9. PREFERENTIAL TRADE AGREEMENTS, IPR CONSTRAINTS AND FAIR SOLUTIONS: CASE OF THE EUROPEAN UNION-TUNISIA TRADE AGREEMENTS

Sami Rezgui[*]

ABSTRACT

The interests of inventors and ensuring favourable access to technology are key issues in the IPR debate. Considering conflicting positions revealed in this debate, recent reflections agree on the need for better trade-offs in terms of IPR regulation. While returning to the debate and its evolution, this paper proposes to go beyond them. Indeed, the issue will be to place IPR regulations in the paradigm of Preferential Trade Agreements (PTAs). Two reasons underlie this choice: the increasing number of PTAs and, most importantly, provisions included in these agreements regarding IPR.

Through this choice, the objective is twofold: assessing the contribution of IPR regulations in PTAs to achieving development goals. As an illustration, the European Union (EU)-Tunisia Free Trade Agreement (FTA) will be examined. Issues raised by the ongoing EU- Tunisia Deep and Comprehensive Free Trade Agreement (DCFTA) on IPR extension will also be discussed. The second objective of this paper is to highlight possibilities for better use of IPR regulation particularly with regard to the Tunisian agricultural sector.

Keywords**:** *Intellectual Property Rights, Preferential Trade Agreements, Trade Related Aspects of Intellectual Property Rights, EU -Tunisia Free Trade Agreement, EU-Tunisia Deep and Comprehensive Free Trade Agreement*

1. INTRODUCTION

Before being recorded in explicit agreements, the legitimacy of Intellectual Property Rights (IPR) was recognized in economic theory in the early 60s. The pioneering work of K. Arrow (1962) explains why these rights deserve a singular treatment given that they carry a good as specific as information. Information is a basic element of any invention. Moreover, as information acquires the status of a public good, its allocation would be inefficient. In fact, incentives to produce information are reduced because of free riding. Indeed, when it is possible to use an invention with unconstrained access to the information underlying it, there is no more motivation to produce this invention. This is explained by the fact that its production cost becomes more important than the resulting income. In addition, as free riding deters information disclosure, information would become rare and its scarcity reduces and impedes the path of technical progress, which thrives in a cumulative information-sharing framework. This conclusion has a direct consequence: producing inventions requires inventors' protection through exclusive IPRs.

We should note, however, that this point of view remains questionable in both theory and practice. In practice, multiple creations available on open access are perfect counter examples: use of free software, unconstrained access to certain databases and the free downloading of educational content. The theory of innovation also values inventions based on information sharing that prove to be just as desirable and socially beneficial. These alternatives definitely have some merit. They provide evidence that solutions, which improve welfare, are possible. They also defy the misconception that intellectual production systematically requires protection. They finally suggest considering less restrictive and more inclusive forms of IPR protection (Dreyfuss, 2010).

It is worth noting that IPR regulation remains a second-best solution that is theoretically conceived as an inevitable solution. However, such a solution could create 'anti-commons' effects whose negative impact would overflow into the evolution of basic scientific knowledge (Murray and Stern, 2007). That is why a more consensual path is needed and solutions increasing collective welfare are recommended. Finding the right balance between the inventors' right of protection and favourable access to useful technologies (health, environment, climate change, etc.) would be the ultimate goal of such solutions. Broadly, it is proposed that these solutions fall under better-optimized trade-offs when it comes to greater economic openness. In this case, IPR regulation is expected to be in line with the legitimacy of economic development recognized by multilateral trade negotiations (Chon, 2006).

Before explaining the nature of desirable trade-offs, it is important to clarify issues raised by IPR enforcement. These issues will be addressed from various angles: theoretical argumentation, specific constraints for developing countries, particularity of the technology market and conditions of IPR regulation in PTAs (Section 2). The review of the EU- Tunisia FTA will serve as an illustration and will establish a technology assessment. Following this assessment, the ability of PTAs to

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[*] Sami REZGUI is Professor of Economics at the University of La Manouba (Tunisia). He Holds a PhD in economics from the University of Paris-Nord (France), and has specialized in the fields of international and industrial economics and innovation policy. Author of several research papers published in international journals and books (*Economica, Centre for Prospective Studies and International Information, Routledge, Global Development Network*), he is also consultant and contributor to various reports for international institutions and agencies (*OECD, World Bank, UNDP, Unctad, Femise, Mediterranean Institute*).

enhance innovative capacity and trade performance of a developing partner in a manner that strengthens IPR will be discussed. Issues raised by the extension of IPR to the agricultural sector within the EU-Tunisia DCFTA will also be considered (Section 3). Section 4 will conclude.

2. STRENGTHENING IPR IN DEVELOPING COUNTRIES: AN INESCAPABLE CHOICE WITH MULTIPLE CONSTRAINTS

Since the very beginning, WTO agreements have been particularly sensitive to IPR. This sensitivity can be explained by the increase of trade in goods with a high information content. More importantly, the empirical correlation between trade in such goods and the requirement of IPR strengthening is becoming undeniable (Yuang and Kuo, 2008). Therefore, there is a risk of restricting international trade in these goods to developed countries. Consequently, developing countries are deprived of any opportunity to reduce the technology gap.

