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

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Abstract

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

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

Keywords: Cultural Economics; Awards; 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 "experience goods" (Nelson, 1970). Books and other cultural products, such as movies and musical interpretations, prominently belong to this category. In these product markets, a range of mechanisms arise to credibly signal 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 uncertain quality (Reinstein and Snyder, 2005; Ginsburgh and van Ours, 2003; Nelson *et al.*, 2001).[1] However, there is no clear evidence on the effects of awards 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 yearly to the best Italian book of fiction through the votes of a jury of more than 400 experts – has an impact on the economic success of books. This would add to the evidence that awards represent a signal of quality affecting consumers' behavior. Our sample is constituted by all the books nominated in the competition for the Prize: in each year the book winning the Prize is considered as "treated" and the other nominated books constitute control units.

Ideally, the outcome of interest would be the sales of each book. However, data on book sales are rarely available. To overcome this problem, we use two measures of economic success of books that are strongly correlated to sales. First, for each book we use the number of copies owned by members of Anobii, an international website targeted to book lovers. Secondly, we use weekly data (for a period of 30 years) on bestsellers lists published by a leading Italian newspaper ("La Stampa").

The key econometric problem in estimating the impact of an award on sales is typically the omission from the regression of a variable measuring the true quality of a product (being the latter hardly observable), which has certainly 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" representing if an award is obtained, omitting a measure of product quality, then the variable "Prize" might pick 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 exploiting the particular features of the "Strega Prize". First of all, we use a Sharp Regression Discontinuity Design (RDD). Each year five nominated books on a shortlist competing for the Prize receive votes from a jury of about 400 experts. The book obtaining more votes wins the Strega Prize. The number of votes obtained by each book can be thought as a measure of quality. It is reasonable to expect that books receiving a higher number of votes are of better quality and tend also to sell more copies: in the RDD this effect can be taken into account running a regression explaining sales and controlling for a flexible functional form for votes. Jumps in the relationship between sales and votes in the neighborhood of the threshold of votes necessary to win the Prize

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

represent evidence of treatment effects, under the assumption that the relationship between the votes received and sales is a smooth function. In other words, RDD exploits the fact that the most voted book in each year is "treated" (that is, wins the Prize) but it typically only differs for few votes from books ranked second, third, and so on, which are not treated. Therefore, controlling for the votes obtained in the competition, the "intrinsic quality" is taken into account and it is possible to identify the direct effect of receiving the Strega Prize on book sales.

The second estimation strategy we adopt – taking advantage of the before-after treatment context created by the rules of the competition – is based on a Difference-in-Differences model. We exploit the fact that the Strega Prize is awarded each year in July but the books nominated for the Prize are published since April of the previous year to March of the current year. Hence, we are able to observe the sales' performance of nominated books both before and after the Prize is conferred.

Using the number of weeks of appearance in the bestseller lists as dependent variable, we determine the average difference between the book that will win the prize and those books that will not be rewarded, before the conferment of the Prize ("pre-treatment difference"). This difference should take into account any gap in quality among books, pre-existing to the Prize. Similarly, we compute the difference between the awarded book and only nominated books in the period after the Prize is conferred in July ("post-treatment difference"). Then, we take the difference between post-treatment and pre-treatment differences. Under the assumption of parallel trends for treated and control units in the absence of the Prize, any existing difference represents the effect of the Strega Prize.

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

A strictly related paper is Ginsburgh (2003) who evaluates the role of "Booker Prize" – rewarding 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 buy only on the basis of book 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 by the presence of records and CDs in three music catalogs and by the ratings from 12 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, happens to be affected by the former variable). Ginsburgh and van Ours (2003) find

that, regardless of the musicians' true quality, rankings in the Queen Elizabeth musical competition have a significant impact on musicians' later success.

Another stream of evidence focuses on the film industry examining the effects of awards on the box office success. Both Nelson *et al.* (2001) and Deuchert *et al.* (2005) find evidence of substantial financial benefits for 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, findings small positive effects. Similar results are found by Elliott and Simmons (2008).

In a different context, Hadji Ali, Lecocq and Visser (2008) find that the ratings of 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. Hilger, Rafert and Villas-Boas (2011) in a randomized experiment find that good reviews increase sales of wine.

Sorensen (2007) evaluates the impact of the appearance of a book in the New York Times bestseller list on sales and product variety. He shows that appearing on the list leads to a modest increase in sales for the average book, and that the effect is more pronounced for bestsellers by debut authors while there is not impact of bestseller lists on product variety. Chevalier and Mayzlin (2006) investigate the effect of consumer reviews on books sales at Amazon.com and Barnesandnoble.com. They show that the addition of new, favorable reviews at one site results in an increase in the sales of a book at that site relative 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* raise 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 a huge influence of the Prize on book sales and show that most of the impact occurs in the weeks following the announcement.

The paper is organized as follows. Section 2 provides a brief description of the Strega Prize and of the data we use. Section 3 applies the Regression Discontinuity Design to investigate the impact of winning the Prize on book sales. In Section 4 we undertake a difference-in-differences strategy to further evaluate the effect of the prize on commercial success of books. In Section 5 we show the evolution of book sales along time focusing on the short-run impact of the Prize. Section 6 offers some concluding remarks.

2. The Strega Prize and the Data

The Strega Prize is the most important Italian literary award. It originated in post-World War II among a group of Italian writers, intellectuals and artists known as the "Sunday Friends" ("Amici della Domenica").

Goffredo and Maria Bellonci hosted the Sunday Friends in their home to give rise to an active debate in the Italian cultural life. In 1947 the Belloncis decided to institute a literary prize for the best fiction book, to be decided by the votes of the members of the Sunday Friends. The name of the Prize came from the company that produces the Strega liqueur which offered the money for the prize.

