Accession to the WTO, Observation of Copyright and the Iranian Book Market

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Abstract

This paper seeks to respond to this major question that if Iran accedes to the World Trade Organization (WTO) and observes copyrights, in the realm of intellectual property, what demand and supply changes would occur in Iran's book market. To respond the above question first some instances of breaching the copyrights in book publishing sector is investigated. Then calculating the price and income elasticity, the impact of observing the copyrights on price and income, and therefore on the demand and supply for books in short term is demonstrated. The findings of this research reveal that with accession of Iran to WTO and observation of copyright, some of the subsidies to the book sector must be terminated, and also the non-national authors would receive royalties. With elimination of subsidies and payment of royalties book price will increase by an average of 7.5 percent and demand would decrease by 13.35 percent. But, supply will show less sensitivity and its increase in short term would be insignificant. Yet, as experienced in other countries, for numerous reasons such as entering the international markets and increased quality, the printing volume of books will increase. In long term, the experiences of other countries have shown the same trend.

Keywords: World Trade Organization, Demand and supply for books, Copyright, Organization of Intellectual Property, Iran

JEL Classification: Z11, D12, D21, F19, H25, N26

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Issue description and importance

At the present time most countries have acceded to the WTO and have more than 97 percent of the share of the international trade. Practically, non member countries will not be in the position to have a significant role in the international trade.

The ultimate goal of the WTO as reflected in the final paper of Uruguay Round of trade negotiations and approved by member countries in Morocco in 1994, is development of trade relations and integrating markets of the countries, as a result of which a division of world labor emerges; and ultimately, the goal is exploiting the relative advantages of countries to increase welfare of all societies.

It is shown by experience that according to the classic views, trade could act as an engine of economic development. If countries have trade relations, their production (compared to pre-trade time) will increase. The excess production is made because of the trading. The excess production could behave as a tool for accumulation of capital -which is the first principle of economic development. At the present time there is no developed country unless it has extensive trade relations with other countries and it, usually, is a member of the WTO. In fact it is the interaction with other countries that enables a country to reach its proper role and status in a global arena. Countries which follow a closed economy usually have the least GNP and the least economic growth and face major economic problems.

Obviously, the enjoyment of all the countries which are trade partners, from the excess value gained from trade, depends on their "transaction rate". In fact the proportional rate of gain from the excess trade value that is created because of using relative advantage among countries depends on the transaction rate among them. If the rate of transaction is one sided, it only enables a group of countries with higher economic power to enjoy the excess value. In this case the weaker countries either won't gain any thing or their gain will be nominal.

In any case what was said above is an undeniable fact that on the one hand the smaller countries might have a lesser share of the excess value gained from trade, and on the other hand if the trade relations are discontinued, even the marginal gains are lost. More importantly, the global necessities in economic arena require that to reach development, national economy could not remain living and closed.

Iran is among the countries that have filed for membership in the WTO and its request for accession has been turned down twenty times. Finally, in 2005 there was an agreement to start the negotiations for accession, and it will join the organization some times in future.

In fact there is no option. There were times that the issue was whether or not to join the WTO. Some experts supported the idea and some others opposed. But, at the present time, it should be considered that how the economy would

change as a result. What policies and programs should be adopted in case of accession, and what measures are needed to be taken to shield the economy against any form of crises and shocks.

In this study one of the aspects of the issue is discussed: What transformations would happen in the book publishing sector, in relation to intellectual property rights, if Iran joins the WTO?

In other words, what are the economic impacts of accession to the WTO on the book publishing sector? How could one reduce the losses caused by accession in short term, and increase the benefits?

The most important issue in relation to the book publishing sector is ratification of The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and enforcing a copyrights law.

On this basis the main thesis of this research work is that "accession to the WTO and observing copyrights in the domain of intellectual property in the book publishing sector, in short term will cause economic loss, but in long term benefits the country."

The importance of investigating this hypothesis in Iran, in terms of accessing the WTO, maybe because of the fact that, the economic interests of countries with private and competitive structures, is more than those of countries with public or monopolized economic structures. In Iran the government, has a strong presence in book publishing sector, and its presence is such that no book is published, unless the government has published it or assisted its publication or has permitted its publication. Hence, the economic structure of the cultural sector including book publication is not prepared to deal in a strong and timely manner to prevent negative implications of accession to the WTO. Therefore, to study the impacts of accession on intellectual property, especially in book publication is significant.

Copyrights literature in Iran and other countries

There are numerous studies on the issues related to the WTO and the economic consequences for Iran in case of accession, yet none has discussed the degree of possible loss or gain in the book publication sector.

Farshad Mo'meni has studied cultural impacts of joining GATT and, in general, has some reservations about that. His suggestion is not to join the organization and argues that accession to the WTO will cause irreversible consequences to the cultural sector of the country (Mo'meni, F. 2000).

Karim Emami has studied the rationales for either join or not to join the Author's Rights Convention (Emami, K.1989). He has thoroughly researched the arguments for and against the idea, but has not quantified the impacts and consequences of ratification.