Technologically dominant nations' interests and concerted pressure aside, it is necessary, even in the interest of countries without technological assets, to comply with IPR standards laid down by the TRIPS Agreement.

The TRIPS agreement tries to find the right balance between the legitimate interests of inventors on the one hand and ensuring developing countries have access to technology and development on the other. This is what articles 7, 8, 31 and 40 of the TRIPS agreement reflect in particular.

However, if IPR enforcement is necessary to protect inventors located in the North, its acceptance by Southern countries is not going to be automatic. This finding has been theoretically validated. Chin and Grossman (1988), for example, show that Southern countries have no interest in enforcing IPR when their social surplus decreases as a result. Grossman and Lai (2004) state that strengthening IPR in the North is justifiable. Their assertion is based on differences between the North and South in terms of demand for innovative products, investments in R&D and the quality of human factor. However, the authors add that any attempt at harmonizing IPR regulations would be detrimental to developing countries.

In practical terms, IPR strengthening means complying with minimum standards provided under the TRIPS agreement. In the case of patents, these standards can be summarized in the form of three major conditions: the guarantee of protection for a twenty-year period from the filing date of the patent,[1] the grant of exclusive and non-discriminatory rights to the patent holder and the extension of IPR to international trade.

However, implementing these standards requires an appropriate legal framework, therefore the mere enactment of legislation is not enough to protect against IP violations. The texts relating thereto would become '*paper tigers*' that consumers ignore and governments hardly apply.

In addition, IPR strengthening by merely creating dedicated courts and training judges and qualified experts, may not be enough. Beyond the high costs of setting up an effective institutional framework, IPR strengthening calls, *inter alia,* for effective coordination between the authorities involved in IPR regulation. This coordination should fairly guarantee the interests of inventors by maintaining their incentive to innovate while promoting competition to the benefit of the consumers.

Moreover, local firms in developing countries should request IPR strengthening in order to promote innovation and technology cooperation (Smith, 1999). The case of Singapore is quite illustrative in this regard. The success of the new industrial revolution initiated in 1981 was made possible by establishing joint ventures with US companies. Thus, IPR protection became obligatory not only for Singaporean firms but also for the Singaporean Government. In addition, proactive policies in favour of IPR strengthening have been a key element of Singapore's technological development strategy in view of the industrial and commercial interests at stake.[2]

Finally, IPR strengthening in developing countries requires greater involvement in technological efforts. As highlighted by Park and Lippoldt (2008), there is a proven empirical relationship between the demand for IPR protection and commitment to R&D. The more residents undertake R&D efforts and patent filings, the more demand there will be for IPR strengthening. In this regard, the use of utility models[3] may be an appropriate incentive mechanism to boost R&D activity in developing countries. Thereby, IPR strengthening in these countries would become a necessity especially as they evolve into knowledge-based economies.

It should be noted, however, that IPR strengthening cannot be discussed outside the functioning of the

[1] The protection period is a maximum of 17 years from the date of acceptance of the patent.

[2] Note that the case of Singapore is not unique because other countries have adopted policies in favour of IPR strengthening, notably Malaysia as part of its development program of a local software industry and computers.

[3] Utility models, also called 'petty patents' are a form of protection adapted to incremental innovations. The term of protection for this type of patents is often short (a maximum of 7 to 10 years).

technology market. It is often assumed that IPR strengthening would help to reduce the technological gap through technology transfers.[4] Nevertheless, occupying a position of a 'dominated agent' reduces the bargaining power of a country in the technology market. This is confirmed by most studies focussing on the strategies of multinational firms including deployment modalities of their intangible assets (Martin and Solomon, 2003).

In fact, transfer of such assets is often constrained by both the technological capacity of developing countries and the tacit knowledge embodied in these assets. Any potential transfer of technology becomes dependent on the terms of provision of technology (cooperation in R&D, licensing) best judged by multinational firms. However, beyond these strategic considerations, difficulties faced by developing countries in enforcing IPR confine them further to their dominated agent position. These difficulties also weaken their attractiveness and reduce their ability to negotiate technology based foreign investments (Maskus, 1998; 2000).

To this low technological bargaining power, we should add deviations observed in the technology market. In its current configuration of 'one-size fits all', the international IP system is experiencing obvious flaws affecting the technology market particularly. These flaws are reflected in the three major observations made by the European Patent Organisation:[5] firstly, the growing evidence of so-called blocking patents. The technology market is also characterized by a proliferation of 'patent trolls'. The desire to obtain these patents is solely motivated by speculative considerations. They are based neither on real industrial application nor on serious evidence regarding inventiveness. Finally, one should also consider patent settlement cases and licensing contracts that amount to an abuse of IP rights.

However, notwithstanding these deviations that drain development imperatives, those characterizing IPR regulation in PTAs are even more problematic (Kransdorf 1987; Shadlen 2005, 2009; Fink, 2007; Biadgleg and Maur, 2011).