Since then, the Strega Prize has been awarded yearly 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 members of the initially constituted group of Sunday Friends (over 100) were entitled to vote. Currently, the most important writers, journalists and cultural figures form a jury of about 460 members and select with their votes (individual votes are secret) the best fiction book.[2]

Each year, by mid-April, the Fondazione Bellonci, the Institute administering the Prize, selects around 12 candidates (we refer to these books as "nominated").[3] The initial list of books is reduced to a shortlist of five ("Cinquina") receiving the greatest number of votes at a first round of voting in mid-June. 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 more votes is proclaimed the winner of the Strega Prize.[4] The winner receives a cash prize to the value of 5,000 euros but the real prize is constituted by the highest national literary recognition.[5]

We have complete data over the period from 1947 to 2012 (66 years) in which the Strega Prize has been awarded. Our sample is constituted by all the 865 books that have been nominated for the Prize (on average, 13 for each year): 66 have won the Prize – and are considered in our analysis as "treated" units – whereas the remaining 799 constitute our control units. For each book we observe: author, title, publisher, year of competition, number of votes received by jury members at the second ballot. We set *Votes* equal to zero for nominated books who do not enter in 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, a dummy equal to one for books awarded with other Italian literary prizes.[6] Moreover, we build a dummy variable for each of the major publishers (Mondadori, Einaudi, Rizzoli, Bompiani, Feltrinelli, Garzanti). We also build a variable *Female* if the author is a female and we observe the *Price* for a number of books[7] (we were unable to find the price for 375 books, which are by now out of production). We also gathered data on the number of editions published.

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

[2] The complete list of jury members is available here: www.fondazionebellonci.it/pdf/premiostrega_annuario2.pdf
[3] To be considered for the Prize, a book must have the support of at least two jury members.
[4] 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.
[5] The best Italian writers have won the Strega Prize: among others, Cesare Pavese, Primo Levi, Elsa Morante, Giuseppe Tomasi di Lampedusa, Alberto Moravia, Dino Buzzati, Natalia Ginzburg, Giovanni Arpino, Umberto Eco.
[6] Other important Italian literary prizes are: Campiello; Viareggio; Grinzane-Cavour; Bancarella; Bagutta.
[7] To find prices, we used three websites of book sales: www.amazon.it, www.ibs.it and www.unilibro.it.

books they have at home[8] 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.[9] The Italian site of Anobii is very popular, and more than 39 million of books are catalogued on it. The site allows to calculate for each book the total number of copies 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 build a variable, called *Sales*, simply as the number of copies owned by Anobii members for each book, which represents our main dependent variable. This variable is a proxy of the number of books currently owned by consumers rather than the number of copies sold in a given period of time.

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: they tend to be younger than the average reader, more accustomed with ICT, and, as a consequence, books published more recently tend to be more present. To attenuate this kind of problem, in all our regressions we control for the book's year of publication or for time dummies.

However, we think that the variable *Sales* based on Anobii copies has some merits, in the absence of detailed data on book sales. As we will show below, it is highly correlated to the number of weeks a book has appeared in the bestseller lists and to the number of points earned in these lists (reflecting the amount of copies sold each week).[10]

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

[8] iPhone and Android Apps are also available to scan the barcode of books and directly catalogue them.
[9] The service currently has over 600,000 users worldwide.
[10] The correlation between *Sales* and the number of editions published (used by Ginsburgh 2003 as a proxy for sales) is also high $(\rho = 0.66)$.

Table 1. Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
Panel (a): Analysis on Sales (years: 1947-2012)					
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
Price (€)	490	11.717	3.620	3	34
Published *t-1*	423	0.236	0.425	0	1
Panel (b): Analysis on bestseller lists (years: 1976-2005)					
Weeks as Bestseller	678	2.323	10.856	0	240
Points as Bestseller	678	90.795	553.159	0	12770.67
Weeks as Bestseller (1 year after)	678	1.719	4.791	0	36
Points as Bestseller (1 year after)	678	64.580	227.969	0	2662.102
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: The data are from Fondazione Bellonci www.fondazionebellonci.it/premio-strega/vincitori.htm. Detailed data on jury votes received have been kindly provided by the Fondazione Bellonci. Data on sales are gathered in Anobii (www.anobii.it). Bestseller lists are from the newspaper *La Stampa - Tuttolibri* (years 1975-2005) www.lastampa.it/archivio-storico.

Our second estimation strategy uses weekly data on bestsellers lists published on "*Tuttolibri*", the cultural supplement of the leading Italian newspaper "*La Stampa*". Each week (usually on Saturday) *La Stampa* publishes information on bestseller list. We collected these data by using the digital edition of *La Stampa* freely available on the archive www.lastampa.it/archivio-storico over the period from November 8, 1975 to December 31, 2005. We have gathered in total 1,326 weekly bestseller lists, about 44 lists per year.[11]

Bestseller lists are provided by leading international data provider (currently by Nielsen BookScan, while until recently by Demoskopea Institute) on the basis of the number of copies of books sold in a representative sample of bookshops. The reference week of bestseller list is typically 14 days before the date of publication. Books are ranked separately for categories (Italian Fiction, Foreign Fiction, Non-fiction, etc.) but for our aims we only use the Italian Fiction category. The bestseller list contains from 10 to 20 titles (the number of titles in the list has changed along the sample period). 100 points are assigned to the book with the greatest number of sales in a week. The other titles in the list receive a number of points in proportion to the

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

copies sold with respect to the first ranked book. With respect to data based on Anobii, which are a measure of stock sold, bestseller lists represent a measure of flow of sales.

