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Domestic Institutions, Intellectual Property Rights & Development in the EU-Mediterranean Partner Countries

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Executive Summary

This study looks at the role of domestic institutions related to the protection of intellectual property rights in the context of Mediterranean Partner countries. Using previous Go-EuroMed results, the current contribution shows how the strengthening of specific domestic institutions may not mean only applying “the law” and pursuing legally the non compliant. Institutional strengthening in this context means involvement of all institutions and parties while finding out how to include all players into the process of development. This is because development requires further research and development and that the commitment of all, should be real, transparent and known. The inclusion of the informal sector is then an important part of this enterprise. This requires both general economic and social policies of formalization but also new means involving better knowledge about protection and ownership of intellectual property rights, mainly among the informal producers and traders. The role of cooperation with developed economies and mainly with the European Union is obvious as useful experiences in this area have been accumulated by these countries.

The attainment of the above objectives is achieved in two major steps. The first one is devoted to the institutional arrangements that have been developed in each MPC and that have already been promoted. The second step uses software piracy data and analysis to show the current losses implied by the practices of non compliance even though further institutional strengthening has been pursued. Regression analysis has been used to show the links between piracy and economic losses. These two important steps are used to discuss the policies of domestic institutional strengthening as applied to intellectual property rights.

Introduction

Previous Go-EuroMed studies have shown that important waves of reforms have been undertaken in the Mediterranean Partner Countries (MPCs). At the same time, domestic institutional changes besides the role of knowledge have been recognized. Knowledge has been identified as the most important driver for technological and institutional changes. Also, it has been widely discussed that institutions and mainly free markets and trade require further enforcement of Intellectual Property Rights (IPRs) to have economies that ensure high competitiveness.

In practice, every economy has developed domestic institutions that are in charge of enforcing and monitoring IPRs. In the case of Mediterranean Partner Countries, what domestic institutions have been so far, protecting the IPRs? What levels of efficiencies have been observed? What types of strengthening is needed in order to ensure the convergence between EU and MPCs? What are the relationships between formal and informal economies that are useful in coping with IPRs? What are the new prospects and the new domestic institutional mechanisms needed to promote IPRs and development in South Mediterranean countries?

While addressing the above questions, this paper will analyze the role of domestic institutions in enforcing IPRs in South Mediterranean countries. This will be helpful in understanding how innovation and technologies are adopted and how local and international agreements have been fulfilled. Also, the understanding of trade and movements of foreign direct investment (FDI) are recognized as means that can capture the levels of enforcement of IPRs. This document is composed of four sections. The first one emphasizes the importance of the relationship between domestic institutions and the intellectual property rights while the second one describes the institutional setting of the IPR in the Mediterranean Partner Countries. The third section focuses on a case study based on software pirating and its effects on the performance of the economies of the region. The last section is an overall policy discussion in relation to the findings in the above sections.

I. Influence of domestic and other institutions on IPR development

David (1992) investigates the historical evolution of Intellectual Property Rights (IPR), and traces the present state of modern IPRs. The advancement in technologies and the importance of research and development made the product life shorter and made it very easy for engineers to copy innovative ideas from competitors. This drove companies to care more about ways to protect its innovations in all fields. The current spirit behind the concept of IPRs is more lucrative and utilitarian. It is based on defending rights of collecting money coming from innovative works. However, the historical sense of IPRs was that the innovators get credit for

their work, but then everybody could benefit from the scientific or technological advancement.

Hatipoglu (2007) aims at building a theoretical framework that integrates the relationship between multinational companies (MNCs) and host governments. Hatipoglu (2007) builds up onto two hypotheses supporting the fact that governments' evasion from their commitments on IPR protection is greatly affected by the nature of their political system and their institutions that sort out the society's demands. Furthermore, Hatipoglu (2007) suggests that the conceptualization of knowledge production is subject to interest conflicts between the MNCs and the host government. Evidence from Hatipoglu (2007) asserts that domestic institutions and political systems are important components of foreign investors' evaluation of the government commitment to IPR protection. In fact, it is stated that MNCs are more likely to favor IPR protection commitments by countries that are less democratic and are initiating development, which is due to less economic growth and thus, less public pressure concerning consumption and satisfaction.

Sinha (2007) studied the influence of the World Trade Organization (WTO) on the "institutional development and policy responses" in India as an example of the level of international organizations' influence on the way the country internationalize. Policy makers and societal groups are under this influence going to either push towards more globalization in some domains or towards less globalization in others.

According to Sinha (2007), the rules and regimes of global trade have a great effect on states, bureaucratic politics, and political institutions. For example, the international organizations may influence the country towards more costs for international trade, and the domestic organizations may respond by influencing towards reducing those costs.

Globalization is composed of many aspects and dimensions; each of which influences the countries in a different manner. International trade streams and changes in international prices do not exhaust global pressures, yet they are interceded and refracted by international institutions. Usually, the consequences of global regulations might oppose the incentive forecasted by global markets (Sinha, 2007).

Aboites & Cimoli (2004) show that the analysis of, the Mexican innovation system and the industrial information, is crucial to setting up a new intellectual property right framework. They try to frame the IPRs system in Mexico through the analyses of patents considering various patents systems. Besides, the new IPR framework and the recent economic and industrial reforms in Mexico do not encourage the development of Mexican technologies. This point is especially relevant to trade liberalization because of the unfavorable mechanisms for the diffusion of innovation within the system. Hence, the use of patent as an instrument to

analyze this new framework is inappropriate. Patents represent a weak motivation for local invention and dissemination of innovation as it is biased against local efforts of research and development. It is also argued that incentives to innovate and incentives to open trade create even greater adverse methods of innovation diffusion within the system (Aboites & Cimoli, 2004).

II. IPRs and Domestic Institutions per Country

The institutions and mechanisms related to the protection of intellectual property rights are described below with regard to national and international regulations and agreements. The situation in different countries is described below country by country.

Morocco

- ***Importance of IPRs:***

Intellectual Property Rights are important to Morocco since they protect and prevent from piracy, counterfeiting, and hence give more credibility and reliability to the country's trade conventions. Morocco has a membership with several trade conventions with the European Union and several single states that expect the protection of intellectual property as a guarantee for a smoother trade exchange that may not harm technology advancement in the concerned countries by means of piracy. Protecting IPRs helps linking inventions with trade, industrialization and cultural innovation. Also, it encourages Foreign Direct Investments since IPR is a pillar of trade conventions with many countries such as France. The French Senate stresses on the protection of Intellectual Property in Morocco as to encourage French investments. The Agadir Free Trade Agreement (Morocco, Tunisia, Jordan, Egypt, USA) stresses also on the enforcement of stricter laws concerning IPRs in Morocco and every other Arab country.

- ***The importance of the links between research and production of new innovations:***

Although Morocco is one of the countries in Africa that allocate the largest percentage from their GDP to research, it only allocates 0.79% from its GDP. According to the WIPO, "Promoting, encouraging and rewarding efforts of creativity are the main reasons for establishing IPRs." In 1998, OMPI launched a Section for promoting inventions by matching those to industry in order to concretize them for the sake of development. Morocco has expressed its interest in this program.

Morocco has several research institutions:

The CNCPRS: this is a public institution that has a legal personality and financial independence. It was established on 5 August 1976 to develop, direct and coordinate research. Its powers are numerous and varied,

Institut Universitaire de Recherche Scientifique (IURS): originally set up in 1962 as Centre Universitaire de Recherche Scientifique (CURS), and then renamed in 1975. The Center's publications include some twenty makhtoutats on literary and historical subjects, these periodicals include the Revue de la Recherche Scientifique, Revue de Géographie du Maroc, Les Signes du Présent, Hisperis Tamuda, and Le Bulletin Économique et Social du Maroc,

Government agencies: Examples are the Institut National de la Recherche Agronomique (INRA) (national agronomic research institute), Bureau des Recherches et des Prospections Minières (BRPM) (mineral surveys and research bureau), and the Laboratoire Public d'Études et d'Essais (LPEE) (public research and testing laboratory),

Semi-public agencies: The most important is the Office Chérifien des Phosphates (OCP) (phosphate control board), which has its own phosphate research centre, known as CERPHOS.

Morocco's research sector has significant assets, including a human potential made up of qualified researchers and numerous, fairly well-equipped research centers. The sector is marked by the following characteristics: research is mostly carried out in institutions of higher education and in a few public boards and institutes. The private sector invests practically nothing in innovation. University research is mainly oriented towards training and the earning of degrees. In most such work, application of the results is not a concern. There is no system for evaluating research, even in research institutes. There is no structure for funding and managing research. The bodies supposedly responsible for coordination have neither hierarchical authority nor budgetary control and there is very little collaboration between the research and production sectors.

The BMDA (Bureau Marocain des Droits d'Auteurs) has an important role in dealing with IPRs in Morocco: Registering and managing Moroccan Intellectual Property Rights inside and outside the country and organizing awareness campaigns about IPRs are the main functions.

The partners in Trade (U.S. and E.U.) are imposing stricter enforcement of IPRs. According to U.S. Department of Commerce, about Free Trade Agreement with Morocco, "industry has expressed a high level of satisfaction with the IPR provisions of the Agreement. U.S. industry calls the Agreement's IPR chapter, "the most advanced IP chapter in any FTA negotiated so far" and "a precedential agreement for future FTAs." Morocco has agreed to protect IPR to a

degree unseen in many other developing countries. Some of the highlights for enhanced copyright, trademark, and patent protection and enforcement”

Algeria

Computer and software piracy are the two most common forms of piracy in Algeria. Intellectual property rights are very important to the Algerian government since they prevent it from losing money in the form of taxes. In other words, “piracy deprives local governments of tax revenue, costs jobs throughout the technology supply chain and cripples the local, in-country software industry.” Not only at a national level will IPRs be efficient, but also at an international level. Actually, since IPRs aim at reducing the level of piracy in Algeria, it will have a positive impact on other countries as well such as the US. With IPRs, the piracy rate will decrease which will stimulate the Algerian economy hence generating government revenue. IPRs are very important in the sense that they allow people to innovate effectively, which will in return facilitate many tasks including getting credit and reward for the work achieved. IPRs permit punishing people who steal others’ work and participate greatly in creating jobs.

According to Rodrik (2000), people do not have the motivation to innovate and accumulate knowledge unless they possess ample control over the return to the assets that are thus produced or enhanced. The keyword here is “control” rather than “ownership”. Formal intellectual property rights do not matter much if they do not confer control rights. For this reason, there is an institution that deals with IPRs which is called Abu-Ghazaleh Intellectual Property Bulletin (AGIP). The Algerian government adopted new laws in July 2003 for copyright and related rights, trademarks, patent and integrated circuits. Also, Algeria is a signatory of the Paris Industrial Property Convention on Copyrights, the Berne convention for the protection of literary and artistic works. Moreover, Algeria is a signatory of the Madrid Arrangement and Lisbon Agreement for the protection of appellations of origin and their international registration. As of May 2005, Algeria intended to ratify the 1996 WIPO Copyright Treaty (WCT) and the WIPO Performance and Phonograms Treaty (WPPT) during the course of 2005. Patents, copyrights, trademarks and integrated circuits are currently protected under 2003 laws, industrial designs and models under 1966 laws and appellations of origin under 1976 laws. The Government introduced a new order on July 15, 2002 (article 22 of the Customs Code) which seeks to stop the entry of counterfeit goods at ports and borders. Regarding software piracy, there are also some actions that are undertaken by the Algerian government. To stop the use of non-licensed software within government and other public entities, the Prime Minister circulated a February 2005 directive to prevent government use of

pirated software and initiated a formal software licensing process through procurement channels. The National Algerian Institute for Industrial Property (INAPI) administers patents, trademarks, integrated circuits, appellations of origin, design and industrial models, and geographical indicators. The National Copyright Office (ONDA) administers copyrights and related rights.