Kransdorf (1987) recalls conditions under which the IPR regulation was negotiated between the US and Mexico before the NAFTA agreement. Initially, the 1976 Mexican law on IP was highly restrictive.[6] Ten years later, in an attempt to satisfy American investors' grievances, the Mexican government introduced amendments in the original legislation. However, this has had no impact both on trade and on technology transfer. In fact, attempts by the Mexican government to reconcile national interests and the attraction of foreign investors proved unsuccessful.

In 1994, Mexico ended up acceding to the NAFTA agreement which was the first preferential trade agreement to include specific provisions on IPR. This accession entailed alignment of its legislation with higher standards of intellectual property rights.

The Mexican authorities' choice to join the NAFTA agreement is certainly justified by the substantial gains expected in terms of attraction of US investors in the manufacturing sector and preferential access to the US market. However, the question is whether these gains could offset the welfare losses associated with the Mexican government's withdrawal from its previous IPR management options geared to specific development objectives, particularly in the areas of health and agriculture.

To answer this question, one should refer to the NAFTA agreement assessment. Some studies tend to prove that after 15 years, this assessment is far from conclusive as regards the provisions on IPR. Indeed, IPR policy management imposed by the agreement or deliberately adopted by Mexico 10 years later did not achieve the expected objectives in the sectors of health and agriculture (Shadlen, 2009). The price of medicines remains high because of the extended rights granted to patentees and the inadequate regulation of compulsory licences. As for the agricultural sector, provisions on patent protection of living organisms and plant varieties imposed by the IPR chapter proved to be highly restrictive. However, more than that, the commitment of the Mexican authorities to NAFTA's IPR standards has accentuated the gap in Mexico's own technological capabilities and made it costlier to access technological expertise.

The question that arises in the context of the analysis of the Mexican experience is the following: is the Mexican scenario reproducible in other preferential trade agreements involving other developing countries?

In relation to the objective of this work, answers to this question must be seen in the particular context of the

[4] The issue of technology transfer remains a sensitive one. Moreover, as the resolutions of the code of conduct on technology transfer fall into disuse, any attempt to institutionalize technology transfer appears to be highly compromised.

[5] See Compendium of the European Patent Office (2007) entitled "*Scenarios for the Future: How might IP regimes Evolve by 2025? What Global Legitimacy might such Regimes have?* ".

[6] This highly controversial law guaranteed a ten-year protection period for patents and the provision of technical assistance on compulsory licensing was imposed. Trademarks protection was also reduced and sectors such as pharmacy, chemistry and biology were excluded from patent protection [Ibid, p278. 286-290].

consequences in terms of IPR management exclusively advocating the strengthening of these rights within the PTA framework. More precisely, it will be a matter of seeing how IPR strengthening in PTAs may be a threat to development.

On the basis of concrete examples, Shadlen (2005) and Fink (2007) explain how IPR strengthening provided for in PTAs would be a threat to development. Two main reasons are mentioned by the authors: firstly, even if they offer preferential market access, PTAs impose standards that go beyond the minimum required by the TRIPS agreement.[7] Then, IPR strengthening in developing countries, as provided in PTAs, imposes limits on IPR management oriented towards development goals.[8]

Regarding standards imposed in PTAs, they derogate from those provided for multinational firms under the TRIPS agreement. At least two facts could illustrate this statement: patent extension and the requirement for plant varieties patents and/or UPOV standards.

Patent extension, which is based on the principle of '*pipeline protection*', extends an artificial monopoly to the patent holder. However, more importantly, IP rights will be imposed on goods that are no longer new. In the case of pharmaceutical products, a practice that PTAs invariably require, has negative consequences for consumers of medicines and, more broadly, on the achievement of health objectives.

In fact, patent extension is even more penalizing as the extension of the term of protection covers drugs that are no more new with regard to the initial term of protection they already enjoyed. Consequently, consumers are forced to pay more for a product that is not new, in addition to the fact that such a practice prevents local development of generic medicines that are less expensive. It is worth noting that within the TRIPS agreement, there is no possibility of retroactive protection for patents whose terms expire.

Moreover, problems related to the extension of IP rights go beyond the question of novelty. Even if developing countries can tolerate the possibility of compulsory licensing, the same can be rendered completely inoperative. This is, for two reasons: firstly, the commercialization of generic medicines remains suspended due to the prior agreement with the patent holder of the original drug (problem of patent-registration linkage); secondly, access to clinical trial data may sometimes be exclusive to the patentee of the original drug. In this case, producers of generic drugs are deprived of the ability to market these drugs.

Finally, all these procedures can only delay the access of developing countries to medicines at reasonable prices, especially since the possibility of parallel imports of these same drugs may be prohibited by the agreement (Fink, 2007).

As regards the requirement of patent protection of plant varieties, as well as the obligation to refer to the amended UPOV convention in some PTA cases (US-Chile PTA, US-MENA countries PTAs), these conditions are both unnecessary and go beyond what is provided for in the TRIPS Agreement. Some countries may have their own regulations for effective protection of plant varieties (for instance, India) and they are not obliged to be UPOV members or follow UPOV standards. Moreover, the TRIPS agreement does not require countries to refer to the UPOV for plant variety protection and does not systematically impose patent protection for genetic resources provided that these resources are protected through effective protection systems.