During the period 1976-2005 (overlapping with our data on bestseller lists), 339 books have been nominated in 30 yearly competitions for the Strega Prize. For each title, separately for the period before and after the prize is conferred (2 observations per book), we have computed the total number of *Weeks as Bestseller* for a total of 678 observations. Similarly, we have built the variable *Points as Bestseller*, summing up the number of points accumulated by each title in the two periods.

In Panel (b) of Table 1, we show that on average, for each period, books have been in the bestseller list for 2.32 weeks, totaling 90.79 points.[12] The correlation between *Points as Bestseller* and *Weeks as Bestseller* is very high $(\rho = 0.93)$; the correlation between *Sales* (Anobii) and *Weeks as Bestseller* is also high $(\rho = 0.69)$.

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

3. Regression Discontinuity Estimates of the Impact of the Strega Prize on Sales

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

To construct the forcing variable, we normalize the number of jury votes received by nominated books in each competition by subtracting from the effective number of votes the votes received by the second ranked book in that competition plus one: $Votes\_n_{it} = Votes_{it} - \left(Votes_{St} + 1\right)$, where *S* is the second ranked book in year *t*.[13] Therefore, 0 is the cutoff or threshold: this implies that when $Votes\_n_{it}$ (defined in the jargon of RDD, "forcing variable") is equal or greater than zero, the treatment (winning the Strega Prize) is received:

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

[13] 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 for elections.

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

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 receiving 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 a neighborhood of the cutoff, any jump of the dependent variable in proximity of the cutoff point 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:

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

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), $Year_{it}$ denotes 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, book price and so on; ε_{it} is an idiosyncratic error term. The effect of interest is β_1, measuring 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 also focus only on the shortlist of books entering in the best five and voted in the last ballot or even on a sample of only the best two ranked books.

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 year of publication. The coefficient on *Strega Prize* is huge and highly statistically significant (*t*-stat=6.53): considering that the dependent variables 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 votes more increase sales of about 14%). Books published more recently sell more (about 5% more per year). It should be noticed that by controlling for the year of competition, we are examining the within year impact of the Strega Prize.

In RDD it is fundamental to take into account adequately of 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 threat, in columns (2) and (3) we control for a polynomial of second and third

order in votes, respectively. Also controlling for higher order polynomials of votes, we find that the Prize has more or less the same effect as in column (1) in terms of magnitude and statistical significance.

In column (4) we use as control variables six dummies for the main Italian publishers (in the reference category we leave a number of small publishers). It could be that the probability of winning the Prize is higher for books published by large publishers, maybe because the latter have the possibility to "influence" the jury or because the books of the best writers are published by major publishers. The impact on sales of publishing with large publishers is strong. However, we find in column (4) that the coefficient on the Strega Prize is almost unchanged in magnitude and significance.

In column (5) we control 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 particular effect is causal), but it leaves unaltered the impact of the Strega Prize on sales.

In column (6) we report our most complete specification controlling again for a third order polynomial for votes and including publishers' dummies and *Other Prizes*. 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)
	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)
Strega Prize	1.9746***	1.8858***	1.8046***	1.7723***	1.7921***	1.5528***
	(0.3052)	(0.3797)	(0.3784)	(0.2804)	(0.2775)	(0.3589)
Competition Year	0.0491***	0.0489***	0.0485***	0.0567***	0.0556***	0.0548***
	(0.0035)	(0.0035)	(0.0035)	(0.0034)	(0.0034)	(0.0035)
Votes_n	0.0143***	0.0151***	0.0190***	0.0122***	0.0123***	0.0168***
	(0.0016)	(0.0028)	(0.0033)	(0.0015)	(0.0015)	(0.0031)
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				0.5513***	0.5215***	0.5052***
				(0.1928)	(0.1934)	(0.1926)
Rizzoli				0.5604**	0.5038**	0.4534*
				(0.2333)	(0.2374)	(0.2395)
Einaudi				2.4518***	2.4006***	2.3793***
				(0.2692)	(0.2677)	(0.2665)
Bompiani				1.0005***	0.9750***	0.9226***
				(0.2325)	(0.2319)	(0.2327)
Feltrinelli				1.4036***	1.3673***	1.3733***
				(0.2998)	(0.3006)	(0.2969)
Garzanti				1.4079***	1.3389***	1.3170***
				(0.3628)	(0.3651)	(0.3676)
Other Prizes					1.2610**	1.2463**
					(0.4974)	(0.4974)
Observations	865	865	865	865	865	865
Adjusted R-squared	0.342	0.341	0.345	0.427	0.430	0.432

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 carry out a number of robustness checks. 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 the three specifications, it emerges that receiving the Prize strongly increases the sales.

Another potential threat to the consistency of our estimates is that the Prize could be conferred to famous authors and the effect we have uncovered might be due to the popularity of an author. In column (4) of Table 3 we control for an index of author's popularity (built on the basis of the weeks of appearances in the bestseller lists, excluding appearances related to books participating to the Strega competitions). Author's popularity has a strong impact on sales, but nonetheless, the impact of the Prize is again very high.

In column (5) we control for the author's gender. Female authors seem to sell more (*p*-value=0.14), whereas the effect of the Prize remains unaltered adding this further control.

In column (6) we control for the price of publication. The price has no effect on sales while the Strega Prize has still a significant impact although lower in magnitude. However, the estimates in column (6) must be taken with care both because price is missing for many observations and because price is endogenously determined.

