

ESTIMATION OF THE POLICY MEASURES IMPACT ON THE BOOK
MARKET OF UKRAINE

by

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Abstract

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This thesis estimates the impact of the value added tax on the book market of Ukraine. It also addresses the issue of the degree of competitiveness in this market and investigates the consequences of the policy measures for the Ukrainian language literature. Using the standard model of demand and the book market data the econometric estimation defines the losses of production and social welfare. It was also found that Ukrainian book market is perfectly competitive.

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GLOSSARY

Conventional page – unit of measurement, used for calculating and comparing of the volume of printed media of different formats, which equals to the one printed sheet of paper of format of 60x90. It is equal to standard 24 typed pages of A4 format with 40000 printed symbols.

Third-degree price discrimination - a form of price discrimination in which a seller charges different prices to groups that are differentiated by an easily identifiable characteristic, such as location, age, sex, or ethnic group. This is the most common type of price discrimination. This is one of three price discrimination degrees. The others are first-degree price discrimination and second-degree price discrimination.

Chapter 1

INTRODUCTION

Ukraine has the lowest quantity of published books per capita in Europe. Today only 1 book per capita per year is published (a couple years ago it was even less, 0.3 books per capita). In the neighbouring countries such as Russia and Belarus every year respectively 4 and 7 books per capita are published. In late eighties of the last century, just prior to the independence, in Ukrainian Soviet Socialist Republic, this figure was about 4 books per citizen. A similar situation can be observed for the number of titles published.*

This is in sharp contrast to the fact that Ukraine has one of the lowest illiteracy rates (0.5%) in the world comparable with the OECD countries. It is widely believed that more educated citizens read more or, in other words, the higher the literate rate of the population the more published materials are consumed. In case of Ukraine it is supported by the fact that on average 70 million books are sold on the national book market annually while less than a half of this quantity is published in Ukraine (DERZHKOMSTAT UKRAÏNY, 2002).

* Book production: Number of Titles by UDC classes (UNESCO Institute of statistics, 1995)

The observed downfall in the production of books started in the early 1990-ies, which coincided with the start of Ukraine's transitional period and this suggests that it may have economic roots. In addition, an increase in circulation can be noticed after the approval of the Presidential decree "On Additional Measures for State Support for the National Book Publishing and Book Distribution" in 2000, which enhances the belief that the low production of books has an economic origin.

For many years there is an ongoing debate in the Ukrainian legislative body on the implementation of the privileges for national publishers. At present it is impossible for Ukrainian producers to compete because the cost of the production of Ukrainian books is much higher than, for example, their Russian analogues. The taxes constitute substantial part of this cost because the publishing enterprises are subject to a general 30% profit tax and total of 37.5% of social taxes, while books on sale are also subject to 20% of value added tax. On the contrary the Russian publishers, which freely trade in Ukraine by the provisions of the Florence Agreement (1950) and Protocol of Nairobi (1976)*, have been exempted from the VAT according to their national legislature for the last eight years.

Up to present the argument between the Ukrainian publishers, presented by Ukrainian association of book publishers and booksellers, on one side and by the State Tax Administration on the other, concerning the tax privileges to the

national publishing industry is not concluded. According to the publishers, to improve the competitiveness of the national publishers and make the printed word more accessible to the general audience, the legislators must adopt law giving the privileges to the book-publishing sector. On the contrary, the fiscal authorities persuade the parliamentarians that the imposition of the tax privileges will not improve the situation on the Ukrainian book market since the domestic book publishers do not have incentives to lower prices and the profit surplus will be transferred solely to the producers and, furthermore, it will seriously undermine the fulfilment of the state budget.

Here it is important to emphasize that the government's support of the book industry is justified by the fact that the market fails to account the positive externalities caused by spreading the knowledge in the society through the books, which are one of the main vehicles of education. More to it, based on the UNESCO's belief that "there should be no taxation on knowledge", the European Booksellers Federation in their recommendation concerning the legislature dealing with the book publishing and trade says that the book is the product of double nature, first, it is cultural product and then it has material value. In this view, the governments while devising tax schemes must put more emphasis on the book's spiritual value, because even though the book is the object pertaining to a market place, the effect it generates in society is quite different. Nowadays the absolute majority of European countries have the

* http://www.unesco.org/culture/laws/florence/documents/florence_en.doc

reduced or even zero rates of the value added tax on books, while Ukraine is among the very few nations that levy books with the full rate of VAT (Rouet, 1998).

Given the facts stated above it is extremely topical to evaluate the potential effect of the policy measures with the instruments of modern economic analysis. It may resolve the dispute over whether undertaking the actions by the government will have positive or negative consequences on the book publishing industry and whether the objectives of such actions will be reached under the particular circumstances of Ukrainian book market.

The primary aim of this research is to find out the impact of the imposition of the value added tax on books on the publishers and, especially important, on the consumers, thus readers, of books. This goal can be achieved through the ordinary cost-benefit analysis as in Cullis and Jones (1998). To perform it, in the first place, the degree of competitiveness of the Ukrainian book market must be evaluated. Then, viewing the demand relation as the basic framework and given the bilingual nature of the Ukrainian book market the analysis can be expanded to answer the other pressing question whether the policy measures can protect and promote the national identity. By this it is meant that as the result the more books in the Ukrainian language are published. The next section provides the overview of the literature connected to the books as the marketable products, then, the theory is given, followed by the description of the data and industry profile, after

which the empirical findings are presented, and finally, last chapter summarizes and concludes this research.

Chapter 2

LITERATURE REVIEW

While studying book publishing as a subject of academic interest it is inevitable to encounter the question on the character of the method that should be undertaken to look into the matter of research. One answer may rely on the social and cultural aspects of book publishing, seeing it as a medium of transmitting the achievements of human thought and creativity to the general audience. The other is to perceive it as an economic activity involving entrepreneurship, production, marketing and so on. Equally it can be said that books, on the one hand, are considered to possess an artistic and educational value, while, on the other hand, they are an ordinary commodity comprising the necessary properties to satisfy the consumer's desires.

Books and the book publishing industry have many interesting economic features and thus, not surprisingly, received attention from the economic scholarship and was covered in the corresponding academic literature. In this review, several issues will be examined. First, focus will be on the pricing, next, on the market concentration and structure, then, on the demand evaluation, and finally, on the taxation and related topics.

The approach to study the books on the grounds of the economic theory has been taken by economists since long ago. As early as at the beginning of the last century the issue of the maintenance of prices upon trademarked products at the option of the manufacturer, as the exclusion to the rule of freedom of trading industry, in the book trade was investigated in the article of Tosdal (1915). That was a reaction of the scholarship to the real-life problem originated in the book market. The article claimed that the pricing in the book publishing was a very complex problem coming from the peculiarities of the book market. One thing, the publisher was regarded to be a monopolist in producing any title and accordingly, paying attention to the market attributes, such as the product features and demand characteristics, established its price to get the largest net return. Another thing, the booksellers faced competitive market and rived for the price discounts from the publisher. This brought them to the level of too low profitability and many of them were forced out of the market. As a result the readers were adversely affected since the availability of books declined and the prices advanced owing to a smaller number of selling outlets. To remedy the situation in some countries such as Germany, United Kingdom and the USA the concerned book publishers created the system of fixed prices, or uniform pricing on the basis of legal or professional agreements. Although it helped to overcome the problem of inefficient price-cutting to the booksellers it neglected the benefits of the lower cost to the public achieved by more efficient sellers. For instance, it was recognized that the rise in prices on books in Germany due to the system of

fixed prices became the impediment to the progress in education. But to the ordinary consumer, the ultimate question was whether the price maintenance, or, in other words, the leveling influence of competition, positively affected the long run prices of the books. Hence this demonstrates the complexity of pricing matter in the book publishing (Tosdal, 1915).

