

The issue of fixed book pricing: Evidence based on the Greek experience⁺

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Abstract

Despite the considerable volume of relevant research, the debate concerning the application of fixed book prices (FBP) remains open. The issue has lately attracted major attention in Greece since the FBP law that had been regulating the Greek book market for more than sixteen years, was significantly revised in 2014, establishing a much laxer pricing scheme. This paper adds to the debate on fixed book pricing by investigating important aspects of the issue based on the Greek experience. Utilizing available data on prices, consumer expenditure, new publications and international book trade, it explores the potential effects of the partial removal of price restrictions on the Greek book market. Quantitative analysis results indicate that policies promoting book market liberalization seem, in general, to operate in favour of the consumers (readers).

Keywords: resale price maintenance, fixed book prices, book market, price indices, consumer surplus.

1. Introduction

The special character of books, due to the diverse features they incorporate, has been widely recognized by scholars, policymakers and people in the book industry. Being a primary means of storing and disseminating knowledge, as well as a form of communication, books are highly valued in educational, cultural and other terms. On the other hand, books are by and large the output of a production process that takes place in profit-maximizing businesses. This combination of economic, educational, cultural and other dimensions creates multiple, even conflicting expectations that may have significant implications regarding economic efficiency, policy design and implementation.

Given their cultural aspects, increasing the availability of books in terms of quantity, quality and variety, and promoting readership are commonly set as significant policy objectives in many countries. However, the degree to which the market contributes to the achievement of these objectives is more or less uncertain and it is likely to differ among countries. Potential market failure in meeting relevant cultural goals calls for or justifies government intervention. This intervention usually takes several forms such as reduced value-added tax rates for books, literary prizes or awards, financing public libraries etc. A particularly popular policy instrument in EU countries refer to book prices fixing, that is a mechanism of resale price maintenance applied to books.

⁺ The study was coordinated by the first author, and carried out during May 2016–December 2017. The comments provided by an anonymous referee and by participants at the KEPE Seminar, held in May 2017, are greatly appreciated. The views expressed are those of the authors.

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In Greece, a fixed book price (FBP) regime was introduced by law at the end of 1997, based on the French model (Lang Law enacted in 1981) intended to ensure fair competition in the book marketplace and protect the quality of book production. In particular, the law of 1997 stipulated that the retail price of books was set by the publisher of the book, and allowed retailers to offer discounts up to a maximum of 10% of the proposed retail price. A higher retail price than the specified one, up to a maximum of 5% could be also charged but only by retailers situated over 50 km (31 miles) from the publisher. These price restrictions applied to all book categories (excluding schoolbooks in primary and secondary education, traditionally published by the state) for two years after publication or the last re-edition. The regulation was extended by law in 2010 to incorporate e-books as well.

In 2014, following the recommendation of the Organization for Economic Cooperation and Development (OECD 2014), the law of 1997 was modified stipulating the abolishment of the FBP system for all books except *literature titles* for which the resale price maintenance period was set to two years after the first publication. (The resale price maintenance did not apply to re-editions of existing titles.)^{1,2} The legislative change caused strong reactions by stakeholders in the book industry with the majority of writers, publishers and a critical mass of booksellers opposing the partial removal of FBP and asking for the re-enforcement of the 1997 Law.

Given the above, the purpose of this paper is to add to the debate about FBP by looking into specific aspects of the issue based on the Greek experience. Utilizing data on book prices, consumer expenditure, new publications and international book trade, it explores, i.e., analyzes and assesses for the first time, the effects of the aforementioned regulatory changes in the market. This may be particularly relevant from a policy perspective and the results could be used to inform and guide policy.

The remainder of the paper is structured as follows. Section 2 presents the main arguments for and against FBP, while Section 3 reviews relevant research. The data and methods employed in the analysis are described in Section 4, followed by the study's findings presented in Section 5. Finally, Section 6 provides the conclusions.

2. Arguments for and against fixed book prices

While FBP practices date back to the early 19th century (International Publishers Association 2014) the debate on the scope and reasoning behind the application of such systems still remains open. The FBP supporters commonly argue on the basis of the cultural value and public utility elements incorporated in books, along with the positive externalities the production and consumption of books entails for the society at large (Canoy et al. 2006; Ringstad 2004). In this vein, they maintain that books should be treated differently from other tradable commodities and call for government intervention so as to address potential market failure related to the special nature of books (Ringstad 2004).

From this point of view, a FBP system is considered of vital importance in order to stimulate the production of adequate books in terms of quantity, quality and variety and promote their distribution even in remote areas through a dense network of well-stocked, high-quality bookshops. Ensuring satisfactory margins for retailers, book price regulation protects small, local and independent bookstores from the competition of big bookstore chains,

¹ The OECD recommendation was in fact partially adopted since it stipulated the removal of any book price restriction in the book retail market.

² In the context of the new law, literature includes works of fiction of various literary genres (novels, tales, poetry, essays, theatre plays, biographies, children's books etc.).

supermarkets, and online retailers; and prevents their involvement in price wars which would leave them with small chances to survive (e.g. International Publishers Association 2014).

Another, quite popular, argument in favour of FBP, concerns financing the publication and circulation of low-selling book titles through the profits gained from books with mass-market appeal. The rationale for such cross-subsidization practices relates to the need of publishing culturally important titles that address smaller markets or specialist readers whose purchasing power is not sufficient to make the production of such books commercially viable (e.g. Poort and van Eijk 2017; OECD 2014). Through cross-subsidization, profits generated from bestsellers in a FBP system are used to cover the publication costs of quality books that have uncertain commercial prospects. In this respect, FBP allows the production and distribution of less popular titles of high cultural value whose publication might otherwise be infeasible.

Advocates of FBP also argue that price fixing encourages non-price competition among booksellers, resulting in the provision of 'special' or better service to customers in the form of better information, ordering titles on demand, organization of cultural events (book or new author presentations) etc. (e.g. Palma and Palma 2008). They suggest that in the absence of price regulations, the market may fail to deliver such services: bookshops will free-ride (have customers get the information and service from competitors) and resort to discounts in order to advance their sales (Canoy et al. 2006; Palma and Palma 2008; Ringstad 2004; Poort and van Eijk 2017). Overall, the supporters of FBP argue that book price fixing serves critical cultural objectives by contributing to the pluralism and polyphony in books, ensuring access of customers to a broad selection of printed works and satisfying the tastes and preferences even of the most demanding consumers (book readers) irrespective of their location.