Some other authors have also briefly surveyed the issues related to the rights of the authors in Iran and round the world (Naraghi,M. 1993).

Ali Aazam Mohammad Baigy has studied the national system of author's rights in the country and while suggesting to enact the copyrights regulations in national and international transactions, has pointed out numerous cases of breaching copyrights in the country, focusing on the detailed cases (Mohammad Baigy,A. 2000). He has not quantified the impacts of accession.

Legal aspects of the author's rights is usually discussed in dissertations of law schools (Emami,K. 1972; Koochakipour,A.1992 & Safaee,1971) and in some cases author's rights in Iran is compared to that of other countries such as France (Saidfar,A. 1994).

There are different viewpoints on accession to the agreement on copyrights and its effects and implications. Shafiee Shakeeb believes that the cycle of attending to grievances makes it difficult to accede to the copyrights agreement (Shafiee Shakeeb,S. 2003).

Mohammad Motlagh emphasizes that the state of cultural production, literature, arts, and management of the country will face a serious crisis, if any copyright laws are enforced (Motlagh, M. 2003: p.5). On this basis majority of the publishers strongly oppose copyright patent laws (Habiba, S.2003:2).

According to Abdolhossain Azarang "Copyrights is not in our favor; it means enacting a copyright law would not benefit us, but there is no option; we have to accept the law" (Azarang, A. 2003: 3).

Alireza Mashyekhy believes one must join the agreement and go along with the global society (Mashyekhy,M. 2003: p. 3).

Mohamad Azizy, one the proponents of the copyrights agreement, believes joining the copyrights agreement wipes the theft accusation from publications (Azizy,M. 2003: 3).

Mohamad Shokryzadeh says: "Without acceptance of copyrights, we can not export our print services to other countries (Shokryzadeh,M. 2003:2).

The manager of Ghoghnoos publications, Amir Hossainzadehgan, - who is among a few publishers who observe the copyright laws regarding the non-national authors voluntarily, finds the copyrights agreement a prerequisite to attend international book markets. According to Hossainzadehgan the royalty he pays to non-national authors is ten percent of the retail value of each book (Hossainzadehgan,A. 2003: 3).

Kambiz Nouroozy, a lawyer, believes that the world will make us to pay the price of the thought, because it is a global trend. Hence, sooner or later those countries that have not joined the agreement will have to recognize it (Nouroozy,K. 2003:6).

Hamid Rahmani, a specialist in international publications, believes that ignoring copyrights, has given a sense of uncertainty to the foreign publishers, and most of the foreign books in Iran are offered through brokers. In such a condition we are deprived of all the advantages, such as launching bookstores,

complete, precise and correct information systems, marketing and the latest research of the time that a foreign publisher could bring to the country (Rahmani,R. 2003:5).

Karim Emami believes that accepting the copyright agreement is a must; in order to enter the world market we must pay the price (Emami,K. 2003:5).

Mohammad Hegmatanehei states that copyrights or to recognize the intellectual property rights of the author is not only a monetary issue, it also, willingly or unwillingly, refers to the social status and legal standing of the intellectual property owners (Hegmatanehei,M. 2003:6).

Goli Emami, translator, thinks audience crisis is an excuse: "Owners of the international works definitely consider a discount for the third world consumers. Certainly, price increase of cultural products wouldn't be to the degree that consumers change their buying patterns. Now we have an audience crisis: with one and a half million college students and several millions at secondary and primary schools, there is a run of two to three thousands of each title! Is not this a crisis? (Emami,G.(2003:5).

Redundant translation (Emami,M. 2003; Mehrnoosh,1985; Mahdavi,1989, Tabandeh,K.1972) is one of the issues that is studied as a negative consequence of not acceding to the copyrights agreement in international transactions.

Some have concentrated on the benefits of establishing criteria for intellectual property rights and believe observing the obligations related to intellectual property is damaging for developing countries (Omrani,L. 2000:p9).

Some authors have studied the right to inventions in regulations of the Agreement on Trade-Related Aspects of Intellectual Property Rights (Fathizadeh,A. 2003: P. 39).

Some have pointed out the need for establishing literary agencies that usually, through which the material rights of publications, are implemented. They, also, could be suitable consultants and agents for the authors. They emphasize to enter the world market, these agencies must be established, just as it is done in developed countries (Ghasaa,M. 2002: P.9).

There are other materials that are written about other countries or about the impacts of accession to the WTO and acceptance of the copyrights agreement. Some of these materials are purely theoretical, and some have focused on the legal issues of other countries; some others have studied the impacts of accepting author's rights.

These written materials are very extensive and cover a wide variety of issues and go beyond the scope of this paper to even touch upon them all. Yet, here some of them are briefly referred to.

In theoretical issues, Paul B. has tried to introduce a utility function for the consumer who uses both the original and copied works (cultural products). He

defines the theory of consumer behavior in a frame work of theories of microeconomics (Paul. B. 2002: 3).