The issue of the resale price maintenance for books has remained topical in some countries until now. Backhaus and Hansen (2000) addressed this question for the case of Germany and the European Union. This time the matter emerged in connection with the requirement of the European Commission to abandon the practice of committing the booksellers not to discount in the German language area. Along with the economic issues a great deal of concern was put on the cultural aspect of this subject. It was claimed the priority of the quality aspects of composition and language and cultural diversity over the competition aspect because of the belief of their welfare enhancing properties. Similarly, it was accentuated that any economic analysis of the book publishing overlooking the cultural diversity question should be deemed as incomplete and insufficient for undertaking any decision governing this field. As the result of their analysis Backhaus and Hansen (2000) emphasized that the organization of resale price maintenance agreements had clearly positive impact on cultural diversity and non-negative on pricing.

Further aspects of pricing in the market for books are examined by Clerides (2002), who on the basis comparison of sales of hardcover and paperback books

found that the book prices display two types of rigidity. The first one is the inter-temporal rigidity. This means that once established the prices remain unresponsive to fluctuations in demand over different time periods. The second one, quality discrimination, is the rigidity in pricing of the books depending only on the size and other physical features of the book. The book's price seems to be influenced by neither the author's popularity nor the marketing policy of the publisher and it is usually uniform across the booksellers. But, on the contrary, the sales are really affected by these qualities of the book.

The explanation of this latter phenomenon lies in the nature of the market for books, which is monopolistic competition in its essence. The demand the publisher faces shifts in such a manner that can be decomposed into two effects. The one is "the market size effect: more people are willing to buy the product at each price" and the other is "the willingness-to-pay effect: each individual in the market is willing to pay more for the given product but overall market size does not change" (Clerides, 2002). The costs involved in production of a book acknowledged by consumers might have an influence on compliance of them to pay more for the given book but the different quality of a book, such as author's reputation, for example, is likely to induce more people to buy rather than to pay more.

This argumentation is applicable also to the one of two patterns of the existing inter-temporal rigidity, particularly the reluctance of publishers to increase the price for successful titles. The other pattern of inter-temporal rigidity that the

publishers are disinclined to decrease price for unsuccessful books is explained by their desire to keep reputation of never lowering price so that the consumers has no incentive to postpone their purchase of a book until later when its price goes down. Otherwise the publishers would suffer the consequences of Coase's famous conjecture, which states that a seller of infinitely durable good cannot credibly price his product at anything above marginal cost because the seller's incentive to lower prices in subsequent periods cannibalizes his sales during the introductory period (Coase, 1972).

It is obvious that the cost of production is an important factor in determining the price of a book like any other good. Hjorth-Andersen (2000) describes the technology of the book publishing as the one that is heavily influenced by fixed costs. These fixed costs are subdivided into ordinary fixed costs of running the business and fixed costs of introducing a new title. Clerides (2002) also indicates that the book publishing industry is distinguished by high fixed costs and low marginal costs with substantial variation, which depend on the physical characteristics of the book. Sparing of the costs Clerides (2002) defines the three stages of publication of a book as such where these costs occur. They are manuscript preparation, book production, consisting in its turn of typesetting, printing, binding, and distribution and marketing. Since the fixed costs constitute a big part in the publishing of a new title books the marginal cost rule of pricing is not appropriate here because it would incur losses. That is why traditionally in the

book publishing, the prices are calculated “on the basis of some full cost concept” (Hjorth-Andersen, 2000).

Another feature of book publishing, which received attention in the economic literature, is the effect of concentration on the organizational structure of book business. Greco (2000) finds that despite the vast number (675) of mergers and acquisitions in the book publishing industry occurred in USA in the period between 1960 and 1994, there is no evidence that this business reached the patently illegal or, even, excessive market concentration level. On the contrary, for the reason that the total number of publishers grew rapidly, increasing their market shares with new and backlist titles, there was even decrease in the market concentration level. This conclusion exhibits that the pertaining characteristic of the book market is that it has low entry barriers, which do not make an obstacle to the influx of new publishing firms. The new publisher indeed does not need to make large investments to be successful, but rather, “obtain high quality manuscripts at best prices and get them into the channels of distribution at a profit” (Greco, 2000).

Greco (2000) also provides the classification of the U.S. book market and defines the consumer book market as the nation’s biggest book category. Accordingly, apart from the consumer books there are two other book niches. The first is professional and reference group, including business, legal, scientific, technical and medical titles, university press books and the subscription reference books.

The next class is the educational niche, consisting of school and college textbooks. The trade book niche embracing the juvenile and adult fiction and non-fiction hardcover and paperbacks and religious books form the consumer book category. The consumer books are accounted for half of the total number of books purchased in the U. S. and is viewed as a form of entertainment and which “compete in a robust manner for both media usage and dollar expenditures against all of the major media and entertainment formats” (Greco, 2000). Enhancing the conclusion made earlier it was inferred from the analysis of average annual percentage change in U.S. media expenditures that the prices of consumer books are indeed susceptible to the market environments and the publishers are in effect barred from shifting forward their increasing acquisition and production costs to consumers.

On the contrary Laband and Hudson (2003) using the data on the books in Economics from the Journal of Economic Literature found the evidence of the existence of the third degree price discrimination in this market. Indeed, according to their study when the paperback and hardback versions of the same book produced simultaneously, the paperback edition is going to be priced lower than when the book is produced solely in paperback. This is because the sole-edition paperback targets the whole market, the library and private consumers, while when published together the paperback aims at the private buyers and the hardback is directed towards the libraries.

The above stated monopolistic competition character of the demand for books (Clerides, 2002) is supported by the claim that the demand for any craftwork, such as a book, cannot be easily determined because of the quality criteria pertaining to the sphere of scholarship or culture are not universal but rather determined within the area, sometimes even on the case by case basis (Backhaus and Hansen, 2000). This implies that the books are not homogeneous products and it is hard to draw the simple demand curve and predict the business performance of each individual title. Thus the entire line of work rather than a single book identifies the publishing venture with its market share and its value. Additionally, it results in that the commercially more successful titles cross-subsidize the less profitable ones within the particular publisher's activity thus allowing the publisher to undertake other than just the mainstream projects.

In line with the previous arguments Hjorth-Andersen (2000) ascertains that the market for books is the prime example of Chamberlinian monopolistic competition, in other words, it is the market where there are many substitutes but no close substitutes, although he finds that the pricing process differs from usual representation of the monopoly pricing as it seemingly does not involve optimizing behavior. According to the theory the monopoly is in the first place assumed to exist before the monopolist could optimize on the known strength and elasticity of demand. It is not the case of the market for books with many independent companies since introducing a new title the publisher does not take into account the effect of this decision on the whole book market. For the

publishing company for its long run success it is more important to evaluate the expected number of copies of a particular title to be sold than to fine-tune with respect to the elasticity. Furthermore, annually it has to set prices for large numbers of titles, and this requires that this process be organized on such a routine basis as the intellectual decision of the experienced publisher. In other words, the publisher's judgment of the prospects of achieving business success with the particular title is not the result of the formal economical analysis but rather the know-how of the entrepreneur. Apart from problem of setting the price of the book, the publisher must take the decision of publishing a new title. Since each new title is a new commodity, and because of the nature of the book market it is not feasible to practice the traditional marketing research methods, this decision entail the substantial stochastic component and the publishing is deemed being quite risky.

Developing the notion of the demand for books Hjorth-Andersen (2000) divides it into two proclivities to read: the short run and the long run ones. The long run demand provides the magnitude of potential consumption of the books in the economy while the short run demand gives the alteration in the per year number of books sold.

