

## ONLINE APPENDIX

### “Awarding Price, Contract Performance and Bids Screening: Evidence from Procurement Auctions”

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## Appendix A: Data

The data used in the paper come from two main sources, plus several ancillary ones. The Authority sample comes from the Observatory on Public Contracts of the Italian Authority for Public Contracts, [http://www.avcp.it/portal/public/classic/\\_english](http://www.avcp.it/portal/public/classic/_english). In particular, I use the so called “Schede” dataset which consists of 11 *schede* (i.e., forms) compiled by the PAs procuring public works during the different phases of the procurement process. The IE sample, instead, comes from the database on road construction works of a private company, <http://www.telemat.it/>. This is a major information entrepreneur (IE) and its main activity is selling information about public contracts to construction firms.

As regards the ancillary sources, the data about the characteristics of Public Administrations come from Italy’s National Statistical Institute: [http://demo.istat.it/index\\_e.html](http://demo.istat.it/index_e.html). The single year of data employed is 2006. *Fiscal Efficiency*, the ratio between the actual and expected tax revenues, was calculated for the years 2000-2011 for all counties and municipalities in the dataset from the “Certificati Consuntivi” downloaded from <http://www.mapquestapi.com><http://http://finanzalocale.interno.it>. For the probit regressions reported below, the electoral outcomes come from the Ministry of the Interior Affairs (<http://elezionistorico.interno.it/>), while the measure of corruption is the county level index proposed by Golden and Picci (2005).<sup>36</sup> Finally, the distance between Turin and all the other PAs was calculated at the zip code level through a web scraping algorithm via <http://www.mapquestapi.com>.

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<sup>36</sup>See Golden, M. A. e L. Picci, (2005) “Proposal For A New Measure Of Corruption, Illustrated With Italian Data” *Economics and Politics*, Blackwell Publishing, vol. 17, 37-75.

## Appendix B: Additional Results

- Table A.1 reports the probit estimates for the probability that a PA voluntarily adopted FPAs in the period between July 2006 and October 2008. The PAs are the 183 PAs observed in the IE sample. I consider four groups of regressors: (i) measures of the PA size (*Experience* and *Population*), (ii) measures of the approximate mode winning discount prevailing in the PA in the year 2005 (*Avg. Winning Bid 2005*), (iii) the distance, in miles, of the PA from the city of Turin (*Distance PA - Turin*) and (iv) a few political economy measures: an index of corruption, dummies for the political orientation of the ruling party and a measure of the political strength of the ruling party. The note to the table offers more detailed explanations. As mentioned in the paper, *Experience* and *Population* emerge as particularly relevant determinants of the switch to FPAs.
- Table A.2 complements Table 4 in the paper. It reports the DD estimates inclusive of PA-specific time varying controls obtained using control group 2 (*Population*), panels A and B in the table, and control group 3 (*Experience* and *Population*), panels C and D in the table.
- Table A.3 complements Table 5 in the paper. It reports the 95% confidence interval DD estimates obtained under three different methods for calculating standard errors: clustering by PA-year, clustering by PA and Conley-Taber standard errors.
- Table A.4 reports the matching-DD estimates. These estimates represent a relevant robustness check for those reported in the paper because identification of the causal effect of the FPA switch is achieved not assuming random assignment of the treatment across PAs, but under the assumption that contracts of the treated and untreated PAs differ only along observable dimensions. The sample auctions are similar along various dimensions, but in the main analysis there is no explicit attempt to balance auctions along their observable characteristics. Implementing a matching strategy, however, cannot avoid considering the need to control for differences between PAs

in their approximate mode winning discount. For example, if Turin post-treatment auctions were mostly similar to the auctions of a PA with a high modal winning discount and its pre-treatment auctions were mostly similar to the auctions of a PA with a low modal bid, an upward bias in the estimate of the FPAs coefficient would likely result under conventional matching strategies. My proposed solution follows Nicols (2007, 2008) and consists of applying the DD estimator to a sample that is reweighted to balance treatment and control auctions.<sup>37</sup> Details about this procedure are given in the table note. Its main advantage is that it allows me to easily incorporate PA fixed effects, thus accounting for the modal winning bid differences. The results broadly confirm the findings in the paper regarding the presence of a trade-off between winning discounts and performance under the FPA.