While the legal framework for IPRs has improved, the enforcement of these rules is still generally inadequate due to the lack of public knowledge about counterfeiting and a lack of training in the customs services and the judiciary. Few foreign firms have sought legal recourse, which would require establishing the patent, trademark, or copyright in Algeria before filing suit. As a result, counterfeiting is common, especially in cosmetics, automotive aftermarket products, computer hardware components and software, some consumer and food products and even medicine. In software, only an estimated 20% of users pay licensing fees. The Business Software Alliance estimates software piracy in Algeria to be 84% (2003 data). (For comparison, the BSA estimated software piracy in Morocco and Tunisia to be 73% and 82% respectively.) According to Algeria's ONDA, the piracy rate for music and video works on cassette is about 37%, and has been estimated to be 87% for CDs. Solid piracy statistics are difficult to gather.

Some results of the initiatives taken by the Algerian government were that in 2004, more than 10 informal marketplaces were replaced gradually by authorized public markets. The same year, 100 counterfeit claims were registered, half of which were brought before the courts. The anti-counterfeiting office within the Ministry of Commerce operates through seven regional offices. To reinforce inter-agency cooperation, the ONDA has prepared a draft decree proposing the creation of an inter-agency National Council on Counterfeiting and Piracy with representatives from Customs, Police, and the Ministries of Commerce, Interior, Justice, and Finance, among others.

The government of Algeria is working with U.S. firms in Algeria, the Business Software Alliance and the U.S. government to reduce the rate of counterfeiting in Algeria through seminars and specialized training programs for judges and customs officials. In 2004, a private "business protection group" led by major U.S. companies in Algeria and other foreign firms was created to fight counterfeiting. The government adopted a new directive in July 2003 to define the conditions of competition practices in the market and prohibit restrictive practices.

Created in 1995, the Competition Council continues to play a role in the regulatory system. Reporting to the Head of Government, the group makes proposals and recommendations, including provisions for sanctions, to maintain a competitive market system. The Council also

regulates prices for some goods and services that are considered strategic (such as prices for bread), but otherwise allows prices to be freely determined by market forces. Energy prices will eventually be freely set by the market over a gradual period, beginning after the passage of the hydrocarbons reform in 2005. In other sectors, such as telecommunications, Algeria is moving toward a more transparent regulatory system. Regulation of the health sector, particularly pharmaceuticals, is not transparent.

Tunisia

- ***Importance of IPRs:***

The adoption of a strong legislation to protect IPRs in Tunisia is important, for it allows the country to engage in Trade Agreements with other countries. For example, the Free Trade Agreement between Tunisia and the EFTA States (Liechtenstein, Switzerland, Norway and Iceland.) stressed on the protection of Intellectual Property Rights as a pillar for the trade contract. A reliable legislation protecting IPRs and covering areas including patents, copyright, industrial designs, undisclosed information and geographical indications is an important criterion for investors.

Enforcing IPRs in Tunisia and the Maghreb in general would help the local economies and particularly Small to Medium Enterprises (SME) to benefit from new inventions. According to the Commercial Development Law Program CDLP initiated by the US Department of State in the Maghreb including Tunisia, Maghreb scientists and engineers are inventing a significant number of new products/technologies/processes with strong potential to aid the local economies. CLDP experts advised on how to assess commercial value and how to evolve a professional network of patent lawyers, technology brokers, and financiers who can help bring inventors to market. Trainers stressed the importance to local economies for IPR protections.

Research found that a good IPR (Patents and Copyrights) legislation is positively correlated with Foreign Direct Investments, imports, and GDP. Tunisian economy should benefit from a sound protection of IPRs that helps settling a reliable judiciary environment for the establishment of foreign investments as well as benefiting from the local inventions.

- ***The importance of the links between research and production of new innovations:***

Tunisia made huge investments in Higher Education since 1987. The number of students increased from 44,000 in 1987, 415,000 in 2007 with 11% of students majoring ICT. In 2008, more than 1.2% of the GDP is devoted to research with more than 20 institutions, 6 technological parks (4 more to come) and more than 150 laboratories, 500 research units. In total, there are 27000 researchers (16,500 equivalent full time researchers). Research

enhancement in Tunisia is motivated by the concern to face globalization, competition in various domains such as textiles, olive production, as well as using new inventions to boost the Tunisian industry. Many problems are targeted like waste products: olive oil, chemical fertilizer out of phosphate which gives an added value to the local industry.

- ***The introduction to the area of new technologies:***

Tunisia is incorporating information technology in every aspect of its economy. Much like the rest of its macroeconomics policies, this ambitious project involves the restructuring of the sector, the reinforcement of the infrastructure and the introduction of new technologies to meet the growing demand for diversified communication services.

The Euro-Tunisian cooperation policy stresses the implementation of the guidelines on the information society in the 2002-2006 national development plan. It also expects the promotion of the use of new communication technologies by business, public administrations, citizens, and in the health and education sectors (e-business, e-government, e-health, e-learning).

- ***The importance of domestic institutions in managing different stages of these processes (research, production, innovation...):***

The different domestic institutions dealing with IPRs are the Organisme Tunisien de Protection des Droit d'Auteur (OTPDA), The 'Institut de la Normalisation et de la Propriété Industrielle' (INNORPI) that belongs to the 'Ministère de la Culture et de la Sauvegarde du Patrimoine'. Copyright Tribunal and Industrial Property Tribunal are executive institutions to enforce the regulations. Besides, the 'Faculté de Droit et des Sciences Politiques' is the only educational organism teaching intellectual property rights law. Their importance in protecting IPRs is not only in its enforcement aspect, but also in organizing awareness campaigns about the intellectual property. For example, the INNORPI gives firms a guide of about 40 million rights of invention to prevent from conflicts. It also organizes reconciliation meetings to solve problems when an invention opposition occurs. These institutions coordinate and register research and give licenses for production.

- ***The role of partners in helping with the strengthening of domestic institutions (for IPR management):***

The partners in helping with the strengthening of domestic institutions for IPR management are mainly educational partners to disseminate and build awareness in universities and scientific research centers for industrial usage. The Euro-Tunisian action plan for cooperation expects disseminating research results to all potential users, develop a "patent culture" and set up intellectual property offices in technology parks and universities, including support for the

introduction of a doctoral-level course in intellectual property law in the framework of the Agreement on Scientific and Technological Cooperation.

Egypt

The intellectual property system in Egypt is not a strong system compared to other countries as it is ranked 40 over 100. The legal regime regarding patents and trademarks is similar to that of England, and registered owners of intellectual property are provided with adequate protection. Egypt is a signatory of the Paris Convention of the Protection of Intellectual Property and the Madrid Agreement regarding international registration of trademarks. Furthermore, Egypt is a member of the World Intellectual Property Organization (WIPO).

Though Egypt is a signatory of many of the international intellectual property conventions, intellectual property rights (IPR) protection was well below international standards until 2002. In 2002, Egypt took important steps to strengthen its IPR regime through improvements in its domestic legal framework and enforcement capabilities. In May 2002, Egypt passed a comprehensive IPR law to protect intellectual property and to attempt to bring the country into line with its obligations under the World Trade Organization Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). The law addresses IPR protection in areas such as patents, copyrights (with enhanced protection for sound and motion picture recordings and computer software), trademarks, geographical indications, plant varieties, industrial designs, and semiconductor chip layout design. With respect to certain violations, the law stipulates higher fines and prison sentences for convicted violators. Although the law has certain shortcomings, its passage demonstrated a marked improvement in Egypt's IPR regime, offering protection for the first time for several types of intellectual property. The Executive regulations dealing with patents, trademarks, and plant variety protection were issued in June 2003. Regulations protecting copyright and related rights were issued in June 2003¹.

A committee was formed at the Ministry of Commerce and Supply to draft a unified act to govern all elements of intellectual property. The new act is to include the existing laws concerning copyrights, models, industrial designs, patents of invention and trademarks. In addition, the act will extend protection period for industrial designs and models to a renewable period of ten years. It will also provide for substantive examination of the model, design or patent to ensure that it is novel and innovative. The proposed act sets severe penalties for intellectual rights infringement².

¹ [http://commercecan.ic.gc.ca/scdt/bizmap/interface2.nsf/vDownload/IMI_4577/\\$file/X_7810136.DOC](http://commercecan.ic.gc.ca/scdt/bizmap/interface2.nsf/vDownload/IMI_4577/$file/X_7810136.DOC)

² <http://www.infoprod.co.il/country/egypt2d.htm>

Egypt has the challenge of developing a dynamic and modern knowledge based society. This is shown inside the UNDP's Human Development Reports. The challenge also calls for concrete actions and initiatives to facilitate the production, accumulation, dissemination and use of knowledge in the region, notably through effective R&D and Innovation systems. This was further confirmed in the recent "Egypt Human Development Report" published in February 2006.

Universities constitute the main scientific research entities since research activities are carried out in public sector institutions. Egypt signed an agreement for scientific and technological cooperation with the European Union in June 2005. But one of the most limiting factors for innovation in this economy is the few direct links between research and industry. Few innovative practices exist in the industry with the absence of systematic support for innovation.

The European Union will provide support to the Egyptian authorities in order to help them meeting the "knowledge" challenge through the EC R&D Framework Programs. More support will be provided through the progressive integration of Egypt into the European Research Area (ERA). The government of Egypt jointly with the EC will establish an innovation fund that aims at the diffusion of innovation practices, through pilot actions, to the industrial production³.

The scientific research and innovation in Egypt are complex systems where devoted resources are modest. The estimates show that less than 0.1% of GDP was allocated in 2003/2004 by the state budget to this sector. The public sector has recently begun to make efforts to develop innovation activities, but these are at an early stage. There are almost no links between R&D institutions and the industry which prevents innovation within enterprises. In May 2005, to overcome these deficiencies, Egypt adopted a strategic plan to create a knowledge based economy through science and research which includes six elements to support R&D and innovation: design of a national strategic plan, establishment of a science & technology fund, stimulating inventions and innovations, restructuring research institutes and centers, using Information and Communication Technologies (ICT) to maximize output and ensuring quality and performance appraisal.

The elements of the strategy are coherent and address the major weaknesses in the system. However, important resources and cultural constraints exist and the strategy does not contain a clear agenda. The government of Egypt considers that the future areas of priority for

³ http://www.delegy.ec.europa.eu/en/EU_EGYPT_Cooperation/EC_Bilateral_Cooperation_new.asp

innovation are ICTs, biotechnology, nanotechnology, health as well as renewable energy sources (in particular solar), water resources and space sciences.

Egypt has been active and dynamic in the ICTs area that is described as a 'stand out' sector, not typical of the general situation. The very limited number of R&D organizations with clear industry-driven approaches is confirmed by the unreliable situation of innovation, although this is receiving increasing attention. There is a weak entrepreneurial culture within R&D organizations, where careers are usually life long. There is also weak demand from industry and business. Private R&D is very sparse and industry has few high technology representatives. The recent Government strategy for industrial development, designed by the Industrial Modernization Center for the 2025 horizon, has put Research and Innovation at the heart of its priorities.

