

Chapter 2. Trade secrets protection in the international context

§ 1 *International legal sources for the protection of undisclosed information*

A comprehensive and insightful understanding of the secrecy-openness dichotomy requires an in-depth analysis of the minimum standards of protection set forth at the international level. The contours of the secrecy requirement within the EU should be shaped in light of the obligations and flexibilities set forth in international treaties (§ 1) and by taking into account the legal system in place in the U.S., the jurisdiction upon which such obligations were modelled (§ 2).

Indeed, the international protection of trade secrets was only explicitly included in multilateral conventions in 1994 with the adoption of the TRIPs Agreement.⁵⁰⁵ Before then, academics had extensively discussed whether Article 10bis PC was applicable to trade secrets protection.

The following sections map out the international legal framework set forth by Article 10bis PC together with Article 39 TRIPs.⁵⁰⁶ To that end, section A looks into the legal system for the protection of undisclosed information established in Article 39 TRIPs. In particular, this section provides a critical analysis of (i) the general framework created by TRIPs; (ii) the negotiation history of the relevant provisions dealing with trade secrets; (iii) the general obligation to protect undisclosed information established in Article 39(1) TRIPs; and (iv) the scope and requirements for protection laid down in Article 39(2). Then, section B examines the WIPO Model Provisions on unfair competition and their implications for trade secrets protection.⁵⁰⁷

505 Daniel Gervais, *The TRIPs Agreement* (4th edn, Sweet&Maxwell 2012) 541.

506 For a general overview of the international IPRs convention system, see Annette Kur and Thomas Dreier, *European Intellectual Property Law* (Edward Elgar 2013) 10-31.

507 The study of Article 39(3) TRIPs has been deliberately left outside the scope of the present research, because providing a comprehensive and rigorous analysis of the legal issues that it poses falls outside the limits of this study.

A) International minimum standards of protection: The TRIPs Agreement and the protection of undisclosed information

I. General framework

Some regard the TRIPs Agreement as the “most innovative” of the WTO agreements.⁵⁰⁸ It was negotiated to address the deficiencies of the Convention system in force at the time.⁵⁰⁹ In essence, it intended to overcome (i) the fragmented coverage of IPRs; (ii) the lack of effective enforcement mechanisms and dispute settlement systems and (iii) the problems posed by the limited membership.⁵¹⁰

Against this background, developed countries pushed to enhance the standards of IPRs protection enshrined within the system of the General Agreement of Trade and Tariffs of 1947.⁵¹¹ Initially, this was addressed during the Uruguay Round of Multilateral Trade Negotiations, which ultimately led to the adoption in 1994 of the “Agreement Establishing the World Trade Organisation”, whereby the WTO was set up.⁵¹² The TRIPs Agreement was included as ANNEX C and is therefore an integral part of the WTO Agreement adopted in Marrakech on 15 April 1994.⁵¹³

The inclusion of TRIPs within the WTO legal framework entails a number of advantages. First, due to its “single undertaking nature”, all WTO

508 Peter Van den Bossche and Werner Zdouc, *The Law and Policy of The World Trade Organization* (3rd edn, CUP 2013) 952; in the same vein Daniel Gervais 2012 (n 505) para 1.12 notes that the TRIPs Agreement “together with the 1967 Stockholm Conference that adopted the revised Berne and Paris Convention and Created the World Intellectual Property Organization (WIPO), is undoubtedly the most significant milestone in the development of intellectual property in the twentieth century”.

509 The issues posed by the international conventions before TRIPs is explained in greater detail by Paul Katzenberger and Annette Kur, ‘TRIPs and Intellectual Property’ 10-16 in Friedrich-Karl Beier and Gerhard Schricker (eds), *IIC Studies, Studies in Industrial Property and Copyright Law, From GATT to TRIPs – The Agreement on Trade-Related Aspects of Intellectual Property Rights* (Weinheim 1996).

510 Peter Van den Bossche and Werner Zdouc, *The Law and Policy of The World Trade Organization* (3rd edn, CUP 2013) 953.

511 General Agreement on Tariffs and Trade (adopted 30 October 1947) 55 UNTS 194 (GATT Agreement); Articles XX (d), IX, XII:3(c)(iii) and XVIII:10 of the GATT Agreement made explicit reference to IPRs.

512 Marrakesh Agreement Establishing the World Trade Organization (adopted 15 April 1994) 1867 UNTS 154 (WTO Agreement).

513 For a more detailed analysis of the background that led to the adoption of the TRIPs Agreement see Annette Kur and Thomas Dreier 2013 (n 506) 21-25.

members are bound to implement into their domestic legal orders the minimum standards of protection⁵¹⁴ for all of the categories of IPRs set forth in TRIPs, including trade secrets or “undisclosed information”.⁵¹⁵ Ultimately, this has resulted in a substantial “approximation of extra-territorial treatment of immaterial property”⁵¹⁶ across the 164 Members of the WTO.⁵¹⁷ Likewise, one of the most significant achievements of TRIPs is that it brings IPRs-related disputes between states under the WTO’s Dispute Settlement Understanding (“DSU”), thus providing an effective international enforcement mechanism.⁵¹⁸ Despite its limitations and the rise of bilateralism,⁵¹⁹ it is undisputed that TRIPs has achieved a minimum level of harmonisation of intellectual property protection at the international level.

The following section maps out the negotiation history of Article 39 TRIPs, upon which the international legal framework for the protection of trade secrets is built.

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- 514 See Article 1(1) TRIPs: “Members may, but shall not be obliged to implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement”.
- 515 Marco Bronckers, ‘The Impact of TRIPs: Intellectual Property Protection in Developing Countries’ [1994] 31 Common Market LR 1245, 1249 while discussing the “single package nature” of the WTO notes that “the Uruguay Round negotiations towards a single package have been criticised for weakening the resistance of developing countries to proposals like the TRIPs agreement that may be inimical to their interests”, as trade concessions were conditioned upon stronger IP protection.
- 516 Josef Straus, ‘Implications of the TRIPs Agreement in the Field of Patent Law’ 160, 163 in Friedrich-Karl Beier and Gerhard Schricker (eds), *IIC Studies, Studies in Industrial Property and Copyright Law, From GATT to TRIPs – The Agreement on Trade-Related Aspects of Intellectual Property Rights* (Weinheim 1996).
- 517 According to the WTO’s website <http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm> accessed 15 September 2018.
- 518 See Article 64(1) TRIPs; for a more in-depth analysis on the interplay between TRIPs and the WTO’s DSU see Karen D. Lee and Silke von Lewinski, ‘The Settlement of International Disputes in the field of Intellectual Property’ 278-328 in Friedrich-Karl Beier and Gerhard Schricker (eds), *IIC Studies, Studies in Industrial Property and Copyright Law, From GATT to TRIPs – The Agreement on Trade-Related Aspects of Intellectual Property Rights* (Weinheim 1996); see also Daniel Gervais 2012 (n 505) paras 2.704-2.716.
- 519 For a discussion on this topic see Graeme B. Dinwoodie, ‘The International intellectual property law system: new actors, new institutions, new sources’ [2006] 10 Marquette IPLR 206, 214.

II. Negotiation history of Article 39 TRIPs⁵²⁰

During the initial discussions of the Uruguay Round in 1986, intellectual property did not occupy a prominent position in the negotiation agenda, and it only acquired a notorious role in the last few years prior to the adoption of TRIPs.⁵²¹ As some sources note, IPRs were included in the Punta del Este Declaration⁵²² due to the efforts of a group of U.S. industry leaders who sought to establish an international system for the protection of IPRs that mirrored the United States' intellectual property legislation.⁵²³

Against this background, Sandeen distinguishes three stages in the negotiation process of Article 39 TRIPs. During the early phase (1987–1988) the U.S., the EC and the representatives of different industry groups issued several proposals addressing the potential scope of trade secrets protection.⁵²⁴ Most notably, the U.S. advocated for treating trade secrets as IPRs.⁵²⁵ During the “Mid-Term Phase” (1989–1990), the discussions about whether trade secrets were a form of IPRs and hence should be included under the shelter created by TRIPs and how comprehensive their regulation should be, were the prime focus of the negotiations.⁵²⁶ The Indian government strongly objected to affording proprietary protection to trade secrets and insisted that protection should be premised on Article 10bis PC. It further noted that it would be preferable to regulate trade secrets protection through contract and under civil laws.⁵²⁷ In 1990, fourteen other developing countries endorsed India's position and expressed their opposition to negotiating further on trade secrets, as they should not be considered as

520 For a comprehensive analysis of the negotiation of Article 39 TRIPs see UNCTAD-ICTSD, *Resource Book on TRIPs and Development* (CUP 2005) 520-526.

521 Marco Bronckers, ‘The Impact of TRIPs: Intellectual Property Protection in Developing Countries’ [1994] 31 *Common Market LR* 1245, 1245.

522 WTO/GATT Ministerial Declaration on the Uruguay Round (Declaration of 20 September 1986).

523 Sharon K. Sandeen, ‘The limits of trade secret law: Article 39 of the TRIPs Agreement and the Uniform Trade Secrets Act on which it is based’ 537, 539 in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011).

524 This section follows the approach adopted by Sharon K. Sandeen 2011 (n 523) 542.

525 UNCTAD-ICTSD, *Resource Book on TRIPs and Development* (CUP 2005) 523.

526 Sharon K. Sandeen 2011 (n 523) 542.

527 See GATT Doc. MTN.GNG/NG11/W/37, paras 46-47.

IPRs.⁵²⁸ As a result, the standards of protection of trade secrets were mostly negotiated by developed countries.⁵²⁹

During the final stage, the so-called “Drafting Phase” (1990–1991), each of the delegations of the EC,⁵³⁰ the U.S.⁵³¹ and Switzerland⁵³² submitted a draft agreement on trade-related aspects of IPRs. These were used as the basis for “The Anell (or Chairman’s) Draft”.⁵³³ The wording of the latter agreement shows that in July of 1990 divergences persisted regarding substantive standards for trade secrets protection, as a number of items appeared bracketed. First, there was a difference of opinion regarding whether actual commercial value was required or if potential value would suffice. Furthermore, the parties to the negotiation failed to agree on a single term to designate the subject matter of protection, and several terms were used interchangeably. The U.S. leaned towards the term “trade secrets”; while Switzerland suggested “proprietary information” and the EC proposed “undisclosed information”, the latter of which eventually prevailed over the other proposals.⁵³⁴ Finally, a non-exclusive list of acts that were deemed contrary to honest commercial practices was included in the main body of the text. There was also a lack of consensus on whether liability should extend to third parties who “had reasonable grounds to know” that the information had been acquired unlawfully.⁵³⁵

After a number of discussions, the Group of Negotiation on Goods submitted another draft agreement on IPRs (the so-called “Brussels Draft”) included in the Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations.⁵³⁶ In essence, it contained three

528 See GATT Doc. MTN.GNG/NG11/16.

529 According to Nuno Pires de Carvalho, *The TRIPS Regime of Antitrust and Undisclosed Information* (Kluwer Law International 2008) paras 39.2.26-39.2.27 the unwillingness of developing countries to participate in the discussions on trade secrets resulted in the adoption of Article 39(2) TRIPs with a wording that does not reflect the actual interests of developing countries. He refers to it as a “strategic mistake” during the negotiation process.