- Table A.5 reports regression results that complement the descriptive statistics reported in Table 7 in the main text. The regression analysis is performed separately for two groups of PAs (those voluntarily switching to FPAs and those forced to switch) and for two dependent variables (the *Winning Discount* and the *Days to Award*). The results in Table 7 are obtained using an array of standard methods to account for the specificity of the two groups of PAs: the voluntary and forced switchers. For the sample of auctions held by the voluntary switchers, I estimate the effect of the FPA using OLS, propensity score matching (PSM) and Heckman IV (H2S) models. For the sample of auctions held by the forced switchers, I estimate the effect of the FPA using OLS, difference-in-differences (DD) where the treated auctions are those above €1 million held after October 2008 and a regression discontinuity design (RDD) around the threshold of €1 million. The table note reports further details. Overall, the estimates seem to confirm an association between FPAs and higher winning discounts and delays in contract awarding. However, these estimates must be interpreted as merely descriptive of the effects of FPAs both because of the very small size of the dataset and because the reforms that occurred from 2006 onward simultaneously affected various aspects of the procurement regulation.

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<sup>37</sup>See A. Nicols “Causal Inference with Observational Data” *Stata Journal* 7(4), and “Erratum and Discussion of Propensity Score Reweighting,” *Stata Journal* 8(4).

Table A.1: Probit for the Voluntary Switch to the FPA

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Experience	0.004*** (0.001)		0.004*** (0.001)	0.003*** (0.001)		0.003*** (0.001)	0.003** (0.001)
Population				0.002 (0.005)	0.009** (0.004)		0.001 (0.005)
Avg. Winning Bid 2005	0.007 (0.005)	0.010** (0.004)	0.006 (0.005)	0.006 (0.005)	0.007* (0.004)		0.005 (0.005)
Distance PA-Turin			-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)
Corruption		0.007 (0.050)	0.016 (0.047)	0.011 (0.048)			0.006 (0.048)
Ruling Party = Right						-0.031 (0.043)	-0.017 (0.047)
Ruling Party = Other						-0.007 (0.045)	-0.002 (0.048)
Majority Advantage						-0.002 (0.001)	-0.001 (0.001)
Prob Chi <sup>2</sup>	.000	.000	.000	.000	.000	.000	.000
Observations	183	183	183	183	183	183	183

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The table reports the marginal effects at the sample mean values of the regressors estimated through a probit model. The units of observation are the PAs observed in the IE sample in the period between July 2006 and October 2008. The dependent variable is a dummy equal to one if the PA switched to FPAs and to zero if it remained with ABA. Notice that in this period all PAs switching to FPAs never reverted back to ABAs. This table uses as covariates the following variables which are not described in the main text. *Distance PA-Turin* is the distance in miles between the PA and the Municipality of Turin (measured at the zip code level). *Avg. Winning Bid 2005* is a proxy for the approximate mode of the bid distribution prevailing in the PA before the liberalization of the FPA. It is computed from the Authority sample as the average winning discount in the ABA for roadwork contracts held by the PA in 2005. *Corruption* is the Golden-Picci Corruption Index which measures the difference between the expenses in public infrastructures and the availability of infrastructures. Analogous results were obtained using other measures of corruption. *Ruling Party* are three dummies for the political orientation of the ruling party: right, left or other. *Majority Advantage* is the difference in the vote share between the ruling party and the main opposition party.

Table A.2: Robustness Checks: PA-Time Variables (Control Groups 2 and 3)

Panel A: Municipality of Turin (Control Group 2)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Cost	Extra Cost	Extra Time	Extra Time	Days Award	Days Award
FPA	12.38*** (1.469)	5.413*** (1.584)	28.21** (11.29)	8.828 (21.92)	4.036* (2.165)	0.587 (3.569)	25.75** (12.00)	29.93 (22.72)
Fisc.Eff.	YES	NO	YES	NO	YES	NO	YES	NO
Time T.	NO	YES	NO	YES	NO	YES	NO	YES
Obs.	1,275	1,275	1,084	1,084	1,049	1,049	777	777
R <sup>2</sup>	0.615	0.630	0.148	0.185	0.214	0.247	0.548	0.582

  

Panel B: County of Turin (Control Group 2)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Cost	Extra Cost	Extra Time	Extra Time	Days Award	Days Award
FPA	8.659*** (1.155)	5.639*** (1.418)	11.68 (19.64)	20.44 (30.14)	0.919 (3.319)	-3.622 (4.470)	54.49*** (8.371)	39.47*** (8.368)
Fisc.Eff.	YES	NO	YES	NO	YES	NO	YES	NO
Time T.	NO	YES	NO	YES	NO	YES	NO	YES
Obs.	653	653	560	560	517	517	443	443
R <sup>2</sup>	0.672	0.680	0.107	0.129	0.188	0.224	0.434	0.486

  