Indeed, other aspects that are even more problematic must be underlined. These aspects are closely linked to basic criteria for patents: novelty and non-obviousness.

Taking into account these criteria is necessary as they are at the heart of balanced IPR management within PTAs. In this regard, some questions need to be asked: to what extent is an invention clearly new? Are developing country offices well equipped to appreciate novelty at its true value before validating patents? What about invention non-obviousness with regard to the effectiveness of new goods incorporating it? Is patent information disclosure sufficient to allow for the judgement of non-obviousness?

All these questions are important both for the economics of IPR in a broader sense and for balanced IPR regulations in particular. In a way, these questions highlight a major problem: broad patents and their consequences in terms of social welfare. Therefore, these questions are crucial for developing countries, which are signatories to PTAs. They are also critical for national IPR regulatory policy. It is worth noting that the TRIPS agreement contains no provisions that prevent broad patent temptations. It should be remembered that PTAs, in practice, adopt a broad interpretation of novelty. Such agreements also advocate a minimum information disclosure requirement for patents.[9] In

[7] IPR in PTAs are often of a 'TRIPS plus's type. Indeed, measures included in these agreements are more extensive compared to those in the TRIPS agreement.

[8] Shadlen considers that "*whereas TRIPS leaves space for countries to tailor their IP regimes to national development objectives, the space under PTA is dramatically reduced*" [ibid., p11].

[9] Such IPR management goes beyond the conventional methods of protection against the threat of imitation triggered

doing so, they make it difficult to assess the marginal efficiency of inventions protected by broad patents. Faced with such provisions, firms in developing countries incur a significant risk of IP conflict.

3. EU - TUNISIA PTA: ASSESSMENT AND PERSPECTIVES ON STRENGTHENING IPR

In 1995, Tunisia signed a free trade agreement (FTA) with the European Union (EU), its largest trading partner. The preferential nature of this agreement primarily concerned the gradual removal of tariff barriers.[10] International trade between the two partners should therefore take place in the context of a free trade area, already operational since 2008. The EU-Tunisia FTA does not include specific provisions on IPR. However, Tunisia is already a signatory to the major international conventions in this field (Table 1.a).

Table 1.a : IP regulation in Tunisia: International law

Year / Month	Field	Type of Legislation
1884/ July	Industrial Property	Paris Convention
1930 / October	Industrial designs	La Haye Arrangement
1967/ May	Trademarks	Nice Arrangement
1973/ October	Geographic Indication	Lisbonne Arrangement
1983/ May	Industrial Property	Madrid Arrangement
1985 / August	trademarks	Vienne Arrangement
2001 / December	Patents	PCT
2003/ August	Patents	Budapest Treaty
2014/ July	Patents	Patent Validation Agreement*

*Source: National Institute of Standardization and Intellectual Property (INNORPI). * Agreement signed but not in force.*

However, as shown in *Table 1.b*, the beginning of the 2000s was marked by a strengthening of IPR in national regulations. This strengthening is attributable to two major factors: the need for Tunisia to comply with the TRIPS agreement and the country's commitment to an industrial modernization effort as part of a dedicated program financially supported by EU.

Table 1.b : IP regulation in Tunisia : National law

Year / Month	Field	Type of Legislation
2015 / June	Trademarks	Decree 2015-303
2007 / July	Trademarks	Law 2007-50
2001/ April	Trademarks	Law 2001-36
2001/ August	Trademarks	Decree 2001-1934
2001/ July	Trademarks	Decree 2001-1603
2001/ February	Integrated Circuits	Law 2001- 20
2001/ August		Decree 2001-1984
2001/ July	Integrated Circuits	Decree 2001-1602
2001/ February	Integrated Circuits	Law 2001- 21
2001/ August		Decree 2001-1985
2001/ July	Industrial Designs	Decree 2001-1604
2000/ August	Industrial Designs	Law 2000-84
2001/ April	Industrial Designs	Decree 2001-836
2001/ January		Decree 2001-328
	Patents	
	Patents	
	Patents	

Source: National Institute of Standardization and Intellectual Property (INNORPI).

In November 2012, a further stage had been reached through the initiation of negotiations for a new PTA. The agreement, titled '*Complete and Comprehensive Free Trade Agreement*' (DCFTA) was intended to be a privileged partnership agreement between Tunisia and the EU. The DCFTA is expected to extend trade liberalization to the agricultural and service sector. This extension is coupled with the elimination of tariff and non-tariff barriers in these sectors and the convergence of Tunisian regulation with that of EU. Of the 13 chapters that define the regulatory convergence terms, there is an entire chapter dealing with IPR regulations.[11]

As a first step, the contributions made by increased IPR regulations in the EU-Tunisia FTA is assessed. This Assessment will help identify the agreement's impact on

by a full information disclosure in a patent [Anton and Yao, 2000].