The long run demand factors according to Hjorth-Andersen (2000) are the following: the reading ability of the population, the level of education in the society, the amount leisure time available and the alternative goods. It is worth noticing that the reading ability is not equal to the official rate of literacy in the

society because for the majority books to understand it requires more than the just technical ability to read. Additionally, the educational level of population and the amount of leisure available to a population are hard to measure and they remain unchanged for long periods of time. The recognized alternatives to books are newspapers, magazines, electronic media, especially the television, the main competitor, and due to the fact that the television has zero (marginal) cost of watching the books are clearly positioned at a disadvantage.

As for the short run demand it is presumed initially that it is influenced by the three basic forces, which in the end determine the book market. They are the real book prices, the number of titles and the real income. The first factor and the last factors naturally belong to the consumer's demand relationship; the real book price is obtained by normalizing the book price index by another index, consumer price index or else, depending on the assumption about what the consumption of books comes at the expense of.

The introduction of the number of the new title into this demand equation has the rationale in the abovementioned the existence of substitution between books, but not the unlimited one. That is why it is practical to consider not the myriads of single book markets but rather the market for books as the whole. However, empirical evidence suggests that the introduction of the new titles does not increase demand significantly, which is consistent with monopolistic competition and quality discrimination character of the demand for books (Clerides, 2002), and in fact the any additional title on the book market displaces the other,

although this fact is not taken into the consideration by the publishers (Hjorth-Andersen, 2000).

Nevertheless, the number of titles introduced in a given country remains an important indicator of its cultural and intellectual development. In the other study, Hjorth-Andersen (2001) finds that the larger economies, in terms of the GDP per capita, sustain larger choice of titles as well as the cheaper books for the population. Moreover, it is the demand for books that limits the number of the new titles that can be introduced into the specific country within the certain time period but not the supply, which is believed to be limitless even at the national level where the publisher has the opportunity not only to publish manuscripts of the local authors but also to translate a work from the foreign language (Hjorth-Andersen, 2000, 2001).

The apparent conclusion of Hjorth-Andersen (2000, 2001) is that the authors play no important role in the book publishing. But still it is simply injudicious to suppose that the authors labor at their masterpieces merely because of vainglory. Surely the economic incentives should have an influence on the decisions of the writers pondering on whether to launch the new proceedings. Unfortunately there are no available academic literature concerning this topic for the book publishing but Hui and Png (2002) found that in the case of big-screen movies the economic stimuli have the effect on the international supply of the creative work.

Along with the question of price fixing, where the state usually comes in, there is a problem of fiscal policies concerning the books. Hitchin (1996) points out that despite the belief that knowledge should not be levied, which is the part of set of principles the UNESCO was founded on, the taxation of books, especially in the form of value added tax, is quite a normal practice. Although it ought to be said that presently there is the tendency in the European countries for the lowering the VAT rate and even its removal since the policy makers recognized the role the book can play in the nation's cultural life. But still the problem is topical because coming of the elastic nature of the book market it is clear that of the imposition of a tax or the increase in its rate results in plunge in the volume of books sold (Hitchin, 1996), and this coincides with the discovery of Hjorth-Andersen (2000) that the demand for books seems to be price-elastic. The same is inferred in the statement* by The Swedish Publishers' Association (2003) from the data of increased sales of books in Sweden after the reduction in the VAT rate on books there. Thus, it is clear that the taxation of books would have negative consequences on the effectiveness of the book trade as a whole and the welfare of an ordinary consumer in particular.

Speaking of the fiscal aspects of book publishing Baruch and Richard (2000) question the appropriateness of application of different rates of VAT not only to certain categories of books but to different sectors of the book industry on the grounds that it contradicts the general assumption of neutrality and equitability of

* www.europarl.eu.int/hearings/20031007/econ/ahlinder.pdf

taxation throughout a particular industry. Furthermore, they make the allegation that the books belong to the class of product, which are essentials or in the general interest to the society, along with food and pharmaceuticals, and on that basis deserve to be taxed at reduced levels.

Regarding books as the oldest and most widespread cultural medium and recognizing the modern tendency to hypothesize a contradiction between cultural necessity and economic development Baruch and Richard (2000) state that cultural policies concerning books and other cultural products can only be efficient if they take into account the specific economic constraints under which the cultural industries operate.

Although the existence of the official measures, legislative, fiscal, etc to promote freedom of expression via the unrestricted circulation of books is justified by social and cultural objectives they may not perform well in reaching those goals because of the special trade and industry circumstances. Thus, the measures specifically adapted to the economy of book alongside the general tools of promoting healthy economic environment are required and “the most striking example is the application of the reduced levels of VAT to the production and sale of books” (Baruch and Richard, 2000).

Alike the other cultural products books have been the subject of the international trade long since and the relatively new concept of globalization is also readily applied to book publishing. However, it should be acknowledged that there exist inequalities in accession to books and other cultural products among different

countries and the effect of the elimination of the trade barriers on the cultural and linguistic diversity is far from clear. “The trade in books goes in many directions, but disproportionately travels from Europe and especially from the USA to the rest of the world” (Miller, 2001).

Moreover, nowadays, the book publishing, along with other media industries, is undergoing deep technological change. All its activities, such as publishing itself, wholesaling and retailing, are influenced by various technical and institutional innovations. Backhaus and Hansen (2000) identified four major challenges to the traditional book publishing industry. First, the uncertainty about the future of the book itself, ranging from the belief that its present form will survive to the idea that it will be substituted by electronic media. Secondly, the internationalization of the book publishing, the emergence of common markets of European Union, NAFTA or the MercoSur, leads it across the national frontiers and language barriers. Third, book publishing turns out to be more and more conglomerated becoming the part of multi-media product corporations. Fourth, Internet book trade is gaining popularity, consequently substituting the traditional bookstores.

Against this background, the regulatory measures for the book publishing industry at the level of single country become very complex to develop and implement. In addition to the national level set of laws such treaties as the Florence Agreement (1950) and its Nairobi Protocol (1976) requiring the abolishment of the levying of import duties on the cultural products, and the books among them, serve as international legislative framework for reaching the

objective of unimpeded dissemination of knowledge and ideology. But it puts to the forefront the question about the role of book publishing in maintaining the national identity and preserving the state sovereignty (Miller, 2001).

Summarizing the scientific findings in the field of economics of book it should be noticed that the strings of scholarly papers on different issues exist, somehow or other, separately. Indeed, the articles reviewed here seldom if ever contain references to each other. In the context of this research it is important to indicate that the available literature seemingly did not attempt to investigate the impact of the policy measures such as taxation on the book market directly. Although it provides solid ground for research in this area the results of the study may be highly dependent on the assumptions chosen for this analysis. The discrepancies are likely to arise in the connection with the determining of the degree of competitiveness underlying the book market as different authors ascertain it differently (Tosdal, 1915; Greco, 2000; Hjorth-Andersen, 2000). Since there is no consent on the theory for the time being, to answer the main question of this research is a prime matter of empirical investigation.

Chapter 3

THEORETICAL FRAMEWORK

The estimation of the impact of the fiscal measures on the book market, ultimately on the publishers and readers, can be done through the welfare analysis of the taxation, following the basic framework of Cullis and Jones (1998). It can be established that the effect of taxation has two dimensions: one is the welfare cost to the society as a whole, which is often called excess burden of taxation, and another is the cost to different groups of the society, which is particularly known as incidence of taxation. The analysis of the taxation based on any of these two approaches requires determination of the demand characteristics, the price elasticity of demand in the first place. But since the tax incidence is especially sensitive towards the market structure the modeling of the book market must start from the defining the degree of competitiveness in the marketplace.