Some have studied the policy related issues of copyrights and cultural policy and support for art products (Ruth, T. 2002: 66-79). The issue of relations between art and trade and study of the theoretical aspects of copyrights are among other sub-categories of this field (Kaves, R., 2002). Some others have studied exceptional cases in observations of copyrights (Barle, R., 2005).

There are other aspects of the subjects, such as: copyrights and data related to electronic software and protection of the rights of the creator (Ilene, T. 2003, Lia,S. 2000); Historical issues of copyrights (Barons, J. 1974; Patterson. R. 1968); Issues related to the creation of digital archives (Bask, J. 2003); Rights related to libraries (Cornish, J. 2004); Intellectual Property Rights, especially in Great Britannia (Flant, M., Clove, D., Tom, A. 1989; Vasta, N. P. 1990), Intellectual Property Rights in USA (Gabs Smith, Charles Harad, B. 1970); Goldstone, P. 1999), Freedom of Expression and copyrights (Jonathan, G. & O. M. S. 2005); Copyrights Laws, protections and responsibilities (Miller, R. 1991); Intellectual Property in Russia (Newcity, M. 1978); Intellectual Property in the information age (Poloman, E. V. 1980); Copyrights Law and Public Recitation of Music (Rothenberg, S. 1954); Copyrights Law and industrial design (Russell, K. & Lady, H. 2000; Allen, D. 1968); general issues of copyrights (Edward, K. 1952; Scarles K. 1980; Hoganholes, P. 1995); Copyrights and mass media (stematoud,I.A. 2002); Agreement on Trade-Related Aspects of Intellectual Property Rights (Sterling, J A L. 2000). The various issues have turned very extensive and are basically pertained to developed countries. In this regard, Kurd Kemper, the Director of Department for Development Cooperation and a consultant to the director of Art and Literary Property, advises the third world countries to enact the law of author's rights and its related rights and observe it, because the necessary condition to participate in the emerging system of international trade and investment is acceptance of the copyrights law (Kemper, 2003; Anderson, B. 2000).

Iran has filed its application for accession to the WTO and soon there is a start on Iran's accession negotiations.

The Agreement on trade –related Aspects of Intellectual Property Right has been approved on the Uruguay Round of trade negotiations.

One of the related sectors in which the copyrights is frequently breached, is the book publication sector, which will be discussed in this paper.

At first, considering available information and statistics, some cases of breaching copyrights in the book market is studied, then using an estimation of the demand and supply for books, we analyze the impacts of observation of copyrights in the book publishing sector.

A study in Book Publication Sector in Case of Accession to WTO and Observance of Copyrights

In Iran, the government has an essential role in book production, distribution and consumption. Considering the body of rules and regulations related to GATT, World Trade Organization and especially Uruguay Round of trade negotiations, and the Agreement on Trade-Related Aspects of Intellectual Property Rights, and consideration of other international agreements such as Rome and Paris Agreements, it seems in order to understand the economic impacts of accession to the WTO on the book market, the following topics should be studied:

A- At the present time often foreign books are reprinted and distributed locally, without permission or paying royalties to the authors. In case of accession to WTO this practice must be discontinued. Naturally, this would have a strong impact on the book market which should be studied.

B- Presently, foreign books are often translated to Farsi without permission and without paying royalties to the authors. In case of accession to the WTO and observation of copyrights this will have to be stopped or the translation and publication be done through paying royalties to the authors or the foreign publishers. Payment of monetary rights of the authors in such cases has an impact on the local book market which ought to be analyzed.

C- Government pays tremendous amount of subsidies to the producers and consumers in the book publishing sector. Some of these subsidies are considered "prohibited subsidies" that in case of accession to WTO must be reviewed.

Three of the above cases are studied in the following pages:

A- Offset Reprinted Books

All the data related to offset reprinting of books in Iran are gathered since 1996, and the data are available for up to Octobers 2004.

According to the data, the number of offset reprinted books, in different subjects in 1996, is a total of 260 titles of which 198 are first editions and 62 titles are the repeated editions. The average number of copies published is 3446 for each title, and the average number of pages is 414. The highest ranked subject areas of the books are, respectively, experimental sciences, languages and principles.

A study of the trends of the offset reprinting of books in the following years shows a similarity. In 1997, 264 titles are offset reprinted that the majority is with language books (145 titles) and next ranks belong to experimental sciences and principles. Totally, 188 titles are first editions and the rest are the following editions. The average number of pages for each book is 418, and 4350 copies of each are printed.

In 1998, a total of 557 titles are offset reprinted, that 388 cases are first editions and 169 titles are the following editions of the same titles. Most titles belong to foreign language books. The average number of pages for each book is 303 and the average number of copies published is 4370.

In 1999, overall, 686 titles are offset printed among them, 424 cases are first editions and the rest are the following editions of the same titles. Most of the titles are in subject areas of languages and experimental sciences, and the least number belongs to philosophy. The average number of pages per book is 356 and the average number of copies published is 5540.

In 2000, a total of 907 titles are offset printed, that 544 titles are first editions and the rest are the following editions of the same titles. Total number of books published is 5220603, which makes the average copies of each title 5822 and the average number of pages in each book is 279.

