo Visconti	1271		Lesser nobility and patriciate	Noble urban family of the Visconti of Piacenza. *"appartenne alla nobile famiglia cittadina dei Visconti [di Piacenza]"* [Treccani]
Innocent V Pierre de Tarentaise	1276	✓	Unknown	Only his birthplace (Tarentaise) is known. *"Nessuna notizia sulla famiglia; solo il luogo di nascita: Nato intorno al 1224 nella Tarantasia"* [Treccani]
Adrian V Ottobono Fieschi	1276		High nobility	Fieschi, counts of Lavagna; nephew of Innocent IV. *"Ottobono di Teodisco Fieschi, della famiglia dei conti di Lavagna [nipote di Innocenzo IV]"* [Treccani]
John XXI Pedro Julião (Peter of Spain)	1276	✓	Unknown	Nothing is known of his family. *"Sulla sua famiglia non si sa nulla [...] nulla conferma che fosse figlio del cancelliere regio Julião Pais"* [Treccani]
Nicholas III Giovanni Gaetano Orsini	1277		High nobility	Orsini; father senator of Rome. *"Giangaetano Orsini nacque a Roma [...] da Matteo Rosso di Giangaetano e Perna Caetani [...] senatore di Roma"* [Treccani]
Martin IV Simon de Brion	1281		Unknown	'Familiaris' of the counts of Champagne; parents unknown. *"Simon de Brie [...] familiare dei conti di Champagne (nessuna notizia su genitori e condizione)"* [Treccani]
Honorius IV Giacomo Savelli	1285		High nobility	Savelli, one of the most important Roman families. *"Giacomo Savelli [...] appartenne ad una delle più importanti famiglie romane del sec. XIII; madre Giovanna Aldobrandeschi, dei Conti di Santa Fiora"* [Treccani]
Nicholas IV Girolamo Masci	1288		Non-noble	Father reportedly a scribe; noble origin unfounded. *"il padre avrebbe esercitato l'attività di "scriba" [...] Certamente priva di ogni fondamento è la sua origine nobiliare"* [Treccani]
Celestine V Pietro Angelerio (del Morrone)	1294		Non-noble	Parents were simple peasants. *"I genitori, Angelerio e Maria, erano semplici contadini"* [Treccani]
Boniface VIII Benedetto Caetani	1294		Lesser nobility and patriciate	Minor nobility of the Campagna. *"nacque quasi certamente in Anagni, da una famiglia della piccola nobiltà della Campagna"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Benedict XI Niccolò Boccasini	1303		Non-noble	Father a notary of very humble origins. *"Il padre, che esercitava il notariato, era di umilissime origini"* [Treccani]
Celestine II* Teobaldo Boccapecci	1124		Unknown	Probably of the Roman Buccapecus family; status not stated. *"appartenne, con ogni probabilità, alla famiglia romana dei "Buccapecus" (condizione sociale non indicata)"* [Treccani]
Anacletus II* Pietro Pierleoni	1130		High nobility	Roman Pierleoni family, descendants of a converted Jew. *"Al secolo Pietro, nacque [...] da Pietro di Leone della famiglia romana dei Pierleoni. Discendenti dell'ebreo convertito Benedetto Cristiano"* [Treccani]
Victor IV (antipope, 1138)* Gregorio Conti	1138		High nobility	Probably from Ceccano; a great family of southern Lazio (uncertain). *"Poiché la sua patria fu, molto probabilmente, Ceccano [...] l'appartenenza a un grande casato del Lazio meridionale"* [Treccani]
Victor IV (antipope, 1159)* Ottaviano de' Monticelli	1159		High nobility	Lords of Monticelli, holding a comital title for generations. *"apparteneva ai signori di Monticelli, che da alcune generazioni si fregiavano del titolo comitale"* [Treccani]
Paschal III* Guido da Crema	1164		High nobility	High aristocracy of the Po valley, claiming kinship with the French and English royal lines. *"Discendente da una famiglia dell'alta aristocrazia padana, che vantava parentele con le stirpi dei re di Francia e di Inghilterra"* [Treccani]