As was established, e.g. by Clerides (2000), the book market is characterized as being monopolistic competition market, which means that the producer has certain power over the prices due to the product differentiation. However, there is dissimilarity between the market for books and markets for other differentiated products. The differentiated products are developed artificially to possess the

distinctive features as the means to discriminate so the manufacturer of such product establishes price being aware of this differences and their influence on the demand. Unlike those, the books are inherently heterogeneous and the publisher does not know the market value of most qualities of a book before the sales start. Then it is reasonable to presume that the publisher fixes the price relying on information about the current or past prices of similar books in the market, thus, to a certain extent, taking them as given. The last attribute is pertaining to the competitive character of the market and which is assumed to begin with to be the case for the issue in question.

The essential feature of the book market is the demand for books. There are also certain organizational and technological conventions of the publishing industry but like any other market for the consumer goods its main characteristics are those indicating the quantity of the commodities being consumed by the people. Therefore, to model the book market in general terms it is enough to construct the demand relation. The explicit assumption of this model is that there is no limitation on the supply side of the book market (Hjorth-Andersen, 2000). Such an assumption comes from the following facts that there is an abundance of manuscripts, in native language or translated, of the current or any previous period; and the printing industry does not have a capacity constraint. The supply is also limitless because there are no barriers on entry of the new entrepreneurs into the publishing business. It may be even safer to suppose only that the market

operates on the perfectly elastic segment of the supply curve and simply have not reached the level of production with different characteristics of supply.

The fundamental arrangement of the demand equation is rather straightforward. The quantity of books sold per period is dependent upon the price and the income, and the number of new titles. The first two variables need no explanation being quite conventional in the demand equations. The only thing is that, for instance in the macro modeling, the average price of books and real disposable income would be preferably used in real values rather than in nominal ones.

The appearance of the number of new titles introduced within a given time period into the equation may require explanation. The publishing of a new title adds to the variation of different topics, names and labels, between which the consumer is now able to select. The idea is that although there is substitution between individual titles it is far from perfect. If for some books the consumer is indifferent choosing among the authors and titles, as for example in the case of popular detective stories, then the introduction of the new ones will not influence demand. However, if the consumer does not consider the some particular title being substitutable, as for example in the case of travel guides, then any extra title will have the impact on the quantity of books demanded (Spence, 1976). Although for the consumer it matters the total number of titles accessible in the marketplace and not only the number of new titles that appeared recently, for

modeling the latter is preferential to the former because in fact the sales are dominated by the new titles.

In general terms the demand relationship is:

$$X = f(P, Y, T)$$

Where X is the quantity of the books sold; P is the real average price of the books; Y is the real disposable income; T is the number of the new titles introduced.

In the parameterized form excluding a constant for simplicity it is:

$$X = P^{a_1} Y^{a_2} T^{a_3} \quad (1)$$

The logarithmic form of the expression (1) is

$$\ln X = a_1 \ln P + a_2 \ln Y + a_3 \ln T \quad (1a)$$

The coefficients of income and titles variables are anticipated to be positive while the coefficient of price is expected to be negative. The advantage of this specification is that the model such presented can be estimated by the ordinary least squares method and it will provide the estimation of the elasticity of demand with respect to price and income.

The underlying assumption of the model presented above, which is the limitlessness of supply side, although it may seem plausible in the context of particular book market, still contradicts to the general logic of the market. Thus, it might be a good idea to explore the possibility of restrictions posed on the market by the supply.

In that case, if the quantity of the books sold in the demand equation is the quantity of the books demanded X^d , and the quantity of books supplied X^s is dependent on the price, then the demand equation remains as stated above and the supply equation in general terms is as following:

$$X^s = g(P)$$

Where X^s is the quantity of the books supplied and P is the real average price of the books. In the parameterized form, excluding a constant for simplicity, it is:

$$X^s = P^\varepsilon \quad (2)$$

The logarithmic form of the expression (2) is

$$\ln X = \varepsilon \ln P \quad (2a)$$

Combined of the equations (1) and (2), the demand and supply in the book market characterized by the system of structural equations or in logarithmic form (1a) and (2a)

In the equilibrium $X^d = X^s$ and solving it gives:

$$\ln X = (\varepsilon a_2 / \varepsilon - a_1) \ln Y + (\varepsilon a_3 / \varepsilon - a_1) \ln T \quad (1b)$$

If supply of books is perfectly elastic, which means that supply is indeed limitless and the producers are willing to supply at any price, the coefficient ε is equal infinity, then all coefficients of equation (1b) must be close to the corresponding coefficients of the same variables in equation (1a).

In the model above the price and the number of the new titles are set exogenously ignoring the role of the producer. But since the book market all the same is monopolistically competitive in essence the previous assumption can be

dropped. Instead, if the publisher sets the prices and chooses the number of the new titles to be introduced in order to maximize profits then these two variables must be determined separately.

First, the pricing equation is specified such that the price of book depends on the expected total quantity of books sold, and on the number of the new titles introduced. The more copies of a title are expected to be sold the lower the price should be, which usual relationship between price and quantity is. On the contrary the larger is the number of the new titles the higher is the price. It is because due to substitutability for certain categories of books the increase in the number of titles will lower the edition of any particular title.

The price of the book also depends on the costs of its production. These costs can be proxied by book length in the number of pages, which the publisher sees as exogenously determined parameter. Moreover, since the market for a single book is characterized as being to a certain extent monopolistic, the price is set according to the following formula: $P = MC (\eta / (\eta - 1))$, which declines as elasticity η increases. Hudson and Laband (2003) found that marginal cost is “far from being a complete explanation of price determination in book publishing”. Accordingly they proposed the set of exogeneous variables such as the number of authors, quality of book (hardback or paperback), type of publisher, etc could be added but for simplifying the theory it is disregarded.

The pricing equation, in general terms, then, is as the following:

$$P = h(X, N, T)$$

Where P is the real average price of the books; X is the quantity of the books sold; N is the average number of pages per; book T is the number of the new titles introduced.

In the parameterized form, excluding a constant for simplicity, it is:

$$P = X^{\beta_1} N^{\beta_2} T^{\beta_3} (3)$$

The logarithmic form of the expression (3) is

$$\ln P = \beta_1 \ln X + \beta_2 \ln N + \beta_3 \ln T (3a)$$

The coefficients of titles and number of pages variables are anticipated to be positive while the coefficient of quantity of books variable is expected to be negative.

Then, the number of the new titles introduced is determined by the national income and the costs of production. That the income is relevant factor is supported by the observation that the larger economies, OECD countries in particular, produce more book titles (Hjorth-Andersen, 2000, 2001). The cost of production is also important feature because these costs express the risk the publisher faces introducing the new title, the performance of which is uncertain.

It may be tempting to link the number of the titles to the price since it seems plausible to expect that the rise in prices in the marketplace will influence the decision of the producer. But against this premise comes the postulation that the publisher will choose the price and number of new titles simultaneously with the total edition to be printed. If the quantity of copies of the particular title goes above the expected one the publisher will order additional printing but if the title

under-performs the publisher may simply withdraw the remaining copies from the market and destroy them, which is quite a common practice.

The title equation, thus, in general terms, is the following:

$$T = k(N, Y)$$

Where T is the number of the new titles introduced; N is the average number of pages per book; Y is the real disposable income. In the parameterized form excluding a constant for simplicity it is:

$$T = N^{\gamma_1} Y^{\gamma_2} \quad (4)$$

The logarithmic form of the expression (4) is

$$\ln T = \gamma_1 \ln N + \gamma_2 \ln Y \quad (4a)$$

The coefficient of income variable is anticipated to be positive while the coefficient of number of pages variable is expected to be negative.