530 See GATT Doc. MTN.GNG/NG11/W/68.

531 See GATT Doc. MTN.GNG/NG11/W/70.

532 See GATT Doc. MTN.GNG/NG11/W/73.

533 See GATT Doc. MTN.GNG/NG11/W/76.

534 On the terminology issue, Nuno Pires de Carvalho 2008 (n 529) para 39.2.22 highlights that the EC’s proposed term ‘undisclosed information’ was crucial to the negotiations because many parties opposed to include ‘trade secrets’ within the text of the agreement, as they believed that it would directly imply the recognition of proprietary or exclusive rights.

535 Sharon K. Sandeen 2011 (n 523) 550-551.

536 See GATT Doc. MTN.TNC/W/35/Rev. 1.

minor changes to the Anell Draft.⁵³⁷ First, any reference to actual or potential commercial value of the protected information was deleted. Most notably, the examples of dishonest commercial practices were listed in a footnote, as proposed by the U.S. Likewise, only one of the provisions regarding government use, the one that referred to test data submitted to governments, was included in the Brussels Draft.

In the months that followed the adoption of the Brussels Draft, agricultural provisions were the main focus of the negotiations.⁵³⁸ Hence, discussions concerning IPRs were pushed into the background until December 1991, when a new and simplified version of the agreement was included in the second Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, generally known as the “Dunkel Draft”.⁵³⁹ This preliminary version was presented on a “take-it-or-leave-it basis”⁵⁴⁰ and served as the basis for the TRIPs Agreement.

With regard to trade secrets, the outcome of the above negotiation process led to the adoption of Article 39, which governs the protection of undisclosed information in the international legal system created by TRIPs. It consists of three paragraphs and a footnote:

Article 39

1. In the course of ensuring effective protection against unfair competition as provided in Article 10bis of the Paris Convention (1967), Members shall protect undisclosed information in accordance with paragraph 2 and data submitted to governments or governmental agencies in accordance with paragraph 3.

2. Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices (10) so long as such information:

- (a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
- (b) has commercial value because it is secret; and
- (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

537 Sharon K. Sandeen 2011 (n 523) 551.

538 Daniel Gervais 2012 (n 505) para 1.25.

539 See GATT Doc. MTN.TNC/W/FA.

540 Daniel Gervais 2012 (n 505) paras 1.27-1.28.

3. Members, when requiring, as a condition of approving the marketing of pharmaceutical or of agricultural chemical products which utilize new chemical entities, the submission of undisclosed test or other data, the origination of which involves a considerable effort, shall protect such data against unfair commercial use. In addition, Members shall protect such data against disclosure, except where necessary to protect the public or unless steps are taken to ensure that the data are protected against unfair commercial use.

Footnote 10

For the purpose of this provision, “a manner contrary to honest commercial practices” shall mean at least practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition.

As is apparent from the above, the first section links the protection of undisclosed information and test data submitted to governments to the general obligation of ensuring protection against unfair competition established in Article 10bis PC. Paragraph 2 focuses on the right of individuals and undertakings to prevent the acquisition, disclosure and use of secret information in a manner contrary to honest commercial practices. More specifically, footnote 10 provides a list of non-exclusive types of conduct that are regarded as unfair commercial practices. Paragraph 3 creates an obligation for Member States to protect undisclosed data submitted to governmental agencies in order to obtain marketing approval for pharmaceutical or agricultural chemical products. Each of these sections are analysed in turn, with the exception of Article 39(3) TRIPs. The legal and public policy implications of the obligations laid down in this provision are so far-reaching that providing a comprehensive analysis of them falls outside the scope of the present research.

III. The architecture of the general obligation to protect undisclosed information: Article 39(1)TRIPs

1. Hybrid nature of the protection

Article 39(1) TRIPs serves two purposes: it declares that Member States are bound to protect undisclosed information by means of unfair competition

pursuant to Article 10bis PC and it provides the general framework for the interpretation of paragraphs 2 and 3.⁵⁴¹

However, it is not the only provision in TRIPs that refers to the PC. By virtue of Article 2(1) TRIPs, WTO Member States are compelled to comply with the minimum standards of protection set forth in Articles 1 through 12 and Article 19 PC.⁵⁴² Thus, the specific reference in Article 39 TRIPs to Article 10 PC reinforces the hybrid legal nature of trade secrets and anchors their protection in unfair competition rules.

To provide greater legal certainty, the following section investigates the meaning of Article 10bis PC in the context of TRIPs.

2. Construing Article 10bis PC in the context of undisclosed information

Following the line of argument explained above, the international protection of unfair competition is premised on Article 10bis PC, which has been the object of several revisions since it was first included in the PC.⁵⁴³ The wording of the provision now in force is as follows:

Article 10bis

- (1) The countries of the Union are bound to assure to nationals of such countries effective protection against unfair competition.
- (2) Any act of competition contrary to honest practices in industrial or commercial matters constitutes an act of unfair competition.
- (3) The following in particular shall be prohibited:

541 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 10-11.

542 Article 2(1) TRIPs: “In respect of Parts II, III and IV of this Agreement, Members shall comply with Articles 1 through 12, and Article 19, of the Paris Convention (1967)”; see further Josef Drexl, ‘Nach “GATT und WIPO”: Das TRIPs-Abkommen und seine Anwendung in der Europäischen Gemeinschaft’ [1994] 43 GRUR Int 777, 787; Gintare Surblyte 2011 (n 182) 26.

543 For an exhaustive analysis of the legislative evolution see Stephen P. Ladas, *Patents, Trademarks, and Related Rights – National and International Protection* (HUP 1975) 1684; Christopher Wadlow, *The Law of Passing-off* (4th edn, Swett&Maxwell 2011) 65 - 93; also Marcus Höpperger and Martin Senftleben, ‘Protection Against Unfair Competition at the International Level – The Paris Convention, the 1996 Model Provisions and the Current Work of the World Intellectual Property Organisation’ 61, 62-63 in Retro Hilty and Frauke Henning-Bodewig (eds), *Law Against Unfair Competition* (Springer 2007).

- (i) all acts of such a nature as to create confusion by any means whatever with the establishment, the goods, or the industrial or commercial activities, of a competitor;
- (ii) false allegations in the course of trade of such a nature as to discredit the establishment, the goods, or the industrial or commercial activities, of a competitor;
- (iii) indications or allegations the use of which in the course of trade is liable to mislead the public as to the nature, the manufacturing process, the characteristics, the suitability for their purpose, or the quantity, of the goods.

Paragraph (1) contains a “general clause” that mandates contracting parties to protect nationals of (other) Union Member States against acts of unfair competition.⁵⁴⁴ Crucially, paragraph (2) defines what constitutes an act of unfair competition.⁵⁴⁵ This definition is completed in paragraph (3) with a list of three specific instances that are regarded as unfair and thus prohibited at the national level.⁵⁴⁶ The first example refers to the creation of confusion in the market, while the second alludes to acts aimed at the disparagement of a competitor. Both of them fall under the category of traditional consumer protection. On the other hand, the third instance refers to misleading practices and, as such, intends to protect the interests of both competitors and consumers.⁵⁴⁷ Notably, no reference to trade secrets or undisclosed information is made.

Since the Hague Conference in 1925, there has been much debate about whether the general clause set forth in paragraph (1), together with the definition provided in paragraph (2) has an overarching normative effect

544 In order to comply with this requirement, Member States are not obliged to enact special legislation; see further Georg H. C. Bodenhausen, *Guide to the application of the Paris Convention* (BIRPI 1967) 143.

545 For an exhaustive analysis of the actual meaning of “act of competition contrary to honest practices” in Article 10bis PC see Frauke Henning-Bodewig and Heijo E. Ruijsenaars, *Protection against Unfair competition* (WIPO 1994) 28-134; Christopher Wadlow 2011 (n 543) 2-014 - 2-031

546 In this regard, Georg H. C Bodenhausen 1977 (n 544) 143 notes that the wording of paragraphs (ii) and (iii) of Article 10bis PC is phrased in such a manner that these provisions should be considered as “self-executing” in the jurisdictions where such possibility is envisaged.

547 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 18, noting that the last example spelt out in Article 10bis(3) was only added to the body of the Treaty in 1958 during the Revision Conference in Lisbon.

on the specific examples listed in Article 10bis(3).⁵⁴⁸ Today, most commentators agree that protection against unfair competition extends beyond the scope of the three examples listed in Article 10bis. Bodenhausen resorts to the Washington Act⁵⁴⁹ to conclude that these examples “constitute only a minimum”.⁵⁵⁰ Similarly, the WIPO study on the “Protection against unfair competition” takes the same view and submits that these instances are not to be construed as being exhaustive, but rather as minimum standards to be afforded by Union Member states.⁵⁵¹ In addition, the study provides a list with a number of “acts not expressly mentioned in Article 10bis” that are frequently regarded by courts as unfair practices and accordingly are more often regulated by statutes. Crucially for the purposes of the present research, these include (i) the violation of trade secrets, but also (ii) comparative advertisement; (iii) taking undue advantage of another’s achievements “free riding”; and (iv) other acts of unfair competition.⁵⁵²

In contrast, Cornish highlights that the obligation set forth in Article 10bis PC has generally been interpreted as referring to making false and misleading statements. He notes that it is not generally understood to include actions against the appropriation of ideas marketed in a competitor’s product. In particular, he adds that trade secrets and the slavish imitation of products do not fall within its scope.⁵⁵³

548 The third example of Article 10bis (paragraph 3) was only included to the text at the Lisbon Conference in 1958.

549 Washington Act (adopted 2 June 1911, entered into force 1 May 1913) TRT PARIS 006.

550 Georg H. C. Bodenhausen 1977 (n 544) 145.

551 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 18.

552 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 48-68.

553 William Cornish, ‘The International Relations of Intellectual Property’ 52 Cambridge LJ 46, 61; Gerald Reger, *Der internationale Schutz gegen unlauteren Wettbewerb und das TRIPS-Übereinkommen* (Carl Heymanns Verlag 1999) 122; in the same vein Christopher Wadlow, ‘Regulatory data protection under TRIPs Article 39(3) and Article 10bis of the Paris Convention: Is there a doctor in the house?’ [2008] IPQ 355, 368 noting that “Art. 10bis, despite the superficial breadth of its language, in fact confines itself to requiring protection against a range of misrepresentation-based acts of unfair competition corresponding to those enumerated in para 3 (i)-(iii). I entirely agree, and with the corollary that doctrines of unfair competition based on supposed acts of misappropriation alone are altogether outside the scope of Art. 10bis, because there was never sufficient international consensus as to what was fair and what was unfair in this context”.