However, quality, monitoring and evaluation culture in research institutions are almost inexistent which undermines the proper follow up and the efficiency of national research policies⁴.

Lebanon

The Lebanese law defines the intellectual property rights as any other property rights. These rights are outlined in Article 27 of the Universal Declaration of Human Rights, which establishes the right to benefit from the protection of moral and material interests resulting from authorship of any scientific, literary, or artistic production. The Lebanese ministry of economy and trade has official Intellectual Property Right regulations which contain 132 articles dealing with those rights. Those regulations show how important intellectual property aspects are to Lebanon⁵.

The country is aware of the fact that economic development in the world, in the past three decades, particularly in developing countries, has been directly linked to efforts exerted in science, technology and innovation. It is also well known that the role of national science and research institutions is to advise government and societies on the impact and repercussions of the rapid progress in the application of science and technology. Since its establishment in 1962, the National Council of Scientific Research in Lebanon has been the national institution entrusted, by law, to carry out this role, directly through its affiliated research centers, and indirectly through the cooperation relationships that exist with academic and other scientific institutions. The effective application of technological innovation, in the most creative way, is the optimal path to establish production and services with a high value added within

⁴ http://www.eu-delegation.org.eg/en/EU_EGYPT_Cooperation/Innovationprojectfichefin-May-IL%204.pdf

⁵ <http://www.economy.gov.lb/MOET/English/Panel/Projects/Quality.htm>

enterprises. Through such enterprises, it is possible to enhance Lebanon's export capability, reduce the huge national debt and the big discrepancy in the balance of trade.

Furthermore, the optimal application of Information Technology, and other technological applications, whether locally developed or imported, is crucial to the modernization of Lebanon's manufacturing sectors and the building of the services sectors on a reliable basis. The creative outcomes of research and development efforts, along with appropriate entrepreneurial incentives, will enhance Lebanese productivity, performance in export capability and the Lebanese growth rate.

The example of Asian and Latin American countries is a guide to Lebanon since these countries have similar potential and socio-economic conditions with Lebanon and they have been able in recently to realize progress in their economies, their industries and the quality of their manufactured products. This is a valid goal that can be objectively realized if the Lebanese government is convinced by the importance of supporting all efforts in science, technology and innovation and adopting the result of these efforts in national economic development plans.⁶

As an example of the process of innovation in Lebanon, the Ministry of Economy and Trade has launched an automation campaign aimed at increasing productivity and effectiveness in a transparent public sector. This is realized under the framework of promotion for technological development and within the organization and modernization structures⁷.

Some of the attempts made by the Lebanese government to achieve simplification and transparency strategies in the administrative laws concern:

- a. Creating suitable legislation environment that positively stimulate investments in relation to antidumping, competition, and laws for protecting national products and intellectual properties,
- b. Encouraging medium and long term industrial investments supported by the state guarantee and financial facilities to promote foreign investments,
- c. Strategy design to stimulate joint-venture projects between Lebanese and foreign enterprises,
- d. Development of industrial areas providing competitive infrastructure facilities.

In order for the country to adopt more rules concerning the intellectual property rights, Lebanon is becoming member with many global partners such as the EU. Many training programs were organized by the United States Patent and Trademark Office (USPTO) which

⁶ <http://www.cnrs.edu.lb/stip/PrefaceEn.pdf>

⁷ <http://www.economy.gov.lb/MOET/English/Panel/AutomationAndEcommerce/>

focused on training the judges and prosecutors about Intellectual Property Rights (IPR) enforcement. The trainings focused on IPR laws and cases from the Middle East and North Africa (MENA) region, international standards and obligations for IPR enforcement, judicial perspectives on IPR litigation, private sector perspectives on counterfeiting trends in the MENA Region, adjudicating and management of IPR litigation, digital/ copyright piracy, and damages and sentencing in IPR cases.⁸

Jordan

The protection of intellectual property rights (IPR) have always been of big concern to the Jordanian authorities. It can be considered as a necessary element in the cultural, social and economic development of the country. Since the piracy destroys the creative spirit of scientists, the Jordanian authorities have progressively protected IPRs in the country starting from the late seventies. The Jordanian National Library was given the responsibility of IPR protection in the country, by law, to fight piracy in all domains.

The three main tools in IPR protection process are patents, trademarks and copyrights. Patents protect diverse inventions such as industrial designs, manufacturing processes and high-tech products. A trademark identifies and distinguishes the source of the goods of one party from those of others. Copyrights make artists and creators benefit from the outcome of their work for a specified time period, after which the material is used by the public⁹.

Jordan joined the World Trade Organization in 2000, and signed a free trade agreement with the USA in 2001. Following these collaborations, the Jordanian government had to modify its IPR legislation through strengthening intellectual property laws and providing more effective enforcement of these laws. Laws consistent with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) now protect trade secrets, plant varieties, and semiconductor chip designs in Jordan. Registration of copyrights, patents, and trademarks is required. Copyrights are registered at the National Library and patents are registered with the Registrar of Patents and Trademarks, which are both part of Jordan's Ministry of Industry and Trade. Jordan has signed the Patent Cooperation Treaty and the protocol relating to the Madrid Agreement Concerning the Registration of Marks. Jordan also acceded to the World Intellectual Property Organization (WIPO) treaties on copyrights (WCT) and performances and phonographs (WPPT)¹⁰.

⁸ <http://www.alcc-research.com/activities/USAIDactivitiesLb.html>

⁹ <http://www.greatwallip.com/cn/articles/why-protecting-ip-rights-matters.asp>

¹⁰ <http://usinfo.state.gov/products/pubs/intelprp/jordan.htm>

The Jordanian pharmaceutical industry was one of the first industries benefiting from the FTA and the new IPR legislation. The improved intellectual property climate in this country enhanced the attractiveness of the Jordanian companies as business partners for international pharmaceutical companies as well as diversified the export markets. An example of this is the establishment of licensing relationships¹¹ with pharmaceutical companies in the US, Japan, Korea, Italy, Switzerland and the United Kingdom. Therefore, protecting IPRs is proved to be a good development tool because these new regulations benefit all the industry.

The IT industry has also largely benefited from the new IPRs legislation. The Jordan REACH Initiative represents a collaborative effort between Jordan's IT industry and the government. This initiative resulted in a good performance over the last few years. An IT market growth was noticed since 1999 from \$60 to over \$300 million (2005), exports increased from \$10 to \$69 million and employment has greatly increased from 1,250 to over 9,000. The IT sector yearly growth in Jordan is estimated, by the Jordan Investment Board, between 15% and 30%¹¹.

From the above mentioned examples (pharmaceutical and IT industries), Jordan has clearly improved its IPR legislation. This improvement followed Jordan's membership in the WTO and the signing of the FTA with the USA.

Iraq

Intellectual Property Rights (IPRs) are not considered as an issues in Iraq because of the instability of the country in terms of economy and politics.

Concerning the protection of property rights in Iraq, the government is in the process of developing a new IPR law in line with the WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). However, the exact structure and related legislation of this law is still in the process of identification. IPR functions are currently spread across several ministries. The patent registry and industrial design registry remain a part of the Central Organization on Standards and Quality Control (COSQC), an agency of the Ministry of Planning and Development Cooperation. Copyrights are relevant to the Ministry of Culture, and trademarks are related to the Ministry of Industry and Minerals. The ability of the government to enforce IPR law is weak because of the current security environment. Moreover, Iraq is a member of several conventions and regional or bilateral arrangements. These include Paris Convention for the Protection of Industrial Property (1967 Act) ratified by Law No. 212 of 1975 and World Intellectual Property Organizations (WIPO) Convention. The country has also a membership with the Arab Agreement for the Protection of Copyrights

¹¹ http://www.iipi.org/Conferences/IP_Caucus_Jordan/Background.asp

ratified by Law No. 41 of 1985 and the Arab Intellectual Property Rights Treaty (Law No. 41 of 1985). Iraq It is a signatory of the WIPO Convention and the Paris Convention (Industrial Property) since January 1976.

The lack of clarity in writing laws led to a misunderstanding of the Iraqi new patent law. This latter does not prohibit Iraqi farmers from using or saving "traditional" seeds. It prohibits them from saving those seeds for re-use. Confidence in secure property rights, joined with flexibility of regulation, could encourage both Iraqi nationals and Iraqi expatriates to invest in high-priority telecommunications, electricity supply, water services, and transport facilities.

Saudi Arabia

Both nationals and foreigners' rights concerning intellectual property benefit from the protection of the Saudi law. Actually, intellectual property rights are also indirectly protected by the provisions of the Regulations for Combating of Commercial Fraud. This, indeed, allows the Saudi authorities to impose numerous sanctions for the production of counterfeit products or unlicensed copies of products. There are many forms of sanctions such as "*inter alia*, seizure and destruction of such products, imposing monetary fined up to SR 100,000 for violation of the provisions of the regulations" (IPR Middle-East, 2007). Regarding book Piracy, Saudi Arabia's publishing market is in great deal affected by piracy. There are many illegally photocopied books, including textbooks, English language and teaching (ELT) materials, etc. that are still circulating in the Saudi Arabia's market. Moreover, evidence shows that pirate editions are being produced locally in Saudi Arabia and are even regulated by some universities, especially in the Central and Eastern Provinces. The Western Province was subject to improvements in 2003 thanks to the increased procurement near King Abdulaziz University of Jeddah (IPR Middle-East, 2007). The Saudi government should undertake some initiatives to regularize the procurement practices of books within all the universities so that students can be responsible academic citizens. Also, it should enforce actions against illegal offset printing as well as illegal photocopying to decrease piracy levels. Concerning the piracy of Software and Government Illegal Use of Software, the unlicensed use of software continues to be a problem in large, medium and small enterprises in Saudi Arabia. The Ministry of Information continued implementing its License Certification Program in 2003 that requires from businesses to demonstrate that they use only legal software. This latter is a requirement to obtain or keep their business licenses. However, despite these regulations, government entities continue to use illegal copies of software as a result of the complexity of the still-existing procurement procedures that limit the ability of IT divisions of government entities to buy software as needed. Inadequate allocation of resources

for software acquisition and low prioritization for software purchases also make legalization difficult.

The Saudi Patent Regulations of 1989 established a patent registration system, covering any new article, methods of manufacture (including improvements in either of them) and product patents. In 1996, the Saudi Patent Office granted its first patents since its establishment in 1990. A patent may be granted to either Saudi or foreign citizens, including companies. Upon compliance with the registration formalities, the applicant receives a filing number and the filing date is secured. Patent cases are heard by an administrative commission which has legal competences and sits in the City of King Abdulaziz for Science and Technology. Decisions concerning patents may be contested by third parties within ninety days of the announcement that a patent has been granted.

Trademarks and service marks registration is governed by the Trademarks Regulation of 1984. Saudi Arabia follows the International Classification of goods and services, but is subject to various limitations (alcoholic goods). After being accepted for registration, a trademark/ service mark application is published in the Official Gazette. If no opposition is filed within three months, the owner would have an incontestable right to use the trademark/service mark for ten Hijri years starting from the application filing date. The Saudi law penalizes for unauthorized use of a registered trademark/ service mark, imitation applied on goods or with respect to services of the same class, storage, sale, exhibiting for sale or using the trademark/service mark in the course of unauthorized promotion (imposing fines and imprisonment). The Grievance Board and the Commerce Ministry and its branches are domestic institutions that control the infringement proceedings in relation to trademarks as well as different offences.