The equations for the demand for books (1), for the price of books (3) and for the number of the new titles (4) constitute the general model of the book market.

The total quantity of books to be purchased is determined by the consumers. The number of the new titles to be introduced and the price for each title is determined by publishers. In this model the retail sector is absent thus the prices set by the publishers are identical to those faced by the consumers.

The simultaneous model of equations (1a), (3a) and (4a) can be solved for quantity and price:

$$\ln X = (a_1 \beta_2 + a_1 \beta_3 \gamma_1 + a_3 \gamma_1) / (1 - a_1 \beta_1) \ln N + (a_2 + a_1 \beta_3 \gamma_2 + a_3 \gamma_2) / (1 - a_1 \beta_1) \ln Y \quad (1c)$$

$$\ln P = (\beta_2 + a_1\beta_1\beta_3\gamma_1 + a_3\beta_1\gamma_1)/(1 - a_1\beta_1)\ln N + (a_2\beta_2 + \beta_3 + a_1\beta_1\beta_3 + a_1\beta_1\beta_2\gamma_2 + a_3\beta_1\gamma_2)/(1 - a_1\beta_1)\ln Y \quad (3c)$$

Where the real average price and the quantity of books sold are functions of the two variables determined exogenously, average number of pages per book as a proxy for the cost of production, and the real disposable income. Though, it is impossible to establish the signs of the coefficients in these equations a priori.

These last two equations (1c) and (3c), while may be interesting in describing macro determinants of the book market, are not appropriate for analyzing the policy measures impacts because they does not contain the variables subject to the policy measures. Such a variable in this case is the price of the book and that is why for the purpose of this research the equations (1a) and (1b) are best suited as well as the augmented version of equation (3a). The former two characterize the demand for books, and supply anyway, and the latter serves to establish the level of competitiveness in the market for books.

Chapter 4

DATA DESCRIPTION

The book publishing industry of Ukraine is rather small relative to the other sectors of Ukrainian economy. According to the State Statistical Committee this segment of economy produces the goods worth only of about 350 – 360 million hryvnias annually. Last year by the figures of the Book Chamber of Ukraine the Ukrainian publishers produced books with total circulation of 50 million copies, of which 30 million copies in Ukrainian. The number of new titles introduced within this period is more than 10 thousand.

The statistics of the Book Chamber of Ukraine also witnesses that there are more than 3000 registered publishers. However the last year only 1231 publishing firms were producing of which about 300 –350 publishers produced more than 5 titles. But there are a few big publishers, which publish several hundreds new titles annually and which might have certain level of control over the market.

Apart from that there are about 150 registered book distributors and about 500 specialized bookshops. The books are also traded by a great number of private entrepreneurs. Although the majority of these distributors are quite small there are several very big booksellers such as “Orfey” (“Orpheus”) and “Bukva”

(“Letter”). The on-line book sale is performed by only two local distributors: “Znannya” (“Knowledge”) and “Bambook.com”.

The books in Ukraine are mainly printed by 25 presently existing specialized printing-works. They all are owned by the state and belong to the state joint stock enterprise “Ukrvydavpoligrafiya” (Ukrainian publishing and printing). The equipment of these printing shops is out-dated having depreciated for about 80 per cent. That is why the production of books is quite costly. The share of paper in the total cost of a book is about 30 – 35 per cent, the share of printing costs in the total cost of a book is 10 – 15 per cent.

The book market of Ukraine is regulated by twenty-two legislative acts of the Verhovna Rada (Parliament), President of Ukraine and Cabinet of Ministers of Ukraine. Recently the Ukrainian publishers were exempted from the tax on profits and it gave the outburst of publishing activity in the country. But Ukraine remains the only country in Europe, which levies the value added tax on books.

All the mentioned above to a certain extent describe the situation on the Ukrainian book market however not in full. It is the tradition, which is inherited since the times of the former Soviet Union and even before, to read in Russian and from the Russian publishers. Thus the Russian books continue to occupy the larger share of Ukrainian book market. There are speculations on the real data of imported books on the national level, the different experts refer to different statistics varying from the 20 to 70 per cent of the total market, but the actual figures are not available due to the fact that the books are not subject to the

custom duties and predominantly imported by the private entrepreneurs who are not obliged to provide the statistics to the government bodies.

The data for this research consists of two data sets. The first dataset was prepared by the writing author. It is survey made in different locations of book selling establishments in Kyiv by randomly picking the books that are on sale. In fact there are five places where these data were collected, the bookstore “Bukva” (“Letter”), the specialized book-market “Petrivka”, with many small booksellers, the book section of the store “Kvadrat” (“Square”), the specialized Ukrainian language bookstore at Kyiv-Mohyla Academy, the bookstore at Darnitsa district. The observations entering the dataset are distributed by the relative size of these bookselling institutions. Since the bookstore “Bukva” (“Letter”) and the book market “Petrivka” are the biggest ones in Kyiv they are represented by the two hundred observations each while the other three bookshops being of the medium size are represented by the one hundred observations each.

The data have the following characteristics: standard characteristics of the book such as price of the book, number of copies per title, and number of conventional pages per title. The conventional page is the generally accepted measure of the manuscript length*. Then the data contain the information on the book’s specific characteristics such as language of the book, origin of the publisher, quality of the book (hardback or paperback), number of authors as well

* Conventional page is equal to standard 24 typed pages of A4 format with 40000 printed symbols

as the type of book, whether it belongs to the textbooks, fiction or other, all the rest, category.

The price was the one indicated on the book or called by the individual retailer.

The number of conventional pages and circulation are the characteristics indicated in the book itself, this is required by the state standards of Ukraine and Russia. The other properties of the book such as language, publisher's origin, cover, number of authors and category were determined by observation.

Initially the data on 700 books were collected then 81 books with insufficient information and typos were excluded from the set, thus remaining the number of 619 books is used for this research. (Table 1 in Appendix)

The mean price of the books in the dataset is 17.37 hryvnyas, the median price 12 hryvnyas, the maximum price is 180 hryvnyas and minimum price is 0.50 hryvnyas. The mean circulation of the books in the dataset is about 20 thousand copies per title, median circulation is 8 thousand copies, maximum circulation is 200 thousand copies, and minimum circulation is 300 copies per title. The mean number of conventional pages per title is 21.25, the median number of conventional pages is 16.80, the maximum number of conventional pages is 145.53 and the minimum number of conventional pages per title is 0.54. Of the total number of books in the data set the books in Ukrainian constitute 32 per cent, while the books in Russian – 68 per cent. In the dataset the Ukrainian publishers are represented by 39 per cent of books, while the foreign publishers, Russian and Belarusian, - by 61 per cent of books. The books in hard cover form

67 per cent compared to 33 per cent of the paperbacks. 72 per cent of books have one author and 28 per cent has more than one author. The type distributes the books as the following: the textbooks are 24 percent, the fiction books are 41 per cent and the books of other categories are 35 per cent.

Further the general dataset is divided into two subsets according the language. In the Ukrainian language subset the book distributed as the following. The mean price of the books is 18.33 hryvnias, the median price 15 hryvnias, the maximum price is 155 hryvnias and minimum price is 0.50 hryvnias. The mean circulation of the books in the subset is 11.39 thousand copies per title, median circulation is 3 thousand copies, maximum circulation is 150 thousand copies, minimum circulation is 0.30 thousand copies per title. The mean number of conventional pages per title is 20.71, the median number of conventional pages is 17, the maximum number of conventional pages is 112.60 and the minimum number of conventional pages per title is 0.54. Local publishers produce all the books in Ukrainian. The books in hard cover form 60 per cent compared to 40 per cent of the paperbacks. 54 per cent of books have one author and 46 per cent has more than one author. The type distributes the books as the following: the textbooks are 46 percent, the fiction books are 22 per cent and the books of other categories are 32 per cent.