On the other hand, FBP critics argue on the basis of free market operation. Books, like other private goods, have a traditional supply chain (production, wholesale, distribution and retail) with a quite large number of players competing in each stage (Canoy et al. 2006). In this respect, the market does not fail, at least to a significant extent, in producing and offering the optimal book quantity in social terms, thus there is no scope for government or regulatory intervention. Furthermore, they maintain that FBP eliminates or constrains price competition and encourages collusive behavior between publishers and book retailers (e.g. Mathewson and Winter 1998). By giving publishers full control over the retail price, the FBP system allows publishers and booksellers to use their monopoly power strategically, set high retail prices and enjoy high profits on bestsellers (Poort and van Eijk 2017; OECD 2014). In addition, publishers have little incentive to adjust prices in response to demand fluctuations during the period of protected high prices due to significant menu costs linked to altering price lists, invoicing back the price difference etc. (Van der Ploeg 2004). Such behaviour may have serious implications for economic efficiency, especially in times of crisis and recession³. Furthermore, under a FBP regime, being unable to offer discounts on unpopular books and liquidize stocks, many bookstores endure high inventory management costs.

Another commonly used argument against book price fixing relates to the barriers posed by book price regulations to the application of efficient retail methods and implementation of new technologies. According to this argument, the elimination of price competition tends to protect inefficient bookshops which have high operational costs and apply traditional retail methods (Appelman 2003). Thus, in all likelihood, FPB systems discourage the application of

³ Indeed, this argument may be particularly relevant for Greece, since the economic crisis and the subsequent recession led to a sharp drop in the demand for books, but no comparable decrease in retail prices prior to the FBP Law amendment (OECD 2014).

innovative procedures and techniques and hinder the adoption of new technologies in the book trade, such as e-books, print on demand, and alternative retail channels through the Internet (Ringstad 2004; Van der Ploeg 2004; OECD 2014).

In addition, FBP critics dispute the arguments on cross-subsidization and better customer services that are commonly used by FBP supporters. In particular, they argue that given the high uncertainty that characterizes the demand for books, profits from bestsellers are used *ex post* to cover the cost of unpopular books that are published at a loss (Ringstad 2004). They also make little of the importance of non-price competition on the grounds that customer services are mainly based on information easily obtained from other sources (publishers' advertisements, book critics in newspapers and magazines, the internet etc.) (Van der Ploeg 2004; Canoy et al. 2006). It is, thus, questionable whether demand depends -at least to some extent- on such services. In any case, in a free market, price competition will force companies to offer quality services at the lowest price (Ringstad 2004).

3. Existing evidence

The scope and implications of applying retail price maintenance practices have been long debated in a number of studies which primarily base their analysis on industrial organization theory using various settings and assumptions, and emphasizing different aspects of the issue (Winter 1993; Deneckere et al. 1997; Lau et al. 2010). Focusing on the book market, welfare analysis conducted by Van der Ploeg (2004) and Canoy et al. (2006), suggests that price fixing may have conflicting effects on the consumer and producer surplus. On the one hand, it leads to the publication of a greater diversity of book titles compared to a free price system, mainly of books with low elasticity and books that take a long time to read (Van der Ploeg 2004). On the other hand, the analysis suggests that FBP practices lead to higher retail prices and lower sales of each title published. Additional welfare costs of price fixing are associated with lobbying and rent seeking behaviours by publishers and booksellers, while dynamic costs may arise due to retailer difficulty in adjusting prices to demand changes, seasons, the location or the consumer type they serve (Van der Ploeg 2004; Canoy et al. 2006). However, economic theory alone can help in the assessment of resale price maintenance practices only to a certain point since testing the applicability of related models in real life cases is often subject to data limitations (e.g. Ringstad 2004).

Given the above, empirical evidence could be particularly useful in exploring the validity of the arguments for and against price fixing in the book market. To this end, two main strategies have been adopted: (i) comparing evidence among countries with different book price regimes and (ii) comparing evidence from a country switching book pricing systems (Løyland and Ringstad 2012; Ringstad 2004). Nevertheless, as neither strategy nor their outcomes are immune to criticism, there is no consensus or safe and widely accepted results.

Particularly, as noted in a number of studies (Stockman 2004; Ringstad 2004) cross-country comparisons entail the risk of not properly accounting for country differentials in factors other than the book price system (e.g. population, market size, per capita income, educational level, consumer preferences, socio-cultural and political profile). Similarly, in a single country context, identified changes in the book market may result not only from the adoption or abolishment of a FBP system, but also from changes in other factors, such as economic conditions, the market structure, the legislative framework etc. (Løyland and Ringstad 2012; Ringstad 2004). For the purposes of our research we focus on studies that undertake country-specific assessments of changes in the book price system.

The case of the UK has attracted considerable research interest (Fishwick 2001, 2008; Fishwick and Fitzsimons 1998; Dearnley and Feather 2002; OFT 2008) since the FBP system in the context of the Net Book Agreement (NBA) that was in operation in the market for about a century was abandoned in 1995 and formally abolished in 1997 by the Restrictive Practices Court (e.g. Utton 2000). This change radically affected the structure of the retail book market as new players (supermarkets and online retailers like Amazon) entered the market and rapidly increased their market shares at the expense of traditional and specialist bookstores (Fishwick 2008; OFT 2008). Focusing on productivity effects, a study carried out by the Office of Fair Trading (OFT 2008) in the UK suggests that not just the independent bookstores, but also large chains were unable to face the competition of new entrants, and suffered serious negative productivity changes.

Yet, early assessments of the price system change seem to suggest that the UK book trade adapted rather well to the new challenges and does not appear to have been intrinsically harmed by the ending of fixed prices (Dearnley and Feather 2002; Fishwick 2001). During the first years after the NBA was abandoned, the evidence suggests that discounts were confined to a small minority of best-selling titles (Fishwick and Fitzsimons 1998). However, later, dramatic increases were reported in discounts offered by supermarkets and internet retailers (Fishwick 2008). Moreover, Fishwick (2008) provides evidence according to which book prices increased much faster than the consumer price index after the abandonment of the NBA. Notably, Francis Fishwick, who has analysed the effects of abandoning fixed prices on the UK book market at different time points following the change, tends to be in favour of fixed book pricing, a position that is more apparent in his last study (Fishwick 2008).

