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ABSTRACT

Experts' Awards and Economic Success: Evidence from an Italian Literary Prize*

Product quality is often unobservable ex-ante and consumers rely on experts' judgments, sometimes in the form of ratings or awards. Do awards affect consumers' choices or, conversely, are they conferred on the most popular products? To disentangle this issue, we use data about the most important Italian Literary Prize, the "Strega Prize", undertaking two different estimation strategies to evaluate the impact that winning the Prize has on book sales. First, we adopt a Regression Discontinuity Design using a measure of book sales as a dependent variable and as a forcing variable (proxying for intrinsic book quality) the jury votes received by each nominated book in the competition. We find that the Strega Prize has a very strong impact on sales. Second, by using weekly data on appearances on bestseller lists, we estimate a difference-in-differences model in which we compare sales performance of treated and control books before the award is conferred with their respective performances afterwards. The results confirm a huge influence of the Prize on book sales and show that most of the impact occurs in the weeks following the announcement of the Prize.

JEL Classification: Z10, Z11, L15, L80, M30, D12, J44

Keywords: cultural economics, awards, asymmetric information, literary prize, book sales, product quality, regression discontinuity design, difference-in-differences model

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1. Introduction

The quality of many goods cannot be observed by consumers before purchase. In the jargon of economists, these goods are defined as "experience goods" (Nelson, 1970). Books and other cultural products, such as movies and musical interpretations, prominently belong to this category. In the markets for these products, a range of mechanisms emerge to give a credible signal of quality to consumers.

It has been suggested that the ratings or awards given by experts constitute an important mechanism for transmitting information about goods of unknown quality (Reinstein and Snyder, 2005; Ginsburgh and van Ours, 2003; Nelson *et al.*, 2001).[1] However, there is no clear evidence on the effects awards have on economic success (see Ginsburgh, 2003, for an assessment).

The aim of this paper is to investigate to what extent a prestigious literary prize known as the "Strega Prize" – awarded annually to the year's best Italian work of fiction on the basis of voting by a jury of experts – has an impact on the economic success of books. This would add to the evidence suggesting that awards represent a signal of quality that affects consumer behavior.

The ideal outcome of interest would be the sales of each book but data on sales are rarely available. We use two measures of books' economic success that are strongly correlated with sales: 1) the number of copies of each book owned by members of Anobii, an international website for book lovers; 2) weekly data on bestseller lists (over a period of 30 years) published by the leading Italian newspaper "*La Stampa*".

The key econometric problem in estimating the impact an award has on sales is typically the omission from the regression of a variable measuring the product's true quality (which is not really observable), which certainly has a direct impact on sales. On the other hand, awards are normally given to high quality products. Therefore, if one estimates a regression of sales on a variable "Prize" (indicating whether an award is obtained), while omitting a measure of product quality, then the variable "Prize" might pick up the effect of quality without having any independent effect on sales. More specifically, the coefficient on the award will be upward biased.

In order to tackle this problem, we use two distinct econometric strategies that exploit the particular features of the "Strega Prize". First, we adopt a Sharp Regression Discontinuity Design (RDD), taking advantage of the fact that, each year, the competing books receive votes from a jury of experts and the book that received the largest number of votes wins the Strega Prize. The votes are a proxy for quality and arguably are related to sales. In the RDD, jumps in the relationship between sales and votes in the neighborhood of the threshold of votes necessary to win the Prize are evidence of treatment effects.

The second estimation strategy we adopt is based on a Difference-in-Differences model, relying on the fact that the Strega Prize is awarded in July each year but the books nominated for the Prize are already on the market. This allows us to observe the sales' performance of nominated books both before and after the

[1] As suggested by Akerlof (1970), "even the Nobel Prize, to some degree, serve this function of certification".

Prize is conferred. We obtain an estimate of the Strega Prize impact in terms of the weeks of appearance on the bestseller lists, subtracting from the difference in outcomes between the awarded book and the other books in the period after the Prize the pre-existing difference.

Our paper is related to some other studies aimed at evaluating the impact of awards, experts' judgments or ratings and other signals of product quality on consumer demand.

A closely related paper is that of Ginsburgh (2003) who evaluates the role of the "Booker Prize" – awarded to the "best" novel of the year in the United Kingdom – on the economic success of books, measured by the number of editions of books published during the ten years after nomination for the Prize. As an indicator of "fundamental quality", he uses the number of editions published between year 11 and year 20, under the assumption that consumers by then have forgotten about the prize and only buy the book on the basis of quality. The author does not find any significant difference in commercial success between winning and shortlisted titles. However, measurement errors in the variables and a small sample (70 observations) might have affected the results.

Ginsburgh and van Ours (2003) show that musicians who are successful in the international "Queen Elisabeth Piano Competition" achieve subsequent success (measured both in terms of the presence of records and CDs in three music catalogs and ratings from 12 specialized music critics). However, since the effect of the award may simply reflect the unobservable talent or quality of the musician that is correlated to the final ranking of the competition, the authors adopt an Instrumental Variables approach using the order of appearance (randomly assigned) of musicians at the competition as an instrument for the outcome of the competition (which, surprisingly, appears to be affected by the former variable). Ginsburgh and van Ours (2003) find that rankings in the Queen Elizabeth musical competition have a significant impact on musicians' later success, regardless of the musicians' true quality.

Another set of evidence focuses on the film industry and examines the effects of awards on box office success. Both Nelson *et al.* (2001) and Deuchert *et al.* (2005) find evidence of substantial financial benefits from Academy of Motion Picture nominations and awards (the "Oscars") for best picture and best actor/actress.

A few papers provide evidence on the impact of critical reviews on the commercial success of movies. Reinstein and Snyder (2005) use a difference-in-differences strategy to evaluate the role of critical reviews of movies as determinants of revenues and find small positive effects. Similar results are found by Elliott and Simmons (2008).

In a different context, Hadji Ali, Lecocq and Visser (2008) find that ratings by the famous wine expert Robert Parker affect Bordeaux wine prices. Friberg and Gronqvist (2012) show that favorable expert reviews increase the demand for wines in Sweden. In a randomized experiment, Hilger, Rafert and Villas-Boas (2011) find that good reviews increase sales of wine.

Sorensen (2007) evaluates the impact on sales and product variety of the appearance of a book on the New York Times bestseller list. He shows that appearing on the list leads to a modest increase in sales for the average book, that the effect is more pronounced for bestsellers by debut authors and that there is no impact

of bestseller lists on product variety. Chevalier and Mayzlin (2006) investigate the effect of consumer reviews on book sales at Amazon.com and Barnesandnoble.com. They show that the addition of new, favorable reviews at one site results in a relative increase in the sales of a book at that site as opposed to the other site. This evidence suggests that customers' word of mouth affects consumer purchasing behavior. Finally, Berger, Sorensen and Rasmussen (2010) show that even negative book reviews in the *New York Times* increase sales.

In line with this literature, we aim to evaluate the impact of a prestigious literary award on book sales, disentangling the effect of the prize from that of intrinsic quality, through an innovative estimation strategy based on Regression Discontinuity Design together with a more standard Difference-in-Differences approach. Using both strategies, we find that the Prize has a huge influence on book sales and show that most of the impact occurs in the weeks immediately following the announcement of the winner.

The paper is organized as follows. Section 2 provides a brief description of the Strega Prize. Section 3 presents the data and applies the Regression Discontinuity Design. In Section 4, we adopt a Difference-in-Differences estimation strategy. In Section 5, we show the evolution of book sales over time and focus on the short-run impact of the Prize. Section 6 offers some concluding remarks.

2. The Strega Prize

The Strega Prize is the most important Italian literary award. Its origins lie with a group of post-World War II Italian writers, intellectuals and artists known as the "Sunday Friends" ("Amici della Domenica"). Goffredo and Maria Bellonci hosted the Sunday Friends at their home with the intention of stimulating an active debate in Italian cultural life. In 1947, the Belloncis set up a literary prize for the best work of prose fiction, to be decided upon by the votes of the Sunday Friends. The name of the Prize came from the company that produces Strega liqueur, which offered the money for the prize.