In the light of the foregoing, it is submitted that Article 39 expands the scope of Article 10bis PC to the protection of trade secrets, which is therefore *lex specialis* to the latter provision.⁵⁵⁴

What seems more problematic is clarifying the meaning of “*any act of competition contrary to honest practices*”, which lies at the core of Article 10bis(2) PC.

The starting point should be to construe the term “competition” in each jurisdiction according to the specific parameters usually applied therein.⁵⁵⁵ The PC is an international treaty, and as such it should be interpreted in an autonomous manner.⁵⁵⁶ Consequently, official and private acts fall clearly outside the scope of application of Article 10bis PC.⁵⁵⁷ Yet, the open wording of the provision leaves a certain margin of discretion to the Member States so that for instance, in some jurisdictions a direct competitive relationship between the parties is not necessarily required.⁵⁵⁸

Second, the Convention introduces an element of *fairness* when referring to honest practices.⁵⁵⁹ Following the general rule of interpretation in the VCLT, treaties are to be interpreted “in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose”,⁵⁶⁰ Consequently, as is apparent from paragraph 3, the scope of Article 10bis is limited to honest practices in the context of industrial or commercial matters, which may be different to the standards applied in other areas, such as liberal professions.⁵⁶¹ These may also vary from country to country or may evolve with time.⁵⁶² As Ladas indicates:

554 Gintare Surblyte 2011 (n 182) 27; Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 10.

555 Georg H. C. Bodenhausen 1977 (n 544) 144.

556 Frauke Henning-Bodewig, ‘International Unfair Competition Law’ 53, 57 in Re-to Hilty and Frauke Henning-Bodewig (eds), *Law Against Unfair Competition* (Springer 2007).

557 Frauke Henning-Bodewig, ‘Internationale Standards gegen unlauteren Wettbewerb’ [2013] GRUR Int 1, 5.

558 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 23; Georg H. C. Bodenhausen 1977 (n 544) 144.

559 Christopher Wadlow 2011 (n 543) para 2-025.

560 See Article 31 VCLT.

561 Christopher Wadlow 2011 (n 543) para 2-025; notwithstanding this, Marcus Höpferger and Martin Senfleben 2011 (n 543) 64 critically note that the establishment of the relevant behavior pattern will strongly depend on how the circle is defined.

562 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 23.

morality, which is the source of the law of unfair competition, is a simple notion in theory only. In fact it reflects customs and habits anchored in the spirit of a particular community. There is no clear objective standard of feelings, instincts, or attitudes toward a certain conduct. Therefore, specific prescriptions involving uniform evaluation of certain aspects are extremely difficult.⁵⁶³

Bearing this in mind, Bodenhausen highlights that when establishing the meaning of “honest practices in industrial or commercial matters” courts will also have to consider “honest practices established in international trade”.⁵⁶⁴ Thus, it is submitted that the *splendidly imprecise*⁵⁶⁵ expression of “any act of competition contrary to honest commercial or industrial practices” can be narrowed down through objective criteria.⁵⁶⁶

As a whole, Article 10bis PC set a general and flexible minimum standard of protection against acts of unfair competition and defined three conducts that should always be deemed unlawful across all members of the Union. Modern unfair competition is premised on (i) the protection of competitors (the original purpose), (ii) the protection of consumers and more recently (iii) the safeguarding of competition in the interest of the public at large.⁵⁶⁷ The open nature of Article 10bis has enabled it to adapt to evolving trends in unfair competition and encompass all of the interests referred to above under its normative framework. Most importantly, it provides the basis upon which the assessment of when the acquisition, use and disclosure of trade secrets is unlawful, as per Article 39(2) TRIPs examined in section IV.

563 Stephen P. Ladas 1975 (n 543) 1685.

564 Georg H. C. Bodenhausen 1977 (n 544) 144.

565 In the words of William Cornish, ‘The International Relations of Intellectual Property’ [1993] 52 Cambridge LJ 42, 61.

566 Frauke Henning-Bodewig, ‘Internationale Standards gegen Unlauteren Wettbewerb’ [2013] GRUR Int 1, 7; along these lines, Jacob notes referring to the TMD in Case C-2/00 *Hölderhoff v Fretesleben* [2002] ECR I-4187 that: “The precise delimitation of ‘honest practices’ is of course not given in the Trade Marks Directive. By its very nature, such a concept must allow of certain flexibility. Its detailed contours may vary from time to time and according to the circumstances, and will be determined in part by various rules of law which may themselves change, as well as by changing perceptions of what is acceptable, however, there is a large and clear shared core concept of what constitute honest conduct in trade, which may be applied by the courts without great difficulty and without any excessive danger of diverging interpretations”.

567 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 24-25.

IV. Article 39(2) TRIPs

1. Scope of the obligation

Article 39(2) TRIPs defines the scope of the obligations outlined in section III. In essence, it compels Member States to ensure that the person lawfully in control of undisclosed information is entitled to prevent its unauthorised disclosure, acquisition or use in a manner contrary to honest commercial practices by a third party. This shows that trade secrecy law is not concerned with the subject matter of secrecy, but instead focuses on the manner in which trade secrets are acquired, used or disclosed.⁵⁶⁸ What is actually protected is the selective disclosure of information under specific circumstances.⁵⁶⁹ Hence, the acquisition of information based on someone's own effort, such as reverse engineering or independent discovery, should be deemed lawful.⁵⁷⁰

In order to comply with the obligation laid down in paragraph 2, Member States are not required to enact specific legislation dealing with trade secrets protection, in line with Article 1(1) TRIPs.⁵⁷¹ As long as trade secret holders have the possibility of preventing unlawful acquisition, use or disclosure, WTO Member States are not in breach of the TRIPs obligations.⁵⁷² This is particularly relevant in common law jurisdictions that have no specific legislation on the subject. In these cases, effective protection is usually achieved through the development of "a body of case law" that clarifies the means of redress available in the event of trade secret misappropriation. If such body does not exist, it may seem advisable for Member States to take legislative measures.⁵⁷³

568 Nuno Pires de Carvalho, *The TRIPs Regime of Patent Rights* (3rd ed, Kluwer Law International 2010) para 39.1.49.

569 Daniel Gervais 2012 (n 505) para 2.486.

570 Nuno Pires de Carvalho 2010 (n568) para 39.1.49.

571 Article 1 TRIPs: "1. Members shall give effect to the provisions of this Agreement. Members may, but shall not be obliged to, implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement. Members shall be free to determine the appropriate method of implementing the provisions of this Agreement within their own legal system and practice".

572 Nuno Pires de Carvalho 2010 (n 568) para 39.94; Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn13.

573 Tanya Aplin and others 2012 (n 22) para 22-07; Nuno Pires de Carvalho 2010 (n 568) para 39.94

In addition, the wording of Article 39 specifically accords protection to both natural and legal persons. To avoid any explicit reference to “property” or “ownership” of the information, Article 39(2) resorts to the notion of “control”.⁵⁷⁴ The use of this term is closely connected with the requirement to take reasonable steps to keep the information secret, as spelt out in littera (c) of Article 39(2) TRIPs. The person who takes measures to keep the information undisclosed is regarded as the possessor of the information in question and thus, as the trade secret holder, irrespective of the nature of his legal title in the secret. Hence, if the creator of the secret data decides to share them with a second party for their mutual benefit, in the event of misappropriation both parties are regarded as holders, such as in the licensor-licensee relationship. Therefore, both may seek legal redress against a third party who obtains the information improperly.⁵⁷⁵

Protection is subject to the condition that the holder lawfully acquires the trade secret. If the information is obtained in an improper or illegal manner, the person in control of the information will not be able to enforce it against third parties. For instance, if an employee bound by a confidentiality agreement discloses secret information to a competitor because of bribery, the competitor is not considered to be in control of the information for the purposes of Article 39(2) TRIPs. The unlawful holder is consequently unable to prevent any third party from acquiring, using or disclosing the information.⁵⁷⁶ Ultimately, the unlawfulness of the conduct shall be determined according to national law.⁵⁷⁷

The rights relating to trade secrets include the rights to (i) prevent their disclosure, (ii) acquisition and (iii) use by third parties.⁵⁷⁸ The inclusion of *use* as a relevant conduct that may trigger liability is particularly relevant, as it does not require the trade secret holder to provide evidence that the information was acquired without consent from a specific source, which in practice is not always feasible. The mere unlawful use of secret information is deemed enforceable.⁵⁷⁹ The exercise of these rights is subject to two cumulative conditions: (i) the actions previously listed must be carried out without the holder’s consent and (ii) in a “manner contrary to honest com-

574 Tanya Aplin and others 2012 (n 22) para 22.10.

575 Tanya Aplin and others 2012 (n 22) 22.10.

576 Tanya Aplin and others 2012 (n 22) para 22.11.

577 Markus Peter and Andreas Wiebe 2007 (n 304) Art. 39 Rdn 15.

578 Daniel Gervais 2012 (n 505) para 2.486 notes that “the inclusion of ‘use’ is helpful as it does not require a positive identification of the source of information, which may not always be easy to determine”.

579 Daniel Gervais 2012 (n 505) para 2.487.

mercial practices". Thereby, Article 39(2) introduces an element of fairness, which should be interpreted in the light of the normative framework created by the PC. In this regard, and as noted above,⁵⁸⁰ there is no single interpretation of honest commercial practices; it is a flexible test in which all relevant interests can be weighed against each other. Such an assessment depends upon the values that govern each society at a particular moment in time.⁵⁸¹ Nevertheless, its open-ended nature unavoidably entails a degree of legal uncertainty.⁵⁸²

Crucially, footnote 10 attempts to shed light on the meaning of this phrase in the context of trade secret misappropriation. However, as no standard definition seems suitable, the provision provides two examples of practices that should always be deemed unlawful and that constitute the minimum standards of protection: breach of contract (or inducement to do so) and breach of confidence.⁵⁸³ This reference seems problematic insofar as it does not limit the admissibility and content of confidentiality clauses.⁵⁸⁴ In the footnote, it is further explained that acquisition by third parties who knew or were grossly negligent in failing to know that breach of contract or breach of confidence had occurred should be deemed contrary to honest commercial practices. This clarifies that any other conduct carried out by third parties such as industrial espionage, theft or bribery also fall under the scope of TRIPs. Hence, gross negligence triggers the same legal response as actual knowledge.⁵⁸⁵

In light of this, the main criterion to assess whether an obligation of secrecy exists is the knowledge (or the obligation to know) that the information was acquired, used and disclosed in confidence.⁵⁸⁶ However, the final draft, unlike previous proposals, does not afford protection in the event of accidental disclosure.⁵⁸⁷

580 See chapter 2 § 1 A) III. 2.

581 Carlos Correa 2007 (n 306) 371.

582 Ansgar Ohly 2013 (n 13) 41.

583 Daniel Gervais 2012 (n 505) para. 2.487. These are just examples, the protection of trade secrets goes further.

584 Hanns Ullrich, 'Technologieschutz nach TRIPs: Prinzipien und Probleme' [1995] GRUR Int 623, 630, footnote 36.

585 Rudolf Kraßer, 'The Protection of Trade Secrets in the TRIPs Agreement' 216, 224 in Friedrich-Karl Beier and Gerhard Schrickler (eds), *IIC Studies, Studies in Industrial Property and Copyright Law, From GATT to TRIPs – The Agreement on Trade-Related Aspects of Intellectual Property Rights* (Weinheim 1996).