It is notable that the United States has continued to press for the amendment of the Regulations to cover foreign copyrights as well. Saudi copyrights are generally protected for the life of the author plus fifty and twenty-five years with respect to books and sound and audio visual works respectively. As to computer software, while its protection seems explicit, the regulations do not specify the protection duration.

United Arab Emirates (UAE)

The United Arab Emirates have made the protection of intellectual property a priority in recent years. The UAE considered previous copyright, trademark, and patent laws and issued improved legislation in 2002 especially to protect U.S. intellectual property rights. The 2002 copyright law grants protections to authors of creative works and expands the categories of protected works to include computer programs, software, databases and other digital works.

The UAE also revised its Trademark Law in 2002. The law provides that the owner of the registration shall enjoy exclusive rights to the use of the trademark as registered and can prevent others from using an identical or similar mark on similar, identical or related products and services in case it brings confusion among consumers. It remains unclear, however, how the UAE provides for the protection of geographical indications required by the WTO Agreement on Trade- Related Aspects of Intellectual Property Rights (TRIPS).

The UAE published the Patent Law in November 2002. It provides national treatment for intellectual property owners from other WTO Members, product and process patent protection, and enforcement of intellectual property rights using civil and criminal procedures and solutions. The UAE is also considering legislation for data protection, privacy and other IP-related issues and has consolidated its Intellectual Property Rights offices into the Ministry of Economy.

The importance IPRs in the UAE is that it symbolizes the fundamentals towards economic development and prosperity, and thus it represents a main step in the modernization and democracy of the country.

The link between research and production is mainly education. Indeed, education is the major basis of research and production of innovation by transitivity. The problem of the United Arab Emirates is that it has an education system that is not effective and modern at all levels, primary, secondary, or higher education. It is acknowledged that scientific research is principally performed in educational organisation such as university laboratories and scientific educational institutions. It is important to mention that infrastructure alone cannot be very helpful to research and development without a good scientific community. So the importance of modernizing and improving the quality of education is a key factor in achieving research and production of innovation. Therefore the United Arab Emirates is in need of economic development policy meaning a good political control and policy development in favour of the educational system.

In the technological field, the United Arab Emirates is having admirable infrastructure for the IT technology. However, the prices for telecommunication remain very high. Moreover, the government censures and restricts the access of internet and it even prohibits the use of voice communication over internet in order to protect the existing monopolies in the telecommunication sector.

Managing and defending property rights are crucial for a country's prosperity. Therefore, the United Arab Emirates has joined multiple international organizations and signed many treaties in order to deal with Intellectual Property Rights and to manage research, production, and innovation in the country. The United Arab Emirates deploy many efforts to develop local

institutions in order to deal with IPRs. These organizations work in preparing, filing, prosecution, obtaining Industrial property, trademarks, copyrights registrations, legal protection, neighbouring rights, patents and industrial design, licensing, franchising, and domain names. They also provide services for providing professional advice and assistance in the fields related to unfair competition and litigation.

The international partners play a very important role in boosting the image of the country vis-à-vis other countries. The representation of the participation of the United Arab Emirates in treaties is valuable. Moreover, the international organizations dealing with Property Rights provide a basis for the country in order to develop its own local organization.

Turkey

In Turkey, piracy activities are carried on by organized networks, and pirated material continues to be largely available. The popular forms of piracy in Turkey include the copying of books, DVDs, musical CDs and software, textiles, and pharmaceutical. According to an article entitled “Screening Report: Turkey,” it provides some statistics indicating that a substantial number of books in English on the market are pirated. For entertainment software, the ratio of games/ consoles sold in Western Europe is 8:1, and in Turkey is 0.1:1, which indicates a massive piracy of both software and hardware (Screening Report Turkey, 2006). A large quantity of the products violating IPR is sold on flea markets and in tourist resorts. In terms of exports, on the basis of seizures at the EU Customs, Turkey ranks as 4th country in terms of origin of counterfeited goods (Screening Report Turkey, 2006).

The government of Turkey is spending great efforts and lot of money in order to limit or decrease the rate of piracy in Turkey. Many domestic institutions or local organizations that deal with IPRs in managing different stages of research, production and innovation processes start to arise in Turkey.

Turkey has not restricted its efforts while dealing with piracy to local institutions. It is also a signatory of many conventions with foreign countries. In fact, in the area of copyright, Turkey has adhered to the Bern Convention for the protection of literary and artistic works, and the Rome Convention on the protection of performers, producers and phonogram and broadcasting organisations. The law of reference for intellectual property rights is Law 5846 on intellectual and artistic works. The Law on Intellectual and Artistic Works regulates the provisions covered by the Information Society Directive.

As far as the IPRs related to computer programs, Turkey has also undertaken many initiatives. In fact, computer programs and preparatory works which subsequently lead to a program are protected by Law 5846 on intellectual and artistic works and the Bern Convention on

scientific or literary works. Programs of foreign authors are protected in Turkey if they are communicated to the public in this country or subject to the relevant provisions of international treaties to which the country is party.

The exceptions to the exclusive rights regard personal use, acts necessary for the use of the program by the legal acquirer (including correction of errors), back-up copy, and reverse engineering. Technological protection measures for copyright and neighbouring rights are allowed for computer programs. The law foresees compulsory exceptions. The person having legally acquired the program may reproduce it for personal use, adaptation and error correction.

In the field of *industrial property rights*, rules are set out for the legal protection of trademarks and designs, as well as a harmonised regime for patents. These include conditions for compulsory patent licensing. An important element of the EU-wide patent system is the participation to the European Patent Convention and European Patent Organisation.

Other specific provisions apply for biotechnological inventions, pharmaceuticals and plant protection products. A common playground is established for the protection of industrial designs, and a community trademark and community design system. Moreover, provisions exist concerning supplementary protection certificates (SPCs), which serves to provide inventors an additional protections, when they could not benefit of the protections from a patent, for the entire period for which the patent was granted. Customs administrations play an important role to prevent the circulation of products infringing copyright or industrial property.

To sum up, it can be said that even if there are many laws against piracy, concrete enforcement of these laws is not well practiced within Turkey. In other words, even when violations of IPR are ascertained by enforcement forces, the legislation is not applied evenly throughout the country. Furthermore, recent cases have demonstrated that Courts are reluctant to provide injunctions, and this causes the continuation of infringements. Judgements emanating from specialised IPR courts are considered fair and appropriate. The too frequent recourse to experts' opinion in IPR cases has also reduced the effectiveness of judicial proceedings. An article called "Screening Report Turkey," provides some suggestions to the problems stated above (2006). For instance, training of judges, as well as reinforcing IPR specialised courts are necessary and the number of activities in this sense are increasing.

Israel

Intellectual property rights in Israel are protected through a system of statutory law and common law covering acquisition, maintenance, and enforcement of rights in patents, designs,

registered and unregistered trademarks, trade names, appellations of origin, copyright, performers' and broadcasters' rights, trade secrets and confidential information, topographies of integrated circuits, and new plant varieties.

Israeli law, in general, maintains a common law tradition with roots in British Mandatory law and Israeli judge made law. Modern trends in Israeli intellectual property law are often drawn from common law jurisdictions, as well as the emerging body of European Union law, and the proposals of the World Intellectual Property Organization.

It should be noted that the protection of intellectual property rights is not only through specific intellectual property related legislation, but additional and overlapping protection can be obtained, in appropriate circumstances, pursuant to other legislation such as the Commercial Wrongs Law and the Civil Wrongs Ordinance.

Enforcement of intellectual property rights is provided for through a comprehensive statutory and common law system including pre-judgment remedies. Final remedies include permanent injunctions, accounting of profits, destruction of the offending goods and monetary damages and costs. Criminal sanctions are available for counterfeiting of trademarks, performers' rights, broadcasters' rights and copyrights.

Israel is committed to effectively fight intellectual property violations and has combined the efforts of the Ministry of Justice, the Attorney General, the Police Units, the Tax Authority and other relevant ministries to fight against intellectual property violations. For these purposes, the ministries have allocated additional funds, and a special intellectual property police force unit has been established.

Syria

- ***Importance of IPRs in Syria:***

The intellectual property rights were essentially recognized and accepted all over the world due to some very important reasons. Some of the reasons for accepting these rights consist of providing incentive to the individual for new creations, providing due recognition to the creators and inventors, ensuring material reward for intellectual property and ensuring the availability of the genuine and original products.

As the other countries studied, the importance of IPRs for Syria is related to the image and credibility of the country. The enforcement of Intellectual Property Rights is required to sign Trade Agreements with the European Union as well as attracting Foreign Direct Investments. Syria shall follow the "highest international standards" including, not limited to, the TRIPS Agreement. Syria shall also accede to the Budapest Treaty and the UPOV Convention (1991).

However, Syria may replace accession to UPOV with implementation of an "adequate and effective" system for protection of plant varieties.

- ***The importance of the links between research and production of new innovations:***

These are some of the Research institutes and programs in Syria:

1. The Scientific Research Cooperation Program between Lebanon and the Syrian Arab Republic,
2. The Network of Syrian Scientists, Technologists and Innovators Abroad (NOSSTIA) is a nongovernmental organization grouping high-level expatriate Syrian scientists and innovators in all fields of technology. Founded in 2001, NOSSTIA is funded through membership fees, donations and activity sponsors,
3. The Higher Institute of Population Studies and Researches. The Damascus-based Institute enjoys the status of a body corporate, financially and administratively independent,
4. Albassel Center for Invention & Innovation.

The Syrian Patent Office (SPO) affiliated with the Ministry of Economy and Trade is the domestic institution that protects IPRs. It enforces the law related to IPRs. They do not have any strategy for managing different stages.

- ***The introduction of Syria to the area of new technologies:***

According to the government's commitment to benefit from the new technology in order to achieve socio-economic goals, it is important to mention the strategy of the Information and Communication Technologies in Syria. These latter set the following targets to be achieved by the year 2013: 30 lines of fixed and mobile telephone per 100 people; 20 sub-scribers internet penetration per 100 people; and of 30 computers per 100 people.

- ***The role of partners in helping with the strengthening of domestic institutions:***

Abu-Ghazaleh Intellectual Property (AGIP) is a partner of the Syrian SPO. It was established in Kuwait in 1972, under the name of T.M.P Agents when Intellectual Property (IP) protection was still in its early stages of development in the Arab region. However, since its launch, AGIP has consistently been at the forefront of efforts to improve the infrastructure of IP in the Arab world. It cooperates with Syrian Patent Office in protecting IPRs.

To this end, AGIP has worked in close coordination with Arab governments and multilateral organizations on introducing an efficient IP system that has brought up significant changes to the region.

With the new system, major multinational corporations have been given the confidence to expand to the region and plan major investments, as they are now assured that their

investments are appropriately protected. In addition, the creative Arab individuals such as architects, artists, designers, scientists, musicians and writers are encouraged to render more creations, as their hard work is properly rewarded and their creations are effectively protected. AGIP also assisted and supported governmental committees and officials charged with revising and drafting new laws and regulations for the enforcement of Intellectual Property Rights (IPRs) in several Arab countries such as, Bahrain, Lebanon, Yemen, Oman, Tunisia and the United Arab Emirates. AGIP has organized and sponsored, in coordination with WIPO, ASIP and WTO, relevant trainings for judiciary members and district attorneys in various Arab countries.