The Norwegian book trade appears to be of particular interest as well. It was regulated by a book trade agreement which has been occasionally revised since its introduction in 1962. Price fixing constituted a key element in this agreement. In 2005, the book trade agreement was modified in a substantial way toward a much less strict price regulation. Analysing the effects of the change from a fixed to a hybrid price system (i.e. a system with both fixed and free prices), Løyland and Ringstad (2012) find that prices declined somewhat after the new agreement (a short-term result that primarily concerned bestsellers), and bookstores in rural areas were adversely affected due to the loss of their exclusive right of selling schoolbooks. They also provide evidence on increases in sales, reading, and the number of new book titles, though these effects mainly concern the most popular areas of fiction. Overall, based on the history of Norwegian book agreements, the authors appear to be supportive of a gradual system change in the direction of a more liberalized book market.

Providing an overview of fixed and free prices as they apply in European book markets, Stockman (2004) concludes that the book trade's performance depends on a variety of inter-linked factors, with the price system being just one of them. Along the same lines, Canoy et al. (2006) suggest that the presence of substantial differences across Europe in the characteristics of their respective book industries, cultural and social features, and political preferences makes the harmonization of book policies in Europe a rather bad idea. The authors also note that "a FBP makes more sense for Greece than for the UK as it has a smaller 'language size' and fewer people have access to the Internet".

On the other hand, the discussion of theoretical and empirical evidence on the topic provided by Ringstad (2004) leads to the conclusion that it is hard to find any convincing support for the superiority of fixed over free pricing in the book market, even as a means of cultural policy. Similarly, Palma and Palma (2008) in discussing the implications of FBP practices in the case of the Spanish book industry, seriously question fixed resale prices from an economic perspective, but also as an instrument intended to meet cultural objectives. In any case,

relevant literature highlights the need for more extensive and systematic empirical research on the issue (e.g. Stockman 2004, Ringstad 2004; Palma and Palma 2008).

4. Data and methods

To examine the implications of the price regime change in the Greek book market, we use data from a number of sources, namely, (a) the monthly Consumer Price Index (CPI), the monthly book price index and sub-indices time series data running from January 1989 to April 2017 provided by the Hellenic Statistical Authority (ELSTAT);⁴ (b) the monthly 2007-16 time series data on book imports and exports supplied by ELSTAT; (c) the expenditure data of the Household Budget Surveys (HBSs) carried out by ELSTAT in 2013 and 2015 (i.e. in the years before and after the revision of the FBP Law); (d) the annual 2007-15 quantity and diversity data, plus a few price data, regarding the new book titles released in the market, as provided by the Greek Collecting Society for Literary Works (OSDEL).⁵

Of these, the CPI indices for all goods and services and for books, and the sub-indices of the various types of books (*fiction, auxiliary schoolbooks, foreign language learning books, dictionaries, city guides and software manuals*) are based on the 'UN's Classification of Individual Consumption according to Purpose'. The import and export data are classified (based on the 'EU's Combined Nomenclature under Council Regulation 2658/87 on the tariff and statistical nomenclature and on the Common Customs Tariff') in four types of books: (i) *Printed books, brochures and similar printed matter, in single sheets, whether or not folded* (excluding periodicals and publications which are essentially devoted to advertising), (ii) *Dictionaries and encyclopaedias, and serial installments*, (iii) *Printed books, brochures and similar printed matter* (excluding those in single sheets; dictionaries, encyclopaedias, periodicals and publications which are essentially devoted to advertising), and (iv) *Children's picture, drawing or colouring books*. Last but not least, the OSDEL database includes information on new published works –information that is electronically registered in specific fields by authors and publishers, and occasionally updated and cross-checked– organized in either two broad categories (*fiction and books of educational use*) or in 19 categories based on the 'BIC Standard Subject Categories & Qualifiers' as provided by the Book Industry Communication in the UK. BIC classification covers a variety of subjects including sciences, arts, fiction, poetry, topics of general interest etc⁶.

The empirical analysis hereinafter is largely based on the estimation of equations of the following functional form using a close variant of that described by Smith and Duncan (1944), Cameron (2005), and others:

$$Y = \beta_0 + \beta_1 \times T + \beta_2 \times T^2 + \sum \beta_{3i} \times I_i + \sum \beta_{4j} \times S_j + \beta_5 \times L + \beta_6 \times R + u, \quad (1)$$

where Y stands for the explained variable (i.e., CPI, imports, exports), T stands for the long-term trend and T^2 for its square (so as to capture the rate change); I denotes the medium-term (intermediate or cyclical) time patterns, S captures the seasonal time patterns (if applicable: in

⁴ The commencements and endings of the indices and sub-indices vary depending on the case.

⁵ OSDEL is a non-profit organization, founded by authors and publishers in 1997, to manage and protect the intellectual property rights related to new literary and artistic works.

⁶ In particular, the 19 subject categories of the BIC classification are: the arts; biographies and true stories; language; literature and literary studies; english language teaching; fiction and related items; reference, information and interdisciplinary studies; humanities; society and social sciences; economics, finance, business and management; law; medicine; mathematics and science; earth science, geography, environment, planning; technology, engineering, agriculture; computing and information technology; health and personal development; lifestyle, sport and leisure; children's, teenage and educational.

the case of imports-exports the data are annual); L is a dummy variable taking the value of 1 for the period following the FBP Law's, introduction in January 1998 (and 0 otherwise); R is a dummy taking the value of 1 for the period the revised FBP Law is in effect (since April 2014) and 0 otherwise; u is the error term; the ' i 's denote the medium-term periods, the ' j 's denote the months, while the ' β 's denote the coefficients to be estimated. To deal with heteroscedastic residuals we apply OLS regression analyses with robust standard errors.

To examine diversity in new published titles, usually referred as "bibliodiversity", we compute two commonly used diversity indices, namely the Simpson diversity index and the Shannon entropy index which present comparative advantages towards other indices in analyzing diversity (Palan, 2010).

The Simson diversity index (D) is closely related to the Herfindahl index used to measure market concentration. For the purposes of our analysis we use the following formula for computing the relevant measure:

$$D=1-\sum_{i=1}^{19}p_i^2, \quad (2)$$

where p_i stands for the percentage of new titles that belong to the thematic category i with respect to the total number of new titles, with $i = 1, 2, \dots, 19$.

The measure equals the probability that two titles taken at random belong to different categories. It takes values between 0 and 1 ($0 \leq D \leq 1$), with greater values indicating higher book diversity. A zero value means that all titles belong to the same category (zero diversity), while a value of unity implies maximum heterogeneity or diversity in the sample. It must be noted here that the measure gives more weight to subjects associated with more book titles. On the contrary, book categories with only a few titles will not affect the diversity.