Callixtus III* Giovanni of Struma	1168		Unknown	Nothing known. *"Nessuna notizia sulla famiglia"* [Treccani]
Innocent III* Lando of Sezze	1179		Lesser nobility and patriciate	Uncertain: Frangipane or a German-origin lineage of Campagna; noble in either case. *"la famiglia di origine sarebbe "de progenie illorum, quos Frangipanes Romani vocant" [...] il Gregorovius [pensava a] uno dei lignaggi di origine tedesca insediati in Campagna e Marittima (origine incerta, comunque nobile)"* [Treccani]

1305–1377

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Clement V Bertrand de Got	1305	✓	Lesser nobility and patriciate	Noble but not wealthy; father lord of Villandraut. *"La famiglia paterna era di origine nobile ma economicamente non agiata [padre Béraud de Got, signore di Villandraut]"* [Treccani]
John XXII Jacques Duèze	1316	✓	Non-noble	Very wealthy urban bourgeois family of Cahors. *"nacque da una famiglia molto abbiente della borghesia cittadina [Cahors]"* [Treccani]
Benedict XII Jacques Fournier	1334	✓	Non-noble	Neither noble nor merchant; father perhaps a miller. *"da una famiglia che non apparteneva certamente né alla nobiltà né alla borghesia mercantile [. . .] suo padre era forse mugnaio"* [Treccani]
Clement VI Pierre Roger	1342	✓	Lesser nobility and patriciate	Petty aristocracy of the lower Limousin, with few means. *"nacque [. . .] da una famiglia della piccola aristocrazia del basso Limosino [. . .] I suoi genitori possedevano pochi beni"* [Treccani]
Innocent VI Étienne Aubert	1352	✓	Lesser nobility and patriciate	Minor local nobility (Pompadour). *"Figlio di Adhémar Aubert, di Pompadour, appartenente ad una famiglia della piccola nobiltà locale"* [Treccani]
Urban V Guillaume de Grimoard	1362	✓	Lesser nobility and patriciate	Father a local lord; vassal families of the bishops of Mende. *"nacque a Grizac [. . .] da Guillaume, signore locale, e Amphélise di Montferrand [. . .] tutte famiglie vassalle dei vescovi di Mende"* [Treccani]
Gregory XI Pierre Roger de Beaufort	1370		Lesser nobility and patriciate	Father a noble vassal or officer of the lords of Ventadour; nephew of Clement VI. *"dal nobile Guillaume I, vassallo o ufficiale dei signori di Ventadour [nipote di Clemente VI]"* [Treccani]
Nicholas V* Pietro Rainalducci	1328		Unknown	Rare and uncertain information on his family. *"Rare e incerte le notizie sulla famiglia e sui primi anni di attività del futuro pontefice"* [Treccani]
1378–1449				
Urban VI Bartolomeo Prignano	1378	✓	Non-noble	Father of the merchant-artisan stratum; mother of the Neapolitan nobility. *"Scarse sono le notizie sulle origini della famiglia [. . .] appartenesse al ceto mercantile-artigianale; la madre, Margherita Brancaccio, era invece esponente di una delle famiglie della nobiltà di Napoli"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Boniface IX Pietro Tomacelli	1389		Lesser nobility and patriciate	Noble Neapolitan family. *"Perrino (Pietro) Tomacelli, di nobile famiglia napoletana"* [Treccani]
Innocent VII Cosimo de' Migliorati	1404	✓	Lesser nobility and patriciate	Noble family of Sulmona with military and mercantile interests. *"nacque a Sulmona nel 1336 da una famiglia nobile, di tradizioni militari ma con interessi anche in campo mercantile"* [Treccani]