[10] The FTA provides for elimination over a period of 12 years (1996-2008) of tariffs related to four lists of manufactured goods.

[11] In this work, reference is made to EU proposals on IPR in Chapter 9. These proposals were presented during the first round of negotiations in April 2016 (see www.trade.ec.europa.eu).

Tunisia's technological capabilities and trade performance (2.A). Problems raised by increasing IPR regulatory convergence will be highlighted after (2.B).

A. IPR REGULATION IMPACT ON TECHNOLOGICAL CAPABILITIES AND TRADE PERFORMANCE

Two criteria will be employed to assess the contributions of the FTA provisions: the first one relates to R&D efforts and innovation capabilities and the second concerns the improvement of international trade performance.

As shown in *Table 2*, IPR regulation has had no significant effect on the commitment of Tunisian firms in terms of both R&D investment and patenting. Only the acquisition of technology licenses have been confirmed over the past 20 years, while the level of payments involved is limited (not exceeding 20 million U.S. dollars).

Table 2: Technology and IP in Tunisia after FTA

	2005	2010	2014
Patents, non residents	282	508	400
Patents, residents	56	113	142
R&D (% GDP)	0,71	0,68	na
IP, payments (Millions of US $)	7,7	15,2	19,4

Source: WDI (2016)

Based on these empirical findings, it is reasonable to say that the impact of IPR regulation on local innovative efforts and capabilities does not seem to be evident, at least in the short run. However, it should be noticed that IPR regulation could not be the unique factor triggering a greater involvement in innovative activity. Other key factors such as the economic and institutional environment should be taken into account.

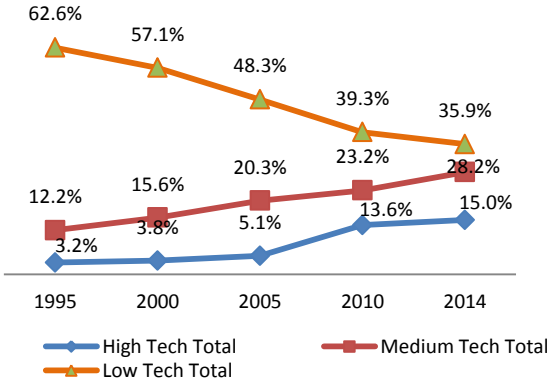
Uncertainty associated with technological activities may outweigh opportunities offered by the regulatory component of the IP system. This is the case in Tunisia as uncertainties reduce the incentives for local firms to invest in innovation, especially in the absence of suitable financial support such as venture capital. In addition, local firms need a credible IPR framework and a concrete perception of IPR enforcement on the ground. This should be the role played by institutions involved in the regulation and implementation of IPR.

Hence, more than the regulatory framework itself, it is by investing in good IP governance systems that the Tunisian economy will enjoy the long-term benefits of IPR strengthening.

Now, what about the impact of IPR regulation on Tunisia's development objectives? In the following pages, this issue will be empirically assessed. The aim is to see if strengthening IPR creates an environment conducive to the improvement of local technological capacity. Failing to come from local innovation efforts, this improvement can be attributed to imports of capital goods or to potential technology transfer via Foreign Direct Investment. If this is the case, then this should be reflected in the technological content of goods exported by Tunisia to the EU market.

For the purpose of empirical validation, Lall's (2000) classification of Tunisian manufacturing exports is being adopted. This classification is used to list goods exported according to their technological content (UNCTAD, 2015).[12] Based on international trade data of the *Standard International Trade Classification* (SITC, Revision 3), three categories of exported goods are created: high, medium and low-tech goods.

Graph 1: Tunisia - EU 15 Exports Share by technology Level

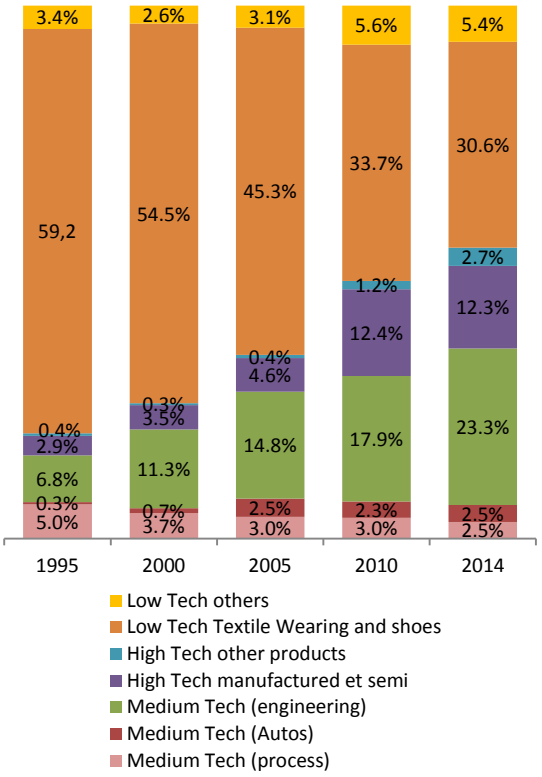


According to *Graph 1*, the share of high and medium technology goods in exports to the EU was increasing during the period of 1995-2014. The share of high-technology goods increased from 3.2% in 1995 to 15% in 2014, while the share of medium-technology jumped from 12.2% to 28.2%. These results should, however, be relativized given the observed trends in the various subcategories.