In 2001, a total of 1725 titles are offset reprinted. Most of the titles are in the subject area of languages and the least belong to philosophy and art. Out of this number, 1024 titles are first editions and 701 titles are following reprints. The average number of copies published per title is 5228, and each book in average has 296 pages.

In 2002, a total number of 1640 titles are offset reprinted, out of which 968 titles are first editions and 627 titles are following reprints. The average copies published for each title is 6231 and the average number of pages for each book is 229. The majority of titles belong to languages and those at the bottom rankings are art and philosophy.

In 2003, a total of 1235 titles of books are published, out of which 664 titles are first editions and 571 titles are the following reprints. The average number of copies printed for each title is 6083 and the average number of pages in each book is 274.

From April to October 2004, 445 titles are offset printed, of which, 266 titles are first editions and 179 are reprints of the same titles. The average number of copies published, per title is 4835 and the average number of pages per book is 330.

In table 1 a statistical report of books offset printed in the period mentioned above is demonstrated. According to this table most of the titles printed are done in the year 2000. In total, not considering the year 2004, for which the statistics are incomplete, (most books are published between October and March), it is observed that since 1995 the number of offset printed titles have been increasing, and then it has decreased.

Table 1: The statistics for offset printed books during 1996-2004

Year	Titles	1st edition	Reprints	Total copies	Average copies	Total pages	Ave pages
1996	260	198	62	878480	3446	261221	414
1997	264	188	76	1100350	4350	333880	418
1998	557	388	169	2426630	4370	587724	303
1999	686	424	262	3496100	5540	776343	353
2000	907	544	363	5220603	5822	1020812	279
2001	1725	1024	701	8795150	5228	1872578	296
2002	1640	968	672	10587426	6231	1831490	269
2003	1236	664	671	7446780	6083	1443004	274
2004	445	266	179	2127850	4835	521446	330

Source: Book House (Iran)

In case of accession to the WTO and enactment of a copyright law, obviously, the royalties related to books being offset printed should be paid. Here, the average number of the copies being published in the last three years is taken as criteria for the average number of books being offset printed per annum. Then we analyze the changes on that basis, and show the amount of royalties in terms of the titles, calculations and the amount for each title as r_f and show the total royalty payments as R_F. Then the amount of royalties payable to the non-national is equal to:

$$R_f = r_{FA} \frac{(1725 + 1640 + 1236)}{3} = r_{FA}(\frac{4601}{3})$$

$$\Rightarrow R_f = 1534 r_{FA}$$

Amount of R_f depends on the amount of r_{FA}. Another words, it depends on the amount of royalty payable for each book title.

Obviously, the amount of royalties is, usually, determined as a ratio of the number of copies published. Therefore, if r_F or the rights of the author is taken as a percentage of the number of copies published, and we calculate that number as the average number of the copies for the last three years of the study, the total amount of royalties payable to the non-nationals equals to:

$$R_f = \frac{(8795150 + 10587426 + 7446780)}{3} rf = 8943118 r_f$$

To ease the calculations, it could be rounded to:

$R_f = 9000000 \ r_f$

The amount of r_f depends on many factors which will be discussed later, in this paper. The equation illustrates the amount of the royalties payable for the

offset printed books as a percentage of the copies published in transactions with foreign countries, if Iran joins the WTO and observes the copyright.

B- Translation of books

The official statistics of the books translated to Farsi, up to the 10th month of the year 1383 Iranian Calendar (equal to the end of 2004) is collected and distributed.

Table 2 shows the statistics of the books translated from Apr. 1991 to Dec. 2004

According to this statistics almost 45 percent of the titles published in Iran, belong to the books translated from other languages. According to the copyrights regulations, to translate these books permissions would have been required and that in turns would have entitled the owners of the original works to the related royalties.

Table 2- Statistics of the books translated from April 1991to December 2004

Year	Translated	1st edition	Reprinted	Total Copies	Ave. No. of Copies	Total. Pages (1000)	Ave. No. of Pages	Total Price (1000)	Ave. Price
4.91-3.92	2567	668	1133	16710984	6509	4855852	290	19644997	1572
4.92-3.93	2368	1055	899	12699637	5363	3836215	302	25902334	2404
4.93-3.94	2405	1425	923	14283910	5939	4417806	309	32021233	2905
4.94-3.95	3179	1690	1431	16054200	5050	4760460	296	55740896	4426
4.95-3.96	2969	1500	1447	14934803	5030	4217682	282	85730216	7591
4.96-3.97	2456	1222	1201	13696818	5576	3864289	282	88550684	8934
4.97-3.98	3721	1986	1694	18299060	4917	5043847	275	126936170	8663
4.98-3.99	4357	2604	1722	18972855	4354	5383264	283	16739772	11101
4.99-3.2000	4428	2426	1964	2093449	4720	6546730	313	222193730	12792
4.2000-3.2001	4079	1998	2054	19736271	4838	6098803	309	226736188	14688
4. 2001-3.2002	5821	3019	2757	28174331	4840	8316012	295	395226621	20043
4.2002-3.2003	8214	4631	3532	37487153	4563	10356362	276	513763545	19217
4.2003-3.2004	8362	4512	3842	35996280	4304	10289641	285	516799568	18829
4.2004-2.2005	6763	3199	3564	28999744	4288	7365934	254	541512219	18673