Gregory XII Angelo Correr	1406		High nobility	Venetian patriciate; uncle of Eugene IV. *"appartenente al patriziato veneziano [Correr; zio di Eugenio IV]"* [Treccani]
Martin V Oddone Colonna	1417		High nobility	Colonna, one of the most prestigious Roman families. *"Oddone Colonna [. . .] appartenne ad una delle più prestigiose e influenti famiglie romane"* [Treccani]
Eugene IV Gabriele Condulmer	1431		High nobility	Venetian patriciate; nephew of Gregory XII. *"Gabriele Condulmer nacque nel 1383, da Angelo, nobile veneziano, e da Bariola, figlia di Niccolò Correr [sorella di Gregorio XII]"* [Treccani]
Nicholas V Tommaso Parentucelli	1447		Non-noble	Father a physician; families of some standing in the Lunigiana. *"da Bartolomeo e Andreola Tomei, di famiglie non secondarie della società della Lunigiana [. . .] il padre era medico"* [Treccani]
Clement VII* Robert of Geneva	1378		High nobility	Illustrious feudal family; son of Amadeus III, count of Geneva. *"di illustre famiglia feudale [. . .] da Amedeo III, conte del Genevese, e da Marie de Boulogne"* [Treccani]
Benedict XIII* Pedro Martínez de Luna	1394	✓	High nobility	One of the most illustrious feudal families of the Crown of Aragon. *"Appartenente ad una delle più illustri famiglie feudali della Corona d'Aragona [. . .] Figlio di Juan Martínez de Luna, signore di Luna e di Medina"* [Treccani]
Alexander V* Peter Philarges	1409	✓	Non-noble	Born to poor Greek parents he never knew; raised by a Franciscan friar. *"da poveri genitori di sangue greco, che egli non conobbe mai. Fu educato da un frate minore"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
John XXIII* Baldassarre Cossa	1410		Lesser nobility and patriciate	Father lord of Procida; family from Ischia. *"Baldassare Cossa, figlio di Giovanni e di Ciocciola Barile [...] La famiglia del padre, insignito del titolo di signore di Procida, era originaria d'Ischia"* [Treccani]
Clement VIII* Gil Sánchez Muñoz	1423		Unknown	Nothing known. *"Nessuna notizia sulla famiglia (Gil Sánchez Muñoz)"* [Wikipedia (it)]
Benedict XIV* Bernard Garnier	1424		Unknown	Nothing known. *"Nessuna notizia sulla famiglia (Bernard Garnier)"* [Wikipedia (it)]
Felix V* Amadeus VIII of Savoy	1439		High nobility	Son of Amadeus VII, count of Savoy; himself duke of Savoy. *"Amedeo VIII, duca di Savoia, figlio primogenito di Amedeo VII conte di Savoia e di Bona di Berry"* [Treccani]
1450–1599				
Callixtus III Alonso de Borja	1455	✓	Lesser nobility and patriciate	Cadet branch of the leading family of Xàtiva; small landowner and country gentleman. *"Suo padre, Domingo, apparteneva a un ramo cadetto della più importante famiglia di Játiva ed era un piccolo proprietario terriero e un gentiluomo di campagna"* [Treccani]
Pius II Enea Silvio Piccolomini	1458		Lesser nobility and patriciate	Leading Sienese lineage, excluded from office and impoverished. *"Uno dei principali lignaggi di Siena, imparentato con i Tolomei [...] la famiglia Piccolomini era stata esclusa dalla vita pubblica della città nel 1385 [...] versava in difficili condizioni economiche"* [Treccani]
Paul II Pietro Barbo	1464		High nobility	Wealthy Venetian patrician family; mother sister of Eugene IV. *"Pietro Barbo nacque a Venezia [...] da Niccolò, appartenente ad una ricca famiglia del patriziato cittadino [...] La madre, Polissena Condulmer, era nipote di Gregorio XII e sorella di Eugenio IV"* [Treccani]