As shown in *Graph 2*, significant improvements occurred in exports of goods requiring engineering capabilities classified as medium-technology goods. Their share in Tunisian exports increased from 6.8% in 1995 to 23.3% in 2014. Progress in export share of high tech manufactured and semi-manufactured goods is also to be underlined (2.9% in 1995 against 12.3% in 2014). Nonetheless, exports of medium technology goods such as auto spare parts remained very modest despite growing foreign direct investments in this sector.

[12] Note that other classifications exist like the OECD classification (Hatzichronoglou, 1997). The choice of the Lall classification is explained by its greater simplicity.

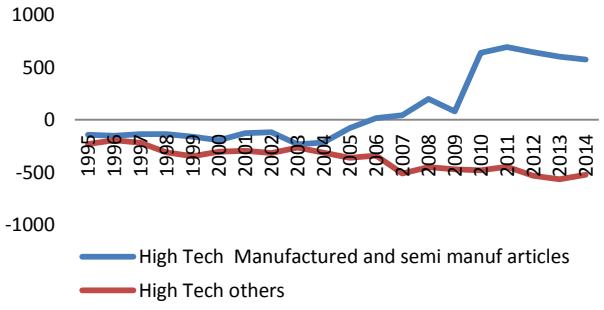
Graph 2: Tunisia -EU 15 Export shares by technology level (details)



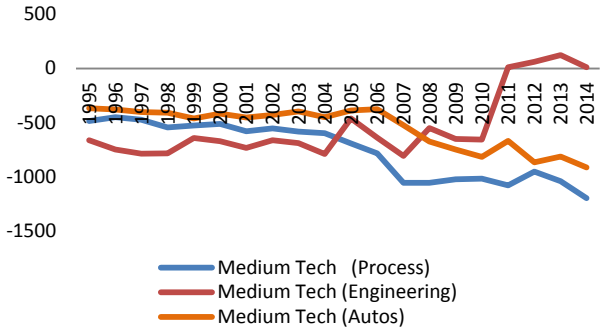
However, relying on the 'share of exports' criterion remains insufficient. Given the expected rise in imports under the FTA, trade balance evolution would be a more relevant criterion.

Based on this criterion, the following graphs show that trade surpluses are observed in only two categories of goods. Hence, a trade surplus is recorded for high-tech manufactured goods and semi-manufactured goods since 2006. In 2011, this surplus reached a peak of over 600 Million U.S. dollars (*Graph 3*). Regarding medium-technology goods, the trade surplus recorded is recent and of limited importance (*Graph 4*).

Graph 3: Tunisia - EU15 Trade Balance in High Tech Products (Millions of U.S $)



Graph 4: Tunisia - EU (15) Trade Balance in Medium Tech Products (Millions of U.S $)



It is of course difficult to quantify precisely the practical contribution of enhanced IPR regulation in Tunisia. However, IPR strengthening should be seen as a positive signal for local and foreign investors, and sectors that have seen gradual improvement in their export performance may have benefited from this positive signal. Further investigations at the sectoral level would confirm such an assumption.

Finally, and as mentioned earlier, IPR strengthening is only a necessary condition but not sufficient of its own to reduce technological asymmetries between Tunisia and its European trading partners. The reduction of such asymmetries is more broadly dependent on improving the governance of the Tunisian national IP system along with its legal, institutional and technological components.

B. FROM FTA TO DCFTA: ISSUES OF GREATER REGULATORY CONVERGENCE IN IPR

The purpose of the EU-Tunisia DCFTA is to expand trade liberalization beyond the manufacturing sector. Concomitant changes in IPR regulation were therefore expected. A reading of the draft text of the IPR chapter shows specific provisions on manufacturing; some of which are already being implemented. However, other provisions concerning the agricultural sector and, to a lesser extent, services, are new and not present in the existing regulatory framework.

Why would extended IPR regulation under the DCFTA be problematic? The answer to this question is on two levels:

(i) The first concerns the spirit of the proposed IPR regulation. While it is claimed that the measures are inspired from the TRIPS agreement, the IPR chapter incorporates provisions that are far from expressing the privileged partnership status desired by the DCFTA.

(ii) The second concerns provisions for extension of IPR regulation to the agricultural sector. While most of these provisions deal with geographical

indications (GIs), which are not binding, the mention of trade facilitation for agricultural goods under this chapter remains evasive on the constraints imposed by the European SPS standards.

Before going into the discussion of the two arguments, it is useful to point out that, as a form of intellectual property, GIs are not necessarily disconnected from quality requirements, regardless of the territorial origin of the product. Article 21 (1) of the TRIPS Agreement also explicitly refers to the notion of quality without giving it a precise content. However, there is a risk that, under the quality requirement, mandatory provisions on food safety and health risks are included (Wirth, 2015).

(i) IPR IN DCFTA: A 'TRIPS PLUS'?