Table 3 – The statistical report of the books published from April 2004 to January 2005

Subject	Total	Translation	authored	1st edition	Reprint	Total vol.	Ave. Vol.	total No pages	Ave. pages	Price (1000)
General	2811	407	874	653	628	4368800	3467	1201343	305	23929
Philosophy	1265	620	645	541	724	4734550	3776	1032119	244	17693
Religion	5564	1180	4384	2820	2477	33402702	6096	8197732	288	13538
Social Science	3235	685	2550	1736	1499	13632010	4283	2703739	249	19347
Language	2111	74	2037	822	1289	10039872	4848	2397411	250	17163
Natural Science/ math	2889	429	2460	1805	1084	10925100	3811	10925100	253	21515
Experimental Science	3868	1400	2468	1561	2307	12205010	3207	3037822	285	26698
Art	1142	382	760	464	678	4311490	4003	3037822	168	21385
Literature	5565	1361	4204	2293	3272	21848830	3960	623442	200	14784
history/Geography	1407	225	1182	557	850	4109860	3000	3386623	299	21078
sum	28327	6763	21564	13564	14763	119778224	4288	1083763	254	18672

Source . Book House (Iran)

If the number of titles translated in the last two months (Feb-March 2005) equals to one sixth of the year, there has been 8115 books translated throughout the year of the study. To study the impacts of the observation of the copyright agreement on translation of books, we need to consider the fact that in case of accession to the WTO and acceptance of Intellectual Property Rights in dealing with non-national, in translation sector, we must pay royalties to get permissions to translate the books. Therefore, if we assume for each title, on average, A_T Rials ought to be paid, then considering the annual growth rate of the books being translated, if we estimate to have an average of 10000 titles of translated books per year in future, then, the total amount of royalties to be paid is R_T as shown below:

$R_T = 10000 \, A_T$

Usually, the royalties are paid as a ratio of the number of copies published. Hence, taking that as criteria and noticing the fact that the average number of copies published in the last year of the study (April through October 2004) is 4929 copies, the amount of royalties is calculated to be r_t percentage of total copies published, then the sum total of the royalties to be paid to the non-nationals is:

$R_T = 10000*4929 \, r_t = 49290000 \, r_t$

The amount of R_T depends on the amount of r_t.

C- Book subsidy

In book sector, we face several types of subsidies, which need to be discussed here:

1.   The government purchases the books from the publishers after being printed. This purchase which is done to support the publisher, usually means buying 500 to 7oo copies or occasionally 1000 copies of each title and are donated to the public libraries. In fact, not all the budget that Ministry of Culture and Islamic Guidance allocates to book purchase is categorized as subsidies. But, the difference between the return of the capital in a logical term as is shown by the market, must be taken as the criteria. In 1998, Ministry of Culture and Islamic Guidance has paid 11,826,875,874 Rials to the publishers for purchasing books. The studies show, the return of capital in publication industries, takes an average of two years (Musai,M. 2000). If the publisher tried to sell the books bought by the Ministry, in the market, it would have taken two years. Hence, on average, the value of the endowment offered by the government through buying books equals to the interests of the amount of cash flow that on average, has been given to the publishers without interest. If the publishers wanted to obtain the same amount from the market at 4% monthly interest, they had to pay 5,676,900,000 Rials. So this amount is offered to the publishers as an indirect support.

The government spent 75 Billion Rials in 1381(Apr.2002- March-2003) and in the following year it reached 83 Billion Rials and it has reached 93 Billion Rials for the year 1383 (Apr.2004- march 2005) and based on the previously mentioned assumptions in that year the amount of the government support to the publishers, through purchase of their books is 45 Billion Rials.

2.   The second type of the government support for the book market is through allocation of paper to the publisher, usually at a great discount. The government pays the difference. These differences or the discounts reached a total of 21.5 Billion Rials in 81 (Apr. 2002-March 2003) and reached 28.5 Rials for the following year. In 1383 (Apr.2004- March 2005) in the annual government budget bill it was set as 37.5 Billion Rials.

This type of subsidy could have export effects and is among the subsidies that are prohibited by the WTO and would have to be stopped in case of accession to the Organization.

3.   The third type of the government's indirect support to the publishers is low interest rate loan. According to the government Task Notes some banks offer low interest rate loans to the publishers. This is an indirect support that is not reflected in official system or the cultural budget of the country, as financial support. But, it is a type of subsidy to be considered. The amount of credit payable to the publishers in 1383 (Apr. 2004- march 2005) was about

30 Billion Rials and according to the Note 2 of the Budget Bill, there is another 10 Billion Rials payable. These are paid at a 16 percent rate of interest. If this amount of cash is to be provided through the open market at a monthly rate of 4% (considering the high rate of inflation in Iran) the annual equivalence would be:

$$40,000,000,000*(48\%-16\%) = 12,800,000,000$$

It means the publishers are supported indirectly by almost 13 Billion Rials.