The regulation and enforcement of intellectual property rights falls under the purview of the Office of Property Protection of the Ministry of Supply and Internal Trade. However, enforcement is inconsistent. Various national authorities are involved with the implementation of IP promotion and enforcement. Customs are to play a more important role with the new law as they were assigned the responsibility to respond to right holders' requests to monitor imports for suspected infringement. The Customs will have the authority to inspect containers, seize any suspected goods and give the parties concerned ten days to initiate proceedings. Also a special chamber will be set up at the Court of First Instance to examine cases related to intellectual property infringements, which shows the parallel involvement of the Ministry of Justice. IP-related initiatives are mostly launched and coordinated by the Ministry of Economy and Trade. Besides, the Syrian Patent and Trademark Office deals with applications and grants of trademarks and patents. Finally, the Ministry of Culture deals directly with copyrights-related issues.

Bahrain

The Intellectual Property Rights provisions call for the parties to ratify or accede to certain agreements on intellectual property rights, including the international Convention for the Protection of New Varieties of Plants, the Trademark Law Treaty, the Brussels Convention Relating to the Distribution of Programme-Carrying Satellite Signals (the "Brussels Convention"), the Protocol Relating to the Madrid Agreement concerning the International Registration of Marks, the Budapest Treaty on the International Recognition of the Deposit of Micro-organisms, the Patent Cooperation Treaty, the WIPO Copyright Treaty, the WIPO Performances and Phonograms Treaty.

Bahrain is a member of the WTO (World Trade Organization) since 1995. In 2005, Bahrain endorsed treaties such as the Patent Law Treaty (PLT) and Madrid Protocol. Recently in 2007, it has signed treaties to enforce its position such as Trademarks Law Treaty (TLT)¹².

In Bahrain, the task of property rights protection is delegated to the Directorate of Industrial Property under the supervision of the Ministry of Industry and Commerce¹. With respect to Patent and Utility, a patent is approved for any invention if it is new and industrially applicable. Indeed, a patent is only granted if it is not disclosed to the public, if it involves creativity and innovation, and if it can be applied to any industry¹³. Likewise, patents are not approved for inventions or works whose exploitation might harm the environment or contradict with morality in the kingdom of Bahrain. Discoveries, scientific or mathematical methods, and biological processes are not protected as well. Similarly, therapeutic and surgical methods are not granted by a patent¹³.

An industrial designs, according the “legislative decree no.6 of 2006, should be involving an innovative and creative step, be applicable in “industry and craft”, and it should not be disclosed to the public either in Bahrain or elsewhere¹⁴. Like the case of the patent, an industrial design that does not respect the morality of the kingdom of Bahrain, or include national or religious symbols is not subject to protection¹⁴.

The regulation of the registration of trademarks is described in the legislative decree no. 11 of 2006. Any violation of the rights the trademarks offer to their owner is subject to fines and imprisonment. The violation includes, for instance, an imitation of the trademark, or a trade in the products or services distinguished by the trademark. The severity of the punishment is decided by the court depending on the severity of the infringement¹⁵.

The copyright for works prevents any third party from using the item under protection without the author(s) consent. To exploit the work, the author will provide a written document allowing reproducing or translating the intellectual property following articles 6 and 7 of the legislative decree n° 10¹⁶. Any violation of the author’s rights is to be punished, and the author to be compensated. Violations include using, reproducing, selling, marketing, revealing

¹² www.wipo.int/about-ip/en/ipworldwide/pdf/bh.pdf

¹³ The legislative decree no. 1 of 2004 with respect to Patent and Utility.
www.commerce.gov.bh/.../0/LegislativeDecreeNo1of2004withrespecttoPatentandUtilityModels.pdf

¹⁴ www.commerce.gov.bh/.../0/LegislativeDecreeNo6of2006withrespecttoIndustrialDesigns.pdf

¹⁵ www.commerce.gov.bh/.../0/LegislativeDecreeNo11of2006withrespecttoTradeMarks.pdf

¹⁶ www.wipo.int/clea/docs_new/pdf/en/bh/bh001en.pdf

or “facilitating the revealing” of the work¹⁶. The copyright provides protection of the works for the life of the author besides 70 years¹⁷.

Bahraini authorities have been working hard to protect software and programs from piracy. According to the website orientplanet.com, the Ministry of Information has launched a campaign to raise people’s awareness about the dangerous effects piracy has on the economy. Behind this movement, the government in Bahrain is trying to stress the importance of decreasing piracy rates and its role in encouraging investments in the IT and computer field. As a consequence for these efforts software piracy rates had decreased by 2 percent from 2004 to 2005¹⁸.

Yemen

- ***IPRs in Yemen:***

In Yemen, the law that concerns intellectual property rights is law N°: 19 of 1994 that provides protection for patents, industrial designs, trademarks and copyright. However, an important criticism of the IPRs in Yemen is that the judiciary is subject to government pressure and corruption. Besides, contracts are weakly enforced. Also, foreigners may own property, but foreign firms must operate through Yemeni agents. It can be concluded that protection of intellectual property rights is inadequate in Yemen.

Without intellectual property protection, incentives to engage in certain types of creative activities would be weakened. But, there are high costs associated with intellectual property rights protection. Ideas are the most important input into research, and if intellectual property rights slow down the ability to use others’ ideas, then scientific and technological progress will suffer¹⁹.

The IPRs law in Yemen concerns patents, trademarks and copyrights. Patents are granted for a maximum term of 15 years from the filing date.

Yemen is not a member of the Paris Convention, although the law makes provision for grant of priority rights on a reciprocal basis. So far, however, no country seems to have established such reciprocal rights.

The two separate trademark laws previously in force in the Yemen Arab Republic (North Yemen) and in the People’s Republic of Yemen (South Yemen) have been repealed. Under the transitional provisions, trademark applications filed and registrations obtained in either

¹⁷ www.fta.gov.bh/Linkcounter.asp?rid=517&attached=IntellectProperty.pdf

¹⁸ Bahrain Ministry of Information strengthens Intellectual Property Rights Campaign

¹⁹ <http://yementimes.com/article.shtml?i=869&p=culture&a=2>

former North Yemen or former South Yemen will extend automatically to the whole of the Republic of Yemen, unless there is a disputed claim to ownership of a mark.

A copyright can be registered and this registration will protect the creative work against use by unauthorized third parties²⁰.

An intellectual property regime creates a temporary monopoly power, allowing owners to charge far higher prices than they could if there were competition. The reinforcement, however, enhances the trust of foreign investors with Yemeni economy. The Ministry of Industry and Trade launched a new system of registering agencies, companies, and trade brands. The system is carried out in cooperation with UNDP and the Netherlands' government.

- ***Introducing new technologies:***

Much progress has been made in telecommunications in Yemen through the use of digital telephony, fiber optic cables (PDH and SDH), digital microwave systems and space telecommunication stations for national and international telecommunications, as well as submarine fiber cables for international communications. A reliable national and international telecommunication network has been established and put into operation in all the Republic's governorates, along with mobile and automatic telephony and the Internet. The machinery for introducing and marketing additional services, including Voicemail Prepaid Card, the Internet, DSL and intranet, and marketing ISDN was set up²¹.

Qatar

Qatar is member of the World Trade Organization and the World Intellectual Property Organization (WIPO) but it is not a party to the Paris Convention for Protection of Intellectual Property. Protection of trade marks, copyright and patents are largely dependent on Qatar's own national laws and regulations.

The Trademarks Law in Qatar is No. 3 of 1978. It is known as "The Law of Trademarks and Commercial Indications" and provides for trademark registration and penalties for infringement. The Law allows the Ministry of Finance, Economy and Commerce to initiate action against trademark/ patent violators. The law also permits the Ministry to penalize those who describe products deceptively with respect to their nature, type, kind, essential properties, origin, and other related aspects such as weight and amount. However, in practice, protection of trademarks is afforded only by advertising a cautionary notice in Qatar 's daily newspapers.

²⁰ http://www.ladas.com/BULLETTINS/1995/1195Bulletin/Yemen_NewIPLaw.html

²¹ www.itu.int/ITU-D/ldc/documents/projects-2001/yemen.pdf

The Patent Law in Qatar is governed by the 1978 "Law of Trademarks and Commercial Indications". As is the case with trademarks, protection is afforded by advertising a cautionary notice in local dailies.

The Copyright Law in Qatar is No. 25 of July 1995 concerning protection of intellectual property and copyrights. The law, which took effect from October 22, 1996, protects original literary and artistic works, including computer software, video and audio tapes and is enforced by a special agency called the "Bureau of Protecting the Intellectual Property and Copyrights", which has been set up within the Department of Censorship at the Ministry of Information and Culture. The law includes penalties for violation including fines ranging from QR 30,000 to QR 100,000 and/or imprisonment ranging from 6-12 months.

No rules or regulations are available for trade secrets in Qatar. However, for the settlement of Commercial Disputes, Qatar accepts binding international arbitration of investment disputes between the Government of Qatar and foreign investors. Qatar is not a member of the International Center for the Settlement of Investment Disputes (ICSID) known as the Washington Convention and is also not a signatory to the New York Convention of 1958 on the same subject. Resorting to arbitration to solve disputes can be more binding if clearly stipulated in contracts. Effective Qatari laws have provided sufficient means for enforcing property and contractual laws. However, this is a very long and time-consuming process.

It has been announced recently that the Government of the State of Qatar is likely to review the existing trade mark, copyright and other laws to make them stricter²². A new law relating to Trademarks, Commercial Data, Trade Names, Geographical Indications and Industrial Designs was issued in Qatar.

Microsoft recently announced the first community education, research and development projects that it will undertake at Qatar Science & Technology Park (QSTP) in Doha. The world's largest IT company will work closely with university and government partners in Qatar to deliver many of the programs, which will bolster computing skills and capabilities in the country. Microsoft, which is already a tenant of QSTP, will invest around \$4 million in six pioneering technology-related projects at the science park over the next year.

Kuwait

Although Kuwait's protection of intellectual property rights is not especially strict by international standards, the Kuwait government is currently considering new legislative measures in this field.

²² www.american.edu/carmel/SR3362A/LEGAL.HTML

Concerning patents, law No. 4 of 1962 provides for the registration of patents and industrial models in Kuwait. Although the Patent Law was enacted in 1962, the Patent Office in Kuwait was opened only in 1995, after a resolution adopted by the Gulf Cooperation Council (GCC) states calling for a unification of the patent registration systems of the member countries. The Kuwaiti government is presently preparing a draft law for the protection of patents to replace the current law discussed above. Trademarks and Service Marks in Kuwait follow the international classification of trademarks with a few exceptions (classes 32 and 33 relating to alcoholic beverages and pork). Following the filing of an application to register a trademark, the application is examined as to registration. The law allows an opposition to be filed by any interested party. Kuwait has no copyright law. As a result, there is extensive marketing of pirated software, cassettes, videotapes and unauthorized Arabic translation of foreign-language books. The Kuwaiti government is currently preparing a draft law for the protection of copyrights to be submitted to the national assembly.²³

In the 2006 report, the U.S. Trade Representative was pleased to announce Kuwait progressed from the “Priority Watch List” to the “Watch List” due to significant improvements in its IPR regime, especially in the area of enforcement. The actions taken by both the Ministry of Education (program to combat book piracy) and the Ministry of Information (conduct raids on pirates and counterfeiters) were also recognized as significant achievements²⁴.