Since then, the Strega Prize has been awarded yearly (in July) to the best book of prose fiction by an Italian author, published between April of the previous year and March of the current year. All the members of the initially constituted group of Sunday Friends (over 100) were entitled to vote. Currently, the most important writers, journalists and cultural figures in Italy form a jury of about 460 members who vote (individual votes are secret) on the best book of fiction.[2]

In order to be considered for the Prize, a book must have the support of at least two jury members who should present and critically judge the book independently. Each presentation is sent to the Executive Committee of the Fondazione Bellonci (currently constituted by 11 members) and, on the basis of the presentations received, the committee selects, by mid-April of each year, a maximum of twelve eligible candidates (in some years this number has been changed to 13-14) to participate in a first round of voting (we refer to these books as "nominated books").

[2] The complete list of jury members is available at: www.fondazionebellonci.it/pdf/premiostrega_annuario2.pdf

The first round of voting takes place in mid-June. The editorial office sends the 460 Sunday Friends the list of selected books and a card with the instructions for the first vote. Each member can vote for just one book (by mail) and votes are anonymous. The initial list of 12 books is reduced to a shortlist of the five ("Cinquina") which receive the highest number of votes. In the case of a tie for fifth place in the ranking, both the tied names and titles go forward to the second round.

The second round of voting takes place on the first Thursday of July and jury members can only vote for one of the five books on the shortlist. The book receiving most votes is proclaimed the winner of the Strega Prize.[3] The winner receives a cash prize to the value of 5,000 euros but the real prize is constituted by the national literary recognition.[4]

3. A Regression Discontinuity Design to Estimate the Impact of the Strega Prize

In this section, we use a Sharp Regression Discontinuity Design (Imbens and Lemieux, 2008; Lee and Lemieux, 2010; Angrist and Pischke, 2009) to measure the impact that winning the Strega Prize has on a book's commercial success.

3.1. The Data

We have data for the Strega Prize for the period from 1947 to 2012 (66 years). Our sample is constituted by all the 865 books that have been nominated for the Prize (on average, 13 for each year). The 66 that have won the Prize are considered as "treated" units in our analysis whereas the remaining 799 constitute our control units. For each book, we observe the author, title, publisher, year of competition, and number of votes received from jury members at the second ballot. We set *Votes* equal to zero for nominated books which do not enter the shortlist of five (unfortunately, the votes received at the first ballot are not disclosed), a dummy *Strega Prize* equal to one for the winners and a dummy equal to one for books that were awarded other Italian literary prizes.[5] Moreover, we build a dummy variable for each of the major publishers (Mondadori, Einaudi, Rizzoli, Bompiani, Feltrinelli and Garzanti). We also build a variable *Female* according to the author's gender.

The first variable we use as a proxy for book sales comes from the Anobii website (www.anobii.com), a social networking site for book readers worldwide. Anobii is an online platform which enables readers to rate, share reviews and recommendations, and discuss their choices with other Anobii members with similar interests. The site can be freely accessed. Importantly, members can catalogue the

[3] For example, in the 2012 Strega Prize competition, Alessandro Piperno won with 126 votes, while Emanuele Trevi was ranked second in the list with 124 votes and Gianrico Carofiglio arrived third with 119 votes.
[4] Many of the best Italian writers have won the Strega Prize: they include Cesare Pavese, Primo Levi, Elsa Morante, Giuseppe Tomasi di Lampedusa, Alberto Moravia, Dino Buzzati, Natalia Ginzburg, Giovanni Arpino, Umberto Eco.
[5] Other important Italian literary prizes are Campiello; Viareggio; Grinzane-Cavour; Bancarella, and Bagutta.

books they have at home[6] and all libraries are open and visible to everyone. Members are able to browse each bookshelf and followers can see when new items are added to the libraries.[7] The Italian site of Anobii is very popular, and more than 40 million books are catalogued on it. The site allows us to calculate the total number of copies of each book owned by Anobii members.

We collected data from the Anobii website (from 2nd to 6th January 2013) on all nominated books competing in the Strega Prize. We built a variable, called *Sales*, simply as the number of copies of each book owned by the Anobii members, which represents our main dependent variable. This variable is a proxy of the number of books currently owned by consumers (a stock variable) rather than the number of copies sold in a given period of time and can be considered information on the long-term success of books.

We are aware that this variable is an imperfect proxy of book sales. Anobii users are not a representative sample of the population of interest in that they tend to be younger than the average reader, more accustomed to ICT, and, as a consequence, there tends to be a higher proportion of recently published books. To attenuate this problem, we control for the book's year of publication or for time dummies in all our regressions.

However, we think that the *Sales* variable based on Anobii copies has some merits, in the absence of detailed data on book sales. In order to examine to what extent copies in Anobii reflect effective sales, we have used the bestseller list for the whole of 2012 (published by *La Stampa* on the 5th January, 2013), in which a number of points proportional to the copies sold in 2012 is reported for each of the 100 best ranked books. The first ranked book, "Fifty Shades of Grey" (E. L. James), has a score of 100 points and sold about 600,000 copies. By using the points in the bestseller list, we can compute sales of each book *j* in the list as: $Effective\ Sales_j = \left(Points_j / 100\right) * 600{,}000$. By referring just to the books published in 2012 (in this way the stock in Anobii coincides with the sales in 2012) (53 observations), we relate the effective sales to copies owned by Anobii members and we find that the correlation rate is 0.83. In regressing *Effective Sales* on Anobii copies, we find a coefficient of 64.19 (*t*-stat=5.40), which suggests that each copy in Anobii corresponds to about 64 copies effectively sold.

Table 1 reports descriptive statistics. On average, 467 copies are catalogued on the Anobii website for each nominated book. Each book received 26.8 votes in the competition for the Strega Prize (on average, titles winning the Strega receive 148.5 votes, while titles on the shortlist of five receive 49.7 votes). Strega Prize winners are 7.6% of the total. Mondadori published 15% of the books in our sample, while Einaudi published about 10%. Other literary prizes were won by 1.7% of the books. Female authors make up 21% and about 24% of books are published in the year preceding the competition.[8]

[6] iPhone and Android Apps are also available to scan the barcode of books and catalog them directly.
[7] The service currently has over 600,000 users worldwide.
[8] Although, in principle, books could have been published since April of the previous year, in practice jury members tend to select books published in the first three months (January-March) of the current year in their presentations.

Table 1. Descriptive Statistics. Analysis on Sales (years: 1947-2012)

Variables	Obs	Mean	Std. Dev.	Min	Max
Sales	865	466.924	2279.570	0	36767
Sales (Log)	865	2.973	2.471	0	10.512
Votes	865	26.800	46.728	0	212
Votes_n	865	-64.039	54.299	-174	177
Strega Prize	865	0.076	0.266	0	1
Competition Year	865	1976.676	19.573	1947	2012
Mondadori	865	0.151	0.359	0	1
Rizzoli	865	0.077	0.267	0	1
Einaudi	865	0.098	0.298	0	1
Bompiani	865	0.075	0.264	0	1
Feltrinelli	865	0.043	0.202	0	1
Garzanti	865	0.050	0.217	0	1
Other Prizes	865	0.017	0.131	0	1
Female	865	0.215	0.411	0	1
Published t-1	423	0.236	0.425	0	1

Notes: The data are from Fondazione Bellonci www.fondazionebellonci.it/premio-strega/vincitori.htm. Detailed data on jury votes received were kindly provided by the Fondazione Bellonci. Data on sales were gathered from Anobii (www.anobii.it).

3.2. Regression Discontinuity Estimates

To construct the forcing variable, we normalize the number of jury votes received by nominated books (indexed by *i*) in each competition year (indexed by *t*) by subtracting from the effective number of votes received the votes received by the second ranked book in the competition plus one: $Votes\_n_{it} = Votes_{it} - (Votes_{St} + 1)$, where *S* is the second ranked book in year *t*.[9] Therefore, 0 is the cutoff or threshold: this implies that when $Votes\_n_{it}$ is equal to or greater than zero, the treatment (winning the Strega Prize) is received:

$$StregaPrize_{it} = \begin{cases} 1 \;\; if \;\; Votes\_n_{it} \geq 0 \\ 0 \;\; if \;\; Votes\_n_{it} < 0 \end{cases}$$

The treatment status *Strega Prize* is a deterministic and discontinuous function of votes received.

In general, in order to estimate a treatment effect the Sharp Regression Discontinuity Design compares the outcome of units just above the threshold with the outcome of units just below the threshold. In the same vein, we compare the sales of those books that receive a number of normalized votes just above and below the cutoff of zero. The number of jury votes received by books should reflect their intrinsic quality. This can be taken into account with a flexible polynomial function of votes. Under the assumption that the relationship between the outcome variable and the votes received is continuous in the neighborhood of the cutoff point, any jump of the dependent variable in proximity of the cutoff can be interpreted as evidence of a treatment effect.