Table 3. RDD Estimates. Polynomial with Interactions and Other Controls

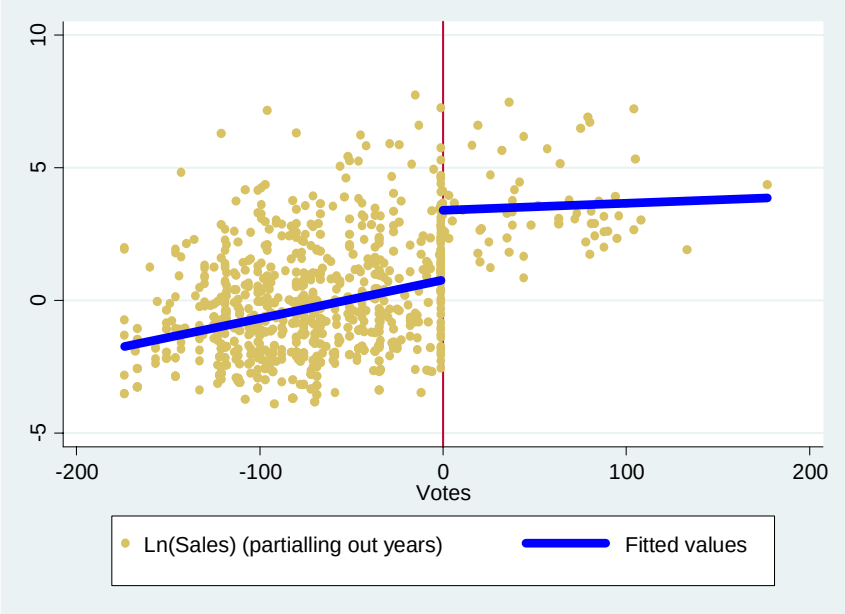
	(1)	(2)	(3)	(4)	(5)	(6)
	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)	Sales (Log)
Strega Prize	2.0866***	1.6999***	1.2564***	1.6682***	1.7999***	1.0165***
	(0.3463)	(0.4061)	(0.4538)	(0.2722)	(0.2761)	(0.3155)
Votes_n	0.0127***	0.0255***	0.0535***	0.0116***	0.0123***	0.0114***
	(0.0016)	(0.0051)	(0.0109)	(0.0014)	(0.0015)	(0.0019)
Votes_n*(Strega Prize)	-0.0063	-0.0145	-0.0260			
	(0.0045)	(0.0113)	(0.0288)			
Votes_n^2		0.0001***	0.0005***			
		(0.0000)	(0.0002)			
Votes_n^2*(Strega Prize)		-0.0001	-0.0009*			
		(0.0001)	(0.0004)			
Votes_n^3			0.0000***			
			(0.0000)			
Votes_n^3*(Strega Prize)			-0.0000			
			(0.0000)			
Author's Popularity				0.0123***		
				(0.0017)		
Female					0.2150	
					(0.1467)	
Price						-0.0138
						(0.0249)
Observations	865	865	865	865	865	490
Adjusted R-squared	0.430	0.434	0.438	0.492	0.431	0.311

Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). In all the regressions we control for 6 dummies of publishers and for *Other Prizes*. 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.

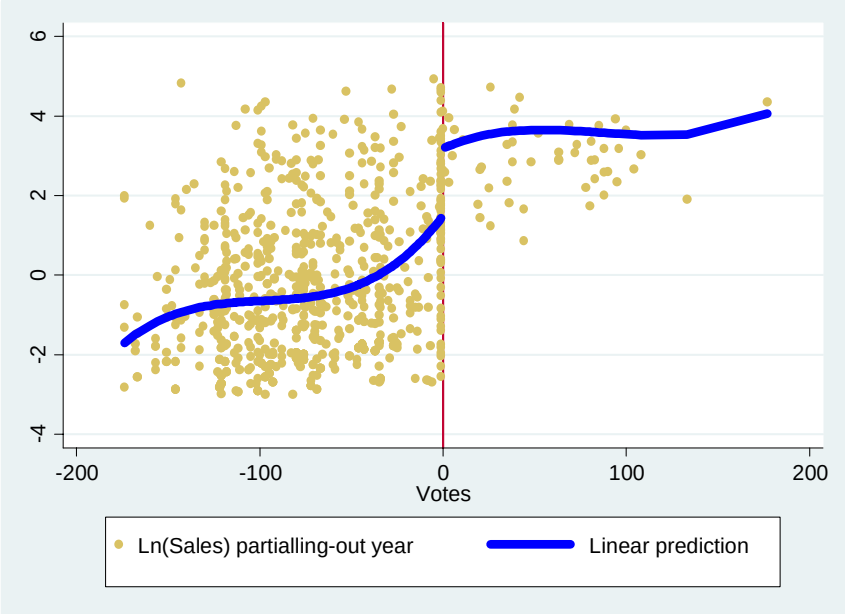
An advantage of the Regression Discontinuity Design is that it allows a transparent graphical analysis. To this aim, we first partial out the effect of the competition year on sales by regressing *Sales* on year and taking the residuals. These are plotted against normalized votes in Figure 1. The vertical line at 0 denotes the threshold of votes necessary for winning 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 3). 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 3). In both 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 using local averages with a bandwidth of 4.



Panel A) Linear Function of Votes



Panel B) Third Order Polynomial of Votes

Figure 1. Sales and Votes obtained in the Strega competition

Local Linear Regressions

In Table 4 we consider only 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 4 we focus on an interval of normalized votes of -30/+30; in column (2) the interval is -20/+20; in column (3) the interval is -10/+10. In all these three different windows, we find a strong and statistically significant effect of the Strega Prize. The magnitude of the effect is considerably lower. It should be noticed that the number of observations is drastically reduced when we focus on these windows (in column (3) we only have 92 observations). Therefore, in the trade-off between consistency and efficiency, the latter estimates probably improve consistency but at the cost of reducing precision.