586 Nuno Pires de Carvalho 2008 (n 529) para 39.2.46.

587 Gerald Reger 1999 (n 553) 275.

Likewise, it is also noteworthy that TRIPs does not afford protection against the lawful acquisition of third parties who are not in a contractual relationship with the holder of the information. This would be the case, for instance, if the information were acquired through reverse engineering.⁵⁸⁸ Crucially, TRIPs provisions regulating undisclosed information do not specifically refer to the exceptions and limitations to the rights conferred by a trade secret.⁵⁸⁹ These are thus inherent to its definition: trade secrets are only enforceable against unlawful conduct.

2. Requirements for protection

Article 39(2) also lays down the three requirements that information has to meet to be “protectable”. Namely, it (i) has to be secret, (ii) have commercial value due to its secret nature and (iii) have been subject to reasonable steps to keep it secret under the circumstances. As a general remark, it should be noted that these were tailored following the conditions for liability described in section 1(4) Uniform Trade Secrets Act (“UTSA”), although minor amendments were introduced.⁵⁹⁰

Each of these elements is analysed in turn.

a) Information

TRIPs defines trade secrets as information.⁵⁹¹ As explained above,⁵⁹² the expression “undisclosed information” was adopted over the more common terms “trade secret” or “proprietary information” because it seemed a neutral concept and thus avoided a link to a particular legal system or existing intellectual property standards.⁵⁹³ However, TRIPs also refers to trade se-

588 Rudolf Kraßer 1996 (n 585) 223.

589 Unlike three-step test enshrined for copyright (Article 13 TRIPs), patents (Article 30 TRIPs), industrial designs (Article 26(2) TRIPs) and more generally trade marks (Article 17 TRIPs); for an overview of the exceptions and limitations subject to the three-step-test see Henning Grosse Ruse-Kahn, ‘The Protection of Intellectual Property in International Law’ (OUP 2016) para 12.43.

590 Uniform Trade Secrets Act (Am. Law Inst. 1979) (UTSA); see chapter 2 § 2 B) I.

591 Nuno Pires de Carvalho 2008 (n 529) para 39.2.36.

592 See chapter 1 § 3 B) I. 1.

593 Daniel Gervais 2012 (n 505) para 2.486; Gerald Reger 1999 (n 553) 256.

crets as “manufacturing and business secrets” in Article 34(3) and as “confidential information” in Article 43(1).

Bearing in mind the difficulties of finding one suitable definition of the concept of “information” outlined in chapter 1,⁵⁹⁴ such a term should be construed vis-à-vis trade secrets in the widest possible manner to include any kind of “knowledge obtained from investigation, study, or instruction”,⁵⁹⁵ but not abstract ideas. In contrast to patentable subject matter, it covers both technical and commercial information such as formulas, test data, customer lists and negative knowledge.⁵⁹⁶ Unlike Article 1711 (2) NAFTA, TRIPs does not require WTO Member States to protect information embodied or fixated in a given instrument.⁵⁹⁷

Yet, to be protected, information must be related to trade, interpreted in a broad sense.⁵⁹⁸ Such a limitation derives from the commercial value requirement mentioned in subparagraph (b) of Article 39(2) TRIPs. Therefore, private information falls outside the scope of protection of the agreement.⁵⁹⁹ Against this background, Carvalho suggests that the key element is the possibility of “economic competition of any sort” and puts forth the example of non-profit universities who compete for subsidies.⁶⁰⁰ Consequently, protection could extend beyond those cases where there is a direct competitive relationship between the parties.

594 See chapter 1 § 3 B) II. 1.

595 See The Merriam-Webster Dictionary definition of ‘information, n’ (*Merriam-Webster Dictionary Online*) <<https://www.merriam-webster.com/dictionary/information>> accessed 15 September 2018; in the same vein, Pamela Samuelson 1988 (n 341) 368 footnote 19 notes that “Information is not an easy term to define with precision. Yet, at least some tentative definition of the term is necessary to address such questions as whether information is the same as or different from data, knowledge or rumour”.

596 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 7; but see more generally chapter 1 § 3 B) II.

597 North American Free Trade Agreement (United States-Canada-Mexico) (adopted 17 December 1992, entered into force 1 January 1994) ILM 289 (NAFTA); Article 1711 (2) NAFTA: “A Party may require that to qualify for protection a trade secret must be evidenced in documents, electronic or magnetic means, optical discs, microfilms, films or other similar instruments”.

598 Nuno Pires de Carvalho 2008 (n 529) para 39.2.32; Gerald Reger 1999 (n 553) 256-257.

599 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 7; Gerald Reger 1999 (n 553) 256.

600 Nuno Pires de Carvalho 2008 (n 529) para 39.2.32.

b) Secrecy: Information not generally known or readily accessible

The secrecy requirement in Article 39 is defined in subparagraph (a) as a relative standard.⁶⁰¹ This means that to be protected, information must not be known solely by the holder of the information (which amounts to absolute secrecy). Hence, a secret will not lose its confidential nature if it is imparted to employees or if it is disclosed in the context of a licensing agreement.⁶⁰² According to TRIPs, trade secrets remain undisclosed so long as they are not “generally known among or readily accessible to persons within circles that normally deal with the kind of information in question”.⁶⁰³ Some authors compare this reference to the knowledge of the person having ordinary skills in the art in patent law.⁶⁰⁴

The secret nature of information is lost somewhere between absolute secrecy and general knowledge. However, TRIPs does not provide an absolute test to assess whether a certain piece of information should be considered part of the public domain. The practical implementation of the criterion spelt out in subparagraph (a) is left to Member States to regulate.⁶⁰⁵ Hitherto, no case law stemming from the WTO Dispute Settlement Bodies has interpreted the meaning of this provision.

601 Nuno Pires de Carvalho 2008 (n 529) para 39.2.48; for a more detailed analysis of the relative nature of secrecy see François Dessemontet, ‘Protection of Trade Secrets and Confidential information’ 271, 283 in Carlos Correa and Abdulqawi A. Yusuf (eds), *Intellectual Property and International Trade* (2nd edn, Wolters Kluwer 2008).

602 Nuno Pires de Carvalho 2008 (n 529) para 39.2.52; Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 19; Gerald Reger 1999 (n 553) 261.

603 This expression is very similar to the wording used both in the Restatement (First) of Torts and in the UTSA, which state that the information must be “readily ascertained by proper means”. Indeed, the definition of secrecy included in Article 39(2) of TRIPs was also largely influenced by the definition of Article 1 Sec. 7(2) of the Commission Regulation (EEC) No 556/89 of 30 November 1988 on the application of Article 85 (3) of the Treaty to certain categories of know-how licensing agreements [1989] OJ L061, where it was noted that: “The term “secret” means that the know-how package as a body or in the precise configuration and assembly of its components is not generally known or easily accessible, so that part of its value consists in the lead-time the licensee gains when it is communicated with him; it is not limited to the narrow sense that each individual component of the know-how should be totally unknown or unobtainable outside the licensor’s business”.

604 Daniel Gervais 2012 (n 505) para 2.486.

605 Gerald Reger 1999 (n 553) 260.

Finally, Article 39(2)(a) clarifies that information can be protected even if it is known as a whole (“body”) but the precise configuration and assembly of its components remains unknown. This is to be understood as meaning that even if some of the elements of a particular secret are in the public domain, the information considered as a whole may still remain secret. That may be the case, for instance, of a customer list where some of the names and contact data embodied therein are known to competitors. The list considered as a unit could still be protected as a trade secret.⁶⁰⁶ This is also the main argument used to justify the application of the trade secrets legal regime to test data protection or big data scenarios.

c) Commercial value

Undisclosed information only falls under the scope of protection of Article 39(2) TRIPs if it has (i) commercial value due to its (ii) secret nature.⁶⁰⁷ This means that there must be a causal link between the secret nature of the information and its value (i.e. the information must provide a competitive advantage to its holder).⁶⁰⁸ The commercial value must not derive solely from the secrecy of the information.⁶⁰⁹ Nonetheless, its secret nature must have an impact on the competitive advantage it confers. If the disclosure, use or acquisition of the information does not affect its value, Article 39(2) TRIPs is not applicable.⁶¹⁰ However, it is possible that information maintains some value after disclosure. The relevant yardstick is the fact that the information that is kept undisclosed confers a competitive advan-

606 Gerald Reger 1999 (n 553) 262; Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 19.

607 According to Gerald Reger 1999 (n 553) 262 this requirement is similar to the “Geheimhaltungsinteresse” under German law.

608 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 22; Daniel Gervais 2012 (n 505) para 2.487; Nuno Pires de Carvalho 2008 (n 529) para 39.2.58 highlights that “commercial value” means “competitive value”.

609 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 22.

610 Nuno Pires de Carvalho 2008 (n 529) para 39.2.60; in the words of François Dessemontet 2008 (n 601) 280: “The Commercial value requirement is but a threshold, below which no protection may be granted”.

tage to the trade secret holder.⁶¹¹ Similarly, secret information without commercial value does not fall under the scope of this provision.⁶¹²

At first glance, the term “commercial” may indicate that the minimum standards of protection are only applicable with respect to information that relates to “the activity of buying and selling, especially on a larger scale”.⁶¹³ However, most commentators and WTO Member States have construed the term “commercial” beyond trading activities, in line with the second broadest acceptance laid down in the Oxford English Dictionary: “making or intended to make a profit”.⁶¹⁴ Consequently, the relevant yardstick is that the unauthorised disclosure of the information hinders the competitive position of the person lawfully controlling the information.⁶¹⁵ Hence, it is submitted that the results of research and development activities carried out by non-profit organisations, such as universities, should fall under the subject matter protected by Article 39(2) TRIPs.