In the Russian language subset the book distributed as the following. The mean price of the books in the subset is 16.93 hryvnias, the median price 10 hryvnias, the maximum price is 180 hryvnias and minimum price is 1 hryvnias. The mean

circulation of the books in the subset 23.88 thousand copies per title, median circulation is 10 thousand copies, maximum circulation is 200 thousand copies, minimum circulation is 1 thousand copies per title. The mean number of conventional pages per title is 21.50, the median number of conventional pages is 16.80, the maximum number of conventional pages is 145.53 and the minimum number of conventional pages per title is 1.21. Of the total number of books in Russian the Ukrainian publishers are represented by 11 per cent of books, while the foreign publishers, Russian and Belarusian, - by 89 per cent of books. The books in hard cover form 71 per cent compared to 29 per cent of the paperbacks. 81 per cent of books have one author and 19 per cent has more than one author. The type distributes the books as the following: the textbooks are 14 percent, the fiction books are 50 per cent and the books of other categories are 36 per cent.

As can be seen from the data the books in Ukrainian language are priced higher and have lower circulation then the books in Russian language. The distinct dissimilarity between these two sub-samples is typology of books. The textbooks constitute half of the Ukrainian language sub-sample while the half of the Russian language sub-sample is the fiction-books. The textbooks among the Russian language are about 14 per cent while the fiction books are about 20 per cent in the Ukrainian language books. The pattern of ratios between the hardbacks and paperbacks as well as one author and more then one author is preserved in both sub-samples but they are higher for the books in Russian, the latter is because the textbooks, which prevail in Ukrainian language sub-sample, are more likely to be

written by the cooperating authors while the fiction is usually a product of creative efforts of one author.

The second data set is obtained from the Internet site of the bookseller “Znannya”^{*} which executes online orders via mail delivery. This dataset includes 5048 entries, which are predominantly the textbooks and dictionaries. This sample has the information about the price of the book, the year of production, the book length in pages, as well as the indicators of the category of the book. There are ten different categories of the books and they are philosophy, culture, economics, law, technique, medicine, agriculture, language, education, and encyclopedias. (Table 2 in Appendix)

The mean price of the book in this dataset is 23.13 hryvnyas, the median price is 16.80 hryvnyas, the maximum price is 1415.70, and the minimum price in the set is 0.80 hryvnyas. By the year of the production the books are distributed in the following way: 2003 – 5.25%, 2002 – 42.08%, 2001 – 29.64%, 2000 – 13.53%, 1999 – 4.77%, the books produced more than five years ago, in 1993 – 1998, 4.73%. According to categories the books are distributed as the following: philosophy – 9.49%, culture – 7.53%, economics – 30.60%, law – 15.35%, technique – 16.52%, medicine – 6.95%, agriculture – 1.94%, language – 8.69%, education – 2.20%, and encyclopedias – 0.71%.

^{*} www.books.com.ua

These two samples differ in scope and character of the data therefore they are used for the different purposes. For the purpose of this research the emphasis is laid on the first dataset while the second one is used as the supplementary sample.

Chapter 5

EMPIRICAL ESTIMATION

The empirical analysis for answering the questions of this research is made based on the framework proposed in the theoretical part; however the certain changes are inevitable in the view of the data available. First of all, the demand equation can be estimated only in shortened form. Since the data reflect the momentary picture of the situation in the book market the real disposable income is assumed to be fixed in the short run. The number of the new titles annually introduced in the economy is also assumed not to change during this period for the same reason. For the simplicity these numbers are assumed to be equal to unity*.

Moreover, the demand equation can be added with the factors that are expected to affect the quantity demanded by the consumers. They are the language of the book, whether the book in Ukrainian or in Russian, the quality of the book-jacket, and category of the book such as the textbook, fiction book or all the rest. It is also important whether the publisher is domestic or foreign, because the foreign publishers, which are predominantly Russian, are likely to publish titles with greater demand for several reasons. First, these titles are of famous Russian

* The basic demand equation then becomes: $Y = p^\alpha$

literature authors as well as translation of the world's classics. Then, the present day translations of western bestsellers are more likely to be made by the Russian publishers. Finally, due to the one way language barrier the Russian bestselling authors, who cooperate with Russian publishers aiming at the bigger market, are popular in Ukraine while Ukrainian writing authors are not readable in other Russian language area countries.

The Ukrainian book market has a particular feature in that the books from the neighboring Russia and Belarus are extensively and unrestrictedly traded here. Thus the characteristics of the market for books can be correctly examined when this fact is taken in account. On the other hand the books published by the foreign publishers are also distributed in their native market and consequently the circulation indicated at their books are not likely to be totally consumed by the Ukrainian readers but part of it is expected to be sold there. But it is rightfully supposed that the Ukrainian book market is a part of the entire market for the Russian language books, which continue to exist from the times of the former Soviet Union. It also plausible to suppose that the book in Russian published by the Ukrainian firm is traded in Russia and other countries of so called Russian language area. In other words, the Russian language books published by Ukrainian publishers also have a larger market. Therefore, it is assumed that the circulation indicated by publishers is decided taking into consideration the size and nature of this entire book market and the Ukrainian book market is its integrated part.

As was mentioned before the welfare analysis of taxation is sensitive to the market structure. That is why prior to the estimation of the demand characteristics it is necessary to determine the competitiveness of Ukraine book market.

The regression analysis is done in the manner proposed by Laband and Hudson (2003), initially using the first dataset and then the second one. The results of econometric estimation on the basis of the first dataset suggest that the pricing in the Ukrainian book market is done by the cost principle that is the price is set in the view of the costs incurred by the producer. (Table 3 in Appendix)

First of all, the simple inspection of the available data indicate that there is no evidence of the third degree price discrimination in the Ukrainian book market because on the contrary to the findings of Laband and Hudson (2003) there is only one instance when a book published in hardback and paperback simultaneously*.

However, the monopolistic behavior of the publisher may be consistent with the segregation of the multiple markets based on the certain characteristics of a book, such as language and category. The publishing firm thus should charge different prices in different markets. Though, the econometric estimation does not confirm the existence of any segregating behavior and market power with publishers on the basis of language. Indeed, the significant coefficients in this regression are at the number of conventional pages, which is directly affecting the cost of

production and at the textbook category. But the further analysis reveals that this result is not the evidence of publisher's market power because the textbooks tend to be priced lower than other books while this category's price elasticity is not greater than that of the total sample. (Table 7 in Appendix)

Theoretically, the number of authors, since the publisher has to bargain with many authors instead of one, can theoretically increase the transaction costs, hence price of the book. The domestically published books might have lower transportation costs thus *ceteris paribus* the lower price. The costs of production are also higher for the hardbacks than for the paperbacks due to the higher cost of canvas, binding, etc. But the present analysis implies that these factors are also insignificant in publishers' decision-making process of setting prices.

It is interesting but for the textbook category the coefficient at the paperback is significant and has positive sign which contrary to the expectations entails that the paperbacks are priced higher than hardbacks. (Table 3 in Appendix) Close inspection of the books on sale in book market "Petrivka" reveals that in this sub-sample the textbooks in paperback are mainly the translated modern textbooks while textbooks of domestic authors are traditionally published in hardback. For example, the Ukrainian language version of the popular economics textbook "The Economics of Public Sector" by Joseph Stiglitz was recently published in paperback. Thus the price of the book can depend on whether the book is translated as well as the other characteristics such as the quality of paper,

* Russian language translation of Paulo Coelho "The Alchemist"

design, etc, but the existing data does not allow testing these hypotheses. But even it is so these factors are much more connected to the cost of production than to the segregation of the various book markets and thus does not undermine the conclusion that the Ukrainian book market is quite competitive.