The Shannon index (H) is an alternative diversity measure, used to quantify the entropy, that is uncertainty in a system. It is commonly calculated as follows:

$$H=1-\sum_{i=1}^{19}p_i \ln p_i, \quad (3)$$

where p_i stands for the percentage of new titles that belong to the thematic category i with respect to the total number of new titles, with $i = 1, 2, \dots, 19$, and \ln stands for the natural logarithm. The measure quantifies the uncertainty in predicting the thematic category of a book title that is taken at random from the dataset. It takes values between 0 and $\ln 19 \approx 2.944$ ($0 \leq H \leq 2.94$) with greater values indicating higher uncertainty and, thus, heterogeneity. When there is only one book category, the Shannon index takes the value of zero implying no uncertainty in predicting the subject of the next randomly chosen title. By contrast, when it takes its maximum value, i.e. $\ln 19 \approx 2.944$, there is high uncertainty in predicting the category of the next randomly chosen title, thus implying maximum heterogeneity or diversity. Contrary to the Simson index, this measure is sensitive to subjects with a very small number of titles.

5. Findings

To better appreciate the circumstances in which the FBP Law was put into force and subsequently revised, it is worth mentioning that the Greek economy expanded (contracted) during 1993-2008 (2008-2016), and that the country's book market is quite small compared to the book markets of most western societies. Indeed, according to Van der Ploeg et al. (2008),

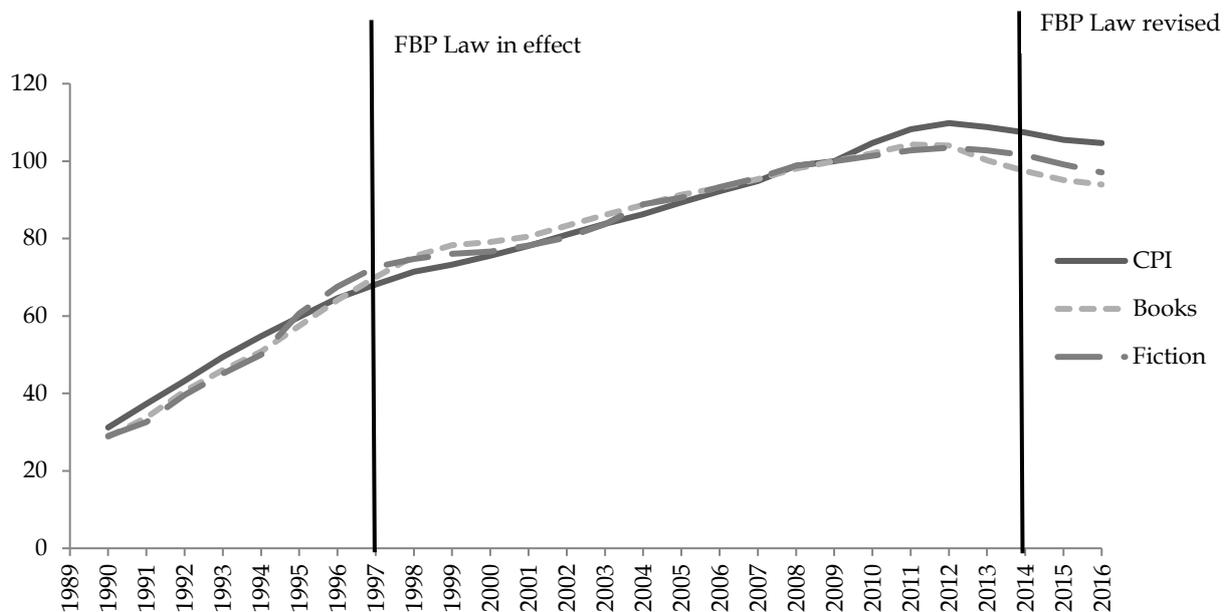
it features the production of a rather small number of titles, the presence of low publisher revenues from sales, and few public-library book loans per inhabitant. Along the same lines, the National Book Centre of Greece (EKEBI) (2010) estimates that in Greece, on average, people purchased 6.6 books a year.

Keeping the above into mind, we next examine the trends observed in key indicators relating to the book market (prices, quantity and diversity of new titles, international trade) and identify -to the extent it is possible- potential linkages with changes in the price system as described above.

5.1 Prices

Figure 1 presents the evolution of the general CPI, the book price sub-index (BPSI) and the price sub-index for fiction books, i.e. a basic book category, during 1990-2016. Overall, an increasing trend is apparent in all price indices up to 2012 and a decreasing one afterwards. The price indices for books and fiction books appear to lie above the general CPI for a number of years after the FBP Law was put into force (in the beginning of 1998), however this trend is also evident shortly before the enforcement of the relative law. For a rather long period between 2000 and 2009 all three price indices seem to converge. From 2010 onwards, the BPSI and the sub-index for fiction books diverge by lying below the CPI. After 2012, the examined price indices decrease at varied rates. The BPSI appears to decrease faster than that the price index for fiction books, i.e. the book category for which fixed prices were maintained in the revised FBP Law. However, the gap between these two indices seems to emerge before the revision of the FBP Law.

FIGURE 1
Consumer price index (CPI) and sub-indices for books and fiction books, 1990-2016
Note: 2009=100



The econometric treatment of the CPI and the measures regarding the various types of books enables the further exploration of the above described trends involving the identification of statistically significant effects (Table 1). The analysis is based on the model described by expression (1). It must be noted here that though the model is simple, and the examined time period that follows the revision of the FBP Law may be quite short to accurately measure the impact of the change in the price regime, the achievement of high goodness-of-fitness results (see last row in Table 1) cannot be overlooked⁷.

TABLE 1

Estimated effects regarding the introduction and revision of the FBP Law on consumer price indices for books and specific types of books

	Books ^a	Fiction ^a	Auxiliary school-books ^a	Foreign language learning books ^a	Dictionaries ^b	City guides ^b	Software manuals ^c
Constant	19.402* (0.232)	19.029* (0.356)	21.467* (0.329)	14.271* (0.424)	51.519* (0.592)	66.322* (0.462)	79.943* (0.415)
Time	0.555* (0.005)	0.540* (0.010)	0.568* (0.007)	0.479* (0.008)	0.409* (0.012)	0.337* (0.011)	0.250* (0.010)
Time-squared	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)
FBP Law	0.450 (0.314)	0.351 (0.865)	2.487* (0.538)	2.706* (0.484)	4.236* (0.571)	1.052 (0.841)	
FBP Law Revised	-3.902* (0.494)	-4.207* (0.480)	-3.000* (0.512)	-6.506* (0.864)	-1.943* (0.426)	-3.282* (0.575)	-2.072* (0.375)
Observations	340	340	340	340	280	280	220
R-squared	99.79%	99.72%	99.72%	99.37%	99.39%	98.24%	96.98%

Notes: Robust standard errors are reported in parentheses. * Significant at the 1% level. ^a Data are available from January 1989 to April 2017. ^b Data are available from January 1994 to April 2017. ^c Data are available from January 1999 to April 2017. A set of time dummies have been included to control for seasonality and intermediate (cyclical) effects.