Sixtus IV Francesco della Rovere	1471	✓	Non-noble	Probably of modest condition. *"La famiglia, anche se da alcuni biografi antichi venne definita "egregia" o "illustre" [...] fu probabilmente di condizione modesta, ma certamente non "bassissima e vile""* [Treccani]
Innocent VIII Giovanni Battista Cybo	1484		Lesser nobility and patriciate	Genoese patriciate, related to the Doria. *"La famiglia, imparentata con i Doria, apparteneva al patriziato genovese"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Alexander VI Rodrigo de Borja	1492		Lesser nobility and patriciate	Noble Catalan-Valencian family; nephew of Callixtus III. *"da Jofré de Borja y Doms, di nobile famiglia catalana, e da Isabel de Borja [...] sorella di quell'Alonso che fu papa Callisto III"* [Treccani]
Pius III Francesco Todeschini Piccolomini	1503		Non-noble	Father a jurist; mother sister of Pius II. *"di Nanni di Piero Tedeschini, giurista, e Laodomia, sorella di Enea Silvio Piccolomini (il futuro Pio II)"* [Treccani]
Julius II Giuliano della Rovere	1503		Non-noble	Modest family; nephew of Sixtus IV. *"Giuliano della Rovere nacque ad Albisola il 5 dicembre 1443 di modesta famiglia, da Raffaello e da Teodora di Giovanni Manirola"* [Treccani]
Leo X Giovanni de' Medici	1513		High nobility	Son of Lorenzo il Magnifico. *"Giovanni de' Medici nacque a Firenze l'11 dicembre 1475, secondogenito di Lorenzo il Magnifico e Clarice Orsini"* [Treccani]
Adrian VI Adriaan Florensz Boeyens	1522	✓	Non-noble	Son of a ship's carpenter. *"da Fiorenzo Boeyens, falegname specializzato in costruzioni navali"* [Treccani]
Clement VII Giulio de' Medici	1523		High nobility	Natural son of Giuliano de' Medici; cousin of Leo X. *"figlio naturale di Giuliano de' Medici e di una certa Fioretta"* [Treccani]
Paul III Alessandro Farnese	1534		Lesser nobility and patriciate	Farnese, lords of Canino; mother a Caetani. *"di Pierluigi di Ranuccio Farnese e di Giovannella figlia del signore di Sermoneta Onorato Caetani [...] nacque a Canino, feudo di famiglia nel Viterbese"* [Treccani]
Julius III Giovanni Maria Ciocchi del Monte	1550		Non-noble	Father a consistorial advocate. *"nacque in Roma [...] da Vincenzo e da Cristofora Saracini [...] Il padre esercitava la professione di avvocato concistoriale"* [Treccani]
Marcellus II Marcello Cervini	1555		Non-noble	Father a tax farmer in the March of Ancona. *"da Ricciardo, appaltatore delle imposte nella Marca d'Ancona, e da Cassandra Benci [...] dove i Cervini erano insediati almeno fin dal XIII secolo (Wikipedia: "nobile famiglia toscana")"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Paul IV Gian Pietro Carafa	1555		High nobility	One of the oldest families of the Neapolitan nobility. *"Appartenente ad una delle più antiche famiglie della nobiltà napoletana [. . .] da Giovanni Antonio, barone di Sant'Angelo della Scala"* [Treccani]
Pius IV Giovanni Angelo Medici	1559		Lesser nobility and patriciate	Milanese family in the 1377 Matricula nobilium; father a notary. *"L'antica famiglia milanese dei Medici, compresa nella Matricula nobilium del 1377 [. . .] Il padre Bernardino, notaio, membro del Consiglio dei Dodici di Provvisione"* [Treccani]
Pius V Antonio (Michele) Ghislieri	1566	✓	Non-noble	Family of modest social extraction. *"La famiglia, presente nell'area fin dal XIV secolo, era di modesta estrazione sociale"* [Treccani]
Gregory XIII Ugo Boncompagni	1572	✓	Non-noble	Son of a rich Bolognese merchant. *"quinto figlio di Cristoforo, ricco mercante della città, e di Angela Marescalchi"* [Treccani]