Article 1 of the IPR chapter reveals a narrow vision of IP. The objectives announced in this article reflect such a vision:

'*1. The objectives of this Chapter are:*

a) promote the production and marketing of innovative and creative products in the territory of both Parties;

b) achieve an adequate and effective levels of protection and enforcement of intellectual property rights.

2. The Parties shall improve the protection of intellectual property rights in order to provide a level of protection similar to the highest international standards, including on effective means of enforcing such rights. '

(Article 1, IPR chapter of DCFTA, 26th of April 2016)

Thus, apart from promoting production and marketing of innovative goods, insistence on high standards of protection and means for strengthening IPR seem to be the major objectives. This is far from the spirit of the TRIPS agreement and in particular article 7 that explicitly directs IPR regulation towards development goals.

Moreover, paragraph 1 of article 2 clearly states that the IPR chapter specifies rights and obligations between parties under both the TRIPS agreement and other international treaties. These terms can only mean one thing: that the IPR chapter intends to go beyond the TRIPS agreement.

Of course, the amendment of certain provisions of this chapter is conceivable, which in itself, is reassuring. However, other provisions leave little room for negotiation. These include those relating to IPR infringement, which provide severely repressive measures (articles 16-20). Naturally, these measures are necessary insofar as they give more credibility to IPR regulation provided for in the negotiated agreement. However, in order to make the IPR chapter more balanced, it would have been desirable to place greater emphasis on the modalities of more technical cooperation, particularly in terms of improving the governance of the Tunisian IP system.

In addition, while article 26, which deals with IPR cooperation, is supposed to give a more explicit and concrete orientation to the achievement of development objectives, all the provisions thereof can only be viewed as increasing cooperation on IPR strengthening. As such, the IPR chapter tends to favour European holders of IP rights, especially when it does not specify the corrective measures to be taken when they abuse their rights.

(ii) THE EXTENSION OF IPR TO THE TUNISIAN AGRICULTURAL SECTOR: REAL AND FALSE PROBLEMS

The extension of IPR to the Tunisian agricultural sector is mostly on GIs.[13] The IPR chapter devotes a series of provisions summarized in section 7. A reading of this section immediately raises questions about the priority of GI related measures. Indeed, there is no record of violation of GIs from both sides. One wonders if the European side is not going to push open doors through the evocation of GIs in the IPR chapter. For this reason, the issue appears as a false problem.

On the other hand, one can understand that from the European point of view, GIs are far from being a false problem. The interests at stake for the European agriculture and incidentally the food industry are huge. However, what is the interest of Tunisian agriculture? For this purpose, let us consider article 7.1 which states in paragraph 1 that:

'*The Contracting Parties agree to enhance production quality, to promote the harmonious development of geographical indications as defined in Article 22, paragraph 1, of the Agreement on Aspects of Intellectual Property Rights (TRIPS), and to promote and facilitate trade in agricultural products and foodstuffs originating in the territories of the Contracting Parties.*'

This paragraph emphasizes the promotion of harmonious development of GIs as stipulated in TRIPS and also the promotion and facilitation of trade in agricultural products and foodstuffs. However, while efforts made by the Tunisian side to promote GIs are real, the effort in facilitating agricultural trade remains limited on the European side.

Consider, for instance, the effort made by the Tunisian side in terms of GI promotion. First, it is worth recalling that Tunisia is a signatory to the Treaty of Lisbon since 1973, the International Convention on the Harmonized System of Description and Coding System (1983) and the

[13] Aspects relating to plant varieties protection is the subject of the single article 9 in the IPR chapter. The only obligation involves the provisions of the UPOV Convention already signed by Tunisia.

TRIPS Agreement. Furthermore, with regard to established GIs, Article 7.2 of the IPR chapter highlights the mutual recognition of EU and Tunisian parts of the compliance of their current legislation with the elements required for registration and control of GIs.[14] For the Tunisian side, the extra effort required reduces to an alignment with the highest standards in terms of capacity and control.

Now, what about the efforts of the European partner in facilitating agricultural trade? Emphasizing trade facilitation is necessary given the expected effects of agricultural liberalization and the relative position of Tunisian agriculture compared to the EU.

Based on a general equilibrium model, ECORYS' study (2013) shows that with the exception of export of vegetable oils that could increase up to 222.6%, the DCFTA will have a negative impact on the export of other agricultural products (cereal products, -14%, animal production, -4.3%, other grain products, -10%). Note, however, that simulations assume the continuation of various benefits enjoyed by European agriculture within the framework of the Common Agricultural Policy. In addition, simulations are based on the scenario of a tariff reduction of 80% combined with a reduction of non-tariff barriers of just 2% regarding trade facilitation measures.[15]

Moreover and notwithstanding these scenarios, it is undeniable that the European and Tunisian agricultural sectors are asymmetric. Asymmetries exist at several levels: the relative importance of agriculture, productivity differentials and the strategic dimension of the sector. Indeed, while Tunisian agriculture represents nearly 8% of GDP, the European agricultural represents about 1.25% of GDP. In addition, FAO statistics (2012) show that agricultural productivity in the Euro-zone is seven times greater than that of Tunisia. Finally, from the viewpoint of the strategic dimension of the sector, it is necessary to place it in a global perspective. EU and Tunisia wish to preserve their agriculture. However, while the EU can compensate for the risks of further opening up of its agriculture through a competitive industrial sector, this is not the case for Tunisia. Based on the assessment made earlier, Tunisia is far from having reached the required maturity for its industry. Thus, the socio-economic impact would be even greater if the Tunisian agricultural sector is subject to strong competitive pressures.