Overall, after controlling for long-term, seasonal and intermediate effects⁸, the estimation results show that the introduction of the BFP Law is associated with substantial price increases in three book categories, namely, auxiliary schoolbooks, foreign language learning books, and dictionaries; though, the overall book price effect is small. Focusing on the 2014 revision of the BFP Law, the results indicate that the partial removal of fixed prices is associated with substantially reduced prices in all books, as well as in all book categories under study. This result may at first seem contrary to ones' expectations for the case of fiction books, given that the revised FBP Law preserved their price protection for two years after the first edition. A possible explanation of the price drop in fiction books may relate to discounts on older fiction book publications that were exempted from the protection.

Insofar as the overall book price trend appears to change circa 2012 (that is, several years into the recession), it is worth looking into what extent the evolution of prices was affected by

⁷ It must be also noted that the regression model exhibits no multicollinearity.

⁸ The related estimated effects are omitted from Table 1 for presentation reasons.

changes in household income and household size⁹; so we consider the impact of (a) the differences in real (price deflated) net national disposable per capita income (ΔInc), (b) the differences in population size (ΔPop), all based on ELSTAT's 1995-2016 macroeconomic data¹⁰, (c) the 1997 FBP law (L), (d) the 2014 law revision (R), and (e) couple of annual or biannual dummies, on BPSI differences from one year to the next (ΔBPSI). Applying OLS regression analysis with robust standard errors yields:

$$\Delta\text{BPSI} = 0.5223 + 0.0036 \times \Delta\text{Inc} + 0.0001 \times \Delta\text{Pop} - 1.0530 \times L - 6.8849 \times R + \dots, \quad (4)$$

(0.567) (0.000) (0.000) (0.097) (0.002)

with the p-values reported in parentheses^{11,12}. The estimation results in equation (4) show that ΔInc and ΔPop affect BPSI differences in a positive and statistically significant way, indicating that increases (decreases) in demand are associated with increases (decreases) in book prices. Additionally, in conformity with the results in Table 1, the 2014 FBP amendment turns out to be associated with a significant negative overall book price effect.

5.2 New book titles: Quantity and diversity

The negative effects of the broader economic contraction on the Greek publishing industry are reflected –at least to some extent– in the new publications of books. Figure 2 provides the number of new titles published on an annual basis during 2007-2015. As previously mentioned, the titles are classified by OSDEL in two broad thematic categories: (i) fiction and (ii) books for educational use. The latter comprises scientific and other titles that are primarily used for educational purposes¹³.

As shown in Figure 2, there is a downward trend in new title numbers from 2008 on, which is particularly evident in the category of scientific/educational books in the course of 2009-2012. In total, new publications dropped from 10,507 titles in 2008 to 7,423 in 2015; that is more than 29%. The corresponding drops in fiction and scientific/educational book titles were 18% and 35%, respectively. Notably, the numbers of new titles in the two categories appear to converge up to 2013, largely due to the downward trend observed in scientific/educational book titles. However, in 2014 the difference between the two widens somewhat as scientific/educational book titles increase their share in the total number of new titles. This is partially reversed in 2015. Obviously, one ought to be cautious when interpreting these changes in relation to the partial abolition of the FBP that took place in 2014, since the availability of relevant data for less than two years after the regulatory change does not allow us to draw safe conclusions.

⁹ We thank an anonymous referee for the suggestion.

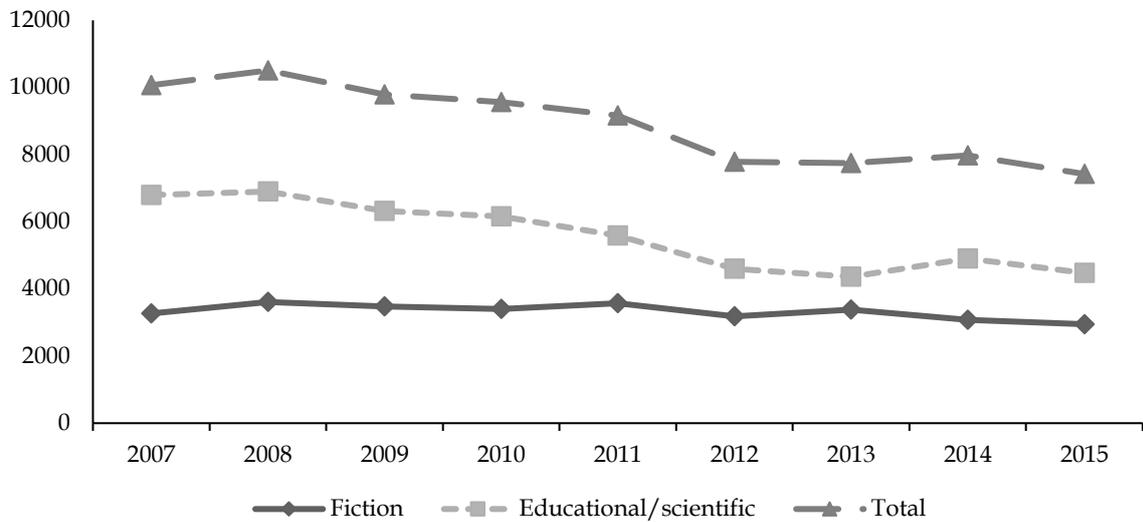
¹⁰ Earlier data were not used since the times series on disposable per capita income prior to 1995 are not comparable to those of 1995 onwards.

¹¹ The effects of the annual/biannual dummies are omitted for presentation reasons.

¹² The regressand and the two regressors under items (a) and (b) are stationary. Δpop is reshaped so as to be orthogonal to (uncorrelated with) ΔInc . L covers the whole of 1998-2013, and 90 days in (i.e., 24.7% of) 2014. R spans 75.3% of 2014, and the whole of 2015-16. The overall model (involving 21 observations and six explanatory variables) exhibits a high degree of fitness ($R^2=98.58\%$) and no multicollinearity. To test whether the impact of R might be explained by some earlier event, an alternative dummy spanning 2013-16 was included. However, the experiment yields an inferior fit.