4.   The forth type of support that government offers the book market is to offer book coupons to the consumers. Unfortunately, there is no data and statistics available for this type of support. But, in a different research the amount of the book coupons in 1998 is estimated to be equal to 18 Billion Rials (Musai,M. 2000:106). This type of subsidy is not prohibited, because they neither have export impact, nor any effect on the foreign book market. Hence, it could be continued after the accession to the WTO.

Table 4 shows, the total governmental support for the book sector (minus the book coupons), in the last year of the study.

With previous explanations, and considering paragraphs A, B, and C, in previous pages, now the question is how the accession to the WTO affects the national book market. To be able to study the effects, we must study the impacts all at once, as a whole. For this analysis, we must have the functions of demand and supply. Hence, we should estimate the functions of demand and supply. Estimating the demand and supply, we could illustrate the impacts of observing copyright in translation sector, offset printing, subsidies, and on the average price of a book. Then, through impact of the price on demand and supply for books, we study the impacts of accession to the WTO. Therefore, in the next section we estimate the demand and supply functions.

Table 4. The amount of government subsidies to the publishers in 1383 (2004)

Type of support	Amount
1- Government support through book purchase from publisher	45,000,000,000
2- Government support through paper allocation	37,500,000,000
3- Government support through Loan	12,800,000,000
Sum total	95,300,000,000

Demand and Supply for Books in Iran

As any other commodity, books have a market and elements of the market are consisted of its demand and supply.

Considering the theoretical framework of demand and supply in economics, the functions of demand and supply for books in Iran's book market is introduced as:

$$Q_t^s = f(p_t)$$

$$Q_t^d = f(p_t, y_t, pop_t)$$

$$Q_t^s = Q_t^d$$

in which :

Q_t^s = Book supply at the time t

Q_t^d = Amount of demand at the time t

p_t = The Price index for book at the time t

y_t = The Society's income in time t

pop_t = Population at time t

It should be noted that the condition to the above mentioned equilibrium, is usually taken as long-term. In short term, none equilibrium could dominate the market, but in long term with improvements on the book market, it will return to a state of balance.

In this article demand and supply functions are estimated using available time series data for 1357-1383 (April1978- April 1994).

Before the estimation, it is required to evaluate the indicated time series variables for their stationarity.

In the following table the calculated results from the stationarity tests of variables using ADF Test (Augmented Dickey Fuller) are illustrated.

Stationarity test of variables at the level 0.5

Variable	Test statistics	Number of Pauses *	Result
Log(T.Copies)	-3.20	0	Non-stationary
Log(AVPRICE)	-1.34	1	Non-stationary
Log(CGDP)	-3.25	5	Non-stationary
Log(POP)	-2.69	1	Non-stationary
* The number of pauses in the ADF Test that are obtained based on (SIC)Schwarz statistics.			

As it is observed all the variables are non-stationarity. The following table demonstrates they can be first differenced for several times to induce stationarity

Variable	Test Statistics	*Number of Pauses	Results
Log(T.Copies)	1	-4.62	Stationary
Log(AVPRICE)	1	-15.54	Stationary
Log(CGDP)	1	-4.26	Stationary
Log(POP)	2	-5.53	Stationary
* Angmentd Dicky -Fuller			

Since all the indicated variables are non-stationarity, therefore to prevent the problem caused by spurious regression, the presence of co-integration among the variables must be assured.

Consider the following supply model for book: Q

$$Q_t^s = \alpha_0 + \alpha_1 p_t + u_t$$

α_0 = Constant

$\alpha_1 > 0$

u_t = Residual component

With substitution of the introduced variables, the supply model for book in the Iranian market is declared as:

$$\log(T_1 copies) = \alpha_0 + \alpha_1 \log(AVPRICE) + u_t$$

Since the above model is consisted of two variables, therefore, to be assured of the stationary of the residual components means a long term co-integration exist between the two variables.[1]

The resultants of the estimation of the above model would be:

Log(Tcopies)= 13.08+ 0.56log(AVPRICE)
            S.E: 1.30   3.48
        t-stat: 10.30   3.49
SMPL=1357-1383, R^2 =0.95, f- stat=98.52, d.w=1.80

It should be noted that in the above model in order to eliminate serial auto-correlation of the residual components, the moving average model of third order MA (3) is used.

As the resultant shows:
   A- The Resultant coefficients are meaningful and have the anticipated algebraic sign.

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1. Augmented Dickey-fuller

B- Statistic R$^\text{Y}$ implies the high explanatory ability of the model.

C- Statistic F implies the meaningfulness of the entire regression.

D- The coefficient of the variable Log (AVPRICE) shows that price elasticity of book in Iran is equal to 0.56. That means one percent increase in book price, increase the supply by 0.56 percent.