As such, the DCFTA as a whole cannot be considered as a balanced agreement since it does not propose solutions to reduce these structural asymmetries.

Moreover, despite the technical assistance provided, Tunisian export of agricultural products to the EU continues to face recurring barriers imposed by European SPS standards. These barriers are even more constraining since European SPS standards are set at a higher level compared to those provided for in the WTO standards on SPS provisions. In this sense, the agreement should be classified in the 'WTO plus's category (Hartwell, 2015).[16]

However, apart from this classification, compliance with European SPS standards often generates significant additional costs and in some cases, requires complex technological knowledge that is not within the reach of the Tunisian agricultural capabilities.

This problem is certainly not specific to the Tunisian agricultural sector. Indeed, several developing countries which have entered into preferential trade agreements with the European Union (Morocco, Chile, South Africa) are experiencing, to varying degrees, the same difficulties in complying with European SPS standards despite assistance in capacity building in the field of standardization (Stoler,2011). Moreover, to the extent that compliance with these standards proves to be so costly and technologically complex, it may jeopardize the sustainability of PTAs.

Consequently, given the ineffectiveness of the assistance in the field of SPS standardization and the costs of compliance with European SPS standards, a better solution would be to consider more effective forms of cooperation that allow for resolution of the SPS standards issue. This cooperation could be achieved through scientific and technical collaborations involving public scientific research laboratories and technical expert groups. The main purpose of these collaborations should be a rational assessment of sanitary and phyto-sanitary risks and the definition of sound regulatory procedures that guarantee consumers quality

[14] These provisions are set out in Annex II.

[15] In such a scenario, the gains of Tunisia in terms of additional agricultural exports fall to 2.8% against an increase of nearly 42% in imports of the same products (ECORYS, 2013).

[16] On technical barriers to trade (TBTs) Hartwell states that: "*The difficulties with TBTs in a PTA framework come from their subjective nature. Unlike SPS regulations, which tend to be (but not always are) based on risk-assessment technologies and scientific evidence, TBTs such as administrative burdens, quality or technical standards, or other compliance issues are often based on governmental preferences or other policy goals. In that sense, and ironically (given that they may concern standards), TBTs can vary widely from country to country and may be used explicitly to stifle trade, in a manner that has been termed "regulatory protectionism*" (Baldwin 2000)" (Hartwell, 2015, p 16).

agricultural goods and foodstuffs without jeopardising bilateral trade in these goods. Such propositions should constitute a basis for balanced negotiations on SPS standards between countries, which are signatories to North-South PTAs.

4. CONCLUSION

Trade-offs in the regulation of IP rights are both useful and necessary. Useful because a more balanced IPR regulation could be appropriated by developing countries as it could increase their well-being. Moreover, these trade-offs are necessary because they allow one to go beyond regulation that focuses only on the imperative of IPR strengthening without taking into account inherent constraints.

While stressing the interest of developing countries in complying with minimum standards recommended by the TRIPS agreement, some arguments in this paper provide insights into the specific reality of these countries. However, IPR strengthening is crucial and inevitably requires the involvement of these countries in innovative efforts. The focus on imperfections in the technology market has for its part emphasized the limits of IP system harmonization according to the logic of '*one size fits all*'.

However, the increasing involvement of developing countries in PTAs is a central issue of this work. IPR strengthening is clearly a goal of these agreements. In this way, PTAs raise questions about the choice of IPR regulations and IPR management policies that should be adopted by developing countries. While referring to studies that highlight the difficulties that these countries may encounter in directing these policies towards development objectives, it was also necessary to evaluate the concrete contribution of IPR strengthening as recommended in PTAs.

Based on the FTA between the EU and Tunisia, empirical evidence leads to the conclusion that this agreement has made a limited contribution improving local technological capabilities and the export of goods with high technological content. However, this finding does not call into question the decision to strengthen IPR as planned under the EU-Tunisia FTA. This choice is a positive signal. However, it may prove insufficient if the Tunisian IP system governance does not evolve.

However, with regard to the DCFTA, the extension into strengthening IPR raises some problematic issues. First, it must be emphasized that the vision of the IPR chapter under negotiation is narrow whose architecture seems closer to a 'TRIPS plus' agreement. Moreover, while demonstrating that SPS barriers disadvantage Tunisian agricultural exports, this paper considers that IPR regulation in the proposed DCFTA could be more balanced if it favoured some forms of collaboration that enhance the governance of the Tunisian IP system, which could be essential to the development of the Tunisian agricultural sector.

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