The Kuwait Information Technology Report has just been researched at source, and features latest-available data covering production, sales, imports and exports; 5-year industry forecasts through end-2012; company rankings and competitive landscapes for multinational and local manufacturers and suppliers; and analysis of latest industry developments, trends and regulatory changes. Kuwait Information Technology Report provides industry professionals and strategists, corporate analysts, Information Technology associations, government departments and regulatory bodies with independent forecasts and competitive intelligence on the Information Technology industry in Kuwait²⁵.

Production expansions were and still are pursued without adequate consideration of efficiency or quality, resulting in technical and economic inefficiencies. Inappropriate production technologies are adopted without considering the available soil and water resources. The lack of research and testing of technologies for adaptation in Kuwait weakens the farmers’ productivity. When this latter is below international levels, this is attributed to gaps in technology adoption, unskilled labor force and inefficient management. Protected agriculture

²³ <http://www.infoprod.co.il/country/kuwait2d.htm>

²⁴ http://kuwait.usembassy.gov/pr_05012006.html

²⁵ <http://www.bharatbook.com/detail.asp?id=18623>

is expected to become an important agribusiness industry in Kuwait with greater impact on the national economy than was traditionally perceived. A priority area in the 20-year agricultural Master Plan was recently developed by the Kuwait Institute for Scientific Research (KISR). This Plan calls for careful evaluation and adoption of modern technologies. The Plan also calls for productivity enhancements of at least two-to-four-fold by 2015. These targets are easily attainable if greenhouse crop production is made efficient, productive and sustainable²⁶.

Oman

Oman is a member of various treaties, conventions and international bodies, for instance, Oman is an affiliate in the Nairobi treaty since 1986²⁷. During the last decade, Oman has taken various actions to protect intellectual property rights in order to pull important investments from various parts of the world. In the nineteen's, Oman signed the WIPO convention (February 1997), the Paris convention for industrial property protection (1999), the Berne Convention for the protection of literary and artistic works (1999). Later in 2005, it has joined the WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT). Recently in 2007, Oman joined the Madrid Protocol (International Registration of Marks), Budapest Treaty (Deposit of Micro-organisms), and the trademarks protection treaty (TLT). Besides the WIPO, Oman is part of the WTO treaty (TRIPS) since November 2000²⁷.

These efforts aim to improve the economic conditions in Oman and to encourage investors who would not be worried for their rights to be violated without punishments and compensations. Another point is that implementing intellectual property rights' protection would keep and maintain the Omani patrimony from illegal exploitation and abuse.

The Copyright law in Oman was issued by Royal Decree No.37/2000 in May 21st, 2000, and started to be effective on June 3rd, 2000²⁸. Copyrights certificates offer protection to authors of literary, scientific, artistic and cultural works. On the other hand, law does not provide protection for daily news, publicly owned works, and official documents as well as their translation²⁸. To prevent third parties from using the work without its author consent, the law allows the author to ask for seizures of the infringing copies of the work and what was used to make those copies and to “designate an official receiver for the work under conflict, who shall

²⁶ http://www.icarda.cgiar.org/aprp/PDF/PAinAp_Kuwait.pdf

²⁷ Oman (OM) www.wipo.int/about-ip/en/ipworldwide/pdf/om.pdf

²⁸ Royal Decree No. 37/2000 Promulgating the Law on the Protection of Copyrights and Neighboring Rights
http://www.wipo.int/clea/docs_new/en/om/om001en.html

be responsible for the republication, presentation, manufacturing or making of copies of the work”²⁹.

According to the Omani law, an invention is patentable if it is new, innovative, applicable industrially and compatible with the public order, security and morals³⁰. The punishments against violations of the patentee’s rights vary between one to two years of imprisonment and/or fines not more than two thousand (Rial Omani). Besides, the court may decide to seize and destroy every item used to counterfeit the protected invention³¹. Everyone who imitates a protected industrial design or drawing sells or offers to sale a product containing the design, and anyone who uses the design or the drawing as his own is subject to punishment by the law. This punishment can be in the form of imprisonment not more than two years and/or a fine not more than two thousand Omani Rial.

According to article 1 of the Omani law on geographical indications issued by decree No. 40/2000, a geographical data or indication is protected in Oman. Violations of the protection offered by the law are subject of punishment of imprisonment (between 6 to 48 months) and fine (100 to 2,000 Omani Real)³².

According to the Omani law, a trademark is also protected. After registering the trademark as described in the second chapter of the law, the owner is granted by various rights such as licensing any natural or juridical person. According to article 35 of the law on trademark, anyone who violates the trademark owner’s rights is to be punished by imprisonment of, at most, a period of two years and a fine of two thousand Omani Riyals³³.

The above descriptions are summarized in table 1:

Table 1: Domestic & International Institutions related to property rights per Country

Country	Domestic Institutions	International Institutions
Morocco	<ul style="list-style-type: none"> • Moroccan Patent Office in Casablanca, • Trademark Office, • Bureau Marocain des Droits d'Auteur, • OMPIC. 	<ul style="list-style-type: none"> • Member of the World Intellectual Property Organization (WIPO), • GATT, • Paris Industrial Property, • Universal Copyright conventions, • Bern Copyright,

²⁹ The Law for the Protection of Copyright and Neighboring Rights

http://www.agip.com/country_service.aspx?country_key=90&service_key=C&SubService_Order=3&lang=en

³⁰ Sultanic Decree No. 82/2000, Promulgating the Patent Law

http://www.agip.com/country_service.aspx?country_key=90&service_key=P&SubService_Order=3&lang=en

³¹ Sultanic Decree No. 39/2000, The Law for Industrial Drawings and Designs

http://www.agip.com/country_service.aspx?country_key=90&service_key=D&SubService_Order=2&lang=en

³² Sultanic Decree No. 40/2000, The Law for Geographical data (Indications)

http://www.agip.com/country_service.aspx?country_key=90&service_key=gi&SubService_Order=1&lang=en

³³ Sultanic Decree No. 38/2000, The law of Trademarks, Trade Data Undisclosed Trade Information and Protection from Unfair Competition.

		<ul style="list-style-type: none"> • Brussels Satellite Convention, • Madrid, Nice and the Hague Agreements for the Protection of Intellectual Property.
Algeria	<ul style="list-style-type: none"> • National Copyright Office (ONDA), • Anti-counterfeiting office within the Ministry of Commerce (seven regional offices), • Abu-Ghazaleh Intellectual Property Bulletin (AGIP), • National Algerian Institute for Industrial Property (INAPI). 	<ul style="list-style-type: none"> • Signatory of the Paris Industrial Property Convention on Copyrights, • Signatory of the Bern convention for the protection of literary and artistic works, • Signatory of the Madrid Arrangement and Lisbon Agreement for the protection of appellations of origin and their international registration, • Intended to ratify the 1996 WIPO Copyright Treaty (WCT) and the WIPO Performance and Phonograms Treaty (WPPT) during the course of 2005.
Egypt	<ul style="list-style-type: none"> • Office for Registration of Industrial Designs. 	<ul style="list-style-type: none"> • Signatory to the Paris Convention of the Protection of Intellectual Property, • Madrid Agreement regarding international registration of trademarks, • Member of the World Intellectual Property Organization (WIPO).
Tunisia	<ul style="list-style-type: none"> • Patent Office, • Tunisian Institution for the Protection of Copyright. 	<ul style="list-style-type: none"> • Signatory of the Paris Convention for the Protection of Industrial Property, • Paris Convention Regarding Trademarks, as revised in the Hague, London and Stockholm, • Member of the WIPO, • Signatory of the UNCTAD agreement on the protection of patent and trademarks, • Member of the International Center for Settlement of Investment Disputes, ICSID, • Member and signatory to TRIPS Agreement, • Membership of other bodies/ treaties: UCC, UPOV.
Jordan	<ul style="list-style-type: none"> • Patent Office (Registrar of Patents), • Registrar of Trademarks, • Ministry of Culture. 	<ul style="list-style-type: none"> • Signatory to the Paris Convention for the Protection of Industrial Property, • Signatory of the Bern Treaty, • Part of the International Union for the Protection of New Varieties of Plants (UPOV) in 2004, • Member of the WIPO.
Lebanon	<ul style="list-style-type: none"> • Patent Office, • Trademark Office, • Ministry of Trade and Commerce. 	<ul style="list-style-type: none"> • Signatory to the Paris Convention (London text), • Madrid Agreement for the Repression of False or Deceptive Indications on Goods (London text), • Nice Agreement for the Classification of Goods and Services,

		<ul style="list-style-type: none"> • Signatory of the TRIPS agreement
Syria	<ul style="list-style-type: none"> • Patent and Trademark Office, • Office of Property Protection of the Ministry of Supply and Internal Trade. 	<ul style="list-style-type: none"> • Signatory to the Paris Convention for the International Protection of Industrial Property, • Madrid Agreement concerning the suppression of false statements of origin. • Considering accession to the 1967 Stockholm Intellectual Property Rights Agreement.
United Arab Emirates	<ul style="list-style-type: none"> • Patent Office, • Trademark Office. 	<ul style="list-style-type: none"> • Signatory of the WTO Agreement on Trade- Related Aspects of Intellectual Property Rights (TRIPS), • Member of GATT, • Signed the Paris Convention, Bern Convention, PCT, Rome Convention, • Signatory of the WIPO Convention, WCT, WPPT.
Saudi Arabia	<ul style="list-style-type: none"> • Patent Office, • Civil right directorates of the Interior Ministry, • Administrative commission with legal competence that sits in the City of King Abdul Aziz for Science and Technology, • Trademark Office, • Administrative judiciary channels in the Commerce Ministry, • Grievance Board (Legal matters). 	<ul style="list-style-type: none"> • US Special Trade Representative Office.
Kuwait	<ul style="list-style-type: none"> • Kuwait Patent Office in the Ministry of Trade and Industry, • Trademark Office, • Kuwait Regional Center for Anti-Counterfeiting & Piracy (KRCACP). 	<ul style="list-style-type: none"> • Gulf Corporation Council "GCC", • Signatory of the Trade and Investment Framework Agreement with the United States.
Bahrain	<ul style="list-style-type: none"> • Copyright Protection Office in the Ministry of Information, • Patents and Trademarks Registration Office, • Directorate of Industrial Property under the supervision of the Ministry of Industry and Commerce. 	<ul style="list-style-type: none"> • Ratified the Bern Convention for the Protection of Literary and Artistic Works, • Approved the Paris Convention for the Protection of Industrial Property, • Contemplating joining the Madrid Agreement regarding the International Registration of Marks, • Endorsed treaties such as the Patent Law Treaty (PLT) and Madrid Protocol (2005), • Signed treaties to enforce its position: Trademarks Law Treaty (TLT) in 2007.
Oman	<ul style="list-style-type: none"> • Commercial Disputes 	<ul style="list-style-type: none"> • Joined the World Intellectual Property