Panel C: Municipality of Turin (Control Group 3)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Cost	Extra Cost	Extra Time	Extra Time	Days Award	Days Award
FPA	12.71*** (1.410)	6.376*** (1.699)	31.91** (14.08)	23.71 (26.61)	6.047*** (2.125)	1.068 (4.354)	36.88** (14.62)	33.79 (24.77)
Fisc.Eff.	YES	NO	YES	NO	YES	NO	YES	NO
Time T.	NO	YES	NO	YES	NO	YES	NO	YES
Obs.	880	880	747	747	742	742	549	549
R <sup>2</sup>	0.645	0.655	0.149	0.161	0.222	0.235	0.566	0.600

  

Panel D: County of Turin (Control Group 3)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Cost	Extra Cost	Extra Time	Extra Time	Days Award	Days Award
FPA	9.026*** (1.119)	6.406*** (1.495)	12.57 (21.49)	18.30 (32.66)	0.527 (3.359)	-2.157 (4.719)	60.95*** (9.914)	39.94*** (10.08)
Fisc.Eff.	YES	NO	YES	NO	YES	NO	YES	NO
Time T.	NO	YES	NO	YES	NO	YES	NO	YES
Obs.	567	567	498	498	454	454	386	386
R <sup>2</sup>	0.676	0.683	0.107	0.124	0.193	0.226	0.474	0.517

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered by Public Administration and Year. The dependent variable is reported at the top of each column. All regressions control for Year, Public Administration, Municipality Type and Work Type dummies as well as for the Reserve Price. A YES in the row "Fisc.Effic." indicates that the regression model also includes the variable *Fiscal Efficiency* among the controls. Instead, a YES in the row "Time T." indicates that the regression model also includes both a time trend and PA-specific time trends among the controls.

Table A.3: Robustness Checks: 95% Confidence Intervals with Different Standard Errors (Control Groups 2 and 3)

		Panel A: Municipality of Turin (Control Group 2)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	W. Bid	W. Bid	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award	
PA-Year	(9.47 ; 15.28)	(2.28 ; 8.54)	(5.88 ; 50.54)	(-34.50 ; 52.16)	(-0.24 ; 8.32)	(-6.47 ; 7.65)	(1.99 ; 49.52)	(-15.04 ; 74.90)	
PA	(10.83 ; 13.92)	(3.50 ; 7.33)	(8.93 ; 47.49)	(-22.33 ; 39.99)	(0.61 ; 7.46)	(-4.17 ; 5.35)	(-2.02 ; 53.53)	(9.35 ; 50.52)	
Conley-Taber	(5.96 ; 20.07)	(-1.57 ; 11.67)	(11.44 ; 42.78)	(-44.70 ; 62.93)	(-0.84 ; 8.84)	(-6.41 ; 13.06)	(2.11 ; 60.18)	(14.41 ; 49.84)	
		Panel B: County of Turin (Control Group 2)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	W. Bid	W. Bid	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award	
PA-Year	(6.36 ; 10.96)	(2.81 ; 8.47)	(-27.53 ; 50.88)	(-39.72 ; 80.60)	(-5.71 ; 7.55)	(-12.55 ; 5.30)	(37.75 ; 71.22)	(22.74 ; 56.19)	
PA	(7.43 ; 9.89)	(3.14 ; 8.14)	(-16.27 ; 39.63)	(-6.41 ; 47.29)	(-2.24 ; 4.08)	(-10.40 ; 3.16)	(30.56 ; 78.42)	(17.52 ; 61.41)	
Conley-Taber	(6.54 ; 11.33)	(4.46 ; 8.00)	(-20.61 ; 42.97)	(-2.12 ; 79.99)	(-3.96 ; 5.08)	(-11.17 ; -1.31)	(28.39 ; 84.48)	(24.31 ; 50.42)	
		Panel C: Municipality of Turin (Control Group 3)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	W. Bid	W. Bid	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award	
PA-Year	(9.90 ; 15.53)	(2.99 ; 9.76)	(3.83 ; 59.98)	(-29.36 ; 76.78)	(1.81 ; 10.29)	(-7.62 ; 9.76)	(7.67 ; 66.10)	(-15.71 ; 83.30)	
PA	(10.26 ; 15.17)	(4.03 ; 8.72)	(2.15 ; 61.66)	(-16.73 ; 64.15)	(2.04 ; 10.06)	(-6.02 ; 8.16)	(-4.61 ; 78.37)	(8.84 ; 58.74)	
Conley-Taber	(10.48 ; 15.24)	(4.87 ; 8.33)	(7.09 ; 54.85)	(-32.20 ; 37.29)	(0.19 ; 12.00)	(-2.00 ; 5.62)	(-4.57 ; 90.49)	(16.95 ; 52.09)	
		Panel D: County of Turin (Control Group 3)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	W. Bid	W. Bid	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award	
PA-Year	(6.78 ; 11.27)	(3.41 ; 9.41)	(-30.62 ; 55.76)	(-47.32 ; 83.93)	(-6.22 ; 7.28)	(-11.64 ; 7.33)	(41.02 ; 80.88)	(19.68 ; 60.21)	
PA	(7.46 ; 10.60)	(3.70 ; 9.11)	(-20.77 ; 45.91)	(-15.35 ; 51.96)	(-3.71 ; 4.77)	(-9.21 ; 4.89)	(35.69 ; 86.21)	(15.88 ; 64.01)	
Conley-Taber	(6.92 ; 11.52)	(4.96 ; 8.52)	(-26.38 ; 51.11)	(4.37 ; 27.25)	(-5.88 ; 6.32)	(-5.04 ; -0.40)	(32.62 ; 92.12)	(29.07 ; 49.91)	