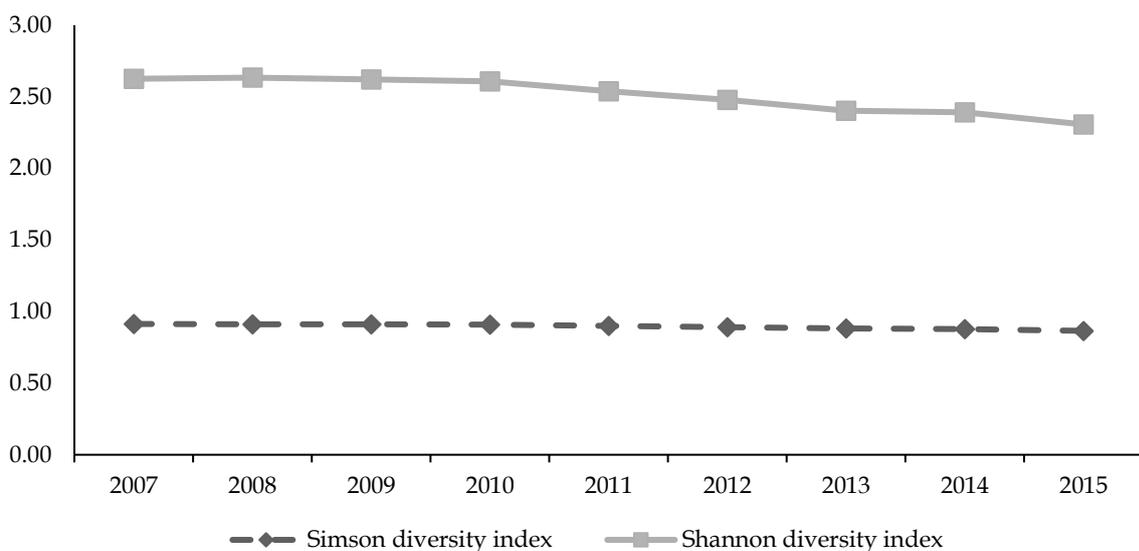
¹³ The analysis does not consider a quite large number of unclassified titles (11-17% of the total number of titles) which, according to clarifications provided by OSDEL, concern mainly travel guides and calendars. Nevertheless, taking also into account this category of titles does not affect the general trend(s) in any substantial way.

FIGURE 2
Production of new book titles, 2007-15



Focusing on the diversity in new titles, we compute the Simpson and Shannon indices based on the formulas (2) and (3), respectively. The relatively high values of both indices (see Figure 3) suggest that in Greece bibliodiversity in terms of new title diversity remains significant during the period under study. A downward trend is apparent from 2011 onwards, and mainly refers to the Shannon index. However, this slightly decreased bibliodiversity in the last five years under study is more likely to relate to the prolonged recession rather than the laxer pricing scheme in the book market introduced in 2014.

FIGURE 3
Diversity indices for new book titles, 2007-15



5.3 Imports and exports

Even though the contribution of book exports and imports to total exports and imports of the Greek economy is rather small, the publishing sector is often considered a dynamic industry with an export potential (ICAP 2016; 2017). Data provided by ELSTAT for the 2007-2016 period show that net exports were negative in the largest part of the examined period; yet a gradual improvement is observed with net exports presenting a slightly positive value in 2013. However, the improvement may be mostly related to the decline in imports as a result of the adverse economic conditions in the country rather than export increases.

As regards the composition of book imports and exports, *bound printed books, brochures and similar printed matter* appear to constitute the dominant book type. In particular, the annual average imports and exports of this type of books account for 83.07% and 81.76% of all book imports and exports, respectively. As the contribution of the other three types of books (as described in Section 4) in shaping both book imports and exports is relatively small, for the purposes of the empirical analysis they are grouped together (Table 2). We find that the imports and exports of *bound books, brochures and similar printed matter*, as well as of the other types of books, follow a downward trend over the examined period (negative and statistically significant time effects)¹⁴. Interestingly, the effects that may be attributed to the revision of the FBP system appear to be statistically insignificant in all cases. In other words, the results provide no evidence of potential linkages of the revision of the FBP Law with international trade flows in the book market.

TABLE 2
*Estimated effects regarding the revision of the FBP Law on book imports and exports (in euro),
Jan.2007-Dec. 2016*

	Bound printed books, brochures and similar printed matter		Other types of books	
	Imports	Exports	Imports	Exports
Constant	7.351* (0.535)	2.525* (0.164)	2.452* (0.127)	1.921* (0.110)
Time	-0.094* (0.018)	-0.004* (0.164)	-0.046* (0.004)	-0.030* (0.004)
Time-squared	0.001* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)
FBP Law Revised	-0.134 (0.489)	0.308 (0.209)	0.183 (0.126)	-0.112 (0.113)
Observations	120	120	120	120
R-squared	70.10%	76.63%	88.20%	84.10%

Notes: Robust standard errors are reported in parentheses.* Significant at the 1% level. A set of time dummies have been included to control for seasonality and intermediate (cyclical) effects.

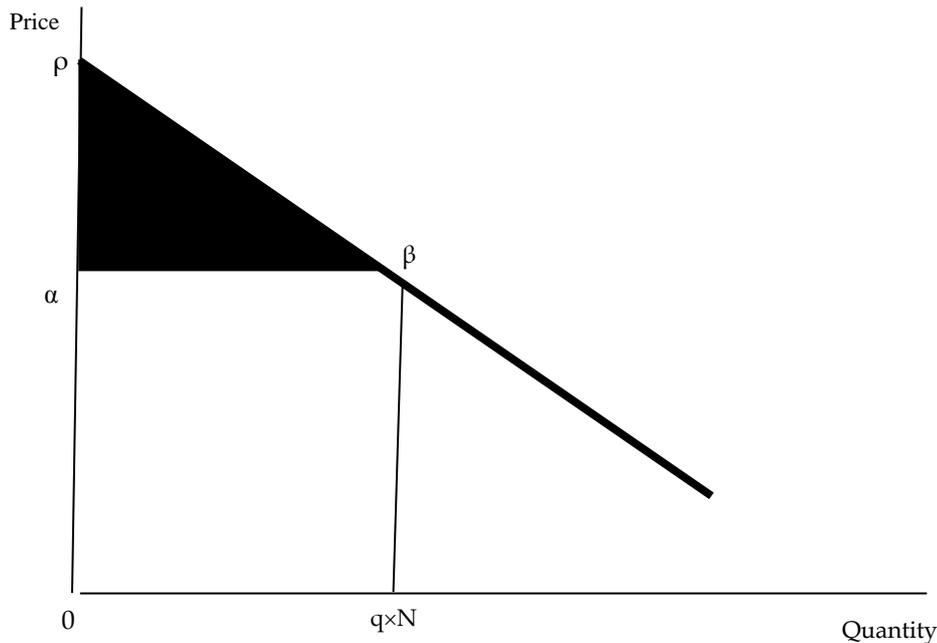
¹⁴ The results also show the existence of medium-term and seasonal fluctuations in both the import and export models; however the relevant estimated effects are omitted from Table 2 for presentation reasons.