There has been a longstanding debate on whether the value of information should be actual or potential, which has also recently been discussed with regard to the TSD. During the negotiation of the TRIPs Agreement, the U.S proposed the inclusion of an explicit reference to both concepts, even though the final text is silent on this point.⁶¹⁶ Correa believes that information must have actual value, while Carvalho holds the opposite view.⁶¹⁷ The latter convincingly argues that potential value should also be protected because the only difference is that potential value is unlocked af-

611 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 22; Nuno Sousa e Silva, ‘What exactly is a trade secret under the proposed Directive?’ [2014] 9 JI-PLP 923, 930.

612 Markus Peter and Andreas Wiebe 2013 (n 304) Art. 39 Rdn 22.

613 Definition of ‘commerce, n’ (*OED Online*, OUP June 2013) <<https://en.oxforddictionaries.com/definition/commerce>> accessed 15 September 2018.

614 According to the definition of ‘commercial, adj’ (*OED Online*, OUP June 2013) <<https://en.oxforddictionaries.com/definition/commercial>> accessed 15 September 2018.

615 NunoPires de Carvalho, *The Trips Regime of Patents and Test Data* (4th edn, Wolters Kluwer Law 2014) 535; similar views were expressed by the EU legislator in Recital 14 TSD: “Such know-how or information should be considered to have a commercial value, for example, where its unlawful acquisition, use or disclosure is likely to harm the interests of the person lawfully controlling it, in that it undermines that person’s scientific and technical potential, business or financial interests-, strategic positions or ability to compete” and by the U.S. legislature in the Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) Reporters’ Note 449.

616 See Article 13 GATT Doc. MTN.GNG./NG11/W/70.

617 Carlos Correa 2007 (n 306) 373.

ter the fulfilment of conditions that are not verified.⁶¹⁸ However, denying protection to information with potential value would exclude information generated in the context of research and development. In turn, this would undermine the complementary relationship between trade secrets and the patent system, as every company should have a space in which to develop its innovations without the interference of competitors or third parties.⁶¹⁹ In this context, it is submitted that it suffices if the trade secret confers “an advantage that is more than trivial”.⁶²⁰

d) Reasonable steps to maintain secrecy

The only formality spelt out in TRIPs vis-à-vis the protection of undisclosed information is that “it is subject to reasonable steps under the circumstances to keep it secret”.⁶²¹ Such a condition stems from the UTSA, and its suitability has been the object of a long standing debate.⁶²² Essentially, its inclusion in the body of the law of trade secrecy has been justified on two grounds. First, the adoption of precautionary measures reveals that the holder of the information has an interest in keeping it undisclosed. It provides notice of confidentiality in a manner similar to the notice of registration in other IPRs, such as trade marks.⁶²³ Similarly, it has been argued that it provides evidence of the existence and value of a secret that deserves protection.⁶²⁴

As a final remark, undisclosed information does not have to be fixated to be protected under TRIPs nor does it have to be identifiable. Criticism has been raised regarding the absence of the latter criterion, as it does not

618 Nuno Pires de Carvalho 2008 (n 529) para 39.2.56.

619 See chapter 1 § 2 B) IV.

620 Nuno Pires de Carvalho 2008 (n 529) para 39.2.57; similarly, Tanya Aplin and others 2012 (n 22) para 22.14 argue that “The information must have some objective commercial value which is more than trivial”.

621 Nuno Pires de Carvalho 2008 (n 529) para 39.2.62

622 Robert G. Bone 2011 (n 15) 46.

623 François Dessemontet 2008 (n 601) 284.

624 Mark A. Lemley, ‘The surprising virtues of treating trade secrets as IP rights’ 109, 136 in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011); *Rockwell Graphic Systems, Inc. v. DEV Industries, Inc.*, 925 F.2d 174 (7th Cir. 1991).

seem possible to enforce the obligation of confidence, the object of which has not been clearly identified in judicial proceedings.⁶²⁵

B) Considerations from a soft law perspective: The WIPO Model Provisions on the protection of unfair competition

In 1996, the WIPO Model Provisions on the protection of unfair competition (“WMP”) were issued following the publication of an international WIPO-commissioned study on the same topic.⁶²⁶ The intention was to provide standard provisions to be used in drafting or improving the unfair competition legislations of different Member States based on Article 10bis PC.⁶²⁷ In fact, the notes accompanying the body of the text highlight that the WMP’s objective is to implement the obligations established in Article 10bis PC.⁶²⁸

As regards the content, Article 1 establishes a general prohibition of unfair commercial practices, similar to Article 10(2)bis PC. This general clause is supplemented with five additional provisions that spell out acts or practices that should be regarded as unlawful. The WMP expressly refer to causing confusion with respect to another’s enterprise or its activities (Article 2); damaging another’s goodwill or reputation (Article 3); misleading the public (Article 4); discrediting another’s enterprise or activities (Article 5); and unfair competition with respect to secret information (Article 6).

Before discussing Article 6 on secret information, some remarks should be made regarding the legal nature of the WMP. This instrument is not a binding international treaty for all Member States that ratify it. In fact, it has not been formally ratified by any member of the WTO.⁶²⁹ Similarly, it is not to be regarded as a body of soft law principles as such,⁶³⁰ even though it aims at achieving similar objectives i.e. to serve as a model for

625 Daniel Gervais 2012 (n 505) para 2.486.

626 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545).

627 Charles Gielen, ‘WIPO and Unfair Competition’ [1997] 19 EIPR 78, 78; a critical view is provided by William Cornish ‘Genevan Bootstraps’ [1997] 19 EIPR 336-338.

628 Frauke Henning-Bodewig and Heijo E. Ruijsenaars 1994 (n 545) 6, note 1.01.

629 Marcus Höpferger and Martin Senftleben 2011 (n 543) 73.

630 For an overview of the legal nature of soft law principles see Hartmut Hillgenberg, ‘A Fresh Look at Soft Law’ [1999] 10 EJIL 499-515.

lawmakers and courts.⁶³¹ The WMP were adopted to guide the implementation of international obligations in the field of unfair competition.⁶³²

Regarding substantive law, Article 6 WMP seems to nest the protection of undisclosed information in unfair competition provisions, even more clearly than Article 39(2) TRIPs. In fact, the former has a similar structure to Article 39 TRIPs. Paragraph (1) sets forth a general obligation to protect secret information in commercial and industrial activities against disclosure, acquisition or use without the consent of the holder in a manner contrary to honest commercial practices. In contrast to TRIPs, “the person lawfully in control of the information” is referred to as the “rightful holder”. Next, paragraph 2 provides a list of acts that should be deemed contrary to honest commercial practices, similar to footnote 10 of the TRIPs Agreement, but with an additional example, namely, industrial or commercial espionage. Paragraph (3) defines secret information in the same terms as Article 39(2) TRIPs, that is, information must be secret, have commercial value due to its secret nature and be subject to reasonable steps under the circumstances to keep it secret. Finally, paragraph 4 proposes a regulation of test data submitted for marketing approval.⁶³³ One of the main differences with Article 39(3) TRIPs is that it is aimed at entrepreneurs who use information provided by authorities. Unlike TRIPs, paragraph 4 WMP it is not addressed to the authorities that should ensure the relevant protection.⁶³⁴

Looking back and from a legislative perspective, it seems that the impact of the WMP on the regulation of trade secrets protection has been rather limited, having most certainly been outshined by the minimum standards set forth in the TRIPs Agreement.

§ 2 Trade secrets protection in the U.S.

As discussed in § 1, the international legal regime for the protection of trade secrets has been greatly influenced by the U.S. legal regime. A com-

631 Marcus Höpferger and Martin Senftleben 2011 (n 543) 73; as Frauke Henning-Bodewig, *International Handbook on Unfair Competition* (C.H. Beck 2013) 29 highlights: “It should be unambiguously pointed out that the Model Provisions are neither binding law nor soft law, but merely a model for law-making activities without any legal commitment”.

632 Marcus Höpferger and Martin Senftleben 2011 (n 543) 73.

633 Similar to Article 39(3) TRIPs.

634 Charles Gielen, ‘WIPO and Unfair Competition’ [1997] 19 EIPR 78, 81.

prehensive analysis of the law of trade secrets in most EU Member States and, in particular, the way in which the secrecy requirement has been construed is not possible without a deeper understanding of its regulation in this jurisdiction.

The protection of intangible assets through trade secrets has garnered more scholarly attention in the U.S. than in any EU Member State, both from a legal and an economic perspective.⁶³⁵ Indeed, trade secret litigation in the U.S. has increased exponentially since the 1950s,⁶³⁶ unlike in any EU Member States, where the evidence shows that trade secret holders are still reluctant to take up legal proceedings in the event of misappropriation out of fear of disclosing secret information during litigation.⁶³⁷

The remainder of the chapter investigates the legal system for the protection of trade secrets in the U.S., in order to examine the way in which secrecy has been construed therein. Section A starts by outlining the evolution of trade secrets protection and its underlying justifications along with the most relevant legal sources. Next, section B focuses on the definition of trade secrets and the legal requirements for their protection, and particularly, the secrecy requirement. Thereafter, section C discusses the legal regime for the protection of trade secrets created by the UTSA, together with the Restatement (First) of Torts, the Restatement (Third) of Unfair Competition and the recently adopted Defend Trade Secrets Act of 2016. Finally, some conclusions are drawn.

A) Evolution of trade secret law in the U.S.: main legislative sources

As opposed to other IPRs, the law of trade secrecy was only developed in the U.S. in the XIX century with the rise of industrial capitalism.⁶³⁸ While

635 For a general account of trade secret law in the United States see: Roger M. Milgrim 2014 (n 160); James Pooley 2002 (n 66); Vincent Chiappetta 1999 (n 24); Charles Tait Graves 2007 (n 337) 39; Chris Montville, 'Reforming the Law of Proprietary Information' [2007] 56 Duke LJ 1159; Christopher Rebel J. Pace, 'The Case for a Federal Trade Secrets Act' [1995] 8 Harvard Journal of Law & Technology 427, 435-442; Michael Risch 2007 (n 15).

636 David S. Almeling and others, 'A Statistical Analysis of Trade Secret Litigation in Federal Courts' [2009-2010] 45 Gonzaga LR 291, 301.