Note: The dependent variable is reported at the top of each column. For each dependent variable, the table reports the 95 percent confidence interval, CI, estimates of the effect of the FPA dummy. For each panel, the first row reports the CI obtained when standard errors are clustered by Public Administration and Year, the second when they are clustered by PA and the third when they are calculated as in Conley and Taber (2011). The table structure follows that of Table 4: all regressions control for Year, Public Administration, Municipality type of PA and Work Type dummies as well as for the Reserve Price. For odd numbered columns, the regression model also includes the variable *Fiscal Efficiency* among the controls. For even numbered columns, the regression model also includes both a time trend and PA-specific time trends among the controls. The results in panels A and B use Control Group 2 (*Population*), while those in panels C and D use Control Group 3 (*Experience* and *Population*).

Table A.4: Difference-in-Differences with PSM Re-Weighted Samples

Panel A: Municipality of Turin (Control Group 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	12.48*** (0.857)	4.036*** (1.052)	38.40*** (7.357)	30.37** (11.55)	6.362*** (1.393)	0.791 (2.292)	32.73*** (8.912)	23.93*** (7.258)
Obs.	1,262	1,262	1,110	1,110	1,092	1,092	777	777
R <sup>2</sup>	0.705	0.715	0.153	0.151	0.283	0.286	0.559	0.559

  

Panel B: County of Turin (Control Group 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	8.827*** (0.483)	6.194*** (0.840)	13.55** (6.280)	22.25* (11.11)	-0.718 (1.344)	-4.886** (2.130)	30.87*** (8.726)	14.69* (8.383)
Obs.	1,355	1,355	1,206	1,206	1,167	1,167	817	817
R <sup>2</sup>	0.688	0.690	0.136	0.136	0.150	0.152	0.487	0.489

  

Panel C: Municipality of Turin (Control Group 2)								
Dep.Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	11.77*** (2.053)	1.921 (1.506)	12.84 (15.60)	51.09*** (10.77)	-2.949 (2.022)	-5.908 (5.126)	7.708 (32.08)	80.11** (34.15)
Obs.	1,275	1,275	1,084	1,084	1,049	1,049	777	777
R <sup>2</sup>	0.630	0.644	0.205	0.202	0.231	0.223	0.479	0.482

  

Panel D: County of Turin (Control Group 2)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	8.266*** (0.655)	5.786*** (1.037)	8.827 (18.47)	31.06** (13.26)	-1.857 (2.752)	-1.815 (3.272)	48.77*** (12.18)	34.07*** (8.267)
Obs.	653	653	560	560	517	517	443	443
R <sup>2</sup>	0.694	0.695	0.133	0.135	0.218	0.217	0.457	0.458

  

Panel E: Municipality of Turin (Control Group 3)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	9.664*** (2.570)	4.266*** (0.932)	37.71*** (10.49)	56.87** (19.77)	-2.252 (2.550)	-5.587 (4.908)	68.38** (21.72)	34.05 (25.35)
Obs.	880	880	747	747	742	742	549	549
R <sup>2</sup>	0.605	0.609	0.251	0.252	0.319	0.318	0.382	0.383

  

Panel F: County of Turin (Control Group 3)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	W.Discount	W.Discount	Extra Time	Extra Time	Extra Cost	Extra Cost	Days Award	Days Award
FPA	8.429*** (0.797)	6.660*** (0.989)	9.054 (17.99)	24.83 (15.01)	-1.770 (2.843)	-1.281 (3.034)	52.89*** (13.32)	35.99** (10.82)
Obs.	567	567	498	498	454	454	386	386
R <sup>2</sup>	0.695	0.696	0.122	0.123	0.213	0.212	0.476	0.477

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered by Public Administration and Year. The structure of this table follows that of Table A.2. Thus, the dependent variable is reported at the top of each column. All regressions control for Year, Public Administration, Municipality Type and Work Type dummies as well as for the Reserve Price. Odd numbered columns report estimates of regressions controlling for "Fiscal Efficiency". Even numbered columns report estimates of regressions controlling for linear time trends for each PA among the controls.