5.4 Some inferences about consumer welfare

Ceteris paribus, we expect the reduction in retail book prices –attributed, at least to some extent, to the revision of the FBP Law– to have a positive effect on consumer welfare. In order to tell more about this, we turn to the annual HBSs and OSDEL statistics carried out shortly before and shortly after the Law’s revision, and to economic theory.

FIGURE 4

A typical consumer surplus



If for the sake of simplicity the overall demand schedule (at least the top part of it) is taken to be linear (see Figure 4), and in 2013:

- The autonomous component (ρ_{2013}) was about € 43.6893. (According to OSDEL the highest prices set by publishers under the FBP regime were observed in *new technology, engineering and agriculture* titles. These averaged € 43.6893, as shown in Table 3).
- The book expenditure of a typical household ($\alpha_{2013} \times q_{2013}$) was estimated in the HBS: € 5.28 per month or €63.36 per year. On average, $q_{2013} \times N_{2013}$ books were purchased, where q_{2013} stands for the average number of (newly printed and other) books purchased per household, α_{2013} stands for the average retail book price, and N_{2013} stands for the number of households: about 4,178,116 (see Table 4).

TABLE 3
The average prices of new titles by BIC subject category, as declared by publishers
in 2013 and 2015 (in euro)

Book categories (in alphabetical order)	2013	2015
Arts	18.9368	20.8124
Biographies and true stories	15.6623	13.7392
Children's, teenage and educational	8.4966	8.3478
Computing and information technology	33.2798	51.798
Earth science, geography, environment, planning	25.9171	25.9676
Economics, finance, business and management	29.5075	35.8818
English language teaching	24.1785	18.5374
Fiction and related items	12.8573	12.4458
Health and personal development	19.1531	15.1171
Humanities	21.6352	17.5692
Language	15.5595	23.9297
Law	35.8893	36.827
Lifestyle, sport and leisure	13.3984	16.4541
Literature and literary studies	10.7586	10.6088
Mathematics and science	23.5226	37.4354
Medicine	41.2115	40.3882
Reference, information and interdisciplinary studies	32.8971	55.8321
Society and social sciences	18.4336	17.6851
Technology, engineering, agriculture	43.6893	53.9012

Source: OSDEL.

TABLE 4
Household purchases in 2013 and 2015 (monthly averages in euro)

	2013	2015	Change (%)
All goods and services	1509.39	1419.57	-5.95
Books	5.28	4.50	-14.77
Average number of persons in the household	2.62	2.58	-1.53
Number of households	4,178,116	4,134,481	-1.04

Source: ELSTAT.

Then, the consumer surplus may be proxied by the following expression:

$$\begin{aligned}
 CS_{2013} &= (\rho - \alpha) (q \times N) / 2 = (43.6893 - 63.36/q_{2013}) (q_{2013} \times 4,178,116) / 2. \\
 &= (43.6893 \times q_{2013} - 63.36) \times 4,178,116 / 2.
 \end{aligned} \tag{5}$$

Likewise in 2015:

- The autonomous component (ρ_{2015}) was about € 53.8321 minus the smallest discount (d), if any, offered to a buyer. (According to OSDEL the highest prices set by publishers for new titles under the watered-down FBP regime were observed in *reference, information and interdisciplinary studies* titles. These averaged € 55.8321, as shown in Table 3.)
- The book expenditure of a typical household ($\alpha_{2015} \times q_{2015}$) was estimated by the HBS: € 4.50 per month or €54.00 per year. On average, $q_{2015} \times N_{2015}$ books were purchased, where q_{2015} stands for the average number of (newly printed and other) books purchased per household, α_{2015} for the average retail book price, and N_{2015} for the number of households:

about 4,134,481 (see Table 4).

So the consumer surplus may be proxied by the following expression:

$$CS_{2015} = \{[(55.8321 \times (1-d)) \times q_{2015} - 54.00] \times 4,134,481 / 2.$$

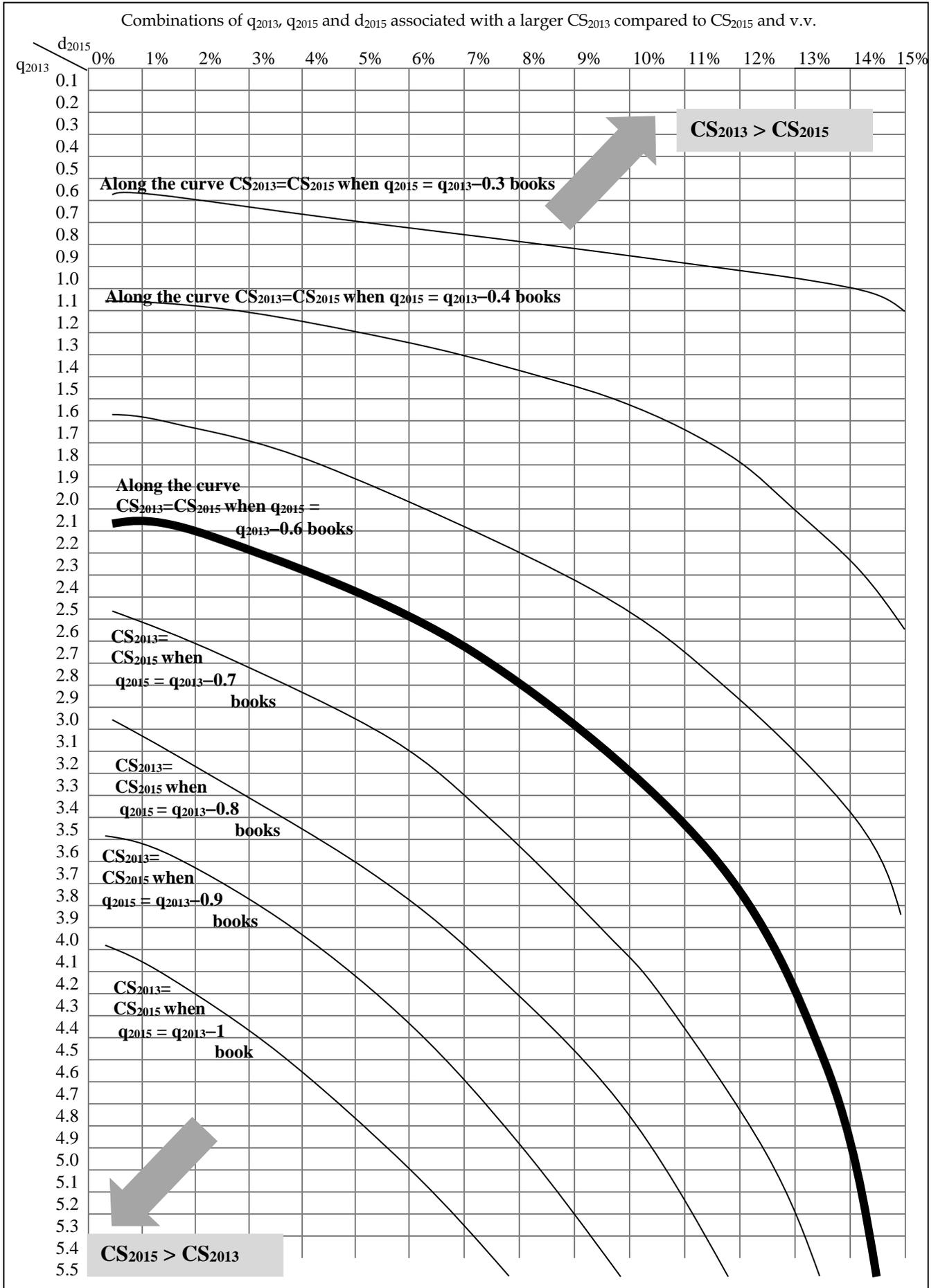
Taking equations (5) and (6) into account, for $CS_{2013} < CS_{2015} \Rightarrow$