Following most of the papers in the literature, we use a parametric approach. The variable *Sales* of book *i* competing in year *t* is modeled with the following equation:

[9] In a different context, Lee (2008), in his seminal work on RDD, uses a similar strategy to calculate the vote share for the democratic party to take into account the fact that more than two parties compete in elections.

[1] $$log(Sales_{it}) = \beta_0 + \beta_1 StregaPrize_{it} + f(Votes\_n_{it}) + \lambda_t + \theta X_{it} + \varepsilon_{it}$$

where the dependent variable is in log, *Strega Prize* is the dummy for the treatment (equal to one for awarded books), $f(Votes\_n_{it})$ is a flexible functional form to model the effect of jury votes, $f(Votes\_n_{it}) = \gamma_1 Votes\_n_{it} + \gamma_2 (Votes\_n_{it})^2 + .. + \gamma_p (Votes\_n_{it})^p$ (in some specifications we use up to a third order polynomial), λ_t are time dummies for the year of the competition, X_{it} is a vector of control variables including publisher dummies, a dummy equal to one if the book is awarded with other prizes, author's gender, author's popularity, and so on; ε_{it} is an idiosyncratic error term. The effect of interest is β_1, which measures the impact of winning the Strega Prize on book sales.

In our main analysis we consider all the nominated books in the Strega competition. As a robustness check, in some specifications we focus on just the shortlist of books that are considered the best five and are voted on in the second round (Table 3) or even on a sample of just the best two ranked books (see Table 5).

OLS estimates of equation [1] are reported in Table 2. In column (1), we only control for normalized *Votes_n* in linear form and for a linear trend of the year of publication. The coefficient on *Strega Prize* is large and highly statistically significant (*t*-stat=6.47): considering that the dependent variable is in log, winning the *Prize* implies an increase of more than 600% in sales ($=\exp(1.97)-1$). As expected, the number of jury votes received are positively related to sales (10 more votes increase sales by about 14%). Books published more recently sell more (about 5% more per year).

Starting from column (2), instead of using a linear trend for the year of publication, we control for time dummies (one for each spell of three years to avoid consuming too many degrees of freedom by inserting a dummy for each year).[10] We find that the effect of the Strega Prize is almost identical in columns (1) and (2).

In RDD it is fundamental to take adequately into account the relationship between the dependent variable and the forcing variable. Otherwise, a possible nonlinearity might be confused with a jump due to the treatment. To avoid this potential problem, we control for a polynomial of second and third order in votes in columns (3) and (4) respectively. By controlling for these higher order polynomials of votes, we find that the Prize has a similar, or slightly lower, effect to that in column (2).

In column (5), we use six dummies as control variables for the main Italian publishers (we leave a number of small publishers in the reference category). The probability of winning the Prize may be higher for books published by large publishers, possibly because the latter are able to "influence" the jury or because books by the best writers are published by the major publishers. The coefficients on publishers' dummies show that the impact on sales of large publishers is strong. In column (5), we also control for the author's gender and for the dummy *Other Prizes* (equal to one if a book received other literary Prizes). Winning other prizes is highly correlated to sales (with the data at hand, we are not able to verify if this

[10] However, we show in the appendix that results are quite similar when we include yearly fixed effects.

particular effect is causal). Female authors seem to sell more (*p*-value=0.17). When controlling for these variables, however, we find, in column (5), that the coefficient on the Strega Prize is almost unchanged in magnitude (1.82) and significance (*t*-stat=6.88)

In column (6), we report our most complete specification by controlling again for a third order polynomial for votes and including publishers' dummies, *Other Prizes* and *Female*. The effect of the Strega Prize is only slightly reduced.

Table 2. RDD Estimates for the Impact of the Strega Prize. Main specifications

	(1)	(2)	(3)	(4)	(5)	(6)
Strega Prize	1.9746***	1.8846***	1.4576***	1.3110***	1.8229***	1.2570***
	(0.3052)	(0.2877)	(0.3625)	(0.3618)	(0.2646)	(0.3390)
Votes_n	0.0143***	0.0153***	0.0194***	0.0247***	0.0124***	0.0206***
	(0.0016)	(0.0016)	(0.0028)	(0.0033)	(0.0015)	(0.0031)
Year	0.0491***					
	(0.0034)					
Votes_n^2			0.0000*	-0.0000		0.0000
			(0.0000)	(0.0000)		(0.0000)
Votes_n^3				-0.0000***		-0.0000***
				(0.0000)		(0.0000)
Mondadori					0.5421***	0.5093***
					(0.1897)	(0.1889)
Rizzoli					0.7089***	0.6225***
					(0.2302)	(0.2311)
Einaudi					2.3675***	2.3305***
					(0.2592)	(0.2561)
Bompiani					0.9927***	0.9135***
					(0.2353)	(0.2366)
Feltrinelli					0.9452***	0.9318***
					(0.2899)	(0.2816)
Garzanti					1.2795***	1.2436***
					(0.3532)	(0.3525)
Other Prizes					1.3867***	1.4037***
					(0.5198)	(0.5129)
Female					0.1874	0.1964
					(0.1439)	(0.1435)
Time Dummies	NO	YES	YES	YES	YES	YES
Observations	865	865	865	865	865	865
Adjusted R-squared	0.342	0.389	0.391	0.397	0.475	0.479

Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

In Table 3, we report a number of specifications in which we focus on just the books selected for the second stage each year ("the best five books" or the so-called "cinquina") and we do not consider the other books (for which we imputed zero votes in the regressions in Table 2). We run exactly the same regressions in Table 3. The results are very similar. This reassures us that imputing zero votes to titles not selected for the second stage does not affect the estimates considerably, probably because the use of a polynomial for votes up to the third degree allows the function to adapt to the concentration of zeros.

Table 3. RDD Estimates for the Impact of the Strega Prize. Sample: Only the best five books voted at the second stage ("Cinquina")

	(1)	(2)	(3)	(4)	(5)	(6)
Strega Prize	1.8754***	1.8170***	1.7339***	1.6027***	1.6719***	1.3926***
	(0.3343)	(0.3135)	(0.3387)	(0.3761)	(0.2960)	(0.3567)
Votes_n	0.0095***	0.0101***	0.0109***	0.0142***	0.0093***	0.0136***
	(0.0023)	(0.0023)	(0.0028)	(0.0044)	(0.0022)	(0.0041)
Observations	337	337	337	337	337	337
Adjusted R-squared	0.304	0.368	0.366	0.366	0.484	0.483

Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). Specifications are the same as Table 2. Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

In Table 4 we carry out a number of robustness checks by using the whole sample. In columns (1), (2) and (3), we estimate, respectively, a polynomial of votes of first, second and third order, but we include interaction terms between the dummy *Strega Prize* and the polynomial terms. In practice, we allow for a

polynomial with different forms on the two sides of the cutoff. In all three specifications, it emerges that receiving the Prize strongly increases sales.

A potential threat to the consistency of our estimates is that some "manipulation" might be made by members of the jury or that jury members could simply vote for titles that are selling more. First of all, these manipulations are likely to favor books by large publishers. Reassuringly, we have shown in Tables 2 and 3 that the impact of the Strega Prize remains almost unchanged when we control for publishers dummies. Moreover, as we show in Section 3.4 (Table 6), the probability of being "treated" does not show discontinuities according to the type of publisher. Secondly, we estimate a specification, in column (4) of Table 4, in which we control for the number of weeks a book appeared on bestseller lists before the competition, so taking into account the possible influence on jury members of their knowledge of which titles are selling most. However, by controlling for the weeks on a bestseller list, we find that the impact of the Prize remains strong and highly significant.

Another threat to the estimates is that the Prize could be conferred on famous authors and the effect we have uncovered might be due to an author popularity. In column (5) of Table 4, we control for a measure of author popularity (built on the basis of the weeks of appearance on the bestseller lists, excluding appearances of books participating to the Strega competitions). Author popularity has a strong impact on sales, but the impact of the Prize is still very high nonetheless.