Sixtus V Felice Peretti	1585	✓	Non-noble	Father cultivated a small rented plot; mother in service. *"Peretto coltivava un piccolo podere preso in affitto dal fermano Ludovico de Vecchi, e la madre si mise a servizio della nuora del proprietario"* [Treccani]
Urban VII Giovanni Battista Castagna	1590		Lesser nobility and patriciate	Son of a Genoese nobleman. *"nasce [. . .] a Roma dal nobile genovese Cosimo e da sua moglie, la nobildonna romana Costanza di Giulio Ricci"* [Treccani]
Gregory XIV Niccolò Sfondrati	1590		Lesser nobility and patriciate	Father a distinguished jurist and senator; mother a Visconti. *"da Francesco e Anna Visconti. Il padre, insigne giurista e senatore, aveva saputo conquistarsi la fiducia di Carlo V"* [Treccani]
Innocent IX Giovanni Antonio Facchinetti	1591		Non-noble	Father a porter in Bologna; humble family. *"A Bologna Antonio esercitava la professione del facchino [. . .] Malgrado l'umile condizione della famiglia"* [Treccani]
Clement VIII Ippolito Aldobrandini	1592		High nobility	Father a Florentine jurist exiled for anti-Medicean views. *"da Silvestro e Lisa Deti [. . .] noto giureconsulto fiorentino costretto all'esilio per i suoi sentimenti antimedicei (famiglia fiorentina: codificata come patriziato fiorentino)"* [Treccani]

1600–1800

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Leo XI Alessandro Ottaviano de' Medici	1605		High nobility	Collateral branch of the Medici; mother niece of Leo X. *"Alessandro de' Medici nacque a Firenze il 2 giugno 1536 in un ramo collaterale di quella famiglia [...] nipote da parte di madre di Leone X"* [Treccani]
Paul V Camillo Borghese	1605		Lesser nobility and patriciate	Sienese patriciate; father dean of the consistorial advocates. *"da Marcantonio, decano degli avvocati concistoriali [...] I Borghese, residenti a Siena approssimativamente a partire dall'anno 1200, entrano nel patriziato locale nel XIV secolo"* [Treccani]
Gregory XV Alessandro Ludovisi	1621		Lesser nobility and patriciate	Son of a count; Bolognese senatorial patriciate. *"terzogenito del conte Pompeo e di Camilla Bianchini. La famiglia, di provenienza fiorentina, si era stabilita dal sec. XII a Bologna, dove era parte del patriziato senatoriale"* [Treccani]
Urban VIII Maffeo Barberini	1623		Non-noble	Florentine wool merchants of moderate wealth. *"avevano da generazioni conquistato e conservato a Firenze un più che modesto benessere da commercianti di lana"* [Treccani]
Innocent X Giovanni Battista Pamphilj	1644		Lesser nobility and patriciate	Roman nobility (family of physicians and soldiers). *"la famiglia Pamphili nel corso dei secc. XIV e XV divise le sue attività fra la medicina e gli incarichi militari [...] consolidare la loro appartenenza alla nobiltà romana"* [Treccani]
Alexander VII Fabio Chigi	1655		Lesser nobility and patriciate	Sienese patriciate (Chigi bankers); related to Paul V. *"da Flavio, discendente del "magnifico" Agostino, e da Laura Marsili (patriziato senese)"* [Treccani]
Clement IX Giulio Rospigliosi	1667		Lesser nobility and patriciate	Communal nobility of Pistoia. *"una famiglia della nobiltà comunale e popolana [...] dai primi anni del XIII secolo furono insigniti di titoli nobiliari"* [Treccani]