In column (4) of Table 4 we only focus on the best five books in each competition (the so-called "Cinquina", the books in the shortlist voted at the second ballot); in column (5) we only consider the best three ranked books and, finally, in column (6) we take into account only the first two ranked books. In all these estimates we find a strong effect of receiving the Prize on sales.

Table 4. RDD Estimates. Different Windows and Samples

	(1) Window:±30	(2) Window:±20	(3) Window:±10	(4) Best 5 Books	(5) Best 3 Books	(6) Best 2 Books
Strega Prize	1.1422**	1.3918***	1.2330**	1.6566***	1.8140***	1.5954***
	(0.4535)	(0.4711)	(0.5020)	(0.3121)	(0.3452)	(0.3515)
Votes_n	0.0341**	0.0548*	0.0834	0.0092***	0.0060*	0.0056
	(0.0163)	(0.0330)	(0.0958)	(0.0023)	(0.0034)	(0.0041)
Observations	155	119	92	337	198	132
Adjusted R-squared	0.351	0.287	0.289	0.418	0.475	0.431

Notes: The Table reports OLS estimates. The dependent variable is Sales (Log). In all the regressions we control for 6 dummies of publishers and for *Other Prizes*. 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 (or three years spell dummies), control for a dummy equal to one if a book has been *Published in Previous Year*, allow standard errors for clustering at the competition level, use a quantile regression to attenuate the effect of outliers, focus only on the latest 12 competitions (2001-2012), use as dependent variable the number of editions and allow standard errors for clustering at the normalized vote level. Our findings of a strong impact of the Strega Prize are confirmed in all these checks.

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 if in a randomized experiment. In fact, in the absence of manipulation, books around the threshold score should not differ significantly in terms of observable and unobservable variables.

To investigate this issue, we run a number of Discontinuity Regressions using our control variables in turn, as a dependent variable, that is, we regress the six publishers dummies (Mondadori, Rizzoli, Einaudi, Bompiani, Feltrinelli, Garzanti), *Other Prizes*, *Female*, *Price* on the dummy *Strega Prize* and control for *Votes _ n* and competition year.

The estimation results are reported in Table 5. We show that the probability of observing the publishers Mondadori, Rizzoli, Einaudi, Bompiani, Garzanti does not change sharply at the cutoff point. On the other hand, we find that the probability of observing the publisher "Feltrinelli" 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 Prize*, *Female*, *Price*, *Published Previous Year*.

These results reassure us about the random assignment around the discontinuity point (Imbens and Lemieux, 2008). However, since not all variables are balanced, we have controlled for these variables in the regressions to avoid any bias due to the lack of balance.

In addition, we have run a regression excluding from the sample those books published by Feltrinelli and we obtain very similar results (see Appendix, Table A1, column 8).

Table 5. Differences in predetermined characteristics. RDD estimates

	(1) Mondadori	(2) Rizzoli	(3) Einaudi	(4) Bompiani	(5) Feltrinelli	(6) Garzanti	(7) Other Prizes	(8) Female	(9) Price (€)	(10) Published Previous
Strega Prize	0.085	-0.009	0.013	0.033	0.063*	0.006	-0.011	-0.041	-0.643	0.064
	(0.073)	(0.054)	(0.061)	(0.054)	(0.036)	(0.038)	(0.023)	(0.065)	(0.719)	(0.089)
Observations	865	865	865	865	865	865	865	865	490	423
Adj. R-squared	0.069	0.008	0.015	0.008	0.002	0.011	0.006	0.035	0.035	0.061

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 year of competition. 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 in the next section in order to estimate the effect of winning the Strega Prize on sales we adopt a different strategy, based on a difference-in-differences model. We use data at the weekly level (for a period of 30 years, from 1976 to 2005) on bestsellers lists published by the newspaper *La Stampa*.

As explained in Section 2, books nominated for the Strega Prize in year t (for whom the Prize is conferred in July) can be published in the period from April of year $t-1$ to March of year t. Therefore, by using weekly bestseller lists it is possible to observe the sales performance of nominated books both before and after the Prize is awarded.

We use two different indicators of book sales: the total number of weeks in which a book appeared in the bestseller lists (*Weeks as Bestseller*); the number of points earned in these bestseller lists (*Points as Bestseller*). Both variables are computed, for each book competing in a given year, separately for the period before and after the conferment of the Prize.[14] 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 the Prize but not awarded.

[14] In building these variables instead of considering the date of publication of *La Stampa* we take into account the reference week of the bestseller list, since the list is published typically two weeks after the reference week.

First of all, in Table 6 we show the average number of weeks in bestseller lists for winners and non-winners of the Prize. The first column reports *Weeks as Bestseller* before the conferment of the Prize, while the second column reports *Weeks as Bestseller* after the Prize is conferred. The first and second rows report the average for, respectively, non-winners and winners Strega Prize.

Table 6. 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 average about 1.07 weeks in the bestseller list before the Prize in July, whereas they appear 0.87 after the Prize is conferred (the difference of 0.20 is not statistically significant, see the last column). On the other hand, the awarded books appear about 8.93 weeks in the bestseller list before winning. Therefore, these books perform much better than books in the control group even before treatment (the pre-existing difference is 7.85, highly statistically significant, see last row). This implies that the Prize is typically conferred to more successful books.

However, after the prize is conferred, the number of weeks of appearances as bestseller raise to 23.47 for awarded books (while, as shown above, 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.

Similar results are obtained if we consider the number of points (in log) earned by books in the bestseller lists (see Table 7).