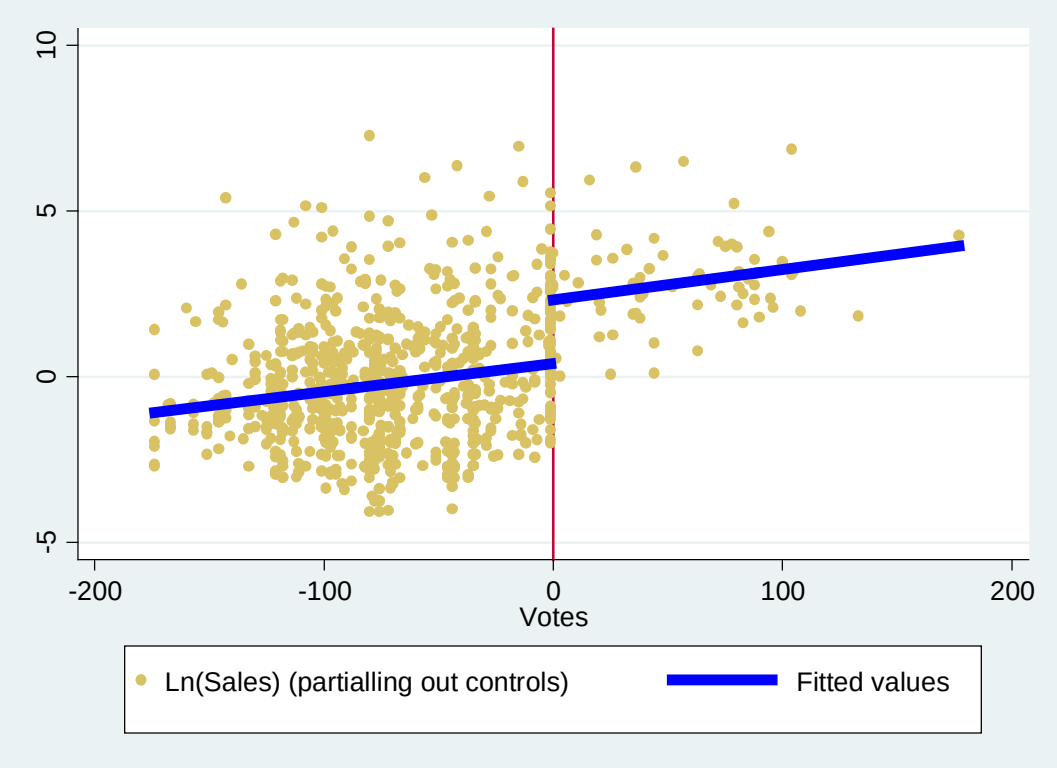
Table 4. RDD Estimates. Polynomial with Interactions and Other Controls

	(1)	(2)	(3)	(4)	(5)
Strega Prize	1.8730***	1.4382***	1.0324**	1.2251***	1.7129***
	(0.3290)	(0.3906)	(0.4479)	(0.3229)	(0.2492)
Votes_n	0.0125***	0.0300***	0.0558***	0.0060***	0.0116***
	(0.0016)	(0.0051)	(0.0111)	(0.0019)	(0.0014)
(Strega Prize)*Votes_n	-0.0011	-0.0165	-0.0231		
	(0.0044)	(0.0112)	(0.0282)		
Votes_n^2		0.0001***	0.0006***		
		(0.0000)	(0.0002)		
(Strega Prize)*Votes_n^2		-0.0001*	-0.0009**		
		(0.0001)	(0.0004)		
Votes^3			0.0000***		
			(0.0000)		
(Strega Prize)*Votes_n^3			-0.0000		
			(0.0000)		
Weeks as Bestseller				0.1508***	
				(0.0175)	
Author Popularity					0.0133***
					(0.0017)
Observations	865	865	865	339	865
Adjusted R-squared	0.474	0.481	0.484	0.533	0.547

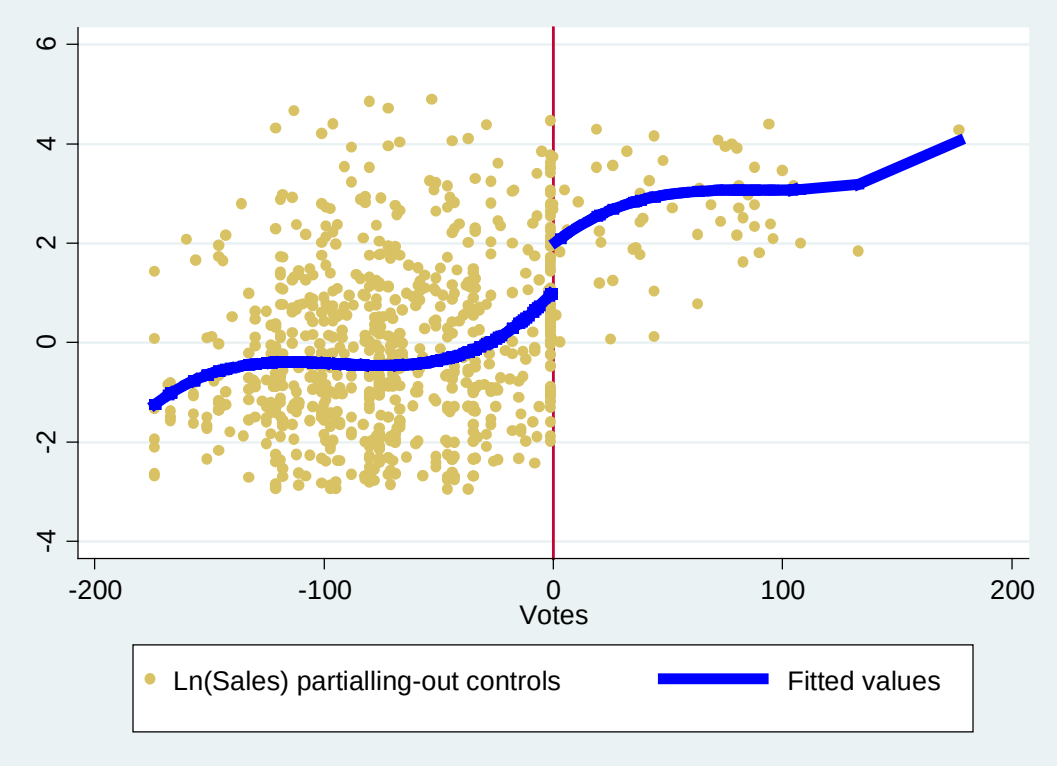
Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). In all the regressions, we control for six dummies of publishers, *Other Prizes*, *Female* and time dummies. Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

One advantage of the Regression Discontinuity Design is that it allows a transparent graphical analysis. With this aim, we first partial out (net out) the effects of all the control variables on sales by regressing *Sales* on the publishers' dummies, *Other Prizes*, *Female* and time dummies (col. 6 of Table 2) and taking the residuals. These are plotted against normalized votes in Figure 1. The vertical line at 0 denotes the

threshold of votes necessary to win the Prize. In panel A of Figure 1, we also plot the predicted values from a linear regression of Sales on votes, estimated separately on each side of the cutoff point (corresponding to column 1 of Table 4). In panel B, we plot the predicted values from a regression of Sales on a third order polynomial in votes (corresponding to column 3 of Table 4). Both in panel A and B in Figure 1, there is a clear jump in the relationship between the outcome and the number of votes in the proximity of the threshold. This jump represents the effect of the Strega Prize. In the Appendix, we report a similar Figure when using local averages with a bandwidth of 4.



Panel A) Linear Function of Votes



Panel B) Third Order Polynomial of Votes

Figure 1. Sales as a function of Votes in the Strega competition

3.3. Local Linear Regression

In Table 5, we only consider data in a neighborhood around the discontinuity. The comparison of average outcomes in a small enough neighborhood to the left and to the right of the threshold value should estimate our effect of interest in a way that does not depend on the correct specification of the model for the conditional expected function (Imbens and Lemieux, 2008).

In column (1) of Table 5, we focus on an interval of normalized votes of -30/+30, while the interval is -20/+20 in column (2). In these two different windows, we find a strong and statistically significant effect for the Strega Prize. The magnitude of the effect is considerably lower when we focus on these local windows, but it should be noticed that the number of observations is considerably reduced. In the trade-off between consistency and efficiency, the latter estimates probably improve consistency, but at the cost of reducing precision.

In column (3) of Table 5, we only consider the three best ranked books and, finally, in column (4), we only take into account the first two ranked books (the analysis on the best five books is conducted in Table 3). In all these estimates, we find that receiving the Prize has a strong effect on sales.