	<p>Settlement Committee, <ul style="list-style-type: none"> • Ministry of Commerce and Industry. </p>	<p>Organization (WIPO) in September 1996. <ul style="list-style-type: none"> • Joined the World Trade Organization (WTO). </p>
Qatar	<ul style="list-style-type: none"> • Trademarks Office, • Copyright Bureau. 	<ul style="list-style-type: none"> • Joined the Paris and the Berne conventions in 2000, • Joined the WIPO copyright convention in 2005, • Joined the WIPO “Performances and Phonograms Treaty” in 2005, • Part of the Gulf Cooperation Council since 1998.
Israel	<ul style="list-style-type: none"> • Patent Office, • Trademark Office. 	<ul style="list-style-type: none"> • Member of the Paris Convention for the Protection of Industrial Property, • Berne convention on Literary and artistic works, • Madrid convention on trademarks, • Geneva and Strasbourg agreements, • Signatory of the World Trade Organization agreement on intellectual property rights (TRIPS).
Yemen	<ul style="list-style-type: none"> • The government of Yemen, • Ministry of Industry and Trade. 	<ul style="list-style-type: none"> • Member of the WIPO convention, • Signatory of the Paris for industrial property convention (2007), • Yemen is not a member of any other international body.
Turkey	<ul style="list-style-type: none"> • Anti piracy provincial commissions, • IPR office within the Police General Directorate. 	<ul style="list-style-type: none"> • Bern Convention for the protection of scientific, literary and artistic works, • Rome Convention on the protection of performers, producers and phonogram and broadcasting organisations, • Participation to the European Patent Convention and European Patent Organisation.
Iraq	<ul style="list-style-type: none"> • The patent registry and industrial design registry, • Central Organization on Standards and Quality Control (COSQC), an agency of the Ministry of Planning and Development Cooperation, • The Ministry of Culture, • The Ministry of Industry and Minerals. 	<ul style="list-style-type: none"> • WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), • Paris Convention for the Protection of Industrial Property (1967 Act) ratified by Law No. 212 of 1975, • World Intellectual Property Organizations (WIPO) Convention, • Arab Agreement for the Protection of Copyrights ratified by Law No. 41 of 1985, • Arab Intellectual Property Rights Treaty (Law No. 41 of 1985), • Signatory of the WIPO Convention and the Paris Convention (Industrial Property) since January 1976.

Source: IPR Country Guide: <http://www.infoprod.co.il/country/index.htm>

III. Case Study of Protection of software

To evaluate the strategies made by domestic institutions in the domain of protection of intellectual property rights in the form of softwares, the case of software piracy is used. The MENA countries considered in the sample are Algeria, Bahrain, Egypt, Israel, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey and the United Arab Emirates. Some variables are studied in this case study to discover the causal relationships and effects between them.

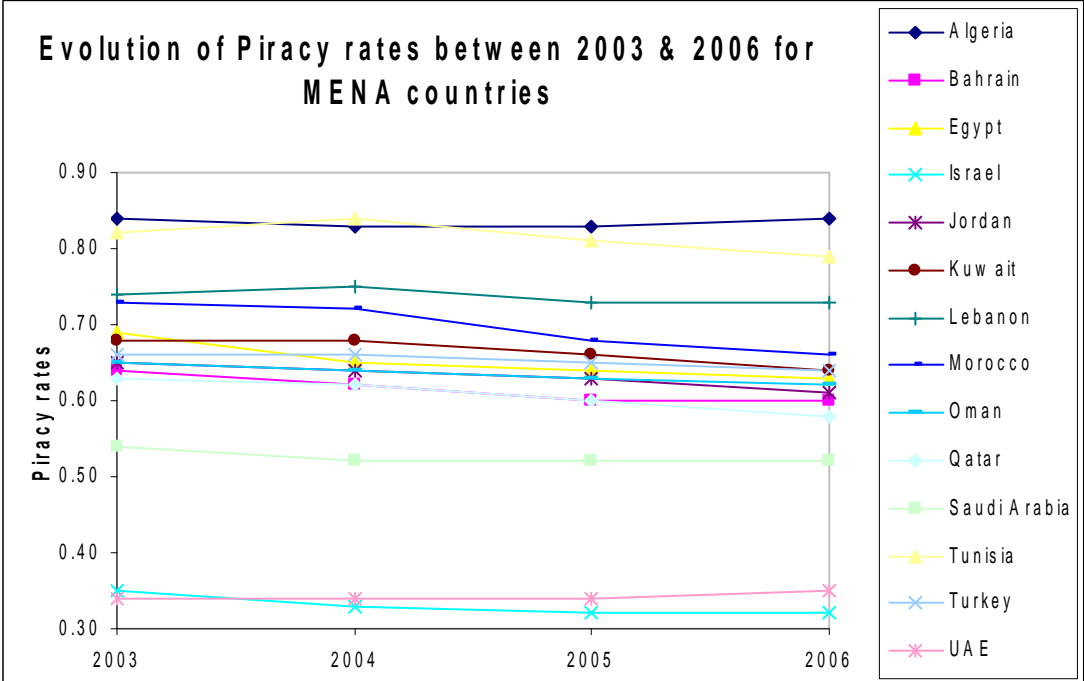
As per BSA (2007) the levels of piracy rates and losses (million US dollars) are introduced in Table 2. This shows that the piracy rates are high and range from 34 to 84 percent. But the losses do not all the time vary in the same direction with the highest level of losses attained in Turkey, Saudi Arabia, Israel and Egypt.

Table 2: Piracy rates and losses (BSA, 2007)

Countries	Piracy rates				Losses (\$M)			
	2003	2004	2005	2006	2003	2004	2005	2006
Algeria	0.84	0.83	0.83	0.84	59	67	66	62
Bahrain	0.64	0.62	0.6	0.6	18	19	22	23
Egypt	0.69	0.65	0.64	0.63	56	50	80	88
Israel	0.35	0.33	0.32	0.32	69	66	84	102
Jordan	0.65	0.64	0.63	0.61	15	16	19	19
Kuwait	0.68	0.68	0.66	0.64	41	48	65	60
Lebanon	0.74	0.75	0.73	0.73	22	26	34	39
Morocco	0.73	0.72	0.68	0.66	57	65	55	53
Oman	0.65	0.64	0.63	0.62	11	13	22	25
Qatar	0.63	0.62	0.6	0.58	13	16	21	23
Saudi Arabia	0.54	0.52	0.52	0.52	120	125	178	195
Tunisia	0.82	0.84	0.81	0.79	29	38	54	55
Turkey	0.66	0.66	0.65	0.64	127	182	268	314
UAE	0.34	0.34	0.34	0.35	29	34	45	62

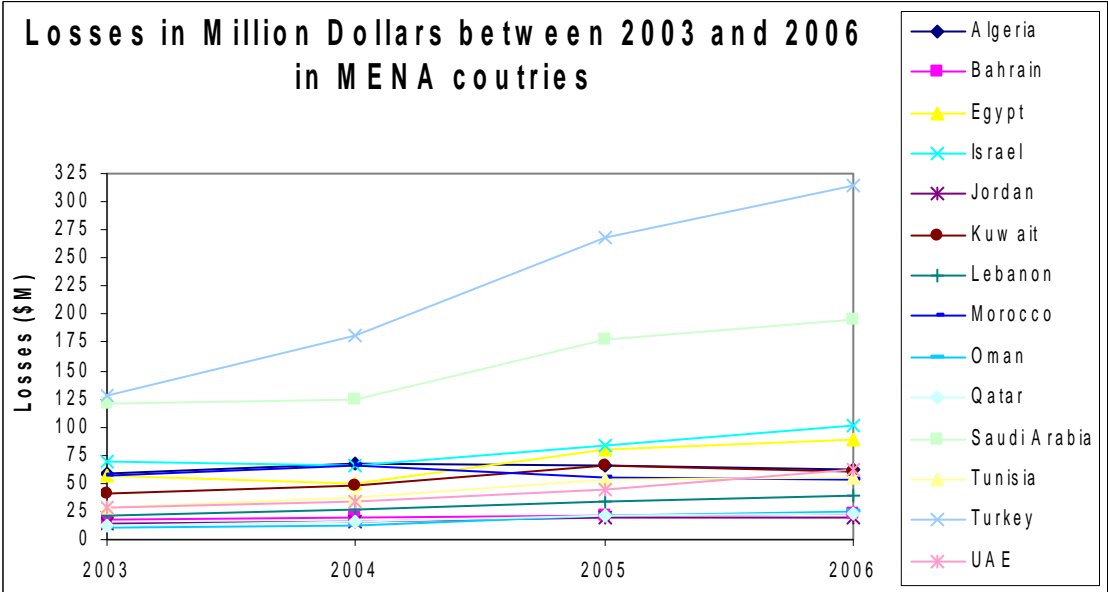
The software piracy rate variable (BSA, 2007) shows the evolution of the rate of piracy of the above countries individually from 2003 to 2006 (Figure 1). It is clear from Figure 1 that the countries that suffer most from software piracy are Algeria, Egypt, Lebanon, Morocco and Kuwait while Israel and the United Arab Emirates have the lowest piracy rates among the countries of the sample.

Figure 1: Evolution of piracy rates in MENA countries (2003- 2006)



The second variable concerns the losses (BSA, 2007) that result from software piracy between 2003 and 2006 (Figure 2). The graph shows the importance of losses in Turkey and Saudi Arabia which are increasing through the period studied. For the other countries in the sample, the losses are rather stagnant or slight increasing/ decreasing through the years.

Figure 2: Evolution of Losses (\$Million) related to piracy in MENA (2003- 2006)



The net foreign direct investment (FDI) and the export value index for 2003- 2006 period are also considered to measure the impact of software piracy on trade operations and agreements. However, these values are not available for Algeria, Qatar and the United Arab Emirates

(Table 3). In 2006, there is a lack in many countries data which will make it difficult to use in the measurement of software piracy impact.

Table 3: Net FDI and Export value index for MENA countries (2003- 2006)

Countries	Net FDI (\$Million)				Export value index (2000 = 100)			
	2003	2004	2005	2006	2003	2004	2005	2006
Bahrain	-225	-170	-74.8	-	107.05	121.37	161.82	193.81
Egypt	217	1090	5280	-	134.60	160.58	227.60	293.29
Israel	1800	2460	1430	517	101.08	122.52	136.04	148.86
Jordan	436	651	1530	-	155.25	215.66	238.24	-
Kuwait	4890	2500	4460	-	104.38	147.14	232.44	299.58
Lebanon	2250	1070	1860	-	213.33	244.56	257.08	322.41
Morocco	2300	862	1520	-	118.02	133.52	142.27	-
Oman	336	-49.4	671	-	103.09	117.87	165.14	194.62
Saudi Arabia	-587	-334	2350	-	120.35	162.62	214.76	-
Tunisia	539	592	713	-	137.21	165.55	179.37	196.80
Turkey	1250	2070	8730	-	181.62	242.29	283.38	319.49

In general, there is an increase in the net foreign direct investment (FDI) data and export value index from 2003 through 2006. The property rights as well as the freedom from corruption sub-indicators of the index of economic freedom (IEF) are also considered in the measurement of impact of software piracy (Heritage Foundation, 2008). The property rights values show stagnant and decreasing values from 2003 to 2006.