Table 7. Difference-in-Differences Estimates. Average Points as Bestseller for Awarded and Non-Awarded Books

	Before Prize	Post Prize	Difference Post –Before
Non Winners Strega Prize	0.7792	0.5939	-0.1853
	(0.1013)	(0.0871)	(0.1336)
Strega Prize Winners	4.5104	6.0760	1.5655***
	(0.4438)	(0.2742)	(0.5217)
Winners – Non Winners Difference	3.7312***	5.4820***	1.7508***
	(0.3529)	(0.2925)	(0.5315)

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

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

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

where the dependent variable $\tilde{Y}_{i\tau}$ represents the number of *Weeks as Bestseller* for book *i* in the period τ (pre, post) (alternatively, we use the points earned as bestseller), *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 the treatment effect of our interest; X_i is a vector of book characteristics (as considered in the previous analysis) 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 8. Column (1) is our basic specification without any control variables. In column (2) we include many controls for book characteristics, whereas in column (3) exploiting the panel nature of our data we include book fixed effects. 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 8 we use as dependent variable the number of *Weeks as Bestseller*, but considering for each book only a period of one year after the Strega competition is concluded, that is, we discard the sales performance occurring beyond one year after the competition. Columns (4)-(6) replicate the same specifications as (1)-(3). The effect of winning the Prize is again strong, but the magnitude is lower: 4.93 weeks more for books awarded with the Prize instead of 14.74. It should be noticed that standard errors, due probably to the exclusion of some outliers in total *Weeks as Bestseller*, are much lower and statistical significance much higher.

Table 8. Difference-in-Differences Estimates. Dependent variable: Weeks as Bestseller

	(1)	(2)	(3)	(4) (One year)	(5) (One year)	(6) (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), (3), (5), (6) we control for six dummies of publishers. 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.

Table 9 replicates exactly the same specifications proposed in Table 8 but uses as dependent variable the number of points accumulated as bestseller by each book over the considered spells of time. We take the log of the variable, also to reduce the influence of outliers. We find again a very strong impact of the Strega Prize on this measure of sales performance: the interaction term ranges between 1.67-1.75 (*t*-stat=4.36): even if books awarded with the Prize sell more than control books before the prize is conferred, after receiving awarded the Prize awarded books further increase their sales.

Furthermore, we have investigated the impact of the Prize focusing only on a spell of six months before compared to six months after the conferment of the Prize, finding again similar results (not reported).

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

Table 9. Difference-in-Differences Estimates. Dependent variable: Points as Bestseller

	(1)	(2)	(3)	(4) (One year)	(5) (One year)	(6) (One year)
Strega Prize	3.7312***	1.4932**		3.7312***	1.4435**	
	(0.4496)	(0.6352)		(0.4496)	(0.6295)	
Post	-0.1853**	-0.1853*	-0.1853**	-0.2970***	-0.2970***	-0.2970***
	(0.0937)	(0.0944)	(0.0936)	(0.0854)	(0.0861)	(0.0854)
(Strega Prize)*Post	1.7508***	1.7508***	1.7508***	1.6668***	1.6668***	1.6668***
	(0.3639)	(0.3666)	(0.3636)	(0.3816)	(0.3845)	(0.3813)
Year of Competition		-0.0333***			-0.0329***	
		(0.0081)			(0.0078)	
Other Prizes		1.3058**			1.2154*	
		(0.6546)			(0.6260)	
Votes_n		0.0155***			0.0158***	
		(0.0034)			(0.0033)	
Published t-1		-0.0162			-0.0093	
		(0.1717)			(0.1603)	
Constant	0.7793***	66.7099***	1.1095***	0.7793***	65.8877***	1.1095***
	(0.1015)	(16.1468)	(0.0454)	(0.1015)	(15.6546)	(0.0422)
Book Fixed Effects	NO	NO	YES	NO	NO	YES
Observations	678	678	678	678	678	678
Adjusted R-squared	0.380	0.484	0.079	0.398	0.508	0.090

Notes: The Table reports OLS estimates. The dependent variable is Points as Bestseller (columns 1-3) and Points as Bestseller (1 year) (columns 4-6). In regressions (2), (3), (5), (6) we control for six dummies of publishers. 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.

5. The Impact of the Strega Prize along Time

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

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

For each book competing in year *t* we consider the appearance in a bestseller list in the weeks ranging in 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 index weeks 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 conferred) and, as a consequence, *Week* ranges between -26 (January in year *t*) and +40 (April in *t+1*). On average, for each book we have observations for about 50 weeks for a total of about 15,500 observations.

We build a dummy variable $Bestseller_{iw}$ equal to one if book *i* is present in the bestseller list in week *w*; this dummy is set equal to zero if the book is not present in the bestseller list in week *w*. We also use the number of $Points_{iw}$ earned by a book in a given week, and set $Points_{iw}$ equal to zero when a book is not present.[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 index 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 for 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 along time separately for non-awarded (column 1 of Table 10) and awarded books (column 2 of Table 10). We then estimate the regression on the whole sample using all interactions.

Results in column (2) of Table 10 show a huge immediate effect of winning the Strega Prize on sales. The probability of being in 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 Prize is announced (-1.18 p.p.). Before the announcement of the Prize, as time goes by, future awarded books increase sales more rapidly (1.44 p.p.) than non-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 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 with all interaction terms. Results are very similar to the ones obtained estimating separately awarded and non-awarded books. When announced, the

[16] As robustness checks we also estimate Tobit regressions taking into account of the censored nature of this variable (results not reported).

Strega Prize increases of 46.9 percentage points the probability of entering in the bestseller list for the awarded book.

In columns (4), (5) and (6) of Table 10 we run similar regressions but use the *Points as Bestseller* as dependent variable. Results confirm again a huge increase soon after the Prize is announced for awarded books and a faster decrease in the following weeks.