Table 5. RDD Estimates. Different Windows and Samples

	(1) Window:±30	(2) Window:±20	(3) Sample: only best 3 books	(4) Sample: only best 2 books
Strega Prize	0.8744*	1.1950**	1.6323***	1.2148***
	(0.4950)	(0.5232)	(0.3219)	(0.3506)
Votes_n	0.0414**	0.0526	0.0097***	0.0126***
	(0.0199)	(0.0342)	(0.0033)	(0.0047)
Observations	155	119	198	132
Adjusted R-squared	0.386	0.341	0.536	0.482

Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). In all the regressions, we control for six dummies of publishers, *Other Prizes*, *Female* and time dummies. Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

In the appendix, we report a number of other robustness checks in which we estimate other regressions with publisher fixed effects, with yearly dummies, allow standard errors for clustering at the competition level, control for a dummy equal to one if a book has been published in the previous year, focus on just the latest 12 competitions (2001-2012), and use a quantile regression to attenuate the effect of outliers. Our findings of the Strega Prize having a strong impact on sales are confirmed by all these checks.

3.4. Checks for Random Assignment Around the Discontinuity

An important requirement for the validity of RDD is that the predetermined covariates are balanced by the treatment status as in a randomized experiment. In fact, in the absence of manipulation, books around the threshold score should not differ significantly in terms of their observable and unobservable variables.

To investigate this issue, we run a number of Discontinuity Regressions in which we use each of our control variables in turn as a dependent variable. In other words, we regress the six publisher dummies

(Mondadori, Rizzoli, Einaudi, Bompiani, Feltrinelli, Garzanti), *Other Prizes*, *Female*, *Published Previous Year*, and *Weeks as Bestseller* on the dummy *Strega Prize* and control for *Votes _ n* and time dummies.

The estimation results are reported in Table 6. We show that the probability of observing the publishers Mondadori, Einaudi, Bompiani, Feltrinelli, and Garzanti (first six columns of Table 6) does not change sharply at the cutoff point. On the other hand, we find that the probability of observing the publisher "Rizzoli" is not a smooth function of the treatment and changes at the cutoff point. Finally, the treatment does not produce any statistically significant effect on *Other Prizes*, *Female*, *Published Previous Year* or *Weeks as Bestseller*.

These results reassure us about the random assignment around the discontinuity point (Imbens and Lemieux, 2008). However, since variables are not all balanced, we have controlled for these variables in our regressions to avoid any bias due to the lack of balance. In addition, we have run a regression in which we exclude those books published by Rizzoli from the sample (since the dummy "Rizzoli" turns out to be imbalanced) and we obtain very similar results (see Appendix, Table A1, column 7).

Table 6. RDD estimates. Differences in predetermined characteristics

	(1) Mondadori	(2) Rizzoli	(3) Einaudi	(4) Bompiani	(5) Feltrinelli	(6) Garzanti	(7) Other Prizes	(8) Female	(9) Published t-1	(10) Weeks as Bestseller
Strega Prize	0.061	-0.123*	0.027	-0.034	0.062	0.018	-0.001	-0.057	0.073	0.024
	(0.105)	(0.063)	(0.088)	(0.070)	(0.050)	(0.048)	(0.030)	(0.090)	(0.110)	(2.119)
Observations	865	865	865	865	865	865	865	865	423	339
Adjusted R-squared	0.055	0.057	0.007	0.008	0.067	0.001	0.016	0.041	0.073	0.334

Notes: The Table reports OLS estimates. The dependent variable is reported on the top of each column. In all the regressions, we control for *Votes_n* and for time dummies. Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

4. Difference-in-Differences Estimates of the Impact of the Strega Prize

In this and the next section, in order to estimate the effect of winning the Strega Prize on sales we adopt a different econometric strategy based on a difference-in-differences model.

4.1. The Data on Bestseller Lists

We use data on bestsellers lists published in "*Tuttolibri*", the cultural supplement of "*La Stampa*", one of the leading Italian newspapers. Bestseller lists are published each week (usually on Saturday). We collected these data by using the digital edition of *La Stampa*, which is freely available in the archive www.lastampa.it/archivio-storico, for the period from November 8, 1975 to December 31, 2005. We gathered 1,326 weekly bestseller lists in total, about 44 lists per year.[11] Bestseller lists are provided by a

[11] Typically, lists are not published in August and on some bank holidays.

leading international data provider (currently Nielsen BookScan, but, until recently, the Demoskopea Institute) on the basis of the number of copies of books sold in a representative sample of bookshops.

Books are ranked separately by category (Italian Fiction, Foreign Fiction, Non-fiction, etc.), but for our aims we only use the Italian Fiction category. The bestseller list includes from 10 to 20 titles (the number of titles on the list changed during the sample period). With respect to data based on Anobii, which are a measure of stock sold, bestseller lists represent a measure of sales flow and are particularly useful to analyze the short-run impact of the Prize.

In the course of the 1976-2005 period, for which we have data on bestseller lists, 339 books were nominated for the Strega Prize in 30 yearly competitions. We use the total number of weeks in which a book appeared on the bestseller lists (*Weeks as Bestseller*) as an indicator of book sales.[12] This is computed, for each book competing in a given year, separately for the periods before and after the conferment of the Prize (2 observations per book for a total of 678 observations).[13] In this way, we compare the performance of books winning the Strega Prize (the difference "before-after" the Prize is conferred each year) with the performance of books nominated for, but not awarded the Prize.

In Table 7, we show that books were, on average, on the bestseller list for 2.32 weeks in each period.[14] The correlation between *Sales* (Anobii) and *Weeks as Bestseller* is quite high $(\rho = 0.69)$.

Table 7. Descriptive Statistics. Analysis on Bestseller Lists (years: 1976-2005)

Variables	Obs	Mean	Std. Dev.	Min	Max
Weeks as Bestseller	678	2.323	10.856	0	240
Weeks as Bestseller (1 year after)	678	1.719	4.791	0	36
Post	678	0.500	0.500	0	1
Strega Prize	678	0.088	0.284	0	1
(Strega Prize)*Post	678	0.044	0.206	0	1
Year	678	1990.437	8.559	1976	2005
Author's Popularity	678	16.525	66.063	0	724
Published t-1	678	0.189	0.392	0	1

Notes: Data on bestseller lists are from the newspaper *La Stampa - Tuttolibri* (years 1975-2005) www.lastampa.it/archivio-storico.

4.2. Difference-in-Differences Estimates

In Table 8, we show the average number of weeks on the bestseller lists for winners and non-winners of the Prize. The first column reports *Weeks as Bestseller* before the award of the Prize, while the second column

[12] We also observe the number of points assigned to books as a measure of sales: 100 points are assigned to the book with the greatest number of sales in a week, while the other titles in the list receive a number of points in proportion to the copies sold with respect to the first ranked book. As a robustness check, in the Working Paper version (Ponzo and Scoppa, 2013) we use the number of points accumulated as a bestseller as a dependent variable, obtaining very similar results.

[13] The bestseller list for the week, e.g., between the 1st and the 7th of October, will be published in the newspaper 14 days after (on the 21th October), since some time is necessary for the data provider to gather all the raw data from bookshops, estimate the sales of books and build the rankings. In building *Weeks as Bestseller*, we take into account the week to which the bestseller list refers, not the date of publication of the newspaper.

[14] The book "Il nome della rosa" (U. Eco) is clearly an outlier with its 240 weeks of presence. As we will show in the next section, our results are robust to the excluding of these observations from the sample.

reports *Weeks as Bestseller* after the Prize is conferred. The first and second rows report the average for non-winners and winners Strega Prize respectively.

Table 8. Difference-in-Differences Estimates. Average Weeks as Bestseller for Awarded and Non-Awarded Books

	Before Prize	Post Prize	Difference Post –Before
Non Winners Strega Prize	1.0777	0.8738	-0.2039
	(0.1983)	(0.2192)	(0.2956)
Strega Prize Winners	8.9333	23.4667	14.5333**
	(1.6828)	(7.8169)	(7.9922)
Winners – Non Winners Difference	7.8557***	22.5929***	14.7372*
	(0.8206)	(2.5030)	(7.8905)

Notes: Standard errors are reported in parentheses. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

The books that have not won the Strega Prize appear on the bestseller list for about 1.07 weeks on average before the Prize in July, whereas they appear for 0.87 weeks after the Prize is awarded (the difference of 0.20 is not statistically significant, see the last column). On the other hand, the awarded books appear on the bestseller list for about 8.93 weeks before winning. Therefore, these books perform much better than books in the control group even before the treatment (the pre-existing difference is 7.85, highly statistically significant, see last row). This implies that the Prize is typically conferred on more successful books.