It is necessary to note that to assure absence of auto-correlations among the residual components LM test (Breusch- Godfrey Serial correlation LM test) with four pauses is applied and the resultants imply existence of serial auto-correlations among the residual components.

In order to assure a long term co-integration a co-integration test (Engle-Granger) is applied that is based on stationary test of the residual component of supply equation.

Stationary test of the Residual Component of supply equation

Variable	Test Statistic	Results*
Residual	-5.97	stationary

* The critical amount of test at 1% is equal to -3.90.

As observed above, the stationary of the Residual Component could not be rejected, therefore it could be stated that there is a co-integration relation between book supply and book price.

Demand function for book:

If we consider the table for book supply, as introduced previously, then:

$$Q_t^d = f(AVPRICE_t, CGDP_t, POP_T)$$

Since more than two variables are introduced in the model, therefore to study the importance of the co-integration relationship, Johansen Co-integration test is applied. In this test the variables used include: logarithm of book demand {log(t.copies)}; logarithm of book price {log(avprice)}; logarithm of Gross Domestic Products {log(CGPD)}; logarithm of population growth (D(log(POP)). As previously shown all these variables are I(1). Also, the variable of Population Growth Rate is considered as an external variable.

The resultants of the statistics Trace and Eigenvalue show the existence of a co-integration relations between the variables. The relationship is:

Log (t₁copres) = B₀ + B₁ log (Avprice) + B₂ log (CGDP)

In which :

$B_2 > 0$, $B_1 < 0$

Considering that the variable of population growth is an external variable, this variable is included in the model's ECM section and does not appear in long term relation. To include the impact of a high growth rate of the published books

in 1982 (1361) the dummy variable Dum1361 (which for 1982 (1361) it is taken as 1 and for the rest it is taken as 0) has been added to the above model and is calculated in ECM.

The obtained result from estimation of long term co-integration relation is:
Log(t.copies)= 42.1-1.78log(AVPRICE)+ 5.84(log(CGDP))
SE: 0.49   2.61
t-stat: 3.65   2.23

It should be noted that the optimal number of pauses in formula VECM is taken equal to one. This optimal pause is obtained on the basis of the minimum Schwarz statistics (Schwarz Information Criterion).

As it is observed:
A- Algebraic signs of the coefficients are meaningful and in accordance with theoretical anticipations.
B- The coefficient of the variable log (AVPRICE) is equal to -1.78 and implies that as a result of one percent increase in book price, the demand will decrease by 1.78 percent.
C- The coefficient of the variable log (CGDP) is equal to (5.84) and demonstrates that one percent increase in Real Gross Domestic Products increases book demand by 5.84 percent.

In order to assure the absence of serial auto- correlation of Residual Components, the LM Test for serial auto-correlations of the Residual Components (with four pauses) was applied and the resultants show that hypothesis zero based on absence of serial auto-correlations of residual components can not be rejected.

Considering the above materials, the resultants from the estimation of long-term functions of demand and supply for books could be expressed as:
- Price elasticity of book supply in Iran is low and each one percent increase in price increases the supply only by 0.56 percent.
- Price elasticity of book demand in Iran is high and each one percent increase in book price decrease the demand by 1.78 percent.
- Income elasticity of book supply in Iran is equal to 2 and one percent increase in real income increases the book demand by 5.84 percent. This implies the fact that in Iran it is a luxurious commodity.

Now, it should be shown that observing the paragraphs A to C in order to study the impacts of accession to copyright agreement in global level and accession to the WTO, on what book market related variables exerts an impact.

We know the paragraphs A to C will affect the price of the books indirectly. The estimated model also shows the demand for book is highly sensitive to price and the degree of sensitivity is -1.78 which means with one percent increase in

the commodity price, the demand decreases by 1.78ercent. But, according to the performed estimation, book supply is less sensitive to the price. In fact, the price elasticity of supply is equal 0.56 which means one percent increase in book price causes a fluctuation of book supply by 0.56 percent.

As it was explained, the amounts of royalties to be paid abroad for two sectors of offset printing and translations are calculated using the following functions:

$$R_f = 9000000 r_f$$

$$R_t = 49290000 r_t$$

The amount of R_f and R_t depend on the amounts of r_f and r_t. Yet, the amounts of r_f and r_t depend on the type of books and the supply and demand for each book, etc. and after accession to the WTO and accepting copyright it would be determined based on the system of demand and supply that is formed in the area of printing Farsi books or translations. At the present time, some local publishers, voluntarily, pay royalties to foreign authors or publishers for printing or translating their work. According to their own words, these publishers in average pay about 10% of the local retail price as royalties to the foreign owners. (Hossainzadehgan, 2003). If the average payment is taken as criteria, then, for the time being the amount of Rf and R_t could be taken as 10%. Therefore, the amounts of R_f and R_t would be:

R_f = 10% (9,000,000) = 900,000

R_t = 10% (49,290,000) = 4,929,000

The mentioned amounts are in terms of book volumes. Therefore, if we would have the average price for the year 1383(April 2004- march 2005) and multiply that by the mentioned figures, figures R_f and R_t are obtained in Rials.