The only difference relative to Table A.2 is that the result in the table above are obtained after reweighting the sample. The procedure can be described in three steps. First, I estimate the probability that an auction pertains to a treated PA as a function of observable characteristics (this is implemented through a probit model in which the set of regressors consists in Reserve Price, Fiscal Efficiency and dummy variables for Year and Work Type). Second, I use the estimated probability of treatment (propensity score),  $\lambda$ , to reweight the data giving a weight of 1 to treatment units and  $\lambda/1 - \lambda$  to control units. Third, I estimate the same DD models described earlier, but now including sample weights. Stata codes to implement this procedure are presented by Nicols (2007, 2008).

Table A.5: Nationwide Reforms of 2006 and 2008: IE Sample

Panel A: Winning Discount (PAs Voluntarily Switching to FPAs)				
MODEL	(1) OLS	(2) PSM	(3) OLS	(4) H2S
First Price Auction	9.530*** (2.208)	10.19*** (1.124)	9.743*** (1.821)	16.92*** (0.659)
Observations	648	648	1,706	1,706
R-squared	0.620	.	0.736	.
Panel B: Number of Days to Award the Contract (PAs Voluntarily Switching to FPAs)				
MODEL	(1) OLS	(2) PSM	(3) OLS	(4) H2S
First Price Auction	43.95*** (18.60)	43.75*** (7.455)	33.09*** (10.80)	73.94*** (5.342)
Observations	294	294	864	864
R-squared	0.578	.	0.658	.
Panel C: Winning Discount (PAs Forced to Switch to FPAs)				
MODEL	(1) OLS	(2) DD	(3) OLS	(4) RDD
First Price Auction	10.87*** (0.277)	9.833*** (1.503)	12.43*** (1.802)	7.015 (6.650)
Observations	354	354	70	70
R-squared	0.798	0.799	0.256	0.275
Panel D: Number of Days to Award the Contract (PAs Forced to Switch to FPAs)				
MODEL	(1) OLS	(2) DD	(3) OLS	(4) RDD
First Price Auction	86.95*** (11.90)	101.0*** (15.24)	64.34*** (16.62)	63.87** (28.34)
Observations	193	193	38	38
R-squared	0.625	0.628	0.560	0.573

Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . The top two panels use ABAs and FPAs held by those PAs that voluntarily switched to FPAs. The bottom two panels use ABAs and FPAs held by those PAs that never voluntarily switched to FPAs, but that had to use FPAs because of the 2008 reform. The column titles indicate the regression model used:

-“OLS” ordinary least squares. These estimates are reported for comparison with those reported in the column to their right. They use the same sample and controls.

-“PSM” nearest neighbor matching for ATT, 4 matches and bias adjusted robust standard errors. The propensity score is obtained from a probit regression for the probability of the auction being an FPA. Auctions with a value of the propensity score above .925 or below 0.075 are excluded from the analysis. Controls: log Miles PA from Turin, log Reserve Price, Experience, Population, Contract Duration and dummies for Region, Municipality Type, Year and Work Type.

-“HSM” Heckman selection model. The first stage probit uses Population and Experience as instruments. Controls in the main equation are: log Miles PA from Turin, log Reserve Price, Contract Duration and dummies for Region, Municipality Type, Year and Work Type.

-“DD” difference-in-differences with standard errors clustered by Public Administration and Year. The treatment group consists of all contracts above €1 million. The control group consists of all contracts below this threshold. The auctions that are subject to the treatment are those above €1 million and held after October 2008. Auctions held after May 2011 are dropped. Controls: log Reserve Price, Contract Duration, Experience, Population and dummies for Region, Municipality Type, Year and Work Type.

-“RDD” regression discontinuity design with robust standard errors. The RDD is estimated parametrically through a regression model that controls for a third degree polynomial in Reserve Price. The discontinuity is the €1 million reserve price and the sample includes only auction with a reserve price between €500,000 and 1.5 million and held between November 2008 and April 2011. Because of the paucity of observations near the cutoff, these estimates should be interpreted with particular caution.