637 Baker McKenzie 2013 (n 469) 129.

638 Robert G. Bone 1998 (n 15) 251.

patent and copyright protection were premised on the U.S. Constitution⁶³⁹ and regulated mostly in federal statutes, trade secrets protection was built upon common law principles and has only recently been codified into law. Until the adoption of the DTSA in May 2016, trade secrets protection in the U.S. was mostly state law.⁶⁴⁰ It is generally agreed that only in 1868 did the Supreme Court of Massachusetts provide for the first time a complete view of trade secrets protection in *Peabody v. Norfolk*.⁶⁴¹

In the development of the law of trade secrecy in the U.S., it is possible to differentiate five phases.⁶⁴² In the early days (1860–1920) trade secrets were regarded as a form of property. During this period, the secrecy precautions requirement was developed by the courts with two purposes. On the one hand, it gave notice of confidentiality to employees and other third parties. On the other hand, the adoption of such measures was interpreted by some courts as a form of possession, necessary to assert property rights in common law.⁶⁴³

During the second phase (1920–1940), the courts relied less on the property theory, whilst unfair competition became the dominant approach to justify trade secrets protection. Accordingly, case law placed special emphasis on the unfairness of the defendant's conduct, i.e. the unlawfulness

639 Famously, U.S. Const. art. I, § 8, cl.8 empowers Congress “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”.

640 Michael Risch 2007 (n 15) 6; notwithstanding, prior to the adoption of the DTSA there were two federal sources of trade secret protection, namely (i) the criminal provisions of the Economic Espionage Act Pub. L. No. 104-294, 110 Stat. 3488 (1996) (codified as amended at 18 U.S.C. §§ 1831 et seq. (2016) (EEA)), and (ii) the prohibition to disclose trade secrets by federal employees codified in 18 U.S.C. § 1905 (2012).

641 *Peabody v. Norfolk*, 98 Mass. 452, 458 (1868): “If (a person) invents or discovers, and keeps secret, a process of manufacture, whether a proper subject for a patent or not, he has not indeed an exclusive right to it as against the public, or against those who in good faith acquire knowledge of it; but he has a property in it, which a court of chancery will protect against one who in violation of contract and breach of confidence undertakes to apply it to his own use, or to disclose it to third persons”.

642 Robert G. Bone 2011 (n 15) 49-58; for a more general account of the evolution of trade secret protection in the U.S. see Catherine Fisk, ‘Working Knowledge: Trade Secrets, Restrictive Covenants in Employment, and the Rise of Intellectual Property’ [2001] 52 *Hastings LJ* 441 and Sharon K. Sandeen, ‘The Evolution of Trade Secret Law and why courts commit error when they do not follow the Uniform Trade Secrets Act’ [2010] 33 *Hamline LR* 493.

643 Robert G. Bone 2011 (n 15) 49-50.

of the acquisition, use or disclosure, rather than the existence of ownership rights.⁶⁴⁴ As a result of the increasing importance of unfair competition as a means to protect trade secrets, the American Law Institute included trade secrets protection in the Restatement (First) of Torts published in 1939.⁶⁴⁵ Of its 971 sections, only two deal with the protection of trade secrets: while § 757 provides the necessary liability requirements, § 758 limits the liability of third parties that acquire undisclosed information without notice of its secret nature.⁶⁴⁶ Notably, the Restatements are not to be regarded as a source of primary law.⁶⁴⁷ Their main purpose is to provide an account of the common law principles developed in the U.S. as a result of judicial decisions and case law derived from the application of statutes enacted and in force.⁶⁴⁸

During the third period (1940–1979), the so-called “Dominance of the Unfair Competition Theory” courts relied mostly on the unlawful nature of the defendant’s conduct following the stipulations of the Restatement (First) of Torts.⁶⁴⁹ Notwithstanding this, some decisions still referred to the notion of property.⁶⁵⁰

The adoption of the UTSA in 1979 was a real turning point in the harmonisation of trade secrets protection in the U.S. and marked the begin-

644 Robert G. Bone 2011 (n 15) 52–54.

645 Restatement (First) of Torts § 757 (Am. Law Inst. 1939).

646 Remarkably the Restatement (First) of Torts § 759 (Am. Law Inst. 1939) establishes liability for the acquisition of business information that does not qualify for trade secrets protection.

647 Robert Denicola, ‘The Restatements, the Uniform Act and the status of American trade secret law’ 18, 19 in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011).

648 Restatement (First) of Torts § 757 (Am. Law Inst. 1939); for a critical analysis of the Restatements and the role of the American Law Institute see Kristen David Adams, ‘Blaming the Mirror: The Restatements and the Common Law’ [2007] 40 *Indiana LR* 205–270 and Sharon K. Sandeen 2010 (n 642) 539, who notes that “The purpose of the Restatement was (and is) not to codify the law, but rather to clarify and simplify the law by providing an easy-accessible and clear statement of what the members of the ALI thought was the majority of the states on various points of law”.

649 Robert G. Bone 2011 (n 15) 55.

650 See for instance, *National Starch Products, Inc. v. Polymer Industries, Inc.*, 273 App. Div. 732, 735 (1948).

ning of the fourth phase.⁶⁵¹ It was approved by the National Conference of Commissioners on Uniform State Laws following a recommendation from the American Bar Association with the aim of (i) addressing the uneven development of the law among states and (ii) clarifying the remedies and the standards provided for in common law.⁶⁵² Its main purpose was to achieve uniformity and to codify the common law rules on trade secrets protection.⁶⁵³ Ultimately, it sought to establish a unitary definition of the notions of trade secret and misappropriation as well as a statute of limitations.⁶⁵⁴ It has been suggested that its publication was partially triggered by the fact that the Restatement (Second) of Torts included no provisions on trade secrets protection, unlike the first version of 1939.⁶⁵⁵

Regarding its legal nature, similar to the Restatements, the UTSA has “no law-making authority”.⁶⁵⁶ Its main goal is to serve as a model to be followed by states when regulating trade secrets protection.⁶⁵⁷ It is not merely intended to “restate existing law, but to make and codify the law”.⁶⁵⁸ Thus far, the UTSA has been implemented by 47 states, the District of Columbia, Puerto Rico and the Virgin Islands. In addition, the states of New York and Massachusetts have introduced bills to implement it.⁶⁵⁹

In 1995, the American Law Institute issued the Restatement (Third) of Unfair Competition, which regulated, among others, deceptive marketing,

651 A second version of the UTSA was approved in 1985 with some amendments as regards the injunctions, damages and the effect of legislation provisions; James Pooley 2002 (n 66) § 2.03 [7] highlights that the existence of two versions and the nuances in the implementation at a state level are a hurdle in the achievement of uniformity.

652 See UTSA Preparatory Note (1979) 1; see also James Pooley 2002 (n 66) § 2.03 [1]; Robert Denicola 2011 (n 647) 20-21.

653 James Pooley 2002 (n 66) § 2.03 [1].

654 James Pooley 2002 (n 66) § 2.03 [1] 2-13 critically suggests that as a result “one might argue that the state of trade secret law is today more conflicting and uncertain than it was in 1979”.

655 See UTSA Preparatory Note (1979) 1.

656 Robert Denicola 2011 (n 647) 20-21; contrary, Sharon K. Sandeen 2010 (n 642) 540 notes that “whereas the Restatement series is secondary authority of what the law is, the UTSA is primary authority”.

657 William E. Hilton, ‘What sort of improper conduct constitutes misappropriation of a trade secret’ [1990] 30 IDEA 287, 290.

658 Sharon K. Sandeen 2010 (n 642) 540.

659 According to the National Conference of Commissioners and Uniform State Laws <<http://www.uniformlaws.org/Act.aspx?title=trade%20Secrets%20Act>> accessed 15 September 2018.

trade mark law, the right of publicity and trade secrets protection.⁶⁶⁰ The inclusion of the latter after the promulgation and success of the UTSA may appear superfluous.⁶⁶¹ As noted by the reporters, “the rules in this Restatement are applicable both to common law actions and actions under the Uniform Trade Secrets Act or analogous civil legislation”.⁶⁶² Hence, the provisions in the Restatement (Third) have been applied to construe the provision of the UTSA and at the same time overcome the deficiencies of the Restatement (First) of Torts 1939.⁶⁶³

The extent to which the UTSA displaced the application of the common law principles embedded in case law and § 757 and § 758 of the Restatement (First) of Torts has been widely discussed. Indeed, the evidence shows that in most cases both federal and state courts apply the UTSA’s principles.⁶⁶⁴ They refer to the UTSA alone, but also to case law decided as a result of its application. Notwithstanding this, sometimes courts also cite the UTSA together with case law where the UTSA is not mentioned. Finally, some courts also refer to cases where the UTSA is not hinted at whatsoever. In this context, regarding the definition, it is noteworthy that according to a study conducted by Risch, 75,36% of the surveyed state cases refer primarily to the one provided in the UTSA, while in federal courts this percentage rises to 81,03% of the cases cited.⁶⁶⁵

In line with the codification process described above, in 1996 the U.S. Congress passed the Economic Espionage Act (“EEA”) with the aim of enhancing criminal protection against the unlawful appropriation of information.⁶⁶⁶ In the early 1990s, there was growing concern about the importance of intangible assets for U.S. companies and their increasing vulnera-

660 Restatement (Third) of Unfair Competition (Am. Law Inst. 1995).

661 Robert Denicola 2011 (n 656) 21.

662 See Reporters’ Note of the Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995).

663 James Pooley 2002 (n 66) § 2.04 [1] 2-32 and Robert Denicola 2011 (n 656) 22.

664 Michael Risch, ‘An Empirical Look at Trade Secret Law’s Shift from Common to Statutory Law’ (2013) Working Paper No. 2012-2008, 11-12 <<http://ssrn.com/abstract=1982209>> accessed 15 September 2018; in the article the author conducts an empirical study with the purpose of assessing the influence of common law principles after the enactment of the UTSA. The cases selected for the study are the same ones as the ones used by David S. Almeling and others 2009-2010 (n 636) 291.

665 Michael Risch 2013 (n 664) 11-12.

666 Economic Espionage Act, Pub. L. No. 104-294, 110 Stat. 3488 (1996) (codified as amended at 18 U.S.C. §§ 1831 et seq. (2016)).

bility to (international) industrial espionage.⁶⁶⁷ Crucially, the EEA set forth a federal criminal action for trade secrets misappropriation with a focus on international espionage.⁶⁶⁸ Yet, owing to its criminal law nature, its study falls outside the scope of the present research.

As a whole, due to the prevalence of state law and the overlap of legislative sources, it was not accurate to refer to a *single* law of trade secrets in the U.S. Indeed, there were multiple laws that resulted from the courts' applications of different theories and interpretations of the scope of protection conferred by trade secrets law.⁶⁶⁹ In view of this, and after a five-year negotiation process,⁶⁷⁰ in 2015 the U.S. Senate Committee reported to Congress the proposal to amend the EEA, the so-called DTSA with the aim of providing federal jurisdiction for private civil actions derived from trade secret misappropriation. On April 27, 2016, Congress passed the bill, which became Public Law No. 114-153 on May 11, 2016, thereby creating a civil federal action for trade secret misappropriation. Notably, pursuant to 18 U.S.C. § 1836 (b)(1), the competence of Congress to legislate on trade secrets protection at the federal level stems from the so-called "Commerce Clause" embedded in the U.S. Constitution,⁶⁷¹ and not in the "Progress of Science and Useful Arts Clause", which served as the legislative basis to regulate patent and copyright protection at the federal level.⁶⁷² As a result, it is only possible to bring a civil federal claim for trade secret misappropriation when the secret in question relates to a product or service used in or intended for use in interstate or foreign commerce.⁶⁷³

The following section explores the different concepts of trade secrets and the legal requirements embodied in the Restatements, the UTSA and the DTSA.