The average price of a book during the year of the study (April 2004- March 2005), was 18,673 Rials. If it is multiplied, by R_f and R_t and then added up, the sum total would be the amount of royalties ($R_{F,T}$) to be paid:

$R_{F,T}$ = (900,000+4,929,000)(18,672)

$R_{F,T}$ = 108,839,088,000 Rials

It means the royalties of the books offset printed and translated, almost equals to 110 Billion Rials. If that is to be paid to the foreign owners, it will be added to the cost of book production. Assuming that the final two months of the year 1383 (2004) would be equal to one sixth of the year, according to the table 3, total volume of books for the year 2004 would be equal to 143,733,867 copies. If the total amount of $R_{F,T}$ (total amount of royalties payable to

foreigners) is divided by the total book volume in the same year, the figure 757 is obtained.

It means the retail price of each book, on average, would increase by 757 Rials, and reaches 19,429 Rials. The price of a book on average will increase by 4 percent, and since according to the presented model the price elasticity of demand is -1.78, therefore as a result of 4 percent increase in book price, demand will decrease by 7.2 percent.

Price increase accompanies an increase in supply, the amount which considering the price elasticity is 0.56 percent. But, it is known that demand curve is much more sensitive than supply curve. Therefore, this increase in price will have a stronger impact on demand. A decrease in demand will cause a slow down on business and revenue in this field (but should be noticed that this is only a short term effect).

The same study should be performed about the government supportive expenditure. The total amount of government support in the book sector, according to table 4 is equal to 95,300,000,000 Rials. It means, on average, the government pays 654 Rials, per copy of book. In case of accession to the WTO these subsidies must be discontinued, since they could have export implications. In case of discontinuation of the subsidies, the average price of book which has been 18,672 Rial in the year of study, would reach an average of 19,327 Rials. This means the average price will increase only by 3.5 percent. But, 3.5 percent price increase will decrease demand by 6.23 percent, and increase supply by 1.96 percent. Because of the low elasticity of supply, the most impact is exerted on demand. The sum total of the impacts of discontinuation of subsidies and payment of royalties to non-nationals will cause the book price to increase by 7.5 percent and in total, demand will decrease by 13.35 percent and of course supply would have less sensitivity and will increase by 4.4 percent. In long term, the structure of demand and supply will change and will reach a new equilibrium.

Concludings

In case of accession to the WTO and observing copyright, Iran will face a challenge in the book sector. Because, the publishers would have to accept author' rights in transactions with other countries, in the area of translations and books being offset printed locally. Considering the number of books that are offset printed and those being translated and assuming 10 percent royalties, every year about 110 Billion Rials must be paid, therefore, the book price will increase in the country. Noticing the annual volume of books, the retail price of a book, on average, will increase by 757 Rials. That means, the price of book in the country will increase almost by 4 percent. Therefore, the amount of demand for books, considering the calculation of price elasticity, will increase almost 7.12 percent. But, not all the impacts of the accession to the WTO in the book sector are summed up in the above-mentioned points. According to the findings

of this research the sum total of all the annual endowments of the government to the book sector (which probably has export impacts, since it affects foreign book market), is less than 100 Billion Rials per year, which means for each copy of books published inside the country government pays 654 Rials subsidies. With discontinuation of the subsidies, the average price of a book will increase by 3.5 percent and considering the demand elasticity, according to the model that was estimated (e = -1.78) demand will decrease by 6.23 percent.

In general, with acceptance of copyrights and discontinuation of subsidies to the publishers, book price will increase by 7.5 percent. And the demand for books will decrease by 13.35 percent. The income elasticity related to book demand in Iran being equal to 5.84 percent is relatively high. It means one percent increase in the household income cause an increase of 5.84 percent in book demand. Therefore, discontinuation of subsidies to the publishers, and payment of the same to the consumer, prevents the reduction of the demand. At the present level of prices, book supply has a very low sensitivity to price changes, therefore, in total, in short term, the impact of accession to WTO and acceptance of copyrights will be insignificant.

The economic advantages that could be directly attributed to the protection of the author's rights in the developing countries could be viewed in the following points:

- The author's rights could have significant role in development and the securing the national identity. The cultural heritage and enormous art products of each nation could be offered to a more extensive audience, if its intellectual property is well protected.
- Observing the author's rights, promotes economic activities, and produces wealth. It increases individual creativity in production and distribution of products with copyrights and the royalties create motivations for economic growth, and eventually leads to higher quality products and national products that could compete with foreign products in intensely competitive market conditions.
- Royalties promote investment in various manners and prevent Brain Drain (Jeffrey U. 2003:1).

Considering these points, since Iran is one of the countries that have potentials to offer cultural and art products at an international level, it certainly, benefits from observing copyright in transactions with other countries. Though, in short term publication industries inside the country will face some challenges, it seems the scale of this damage depends on the time that it takes to turn the potential capacities to actual capacities.

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