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

	(1)	(2)	(3)	(4)	(5)	(6)
	Bestseller			Points as Bestseller		
	Non-Awarded Books	Strega-Awarded	All	Non-Awarded Books	Strega-Awarded	All
Post	-0.0118	0.4573***	-0.0118	-0.0460*	1.8301***	-0.0460*
	(0.0072)	(0.0479)	(0.0072)	(0.0235)	(0.1817)	(0.0235)
Week	0.0009***	0.0144***	0.0009***	0.0025**	0.0467***	0.0025**
	(0.0004)	(0.0027)	(0.0004)	(0.0012)	(0.0102)	(0.0012)
Post*Week	-0.0023***	-0.0385***	-0.0023***	-0.0067***	-0.1420***	-0.0067***
	(0.0004)	(0.0028)	(0.0004)	(0.0013)	(0.0107)	(0.0013)
Strega Prize			0.5596***			1.9472***
			(0.0422)			(0.1570)
(Strega Prize)*Post			0.4691***			1.8761***
			(0.0484)			(0.1830)
(Strega Prize)*Post*Week			-0.0362***			-0.1354***
			(0.0029)			(0.0107)
(Strega Prize)*Week			0.0135***			0.0442***
			(0.0027)			(0.0102)
Constant	0.0628***	0.6225***	0.0628***	0.1991***	2.1463***	0.1991***
	(0.0058)	(0.0418)	(0.0058)	(0.0192)	(0.1560)	(0.0193)
Observations	14178	1376	15554	14178	1376	15554
Adjusted R-squared	0.013	0.249	0.343	0.012	0.275	0.362

Notes: The Table reports OLS estimates. The dependent variable is Bestseller (columns 1-3) and Points as Bestseller (columns 4-6). 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 considering Figure 2 in which we plot the probability of being in the bestseller list against time. The vertical line denotes the week in which the Prize is announced. The solid blue line represents the probability of being in 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 conferment of the prize.

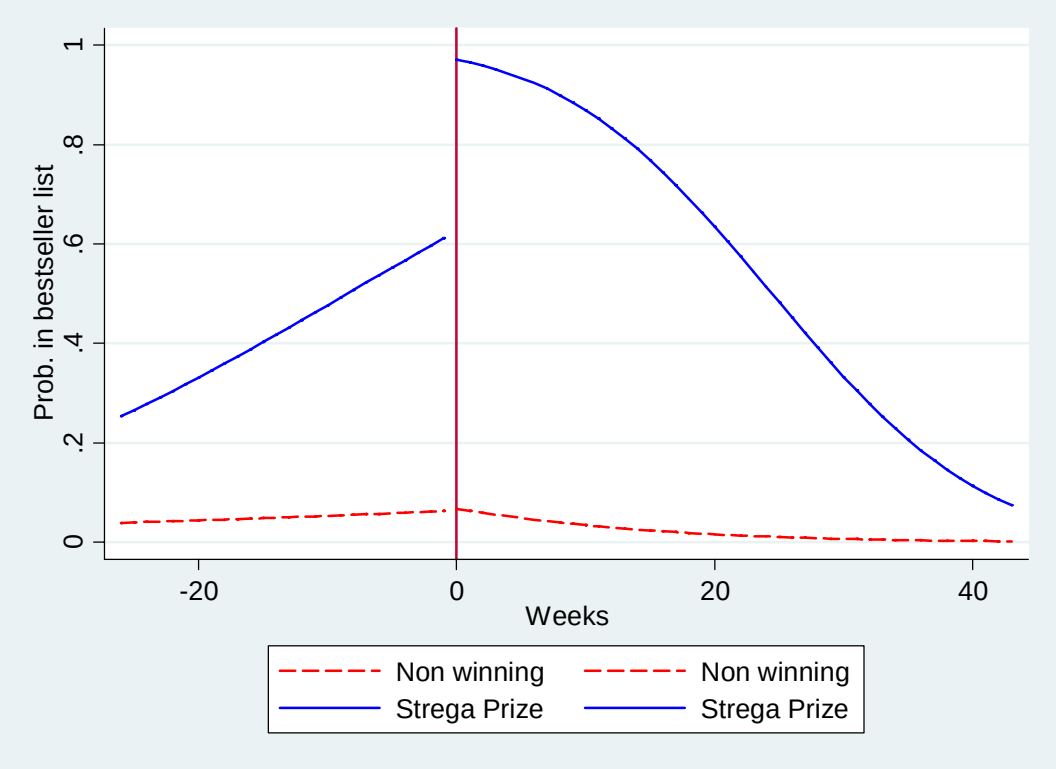


Figure 2. Probability of appearing in bestseller lists over time

6. Concluding Remarks

We have used data on the most prestigious Italian literary prize together with measures of book sales and appearances in bookseller lists to investigate if 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 the "intrinsic quality" of a product, 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. Assuming that jury votes are correlated to the intrinsic quality and that the latter affects smoothly the economic success of a book we compare the success of awarded and non-awarded books with small differences in votes received. We show that winning the Strega Prize hugely increases (by about 500%) the cumulated sales of a book (measured as the copies currently owned by members of a famous booklovers website).

The second strategy we use is a Difference-in-Differences model that exploits the fact that books competing for the Strega Prize are published in advance of the conferment of the Prize. In this way, it is possible to compare the sales performance of non-awarded and awarded books before the Prize is conferred, with their performance afterwards. Using for this analysis the weekly appearances of books in bestseller lists as outcome, we find again a very strong effect of winning the Prize on sales. Furthermore, examining the

weekly data, we find that there is an immediate impact of the Prize when it is announced and a pronounced decrease in the following weeks.

The very similar results obtained using 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 awarded books.