However, after the prize is conferred, the number of weeks of appearances as a bestseller increase to 23.47 for awarded books (while, as shown above, the figure remains almost unchanged for non-awarded books). Therefore, under the assumption that no other differences intervene to affect the two categories of books contemporaneously to the treatment, the difference-in-differences of 14.74 can be interpreted as the direct effect of the Strega Prize on awarded books.

In order to control for other determinants of sales performance which might affect the outcome for treated and control groups, we now carry out a regression analysis by estimating the following model:

[2] $$\tilde{Y}_{i\tau} = \phi_0 + \phi_1 StregaPrize_i + \phi_2 Post_{i\tau} + \phi_3 \left(StregaPrize_i * Post_{i\tau}\right) + \phi_4 X_i + v_{i\tau}$$

where the dependent variable $\tilde{Y}_{i\tau}$ represents the number of *Weeks as Bestseller* for book *i* in the period τ (pre, post), *Strega Prize* is a dummy equal to one for books winning the Prize, *Post* is a dummy equal to one for the period after the Prize is conferred, $StregaPrize_i * Post_{i\tau}$ is the interaction term whose coefficient ϕ_3 measures our treatment effect of interest; X_i is a vector of book characteristics (as considered in the analysis of Section 3) which could affect sales or, alternatively, book fixed effects; $v_{i\tau}$ is an error term.

We estimate our model with OLS. Estimation results are reported in Table 9. Column (1) is our basic specification without any control variables. In column (2), we include a number of controls for book characteristics, whereas we include book fixed effects in column (3) by exploiting the panel nature of our data. From the interaction coefficient, the uncovered effect of the Strega Prize is again very strong (14.74)

and statistically significant (*t*-stat=2.20). The coefficient does not vary in the three specifications, while standard errors change slightly.

In columns (4)-(6) of Table 9, (replicating the specifications in 1-3) we use the number of *Weeks as Bestseller* as a dependent variable, but, for each book, we just consider a period of one year after the Strega competition is concluded, i.e., we discard the sales performance beyond one year after the competition. The effect of winning the Prize is again strong, but the magnitude is lower: 4.94 weeks more for books awarded with the Prize rather than 14.74. It should be noticed that standard errors are much lower and statistical significance much higher, probably due to the exclusion of some outliers in total *Weeks as Bestseller*.

Table 9. Difference-in-Differences Estimates for Weeks as Bestseller

	(1)	(2)	(3)	(4)	(5)	(6)
				(One year)	(One year)	(One year)
Strega Prize	7.8557***	2.4396		7.8557***	3.2308*	
	(1.6726)	(1.9531)		(1.6726)	(1.9557)	
Post	-0.2039	-0.2039	-0.2039	-0.5449***	-0.5449***	-0.5449***
	(0.2220)	(0.2237)	(0.2219)	(0.1432)	(0.1442)	(0.1431)
(Strega Prize)*Post	14.7372**	14.7372**	14.7372**	4.9363***	4.9363***	4.9363***
	(6.6940)	(6.7442)	(6.6890)	(1.8584)	(1.8723)	(1.8570)
Year of Competition		-0.0924			-0.0455**	
		(0.0579)			(0.0202)	
Other Prizes		5.6961*			2.9375*	
		(2.9918)			(1.6343)	
Votes_n		0.0451***			0.0345***	
		(0.0154)			(0.0085)	
Published t-1		2.2712			0.2609	
		(2.0218)			(0.3895)	
Constant	1.0777***	183.5868	1.7729***	1.0777***	90.7804**	1.7729***
	(0.1987)	(114.8180)	(0.3126)	(0.1987)	(40.1965)	(0.1047)
Book Fixed Effects	NO	NO	YES	NO	NO	YES
Observations	678	678	678	678	678	678
Adjusted R-squared	0.195	0.231	0.122	0.394	0.469	0.115

Notes: The Table reports OLS estimates. The dependent variable is Weeks as Bestseller (columns 1-3) and Weeks as Bestseller (1 year) (columns 4-6). In regressions (2) and (5), we also control for six dummies of publishers, *Other Prizes* and *Female*. Standard errors (reported in parentheses) are corrected for heteroskedasticity and for clustering at book level. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

Finally, we built the variable *Weeks as Bestseller* excluding the observations for the three weeks immediately preceding the Prize (the last three weeks of June), since a Prize effect could already be at work in this period of time due to news about the probable winner of the Prize that starts to circulate after the publication of the shortlist of five.[15] However, we find very similar results (not reported) even excluding sales performance for these three weeks of June.

[15] Data from "Google Insights for Search" which report search volume patterns on Google for a given query for each week show that a considerable amount of attention is given to the "Strega Prize" in these three weeks of June.

5. The Impact of the Strega Prize over Time

In this section, we analyze data based on bestseller lists on a weekly level instead of using data aggregated for longer spells. In this way it is possible to examine the effect of the Strega Prize on Sales as it evolves over time.

For each book competing in year *t*, we consider the appearance on a bestseller list in the weeks over the period from January in year *t* until April in year *t+1* (in total 339 books competing in 30 Prize-years). In order to use weeks as an index for each book, we build a variable *Week* and normalize *Week*=0 for the first week of "treatment" (first week of July, the week in which the Prize is awarded) and, as a consequence, *Week* ranges between -26 (January in year *t*) and +40 (April in *t+1*). On average, we have observations for each book for about 50 weeks, giving a total of about 15,500 observations.

We build a dummy variable $Bestseller_{iw}$ which is equal to one if book *i* is present on the bestseller list in week *w*. This dummy is set as equal to zero if the book is not present on the bestseller list in week *w*.[16]

We estimate the following equation:

[3] $$Bestseller_{iw} = \gamma_0 + \gamma_1 Week_{iw} + \gamma_2 Post_{iw} + \gamma_3 Week_{iw} * Post_{iw} + \gamma_4 StregaPrize_i + \gamma_5 Week_{iw} * StregaPrize_i + \\ + \gamma_6 Post_{iw} * StregaPrize_i + \gamma_7 Week_{iw} * Post_{iw} * StregaPrize_i + \gamma_8 X_{iw} + u_{iw}$$

where the variables are defined as explained above. Therefore, γ_1 measures the variation in the dependent variable as the number of weeks increases for non-awarded books before the Prize is announced (January-June), γ_2 is the impact of the announcement of the Prize on non-awarded books, γ_3 is the variation for non-awarded books as weeks vary in the period after July. $\gamma_1 + \gamma_5$, $\gamma_2 + \gamma_6$ and $\gamma_3 + \gamma_7$ measure, respectively, the same effects for Strega-awarded books. The coefficient γ_4 represents the pre-existing difference between awarded and non-awarded books, whereas γ_6 measures the immediate impact of the Strega Prize at the time of the announcement.

To make the effects more easily interpretable, we first estimate the evolution of sales performance over time separately for non-awarded (column 1 of Table 10) and awarded books (column 2 of Table 10). Then, we estimate the regression on the whole sample using all the interactions.

Results in column (2) of Table 10 show a huge immediate effect on sales of winning the Strega Prize. The probability of being on the bestseller list increases by 45.7 percentage points when the Prize is announced in July. The probability for Non-awarded books (column 1) slightly decreases when the Prize is announced (-1.18 p.p.). Before the announcement of the Prize, as time passes, the books that are to be awarded increase sales more rapidly (1.44 p.p.) than the not-to-be awarded books (0.09 p.p.). However, after the announcement of the Prize, the decrease in sales for awarded books – after the huge initial jump – is

[16] Unfortunately, we do not observe the week (or the month) in which a book is published and we impute 0 for weeks in which the book has not yet been published.

much more sustained (-2.41 p.p. per week, equal to -3.85+1.44) than for non-awarded books (-0.14 p.p. per week). In column (3) of Table 10, we estimate on the whole sample using all the interaction terms. Results are very similar to the ones obtained when estimating awarded and non-awarded books separately. When announced, the Strega Prize increases the probability of the awarded book entering the bestseller list by 46.9 percentage points.