Table 4: Property rights, freedom from corruption (Both sub-indicators of IEF), KEI and GDP index values for MENA countries

Country	Property Rights (IEF)				Freedom from Corruption (IEF)				KEI 2004	KEI 2006	GDP Index 2003
	2003	2004	2005	2006	2003	2004	2005	2006			
Algeria	30	30	30	30	50	50	26	27	2.80	3.20	0.51
Bahrain	70	60	70	70	70	70	61	58	5.19	6.00	0.73
Egypt	50	50	50	50	36	34	33	32	3.77	4.01	0.42
Israel	70	70	70	70	76	73	70	64	7.81	8.36	0.76
Jordan	50	50	50	50	49	45	46	53	5.02	5.35	0.44
Kuwait	70	50	50	50	70	70	53	46	5.52	6.09	0.74
Lebanon	30	30	30	30	10	10	30	27	5.11	5.00	0.47
Morocco	30	30	30	30	47	37	33	32	3.21	3.40	0.42
Oman	50	50	50	50	70	70	63	61	3.51	5.33	0.68
Qatar	50	50	50	50	70	70	56	52	4.89	6.01	-
Saudi Arabia	50	50	50	50	50	50	45	34	4.82	5.07	0.67
Syria	-	-	-	-	10	10	34	34	2.71	-	0.40
Tunisia	50	50	50	50	53	48	49	50	4.11	4.69	0.54

Turkey	50	50	50	50	36	32	31	32	5.02	5.68	0.53
UAE	70	70	50	50	90	70	52	61	5.94	6.32	-
Yemen	-	-	-	-	10	10	26	24	1.17	-	0.10

The freedom from corruption is decreasing in many countries. However, other countries know some increases between 2003 and 2006 especially Jordan and Syria (Table 4).

The knowledge economy index (KEI) is also an indicator of the impact of software piracy and is included in the case study for both year 2004 and 2006 (Table 4). In addition, Table 4 lists the values of GDP Index for different MENA countries in 2003.

The MENA average concerning the piracy rates, the losses in Million dollars, the property rights sub-indicator of IEF, the net FDI and the export value index are summarized in the following table. Table 5 shows a decrease in piracy rates from 2003 to 2006. However, in average, there is an increase in the total piracy losses for the same period. The property rights sub-index is decreasing during the same period while the net FDI and export value index are unstable (Table 5).

Table 5: MENA Average in Piracy Measures and related variables (2003- 2006)

MENA Average (14 Count.)	2003	2004	2005	2006
Piracy rates	0.64	0.63	0.62	0.61
Losses (\$M)	47.57	54.64	72.36	80.00
Property rights (IEF)	51.43	49.29	48.57	48.57
Net FDI	1200545455	74690909	1349927273	517000000
Export value index (2000 = 100)	134.18	166.70	203.47	178.99

This study will not only stress the effectiveness of protection but also the economic implications on foreign direct investments (FDI), trade, enterprise creation, economic performance in the South Mediterranean countries and bilateral and multilateral agreements.

To evaluate the efficiency of IPR protection, the internationally available data on piracy rates and economic losses will be needed as well as data on FDI, Exports, KEI, property rights indicator of the IEF and GDP index. Table 6 provides a summary of the most significant results of the log linear regressions attained.

Table 6: Regression results

Relationships	R ²	Obs.
$\text{Ln}(\text{Losses } \$\text{M}, 2006) = 0.02 + 1.01 \left[\text{Ln}(\text{Losses } \$\text{M}, 2005) \right]$ <small>(0.15) (25.99)</small>	0.98	14
$\text{Ln}(\text{Losses } \$\text{M}, 2005) = 0.33 + 0.98 \left[\text{Ln}(\text{Losses } \$\text{M}, 2004) \right]$ <small>(1.33) (14.98)</small>	0.95	14

$\text{Ln(Losses \$M, 2004)} = 0.17 + 0.99 [\text{Ln(Losses \$M, 2003)}]$ (1.03) (22.27)	0.98	14
$\text{Ln(Piracy Rate, 2006)} = -0.03 + 0.97 [\text{Ln(Piracy Rate, 2005)}]$ (-2.50) (52.61)	0.99	14
$\text{Ln(Piracy Rate, 2005)} = -0.03 + 0.98 [\text{Ln(Piracy Rate, 2004)}]$ (-2.89) (57.429)	0.99	14
$\text{Ln(Piracy Rate, 2004)} = -0.002 + 1.03 [\text{Ln(Piracy Rate, 2003)}]$ (-0.19) (42.12)	0.99	14
$\text{Ln(Piracy Rate, 2005)} = 0.64 - 0.76 [\text{Ln(KEI, 2004)}]$ (1.99) (-3.64)	0.52	14
$\text{Ln(Piracy Rate, 2006)} = 0.73 - 0.76 [\text{Ln(KEI, 2006)}]$ (2.03) (-3.54)	0.51	14
$\text{Ln(Piracy Rate, 2004)} = -1.61 \left[\frac{\text{Ln(FDI, 2005)}}{\text{Ln(Export Value Index, 2005)}} \right]$ (-2.03)	0.72	6
$\text{Ln(Property Rights, 2005)} = 3.55 - 0.58 [\text{Ln(Piracy Rate, 2006)}]$ (25.47) (-2.43)	0.33	14
$\text{Ln(Property Rights, 2004)} = 2.30 - 0.73 [\text{Ln(Piracy Rate, 2005)}]$ (3.01) (-3.69)	0.53	14
$\text{Ln(GDP Index, 2003)} = -0.82 - 0.56 [\text{Ln(Piracy Rate, 2003)}]$ (-6.42) (-2.14)	0.31	12
$\text{Ln(Property Rights, 2006)} = 1.43 + 0.64 [\text{Ln(Freedom from Corruption, 2006)}]$ (2.37) (4.01)	0.57	14
$\text{Ln(Property Rights, 2005)} = 1.27 + 0.68 [\text{Ln(Freedom from Corruption, 2005)}]$ (2.19) (4.49)	0.63	14

To start with, the regressions relating the index of intellectual property rights as a component of the Index of Economic Freedom (IEF) published by the Heritage Foundation is definitely related to the software piracy rate as published by the Business Software Alliance (BSA, 2007). The estimated equations show how the sub-index is negatively related to the software piracy rate. The freedom from corruption which is another sub-index of the IEF is positively related to property rights and thus negatively related to the software piracy rate (Table 6).

The other results show that software pirating (or intellectual property rights) has been and is still an issue in the region under study as far as economic losses are concerned (equations about losses). This is also confirmed by the piracy rates. But, the most important results are those related to the knowledge economy index (KEI) as having a depressing effect on the piracy rate. A one percent increase in KEI reduces the piracy rate by 0.76 percent. Furthermore and as expected the ratio of foreign direct investment to exports is negatively related to piracy rate, confirming that higher piracy rates do affect negatively the ratio of foreign direct investments and exports. The final result shows that GDP is negatively affected by piracy rates and therefore better protection of intellectual property rights are likely to contribute to the promotion of GDP in the countries under study.

IV. Economic & Policy Implications

This discussion is undertaken under two major interdependent headings. The first one is related to the current situation and to the current game taking place between the formal and

informal sectors. The second is related to the requirement of formalization and inclusion of the segments that are operating informally.

1. The game of IPRs:

In relation to domestic institutions and protection of intellectual property rights, it appears clearly that all countries have domestic organizations that are in charge of the area of IPRs on both patents and related rights. These domestic institutions appear to be coordinating internationally under the World Intellectual Property Organization. At this level, important advances are made in order to generate the protection needed to ensure the rights of individuals, companies and the overall society. But, during the last years, important technological changes have taken place in all areas related to production, diffusion and trade. As has been shown in WP3, WP7 and WP9, the reforms undertaken in the region are generating major changes that also accelerate the development of unemployment, migration besides the promotion of informal activities (series of studies have already confirmed that: see also FEMISE, 2007; Kabbani & Kothari, 2005; Keller & Nabli, 2002). This is again confirmed, as said earlier by the strong relationship exhibited by the link between intellectual property rights index and the index of corruption that are contained in the Index of Economic Freedom.

IPRs appear consequently to be at the center of a game that involves international as well as domestic players. Both the public and the private sectors are involved in this game. But, the most important segment is composed of the informal sector.

Information technologies are among the major sources that have generated major changes in each industry and economy. These major changes are among the transformations that have taken place worldwide and in the MPCs. But, informal activities have not all the time accounted for IPRs. The extension of these informalities may be an important source of non compliance with the protection of IPRs. This affects all areas where both patents and copyrights are needed to protect formal economic activities. Even though this is expected to be pervasive in all economies, developing countries and mainly the region of study are concerned with IPRs in media, music, books, software and all other industries. The data on software protection show clear signals about piracy rates and related economic levels of losses to the formal economies. They show also the levels of impacts on GDP, KEI and FDI. But, these are only data and analyzes involving the formal sector. The informal sector is for sure gaining from not respecting the rights of others through producing, copying and trading items for which they do not have rights. This in return generates losses to other economic agents in

the formal economy and implies other levels of losses. These losses affect writers, artists, software producers, musicians among others besides the public sectors and all the economy. The policies that have been considered to reduce the above trends have been consisting in strengthening the institutional mechanisms. But, data show that the non respect of intellectual property rights has not been reduced in a sustainable way, even under the strict application of the law governing IPRs.

This trend is likely to be pursued given the economic and social situation prevailing in the MPCs. Among the means that can be effective in applying the IPR rules, the participation of all economic and social players (not just the institutions in charge of IPRs) appears to be necessary. All the players that can be introduced under formal and informal economies are part of the solution to the findings of instruments capable of eliminating piracy and therefore creating new environment for promoting research, creativity and formal enterprise development. The joint contribution of formal and informal sectors is to be mainly centered around the formalization of the “informal sectors” through the generation of policies that can help reduce production and trade of protected items and related services.

2. Formalization of the Informal Sector

Adhesion to “law” is a social process that should be accepted by all players including those that are operating informally. This requires the development of new mechanisms that are related not only to one institution but to all economic and social agents. These new mechanisms should create conditions where informalities and non compliance with intellectual property rights are:

- Understood by all, to be detrimental in the medium run to all agents (prisoner’s dilemma),
- Implying that all parties should identify new means and substitute activities that comply with protecting the rights of all,
- Sources of continuous innovations devoted to enlarging the level of knowledge and its diffusion for all parties,
- Sources of innovations that enhance the level of competitiveness and respect of others,
- Means that can be practically understood being sources of creativity and progress of each individual, firm and social organizations.

Other means outside, the system of intellectual property rights protection can be also promoted in order to help accelerate the process of formalization in each economy. As it can be observed from the case of software pirating, the level of knowledge in the economy is a

key factor. The experiences of developed economies and mainly those of the European Union are important inputs in the process of finding efficient instruments for formalization. This strategy applies also to the specific means related to the intellectual property rights and promotion within the informal activities.

Conclusion

The domestic institutions that are directly in charge of IPRs have been promoting their functions to ensure their missions of protecting intellectual property rights and thus ensuring the contribution to MPC economies. The reforms undertaken in the region have further promoted market mechanisms but have contributed to further development of informal economies. These latter economies are those that often generate failure to protect intellectual property in all areas. These areas cover both old and new technologies but are pervasive in the works of arts, music and software besides other areas. This trend is generating direct and indirect losses that can lead to the elimination of domestic and foreign sources of services besides reduction of foreign direct investments and performance of each economy. This leads to the requirement of the strengthening of the functions of the domestic institutions that are dealing directly with intellectual property rights. But, the transversal nature of the impacts of non compliance is such that more institutions are invited to participate effectively to the effort. Furthermore, the intervention of all the players should also give priority to the inclusion of the informal industries such that they are part of the overall game. The solutions lie within the framework of formalization and inclusion of all players in order to provide win - win solutions to be identified and implemented. This effort requires also the collaboration of developed countries such as the European Union.

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