Clement X Emilio Altieri	1670		Lesser nobility and patriciate	Illustrious Roman family of magistrates and men of letters. *"la famiglia di Lorenzo Altieri era illustre per aver dato a Roma magistrati e uomini di lettere"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Innocent XI Benedetto Odescalchi	1676		Lesser nobility and patriciate	Old Como family of merchant-aristocrats. *"La sua antica famiglia, dedita proficuamente al commercio [Wikipedia: "nobile famiglia comasca"]"* [Treccani]
Alexander VIII Pietro Vito Ottoboni	1689		Non-noble	Venetian 'cittadini originari'; patriciate only from 1646. *"Gli Ottoboni erano «cittadini originari» di Venezia [...] Il padre Marco fu il terzo tra i cancellieri grandi [patriziato acquisito solo nel 1646]"* [Treccani]
Innocent XII Antonio Pignatelli	1691		High nobility	Son of the marquis of Spinazzola; Neapolitan high nobility. *"Antonio Pignatelli nacque nel 1615, secondogenito di Francesco, marchese di Spinazzola, dei Pignatelli di Cerchiaro, e di Porzia di Fabrizio Carafa"* [Treccani]
Clement XI Giovanni Francesco Albani	1700		Lesser nobility and patriciate	Wealthy and respected family of Urbino; mother noble. *"nacque [...] ad Urbino da Carlo e da Elena Mosca, nobildonna pesarese. La famiglia, già considerata "molto facoltosa e riguardevole" in quella città"* [Treccani]
Innocent XIII Michelangelo Conti	1721		High nobility	Son of the duke of Poli (Conti di Segni). *"Michelangelo Conti, secondogenito d'Isabella Monti e di Carlo, duca di Poli [...] un multisecolare dominio signorile"* [Treccani]
Benedict XIII Pietro Francesco Orsini	1724		High nobility	Son of the duke of Gravina (Orsini). *"Era figlio primogenito di Ferrante degli Orsini, duchi di Gravina, e di Giovanna di Carlo Frangipani della Tolfa"* [Treccani]
Clement XII Lorenzo Corsini	1730		High nobility	Florentine nobility of mercantile tradition; father a marquis. *"in una famiglia di riconosciuta nobiltà e di antica tradizione mercantile [Corsini, patriziato fiorentino; padre marchese]"* [Treccani]
Benedict XIV Prospero Lambertini	1740		Lesser nobility and patriciate	Cadet branch of an old Bolognese senatorial family. *"Prospero Lambertini nacque a Bologna il 31 marzo 1675 da Marcello e Lucrezia Bulgarini (Treccani); ramo cadetto di un'antica famiglia senatoria di Bologna (Wikipedia)"* [Treccani]

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Table C2 (continued)

Pontiff	Election	Academic	Family origin	Summary and source
Clement XIII Carlo Rezzonico	1758		High nobility	Merchants admitted to the Venetian Golden Book in 1687. *"La famiglia, originaria di Como, si affermò a Venezia grazie al commercio: la ragguardevole somma di 100.000 ducati permise di ottenere l'ammissione nel Libro d'oro della nobiltà veneziana"* [Treccani]
Clement XIV Giovanni Vincenzo Antonio Ganganelli	1769		Non-noble	Father a physician; provincial notables. *"Il padre, che tenne la condotta medica in Sant'Arcangelo [...] Piccolo patriziato, o piuttosto notabilato provinciale [...] proveniente tardivamente dalle fila delle professioni liberali"* [Treccani]
Pius VI Giovanni Angelo Braschi	1775		Lesser nobility and patriciate	Old family of the Romagna; father a count. *"La sua era un'antica famiglia romagnola [...] dal conte Marco Aurelio Tommaso [...] e da Anna Teresa dei conti Bandi"* [Treccani]

Notes: * antipope. Below each name, the birth name; below each summary, the passage of the source in the original Italian and a link to the entry. "Academic": held a teaching position before the election (Table 1 of the paper).

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