The similar regression analysis on the second data set may suggest that there is some sort of monopolistic behavior. In fact, running a regression on the different subjects while controlling the length of a book in pages and the year of publishing produces significant coefficients at these subjects. However, this result may merely reveal the existence of the market power at the hands of the retailer, which is of only two Internet booksellers in Ukraine, and also only in the textbook category, which a priori has the lower elasticity of demand than the other categories. Thus, this outcome is not likely to be consistent with the publishers' behavior in the market for books as a whole. (Table 4 in Appendix)

The discovery of the perfect competitive nature of Ukrainian book market straightforwardly advocates the usage of a simple incidence analysis of taxation in the fashion of Cullis and Jones (1998). The determining of "who pays the tax" requires only the assessment of the price elasticity of demand and price elasticity of supply.

For the econometric estimation of the first the circulation in number of copies per title is regressed on the price and other controls such as category and other characteristics of the book such as language, origin of a publisher, cover, and number of the authors. The logarithmic specification of the demand equation

provides elasticity of demand as the coefficient at price. This regression examination shows the almost unit elasticity of demand for books in Ukraine. (Table 5 in Appendix) Since the supply is by assumption infinitely elastic the incidence analysis suggests that the tax burden falls entirely on the consumer and what this study finds is that the increase in price is equal to the size of the tax.

The impact of policy measures of Ukrainian authorities though is felt only with the books published by locals because the foreign publishers are not subjected to any regulative procedures and can freely deliver their production. Thus to determine the real impact of taxation on the Ukrainian book market the segmentation of the dataset according to the origin of the publisher and the language is necessary. The regression estimation similar to the one done to the whole sample when applied to the sub-sample of books by local publishers gives the following results. (Table 5 in Appendix) The elasticity of demand for the books of local publishers is a bit higher then the same for the whole dataset. According the calculation appropriate with the cost benefit analysis the deadweight welfare loss from the imposition of the value added tax last year was about 20 million hryvnias, or, in other words, the Ukraine under published about 1 million book copies.

But in the context of the language the picture is a bit different. The elasticity of the demand for the books in Ukrainian are twenty percent less then the same indicator for books in Russian, but it is statistically significant only at the margin. (Tables 6, 9 in Appendix) Thus, the taxation of the books in Ukraine leads to the

decrease in the quantity of the books published by Ukrainian publishers, but to the more than proportional decrease in the quantity of the books in Russian published by them.

This result is envisaged because the books in Russian published by Ukrainian publishers are quite substitutable by their analogues from Russia and Belarus. Moreover, almost the half of the sub-sample of books in Ukrainian are the textbooks and since according to the regulation the education in Ukraine is done in Ukrainian the textbooks in Ukrainian are seldom substituted by their analogues in Russian.

The finding that the demand for books in Ukraine is unit elastic can be compared to the price elasticity of the demand for the Danish book market that is about one and a half (Hjorth-Andersen, 2000) and for the German book market (Bittlingmayer, 1992) that is between two and three. The comparative inelasticity of Ukrainian book market is due to the particular character of the data since those researches used the industrial data while this research uses the market survey data thus it bears the influence of the retail sector, which adds the departure from the perfect competition character, among the other factors due to the existence of a few big distributors. As was stated above the whole dataset suggests that the Ukrainian market for books is competitive. Yet the sub-samples exhibit the different levels of monopolization and the price elasticity of demand. The sub-sample taken at the small bookshop specializing in the Ukrainian literature mostly educational at the center of the town produces the results incompatible with the

overall conclusion. The price elasticity is only forty percent of the one for the whole sample and not surprisingly it presents some support for the existence of monopoly power since the coefficients at the paperback and fiction are negative and significant indicating that the books in paper cover and fiction books are indeed priced cheaper. (Tables 3, 8 in Appendix)

As final word of the empirical part it must be pointed out that the econometric analysis is made using the ordinary least squares methodology. The potential problem of endogeneity is ruled out by applying the Hausman test, which strongly rejects it.

Chapter 6

CONCLUSIONS

The books are very important part of the life of the society. As Hjorth-Andersen (2000) said “Books are without any doubt a major factor in the cultural life of the nation; however not very much attention has been devoted to the book market in cultural economics”. In context of Ukraine this problem seems to be very polemical in the media. First of all, because of the sad fact that Ukraine remains the least publishing country in Europe and, secondly, because of being one of very few to levy book with full size value added tax. That is why the economic considerations are put forward and initiated this research.

The simple test on the existence of the monopolistic behavior of the publishers in the Ukrainian book market in general shows that this sector of the Ukrainian economy is quite competitive. However, segmentation of the whole market into sub markets according some criteria such as location may reveal some indication of the market power but this is the result of the activity of the retail sector. Then econometric investigation of the data available suggests that the demand for books in Ukraine is unit elastic. Based on this fact the cost benefit analysis suggests that the taxation will lead to the proportional increase in the price of the books and the corresponding

decrease in the number of copies published. As a result the Ukrainian books are substituted by their Russian and Belarusian analogues because the books of the publishers from those countries are traded freely in Ukraine.

The policy implications of this finding are straightforward and it is suggested that the books should be exempted from the value added tax or at least it should be levied at significantly reduced rate. As the result the Ukrainian publishers will become more competitive and will increase the production for the local market as well as for the markets of CIS countries. The readers also will benefit by having greater access to the cheaper priced books.

The examination of the language separated sub markets suggests that the impact of the value added tax on the demand for Ukrainian literature is not as severe as for the Russian language books published by the local publishers. However, the choice of the language generally lies in the sphere of the consumer preferences and cannot be subject of the straightforward policy measures but some non-economic regulations can influence the choice of the reading material.

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APPENDIX

Table 1. The descriptive characteristics of the first data set

Characteristics	Samples				
	Total Sample	Ukrainian Language Sub-Sample	Russian Language Sub-Sample	Local Publishers Sub-Sample	Foreign Publishers Sub-Sample
Mean Price, Hryvnya	17.37	18.33	16.93	18.11	16.09
Median Price, Hryvnya	12	15	10	15	10
Maximum Price, Hryvnya	180	155	180	155	180
Minimum Price, Hryvnya	0.5	0.5	1	0.5	3
Mean Circulation, Thousand Copies Per Title	19.89	11.39	23.88	11.45	23.56
Median Circulation, Thousand Copies Per Title	8	3	10	3	10
Maximum Circulation, Thousand Copies Per Title	200	150	200	150	200
Minimum Circulation, Thousand Copies Per Title	0.3	0.3	1	0.3	4
Mean Number of Conventional Pages	21.25	20.71	21.5	20.77	21.02
Median Number of Conventional Pages	16.8	17	16.8	17	16.8
Maximum Number of Conventional Pages	145	112.6	145.53	112.6	145.53
Proportion of Books in Ukrainian, %	32	-	-	80	0
Proportion of Books in Russian, %	68	-	-	20	100
Proportion of Books by Domestic Publishers, %	39	100	11	-	-
Proportion of Books by Foreign Publishers, %	61	0	89	-	-
Proportion of Books in Hardback, %	67	60	71	61	71
Proportion of Books in Paperback, %	33	40	29	39	29
Proportion of Books by One Author, %	72	54	81	55	83
Proportion of Books by More Than One Author, %	28	46	19	45	17
Proportion of Textbooks, %	24	46	14	40	13
Proportion of Fiction Books, %	41	22	50	25	52
Proportion of Other Books, %	35	32	36	35	35