Table 10. Difference-in-Differences Estimates for Bestseller. Data at a Weekly Level

	(1)	(2)	(3)
	Non-Awarded Books	Strega-Awarded Books	All Books
Post	-0.0118	0.4573***	-0.0118
	(0.0072)	(0.0479)	(0.0072)
Week	0.0009***	0.0144***	0.0009***
	(0.0004)	(0.0027)	(0.0004)
Post*Week	-0.0023***	-0.0385***	-0.0023***
	(0.0004)	(0.0028)	(0.0004)
Strega Prize			0.5596***
			(0.0422)
(Strega Prize)*Post			0.4691***
			(0.0484)
(Strega Prize)*Post*Week			-0.0362***
			(0.0029)
(Strega Prize)*Week			0.0135***
			(0.0027)
Constant	0.0628***	0.6225***	0.0628***
	(0.0058)	(0.0418)	(0.0058)
Observations	14178	1376	15554
Adjusted R-squared	0.013	0.249	0.343

Notes: The Table reports OLS estimates. The dependent variable is Bestseller. Standard errors (reported in parentheses) are corrected for heteroskedasticity and for clustering at book level. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.

These trends can be perceived more easily by considering Figure 2, in which we plot the probability of being on the bestseller list against time. The vertical line at 0 denotes the week in which the Prize is announced. The solid blue line represents the probability of being on the bestseller list for awarded books as a function of time. The dashed red line represents the same trend for non-awarded books. The graph makes clear the faster increase of awarded books before the announcement, the considerable jump when the prize is announced and the faster rate of decrease after the awarding of the prize.

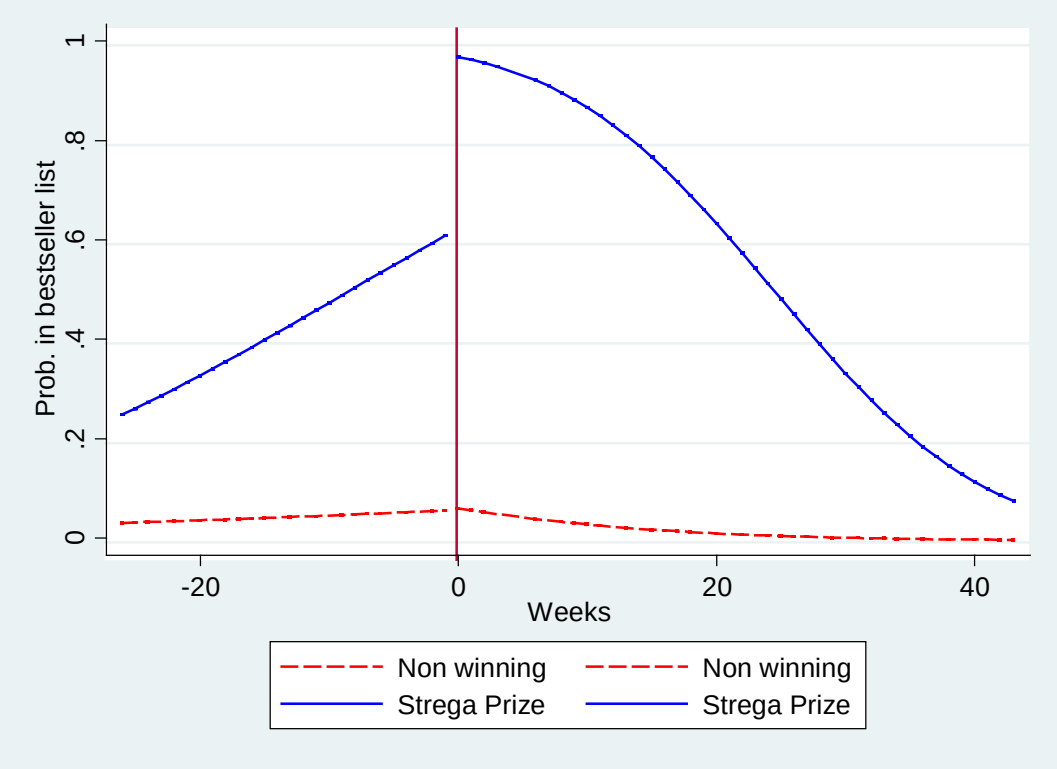


Figure 2. The Probability of Appearing on Bestseller Lists over Time

A possible concern with the latter estimates is that we impute zero for books when they are not yet published. It should, however, be noted that 76% of the books in the Strega competition are published between January and March of that current year, so the heterogeneity in publishing time is not high. Furthermore, we now carry out three additional checks: we control for the variable *Published Previous Year*; we only start considering bestseller s from April of the current year (when all books in competition have been published) and we exclude books published the previous year from the sample. Results are almost the same of those shown in Table 10 and are not reported.

6. Concluding Remarks

We have used data on the most prestigious Italian literary prize together with measures of book sales and appearances on bookseller lists to investigate whether experts' awards have an impact on the commercial success of experience goods. In order to estimate a causal effect and avoid the biases arising from the probable correlation of awards with a product's "intrinsic quality", we have undertaken two different estimation strategies.

The first is based on a Regression Discontinuity Design and exploits the votes given by jury members to select the best novel of the year. Comparing the success of awarded and non-awarded books with only small differences in jury votes received, we show that winning the Strega Prize hugely increases (by about 500%) the cumulated sales of a book.

The second strategy we use is a Difference-in-Differences model that compares the sales performance of non-awarded and awarded books before the Prize is conferred with their performance afterwards. We use the weekly appearances of books on bestseller lists as an outcome for this analysis and again find a very strong effect on sales of winning the Prize. Furthermore, by examining the weekly data, we find that the Prize has an immediate impact when it is announced, but that this decreases markedly in the following weeks.

The very similar results obtained using two different measures of book sales and two different estimation strategies makes us confident that we are capturing a causal effect of the Prize and that we have managed to disentangle the impact of the Prize on sales from the effect due to a higher intrinsic quality of award winning books.

Our results illustrate the role of awards as a signaling device on the quality of a product in markets with imperfect information, showing that consumers tend to trust experts. Our findings are in contrast with Ginsburgh (2003) – the only study examining the impact of a book prize on sales – who did not find any positive effect for prize-winning books, whereas he showed an impact of prizes on the success of movies and musical products. The findings of Sorensen (2007), showing a positive impact on sales of appearances on bestseller lists, are similar to ours, although the effect he finds can be attributed to a consumers' word-of-mouth influence rather than to experts' judgments.

On the one hand, it is possible that we are underestimating the impact of the Prize, since we are comparing treated books with nominated books. If the mere nomination for the competition has a positive impact on sales, then the effect we have estimated represents only a lower bound. On the other hand, our estimate also includes the indirect effects caused, for example, by increased marketing efforts of publishers for awarded books and consumers' word-of-mouth effect brought about by those readers who were initially influenced by the announcement of the Prize winner.

References

Akerlof, G. (1970), "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism", *Quarterly Journal of Economics*, 84 (3), 488-500.

Angrist, J. and Pischke, J., (2009), *Mostly Harmless Econometrics*, Princeton University Press.

Berger, J., Sorensen, A. T., and Rasmussen, S. J. (2010), "Positive effects of negative publicity: When negative reviews increase sales", *Marketing Science*, 29(5), 815-827.

Chevalier, J. and Mayzlin, D. (2006), "The Effect of Word of Mouth on Sales: Online Book Reviews", *Journal of Marketing Research*, 43 (3), 345-354.

Deuchert, E., Adjamah, K. Pauly, F., (2005), "For Oscar glory or Oscar money?", *Journal of Cultural Economics*, 29, 159-176.

Elliott, C. and Simmons, R. (2008), "Determinants of UK Box Office Success. The Impact of Quality Signals", *Review of Industrial Organization*, 33, 93-111.

Friberg, R., and Gronqvist, E. (2012). "Do Expert Reviews Affect the Demand for Wine?" *American Economic Journal: Applied Economics*, 4(1), 193-211.

Ginsburgh, V. and van Ours, J. (2003), "Expert Opinion and Compensation. Evidence from a Musical Competition.", *American Economic Review*, 93 (1), 289-96.

Ginsburgh, V., (2003) “Awards, Success and Aesthetic Quality in the Arts”, *Journal of Economic Perspectives*, 17 (2), 99-111.

Hadj Ali, H., Lecocq, S., and Visser, M. (2008), “The Impact of Gurus: Parker Grades and En Primeur Wine Prices”, *Economic Journal*, 118(529), F158-F173.

Hilger, J., Rafert, G., and Villas-Boas, S. (2011), “Expert opinion and the demand for experience goods: an experimental approach in the retail wine market”, *Review of Economics and Statistics*, 93(4), 1289-1296.