667 See H.R. No 3723, 4023-4024 (1996).

668 For a general account of the EEA see Rochelle C. Dreyfuss, 'Trade Secrets: How Well Should We Be Allowed to Hide them? The Economic Espionage Act of 1996' [1998] 9 Fordham IP Media & Entertainment LJ 1-44.

669 Robert Denicola 2011 (n 656) 20-21.

670 John Cannan, 'A [Mostly] Legislative History of the Defend Trade Secrets Act of 2016' [2017-2019] 109 Law Library Journal 363, 372.

671 U.S. Const. art. I, § 8, cl. 3.

672 U.S. Const. art. I, § 8, cl.8.

673 See Sharon K. Sandeen and Christopher B. Seaman, 'Toward a Federal Jurisprudence of Trade Secret Law' [2017] 32 Berkeley Technology LJ 829, 888 comparing the Commerce Clause Provision in the DTSA with the one in the Lanham Act and concluding that "the DTSA's jurisdiction appears narrower because (unlike the Lanham Act) there must be actual or intended use of the secret 'related to a product or service' in 'interstate or foreign commerce.'"

B) Definition of a trade secret and requirements for protection in the U.S.

I. Definitional aspects

In the U.S., there is no uniform definition of a trade secret. Instead, it is regarded that virtually any useful information⁶⁷⁴ is eligible for protection, as opposed to the subject matter protected under copyright and patent laws.⁶⁷⁵ The difficulty of establishing a suitable definition is because trade secret regulation was originally developed on the basis of common law and consequently resulted from a factual assessment conducted on a case by-case basis.⁶⁷⁶ Notwithstanding this, courts most often refer to the following three definitions:

The first is embedded in comment b of § 757 of the Restatement (First) of Torts (1939) and stipulates:

A trade secret may consist of a formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it.

This definition has been extensively quoted in case law and is still often referred to by courts despite the fact that the Restatement (Second) of Torts (1979) omits any reference to trade secrets protection.⁶⁷⁷ It has often been regarded as the bedrock of modern trade secret law.⁶⁷⁸ In addition to providing a definition, comment b in the Restatement (First) of Torts spells

674 The four definitions analysed under this section provide that trade secrets' subject matter is information. The considerations outlined in chapter 2 § 1 A) IV. 2. a) are therefore also applicable to the U.S. jurisdiction.

675 James Pooley 2002 (n 66) § 1.01; similarly, Roger M. Milgrim 2014 (n 160) § 1.01 1-4 notes that "the definition of trade secret is thus unlimited as to any particular class or kind of matter and may be contrasted with matter eligible for patent or copyright protection, which must fall into statutorily defined categories"; in this regard the Iowa Supreme Court concluded that "there is virtually no category of information that cannot, as long as the information is protected from disclosure to the public, constitute a trade secret". *U.S. West Communications, Inc. v. Office of Consumer Advocate*, 498 N.W.2d 711, 714 (Iowa 1993).

676 James Pooley 2002 (n 66) § 1.01 1-3.

677 James Pooley 2002 (n 66) § 1.01 1-3; this definition is applied in old decisions, but also in more recent judgements; see for instance *Vacco Indus., Inc. v. Van Den Berg*, 5 Cal. App. 4th 34, 49-50 (Cal. Ct. App. 1992).

678 James Pooley 2002 (n 66) § 2.02[1] 2.

out a list of non-exclusive factors to be considered in establishing the existence of a trade secret. The relevant text reads as follows:⁶⁷⁹

An exact definition of a trade secret is not possible. Some factors to be considered in determining whether given information is one's secret are:

- (1) the extent to which information is known outside the of his business;
- (2) the extent to which it is known by and other involved in his business ;
- (3) the extent of measures taken by him to guard the secrecy of the information;
- (4) the value of the information to him and his competitors;
- (5) the amount of effort or money expended by him in developing the information;
- (6) the ease or difficulty with which the information could be properly acquired or duplicated.

The second definition that is most commonly quoted by courts was included in § 1(4) UTSA and, unlike the previous definition, enumerates three specific and binding requirements:

Information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

- (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and
- (ii) is subject to efforts that are reasonable under the circumstances to maintain its secrecy.

The third definition is in the Restatement (Third) of Unfair Competition § 39 (1995):

A trade secret is any information that can be used in the operation of a business or other enterprises and that is sufficiently valuable and secret to afford actual or potential economic advantage over others.

679 Restatement (First) of Torts § 757 Comment b (Am. Law Inst. 1939).

Table 2 shows a comparison of the Restatement First factors and the UTSA requirements for the protection of trade secrets.⁶⁸⁰

TABLE 2: THE RESTATEMENT FIRST FACTORS AND THE UTSA	
Restatement First Factors	UTSA Requirements
1. The extent to which the information is known outside the claimant's business	Not generally known (UTSA § 1(4)(i))
2. The extent to which it is known by employees and others involved in the business.	Not generally known and subject to reasonable efforts to maintain secrecy (UTSA § 1 (4)(ii))
3. The extent of measures taken by the claimant to guard the secrecy of the information.	Subject to reasonable efforts to maintain secrecy (UTSA § 1 (4)(ii))
4. The value of the information to the business and its competitors	Derives independent economic value from not being generally known or readily ascertainable (UTSA § 1(4)(i))
5. The amount of effort and or money expended by the business in developing the information.	
6. The ease or difficulty with which the information could be properly acquired or duplicated by others.	Readily ascertainable by proper means (UTSA § 1(4)(i))

As is apparent from Table 2, the most important difference between the Restatement (First) of Torts and the UTSA is that the latter does not require the trade secret holder to invest money or effort in the creation of the information. This is in line with the Supreme Court's viewpoint in the *Feist* decision, where the "sweat of the brow doctrine" was explicitly rejected in the context of copyright.⁶⁸¹ Accordingly, pursuant to the UTSA, information created with little effort can be protected under trade secrets law

680 Table 2 is a reproduction of the one included in Sharon K. Sandeen 2010 (n 642) 522.

681 See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.* 499 U.S. 340, 349-350 (1999): "It may seem unfair that much of the fruit of the compiler's labor may be used by others without compensation. (...) As applied to a factual compilation, assuming the

in the same manner as information that is developed over the course of a long time and with substantial investment.⁶⁸²

Likewise, as opposed to the definition of a trade secret set forth in comment b § 757 of the Restatement (First) of Torts, the UTSA deleted any reference to the use of the trade secret by its holder. Initially, such a requirement was introduced following the same rationale that governs the “use in commerce” requirement in trade mark law, and it was drafted with the purpose of avoiding the information’s owner preventing its use in commerce in the event that he did not use it.⁶⁸³ However, in the UTSA, a different approach was adopted, as it was deemed that undisclosed information that is not used commercially may still have independent commercial value.⁶⁸⁴ This would be true in the case of a market leader who develops a trade secret manufacturing process and, with time, develops a better one. Even if the first one is no longer applied by the company, he may still want to keep it undisclosed to avoid its use by competitors.⁶⁸⁵ In addition, the UTSA stated most clearly that there must be causality between the secret nature of the information and its commercial value and that the holder should adopt measures to protect it. Hence, the adoption of measures was codified as a requirement for protection under the UTSA, not just as a factor signalling the existence of valuable information worth protecting. Similarly, the comments on the UTSA further clarified that protection is also to be afforded to negative knowledge; that is, information resulting from experiments that do not work and hence cannot be used in practice, but which may nevertheless be of great value for competitors, as it would allow them to avoid costly and lengthy experiments.⁶⁸⁶

absence of original written expression, only the compiler’s selection and arrangement may be protected; the raw facts may be copied at will. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art”.

682 Sharon K. Sandeen 2010 (n 642) 522, 523.

683 Michael Risch 2007 (n 15) 48.

684 Restatement (First) of Torts § 757 Comment b (Am. Law Inst. 1939): “The definition of ‘trade secret’ contains a reasonable departure from the Restatement of Torts (First) definition which required that a trade secret be “continuously used in one’s business”. The broader definition in the proposed Act extends protection to a plaintiff who has not yet had an opportunity or acquired the means to put a trade secret to use”.

685 Michael Risch 2007 (n 15) 48.

686 See UTSA Comments to § 1: “The definition includes information that has commercial value from a negative viewpoint, for example the results of lengthy and

The UTSA also overcame some definitional issues posed by the Reporter's comment to the Restatement (First) of Torts. According to comment b, business information about singular events was regarded as ephemeral and hence did not fall under the scope of trade secrets protection. This referred to the salary of employees, the date for launching a product or the amount of a secret bid for a contract, to name some.⁶⁸⁷ Such a limitation does not appear in the UTSA and seems better suited for protecting information resulting from research activities.⁶⁸⁸

In the light of these considerations, it is important to note that the definition of a trade secret is inconsistently applied in case law. This leads to striking consequences particularly in the field of departing employees with respect to the information that they are allowed to use after the termination of their employment.⁶⁸⁹ Under similar circumstances, courts will allow some employees to use certain information, while they will prevent others from using it based on the cause of action invoked, the state where the case is litigated or the judge that hears the case.⁶⁹⁰ For instance, the same NDA regulating the use of a trade secret after the termination of an employment relationship may be considered enforceable by some courts even if the alleged trade secret is part of the public domain, whereas others

expensive research which proves that a certain process will not work could be of great value to a competitor”.

687 Restatement (First) of Torts § 757 Comment b (Am. Law Inst. 1939): “It differs from other secret information in a business (see § 759) in that it is not simply information as to single and ephemeral events in the conduct of the business, as, for example, the amount or other terms of a secret bid for a contract or the salary of certain employees, or the security investments made or contemplated, or the date fixed for the announcement of a new policy or for bringing out a new model or the like”.

688 James Pooley 2002 (n 66) § 4.05[1] 4-45, 4-46.

689 Charles Tait Graves, ‘Trade Secrecy and Common Law Confidentiality: The Problem of Multiple Regimes’ 77, 79-80 in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011).