Table 2. The descriptive characteristics of the second data set

Characteristics		Internet Sample	
Mean Price, Hryvnyas		23.12	-
Mean years in stock		1.88	-
Mean number of pages		380.65	-
Category of Book	Philosophy	479	9,49%
	Culture	380	7,53%
	Economics	1545	30,60%
	Legal	775	15,35%
	Technical	834	16,52%
	Medicine	351	6,95%
	Agriculture	98	1,94%
	Language	439	8,69%
	Education	111	2,20%
	Arts	36	0,71%
	TOTAL	5048	

Table 3. The estimation of the price equations for selected sub samples of the first data set (Total Sample, Textbook sample and Center-of-the-City Sample)

Dependent Variable: PRICE						
Method: Least Squares						
	Total Sample		Textbook sample		Center-of-the-City Sample	
Observations	619		149		98	
R-squared	0.537299		0.496497		0.470899	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
PAGES	0.889686	26.18493	0.684448	-1.890022	0.536611	7.083136
PAPER	0.461818	0.381251	5.183833	-1.159917	-4.116089	-2.550917
LOCAL	-0.485929	-0.228908	1.524589	2.202701	-	-
UKR	3.395290	1.515043	-2.323050	2.344074	-	-
TEXTBOOK	-2.730735	-1.761148	-	-	1.239248	0.661108
FICTION	-1.637663	-1.192493	-	-	-4.640357	-2.217890
__AUTHOR01	1.790031	1.246476	3.369796	-1.131485	3.055926	1.792490
C	-2.536548	-1.437920	-0.038964	2.654030	10.48048	4.165286

Table 4. The estimation of the price equations for the second data set

Dependent Variable: PRICE		
Method: Least Squares		
Observations	5048	
R-squared	0.234910	
Variable	Coefficient	t-Statistic
YEAR	1.447795	4.559311
PAGES	0.067679	36.77034
MEDI	-37.02112	-7.344550
LEGA	-42.74575	-8.705729
LANG	-43.37569	-8.685623
EDUC	-49.66882	-8.982638
ECON	-34.72298	-7.151461
CULT	-34.66838	-6.903265
AGRO	-34.82621	-6.203953
PHIL	-43.80766	-8.802017
TECH	-41.75655	-8.515014
C	39.05642	7.990189

Table 5. The estimation of the demand equations for selected sub samples of the first data set (Total Sample and Local Publishers Sample)

Dependent Variable: LOG(COPY)				
Method: Least Squares				
	Total Sample		Local Publishers Sample	
Observations	619		246	
R-squared	0.595927		0.530532	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic
LOG(PRICE)	-0.978830	-25.52136	-0.990314	-13.70319
PAPER	-0.330614	-4.369199	-0.478933	-3.509248
LOCAL	-0.436688	-3.290355	-	-
UKR	-0.604746	-4.282261	-0.606753	-3.491589
TEXTBOOK	0.308113	3.194434	0.540125	3.447276
FICTION	0.071162	0.832596	0.363629	1.996385
__AUTHOR01	-0.180101	-2.022226	-0.178996	-1.222250
C	5.094098	37.38702	4.578084	19.28053

Table 6. The estimation of the demand equations for selected sub samples of the first data set (Local Publishers' Books in Russian Sample and Books in Ukrainian Sample)

Dependent Variable: LOG(COPY)				
Method: Least Squares				
	Local Publishers' Books in Russian Sample		Books in Ukrainian Sample	
Observations	48		198	
R-squared	0.674939		0.445810	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic
LOG(PRICE)	-1.163797	-9.283942	-0.929754	-10.58976
PAPER	-0.395708	-1.236379	-0.519007	-3.357142
LOCAL	-	-	-	-
UKR	-	-	-	-
TEXTBOOK	0.685853	1.717534	0.559583	3.175665
FICTION	0.523102	1.497859	0.383707	1.771284
__AUTHOR01	-0.386933	-1.069762	-0.145536	-0.880823
C	4.946133	12.36264	3.800846	13.29184

Table 7. The estimation of the demand equations for selected sub samples of the first data set (Textbook Sample and Textbook in Ukrainian Sample)

Dependent Variable: LOG(COPY)				
Method: Least Squares				
	Textbook Sample		Textbook in Ukrainian Sample	
Observations	149		91	
R-squared	0.571729		0.403574	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic
LOG(PRICE)	-0.982176	-12.69081	-0.945564	-7.115436
PAPER	-0.892231	-5.404887	-0.191622	-0.780879
LOCAL	-0.087653	-0.234488	-	-
UKR	-0.737742	-2.018033	-	-
TEXTBOOK	-	-	-	-
FICTION	-	-	-	-
__AUTHOR01	-0.206094	-1.214997	-0.254213	-0.983478
C	5.126528	22.55877	-0.254213	12.08522

Table 8. The estimation of the demand equations for selected sub samples of the first data set (Center-of-the-City Sample)

Dependent Variable: LOG(COPY)		
Method: Least Squares		
	Center-of-the-City Sample	
Observations	98	
R-squared	0.458540	
Variable	Coefficient	t-Statistic
LOG(PRICE)	-0.353334	-1.890022
PAPER	-0.209195	-1.159917
LOCAL	-	-
UKR	-	-
TEXTBOOK	0.452380	2.202701
FICTION	0.549676	2.344074
_AUTHOR01	-0.213207	-1.131485
C	1.566328	2.654030

Table 9. Test of significance of the difference between the coefficients of price elasticity of demand for Ukrainian and Russian Language Books

Dependent Variable: LOG(COPIES)

Method: Least Squares

Date: 05/18/04 Time: 23:43

Sample(adjusted): 1 246

Included observations: 246 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(PRICE)	-1.164346	0.139163	-8.366790	0.0000
PAPER	-0.489444	0.136343	-3.589794	0.0004
UKR	-1.129548	0.397381	-2.842479	0.0049
LOG(PRICE)*UKR	0.238883	0.163387	1.462074	0.1450
TEXTBOOK	0.566717	0.157365	3.601293	0.0004
FICTION	0.394895	0.182966	2.158298	0.0319
__AUTHOR01	-0.190496	0.146312	-1.301986	0.1942
C	4.925794	0.335666	14.67468	0.0000
R-squared	0.534711	Mean dependent var		1.675296
Adjusted R-squared	0.521026	S.D. dependent var		1.465693
S.E. of regression	1.014376	Akaike info criterion		2.898403
Sum squared resid	244.8920	Schwarz criterion		3.012398
Log likelihood	-348.5036	F-statistic		39.07290
Durbin-Watson stat	2.292391	Prob(F-statistic)		0.000000

Table 10 Hausman test

Dependent Variable: LOG(COPIES)

Method: Least Squares

Date: 04/14/04 Time: 18:44

Sample(adjusted): 1 619

Included observations: 619 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(PRICE)	-0.983118	0.045116	-21.79075	0.0000
PAPER	-0.331885	0.076054	-4.363781	0.0000
LOCAL	-0.438407	0.133163	-3.292271	0.0011
UKR	-0.602242	0.142010	-4.240841	0.0000
TEXTBOOK	0.307509	0.096587	3.183744	0.0015
FICTION	0.070551	0.085605	0.824149	0.4102
__AUTHOR01	-0.179903	0.089138	-2.018243	0.0440
RESI	0.000535	0.002961	0.180838	0.8566
C	5.105136	0.149400	34.17096	0.0000
R-squared	0.595949	Mean dependent var		2.197866
Adjusted R-squared	0.590650	S.D. dependent var		1.330405
S.E. of regression	0.851199	Akaike info criterion		2.530092
Sum squared resid	441.9696	Schwarz criterion		2.594475
Log likelihood	-774.0635	F-statistic		112.4638
Durbin-Watson stat	2.184124	Prob(F-statistic)		0.000000