Imbens, G., and Lemieux, T., (2008), “Regression Discontinuity Designs: A Guide to Practice,” *Journal of Econometrics*, 142 (2), 615–635.

Lee, D. (2008). “Randomized experiments from non-random selection in US House elections”, *Journal of Econometrics*, 142(2), 675-697.

Lee, D., and Lemieux, T. (2010). “Regression discontinuity designs in economics”, *Journal of Economic Literature*, 48, 281–355.

Nelson, P. (1970), “Information and consumer behavior”, *Journal of Political Economy*, 78, pp. 311-329.

Nelson, R., Donihue, M., Waldman, D. and Wheaton, C. (2001), “What's an Oscar worth?”, *Economic Inquiry*, 39 (1), 1-16.

Ponzo, M. and Scoppa, V. (2013), “Experts’ Awards and Economic Success: Evidence from an Italian Literary Prize”, *CSEF Working Paper 335*, June.

Reinstein, D. and Snyder, C., (2005), “The Influence of Expert Reviews on Consumer Demand for Experience Goods: A Case Study of Movie Critics”, *Journal of Industrial Economics*, 53 (1), 27-51.

Sorensen, A. (2007), “Bestseller Lists and Product Variety”, *Journal of Industrial Economics*, 55 (4), 715-38.

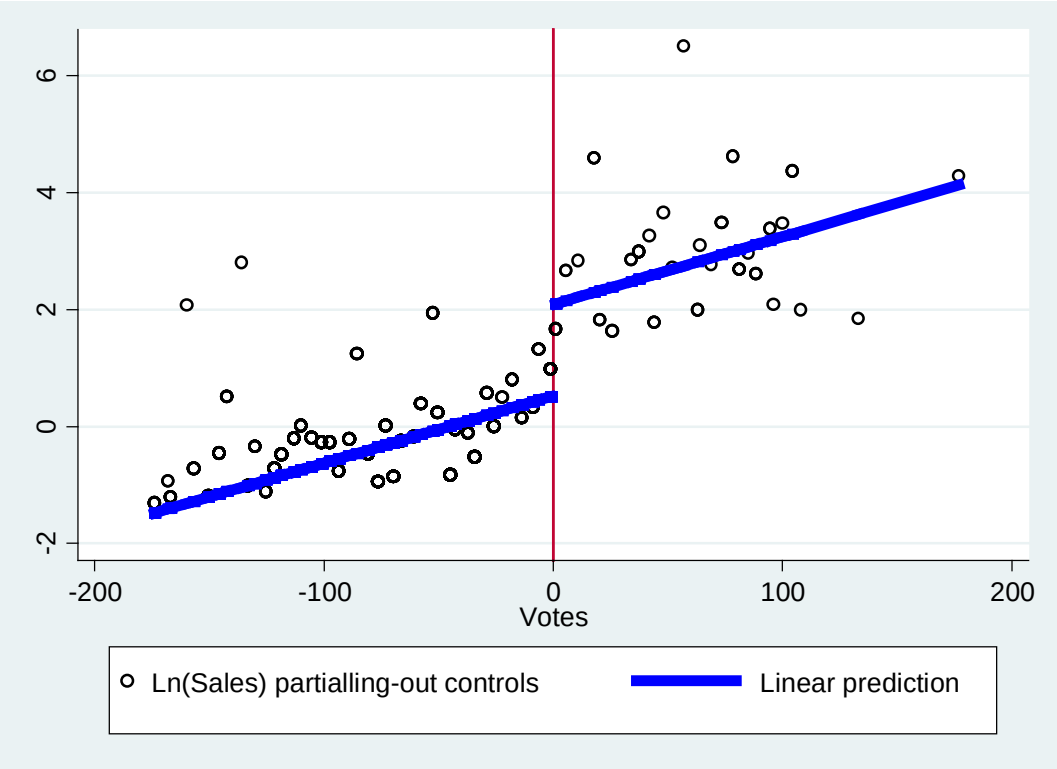
Appendix: Other Robustness Checks for the RDD

In this appendix, we carry out further robustness checks. We re-estimate the specifications of Table 2 (column 6) by including a number of additional controls. In column (1), we include publisher fixed effects (147 dummies). In column (2), we include 66 year dummies. In column (3), standard errors are robust to clustering at the competition level. In column (4), we control for a dummy equal to one if the book was published in the year previous to the year of competition. In column (5), we focus on just the most recent years (2000-2012). In column (6), we use a quantile regression in order to reduce the impact of outliers. In column (7), we exclude books published by Rizzoli from our sample, since this variable turns out to be imbalanced (see Table 6, column 2). In all these regressions, our results are widely confirmed.

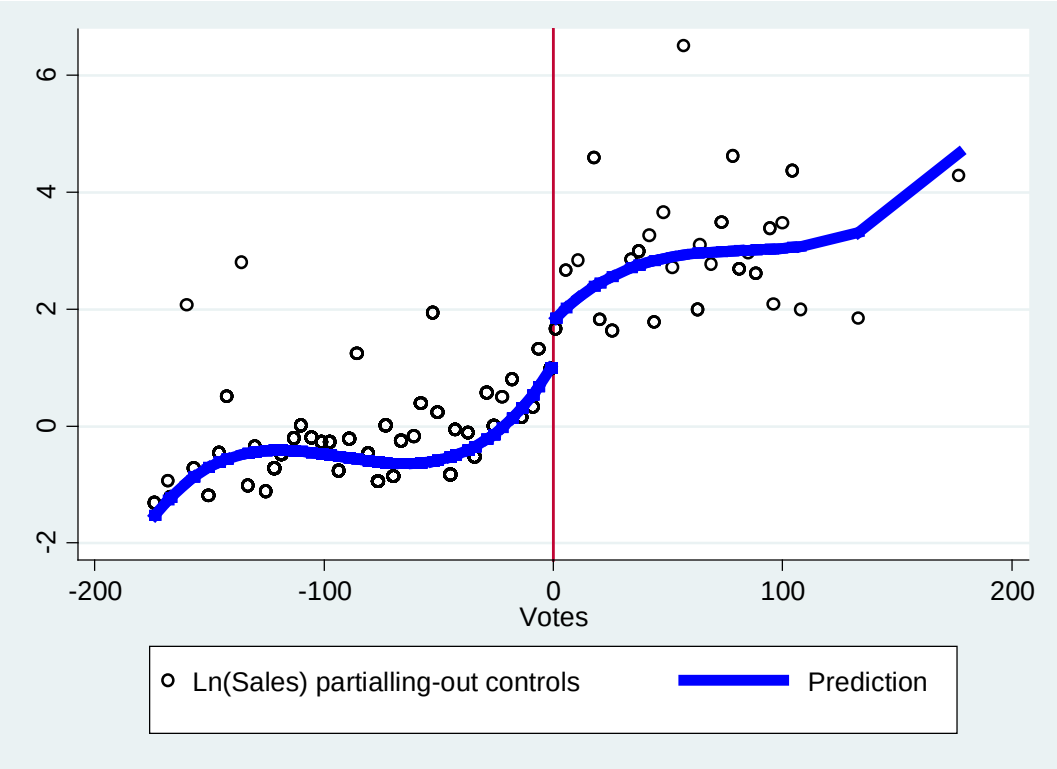
Table A1. Dependent Variable: Sales

	(1) Publisher FE	(2) Year dummies	(3) Clustering SE	(4) Year Before	(5) Only Recent Years (2000-12)	(6) Quantile Regression	(7) No Rizzoli books
Strega Prize	1.8979***	0.8608***	1.8229***	1.6965***	1.1944***	1.9155***	1.9215***
	(0.2938)	(0.3135)	(0.2611)	(0.3091)	(0.4268)	(0.4067)	(0.2861)
Votes	0.0116***	0.0203***	0.0124***	0.0103***	0.0143***	0.0118***	0.0126***
	(0.0018)	(0.0021)	(0.0017)	(0.0018)	(0.0025)	(0.0022)	(0.0017)
Observations	863	865	865	423	151	865	798
Adj. R-squared	0.492	0.498	0.475	0.548	0.579		0.475

Notes: The Table reports OLS estimates. The dependent variable is Sales. In all the regressions, we control for publisher dummies, Other Prizes, Female and time dummies. Standard errors (reported in parentheses) are corrected for heteroskedasticity. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level.



Panel A) Linear Function of Votes



Panel B) Third Order Polynomial of Votes

Figure A1. Sales and Votes using Local Averages (bandwidths h=4)