Our results illustrates the role of awards as a signaling device in markets with imperfect information on the quality of the product showing that consumers tend to trust experts. Our findings are in contrast to Ginsbugh (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 success of movies and musical products. The findings of Sorensen (2007) showing a positive impact on sales of appearances in bestseller lists are similar to ours, although the effect he finds can be attributed to a sort of 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 or consumers' word-of-mouth following the initial readers affected by the announcement of the Prize.

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Appendix: Other Robustness Checks

In this appendix we carry out further robustness checks. We re-estimate the specifications of Table 2 (column 5) but testing other effects.

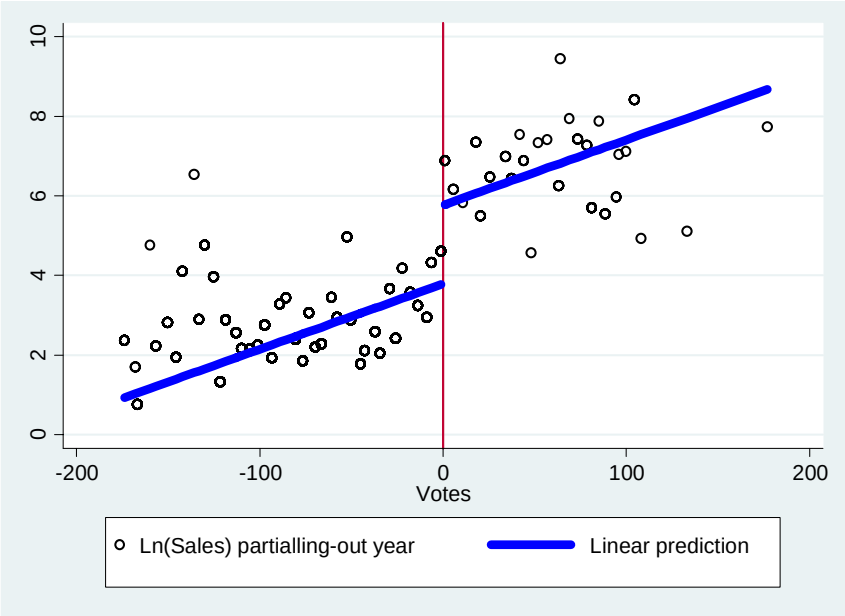
In column (1) we include publisher fixed effects (147 dummies). In column (2) we include 22 dummies for 3-year intervals; in column (3) we include 66 year dummies. In column (4), standard errors are robust to clustering at the competition level. In column (5) we control for a dummy equal to one if the book has been published in the previous year with respect to the year of competition. In column (6) we focus only on the latest years (2000-2012). In column (7) we use a quantile regression in order to reduce the impact of outliers. In column (8) we exclude from our sample books published by Feltrinelli, since this variable turns out to be unbalanced (see Table 5, column 5). In column (9) we use as dependent variable the number of editions published.

In all these regressions our results are widely confirmed.

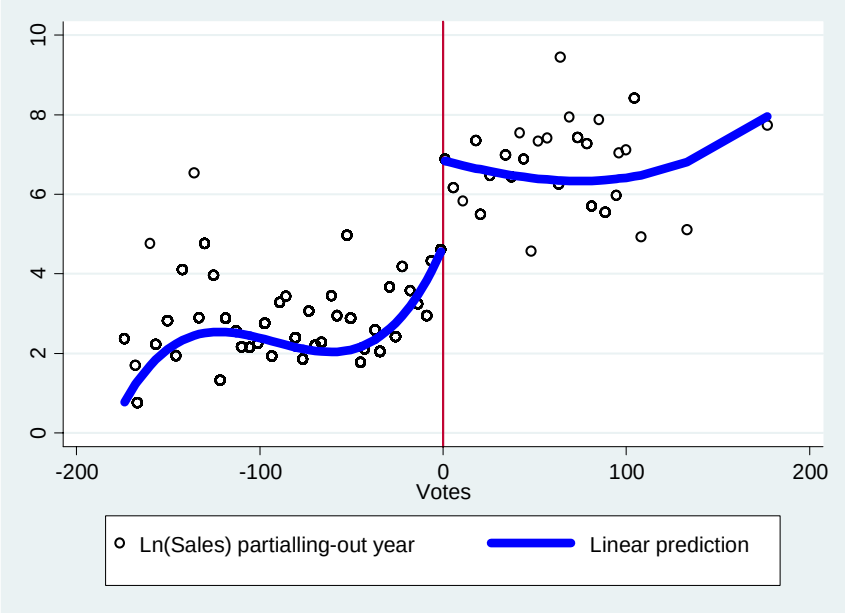
Table A1. Dependent Variable: Sales

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Strega Prize	1.9825***	1.7706***	0.8573***	1.7921***	1.7598***	1.0989***	1.7272***	1.7627***	5.2755***
	(0.3079)	(0.2663)	(0.3147)	(0.3188)	(0.3103)	(0.4133)	(0.3744)	(0.2784)	(1.3527)
Votes_n	0.0108***	0.0126***	0.0202***	0.0123***	0.0091***	0.0147***	0.0121***	0.0122***	0.0172***
	(0.0017)	(0.0016)	(0.0021)	(0.0019)	(0.0018)	(0.0025)	(0.0019)	(0.0015)	(0.0049)
	Publisher FE	Three-Year dummies	Year dummies	Clustering SE	Year Before	Only Recent Years (2000-12)	Quantile Regression	No Feltrinelli books	Dep. variable: # Editions
Observations	863	865	865	865	423	151	865	828	423
R-squared	0.466	0.479	0.497	0.430	0.529	0.578		0.426	0.315

Notes: The Table reports OLS estimates. The dependent variable is Sales (except column 9 in which the dependent variable is Number of Editions). 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)