$$\begin{aligned} (43.6893 \times q_{2013} - 63.36) \times 4,178,116 &< \{[(55.8321(1-d) \times q_{2015}) - 54.00] \times 4,134,481 \Rightarrow \\ (43.6893 \times q_{2013} - 63.36) \times 4,178,116 / 4,134,481 &< (55.8321(1-d) \times q_{2015} - 54.00 \Rightarrow \\ (43.6893 \times q_{2013} - 63.36) \times 1,0106 &< 55.8321(1-d) \times q_{2015} - 54.00 \Rightarrow \\ 44.1504 \times q_{2013} - 64.0287 &< 55.8321(1-d) \times q_{2015} - 54.00 \Rightarrow \\ 44.1504 \times q_{2013} - 64.0287 + 54.00 &< 55.8321(1-d) \times q_{2015} \Rightarrow \\ 44.1504 \times q_{2013} - 10.0287 &< 55.8321(1-d) \times q_{2015}. \end{aligned} \quad (6)$$

The thresholds for different values of d , q_{2013} and q_{2015} are provided in Figure 5. The quantities regarding 2015 are supplied in relation to the quantities of 2013. According to EKEBI (2010:12) and Lytra (2014), between 2010 and 2013, on average, people in Greece cut down on their reading by 0.9 books, i.e, 0.3 books per year. (As the economic recession deepened and most household incomes fell, quite reasonably the demand for all normal goods -books included- shrunk and the lower part of the demand schedule shifted inward, toward the origin). For this kind of change (0.6 books between 2013 and 2015), if some of the highest-priced books were purchased by a fraction of consumers at a 0% or even 10-15% discount (this does not preclude higher discounts to other consumers), then the inequality (i.e., expression 6) would hold for average purchases in excess of 2.1 or 3.3-5.6 books per household, respectively. To the extent people were estimated on average to purchase 6.6 books in 2010 (EKEBI, 2010: 57) or about $(6.6-0.9 =)$ 5.7 books in 2013, and households averaged 2.62 people (see Table 4), this may very well be the case.

Overall, it is more likely than not that the consumer (households') surplus increased between 2013 and 2015. As already mentioned, the change may be attributed -at least to some extent- to the revision of the FBP Law that took place in 2014.

FIGURE 5



6. Conclusions

Even though resale price maintenance in the book markets is not an uncommon or new practice, the debate on its pros and cons remains open. The issue has lately attracted major attention in Greece since the FBP law that had been regulating the Greek book market for more than sixteen years, was significantly revised in 2014. The new law established a much laxer pricing scheme causing strong reactions by stakeholders in the book trade with the majority of writers, publishers, and a critical mass of booksellers opposing the partial removal of FBP and asking for the re-enforcement of the Law of 1997. This paper presents evidence on the effects of these regulatory changes in the Greek book market, thus advancing the discussion and providing useful insights.

FBP supporters argue that the practice provides consumers (the public) with access to a greater variety of literary works, including low-selling books which may be of high cultural value. On the other hand, FBP opponents argue that the practice results in increased book prices and the contraction of consumer surplus. This work mainly attempts to examine the validity of the above arguments utilizing various data and information referring to the Greek book market. Though data limitations and the shortness of time after the new FBP Law's entry into force do not permit a holistic and concrete assessment of the impact of the regulatory change on the Greek book market, some relevant conclusions can be drawn from the quantitative analysis undertaken.

After controlling for the time trend, seasonality and intermediate (cyclical) effects, we find that the FBP Law that regulated the Greek book market from the beginning of 1998 until April 2014, appears to positively affect the prices in some book categories (auxiliary schoolbooks, foreign language learning books and dictionaries). Interestingly, lifting book price restrictions in all book categories apart from fiction in April of 2014, appears to negatively affect the prices in all book categories, including fiction, and, hence, the overall book price index. The particular finding regarding the overall book price index is confirmed via a second analysis that takes into account changes in population size and disposable income per capita; and further supported by our calculations regarding consumer welfare, according to which the overall household (consumer) surplus is likely to have increased after the partial removal of fixed book prices. On the other hand, changes in exports and imports of books do not seem to relate to the change in the price regime in the domestic book market. Finally, data pertaining to the variety of new titles published during 2007-2015 suggest the presence of significant 'bibliodiversity' despite the country's economy-wide recession.

Overall, our research may be useful from a policy perspective in Greece. The main findings of the paper are likely to have important policy implications, especially in the light of plans to take further regulatory steps in the near future. In this direction, further quantitative analysis, probably carried out in subsequent time points and/or the consideration of additional data might be of high value.

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