690 Charles Tait Graves 2011 (n 689) 79-80.

consider that the object of protection has ceased to exist,⁶⁹¹ thereby forfeiting trade secrets protection.⁶⁹²

Having the above in mind, the Federal legislator in the recently adopted DTSA seemingly leans towards a definition of trade secret that is practically identical to the one laid down in the EEA, with some minor variations:

(3) the term “trade secret” means all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if—

(A) the owner thereof has taken reasonable measures to keep such information secret; and

(B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information;⁶⁹³

The main difference between the definition enshrined in the UTSA and the one above is that the latter defines the type of information eligible for protection (i.e. financial, business, scientific, technical, economic or engineering information) and provides additional examples of the subject matter covered. It refers to tangible and intangible “plans, designs, prototypes, procedures and programs or codes”. In addition, it clarifies that the information may be stored or compiled, not only in a physical support, but also electronically, photographically, graphically or in writing. Information need not be fixated at all to merit protection. A side-by-side comparison of

691 According to Charles Tait Graves 2011 (n 689) 89 footnote 23 citing *Allen v. Creative Serv., Inc.*, 1992 WL 813643 2 (R.I. 1992) (unpublished), where the court noted that “while every business interest is not worthy of protection through a restrictive covenant, a business interest worthy of such protection need not rise to the level of a trade secret”.

692 According to Charles Tait Graves 2011 (n 689) 89 footnote 23 citing *International Settlement Design, Inc. v. Hickez*, 1995 WL 864463, 5 (Penn. Ct., 1995), (unpublished) where the court noted that “since we have already concluded that the information here does not rise to the level of a ‘trade secret’ as defined in the Pennsylvania law, it cannot be contractually protected”.

693 18 U.S.C. § 1839 (3).

both definitions reveals that the DTSA spells out categories of protectable information instead of resorting to the broader term of “information” like the UTSA does, which may limit the subject matter of actions brought under the former. This will ultimately depend on the interpretation carried out by federal courts.⁶⁹⁴ As a final note, the DTSA clarifies that private information falls outside the scope of federal criminal and civil actions.

Despite the divergence in how the notion of a trade secret is construed, three common requirements for protection appear in the UTSA and the DTSA and are most frequently invoked by courts.⁶⁹⁵ These coincide with those set out in Article 39(2) TRIPs and refer to fact that the information (i) is not generally known or readily ascertainable, (ii) has economic value due to its secrecy and (iii) is subject to reasonable measures to keep it secret. Each of these is analysed in turn.

II. Requirements for protection

1. Secrecy: information not generally known or readily ascertainable

The secrecy requirement is essential in the legal framework for the protection of confidential information.⁶⁹⁶ Indeed, “by definition, a trade secret is something which has not been placed in the public domain”.⁶⁹⁷ The U.S. Supreme Court has repeatedly indicated that state laws dealing with unfair competition cannot afford protection to information that is publicly known. In one of its seminal decisions on trade secrets, *Kewanee Oil Co. v. Bicron Corp.*, the court noted, “that which is in the public domain cannot be removed therefrom by action of the State”.⁶⁹⁸ Ultimately, this reflects one of the key underlying policies of the intellectual property system, ac-

694 Sharon K. Sandeen and Christopher B. Seaman 2017 (n 673) 888-905.

695 Sharon K. Sandeen and Christopher B. Seaman 2017 (n 673) 906.

696 Mark A. Lemley 2008 (n 15) 342.

697 *Sinclair v. Aquarius Electronics, Inc.*, 116 Cal.Rptr. 654, 661 (Cal. Ct. App. 1974).

698 See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481 (1974); similarly in *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 156-157 (1989) the U.S. Supreme Court clarified that “A State law that substantially interferes with the enjoyment of an unpatented utilitarian or design conception which has been freely disclosed by its author to the public at large impermissibly contravenes the ultimate goal of public disclosure and use which is the centrepiece of federal patent policy”.

ording to which there is a public interest and social benefit in sharing ideas.⁶⁹⁹

The UTSA and DTSA, similar to Article 39(2) TRIPs, use two expressions to define the notion of secrecy. They stipulate that the information object of the trade secret should be neither “generally known” nor “readily ascertainable” by people who could obtain economic advantage from its disclosure. This is to be understood as meaning that information must be unknown to the public at large, but also to those who could obtain economic advantage from the disclosure of the information.⁷⁰⁰ Consequently, even if the trade secret is only well-known within a given industry, but not the general public, it loses its confidential nature.⁷⁰¹

The UTSA and the DTSA, in the same way as the Restatement (First) of Torts and the Restatement (Third) of Unfair Competition, adopt a relative secrecy approach, which is essential for the economic exploitation of the information concerned.⁷⁰² As underscored in *Metallurgical Industries Inc. v. Fourtek. Inc.*:

699 Charles Tait Graves and Alexander Macgillivray, ‘Combination Trade Secrets and the Logic of Intellectual Property’ [2004] Santa Clara High Technology LJ 261, 268-269.

700 According to UTSA Comment to § 1(4): “The language ‘not being generally known to and not being readily ascertainable by proper means by other persons’ does not require that information be generally known to the public for trade secret rights to be lost. If the principal person/persons who can obtain economic benefit from information is/are aware of it, there is no trade secret”.

701 The Supreme Court has clearly enshrined this principle in two of the most important decisions in trade secrets law. In *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1002 (1984) it noted that “information that is public knowledge or that is generally known in an industry cannot be a trade secret”. Similarly, in *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475 (1974) it was argued that “the subject of a trade secret must be secret, and must not be of public knowledge or of a general knowledge in the trade or business”; see further Sharon K. Sandeen 2010 (n 642) 523.

702 The first two factors of the Restatement (First) of Torts § 757 comment b (Am. Law Inst. 1939) refer to the extent to which the information is known outside the plaintiff’s business and the extent to which it is known by employees and others involved in the business; similarly, the Restatement (Third) of Unfair Competition § 39 (Am. Law Inst. 1995) comment b notes that “to qualify as a trade secret, the information must be secret. The secrecy, however, need not be absolute(...) Information known by persons in addition to the trade secret owner can retain its status as a trade secret if it remains secret from other to whom it has potential economic value”.

A holder may divulge his information to a limited extent without destroying its status as a trade secret. To hold otherwise would greatly limit the holder's ability to profit from his secret. If disclosure to others is made to further the holder's economic interests, it should, in appropriate circumstances, be considered a limited disclosure that does not destroy secrecy.⁷⁰³

Indeed, one of the soundest theories underlying trade secrets protection, the so-called "incentives to disclose theory", holds that trade secrets legislation lowers transaction costs associated with the commercial exploitation of confidential information (such as licensing agreements) and therefore enhances cooperation between market participants and facilitates organisation within a company.⁷⁰⁴

With respect to the interplay between the secrecy requirement and the disclosure function in the patent system, case law has considered that the issuance of a patent discloses the trade secrets described in the specification. This is crucial to ensure the appropriate balance between both legal regimes.⁷⁰⁵ Regarding patent applications, pursuant to 35 U.S.C § 122 of the U.S. Patent Act,⁷⁰⁶ the information contained therein remains confidential during the examination process and only enters the public domain after the publication of the application (18 months after the filing if international protection is sought) or upon issuance of the patent.⁷⁰⁷ In con-

703 *Metallurgical Industries v. Fourtek Inc.*, 790 F.2d 1195, 1200 (5th Cir. 1986).

704 Chapter 1 § 2 B) II.

705 For instance, *On-Line Technologies, Inc. v. Bodenseewerk Perkin-Elmer GmbH*, 386 F.3d 1133, 1141 (Fed. Cir. 2004) it was noted that: "after a patent has been issued, the information contained within it is ordinarily regarded as public and not subject to protection as a trade secret"; similarly the Texas Supreme Court in *Hyde Corporation v. Huffines*, 314 S.W.2d 763, 773 (1958) concluded that "upon the granting of a patent upon any of the claims contained in the application, the file is no longer held in confidence by the Patent office but the contents thereof become public property (...) Consequently, the secrets disclosed by the application and its amendments are available to the world".

706 35 U.S.C. § 122. Confidential status of applications: "Application for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of any Act of Congress or in such special circumstances as may be determined by the Commissioner".

707 Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment f: "Information disclosed in a patent or contained in published materials reasonably accessible to competitors does not qualify for protection".

trast, the abandonment or rejection of the application prior to publication does not result in the disclosure of the information contained therein.⁷⁰⁸

The second prong of the secrecy requirement set forth by the UTSA and DTSA is that information is not “readily ascertainable by proper means”. The comment in § 1 UTSA explains that information that is available in trade journals, reference books or published materials is deemed as being “readily ascertainable”.⁷⁰⁹ Similarly, it is noted that when a trade secret is apparent through observation of the product in which it is embodied, it loses its secret nature. Consequently, marketing a product does not necessarily reveal all related trade secrets.⁷¹⁰ First, information about its process of development and manufacture may remain undisclosed unless it can be inferred from the examination of the product. Second, the item’s design or other secrets may not be evident. In such cases, the trade secret lasts for as long as it takes to reverse engineer the product.⁷¹¹ As noted in *Hamer Holding Group, Inc. v. Elmore*:

The key to secrecy is the ease with which information can be developed through other proper means: if the information can be readily duplicated without involving considerable time, effort or expense, then it is not secret.⁷¹²

Notwithstanding this, in practice, defining when the acquisition of information is readily ascertainable and when it is subject to a process of reverse engineering is complex, but nonetheless relevant. Information that can on-

708 35 U.S.C § 122.

709 UTSA Comment § 1: “Information is readily ascertainable if it is available in trade journals, reference books, or published materials. Often, the nature of the product lends itself to being readily copied as soon as it is available on the market. On the other hand, if reverse engineering is lengthy and expensive, a person who discovers the trade secret through reverse engineering can have a trade secret in the information obtained from reverse engineering”.

710 James Pooley 2002 (n 66) § 4.04[3]4-34; Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment f: “Public sale of product does not preclude continued protection against the improper acquisition or use of information that is difficult, costly or time-consuming to extract through reverse engineering;” along the same lines see *American Can Co. v. Mansukhani*, 728 F.2d 818, 819 -820 (7th Cir. 1982) stating that the fact that someone else might have discovered the secret by fair means such as reverse engineering does not protect the unlawful acquirer.

711 This is particularly relevant in industries with short product life cycles such as the computer software industry.

712 See *Hamer Holding Group, Inc. v. Elmore*, 560 N.E.2d 907, 918 (Ill. App. Ct. 1990).

ly be obtained through reverse engineering is protectable as a trade secret prior to the reverse engineering process. By contrast, readily ascertainable information is not accorded protection at all, as it is regarded that it does not fulfil the secrecy requirement. A more detailed study of specific scenarios under which secret information is disclosed and its effect on the protectability of said information is provided in chapter 4.

2. Independent economic value

Similar to Article 39(2) TRIPs, the UTSA and DTSA demand that information derives independent economic value resulting from its secret nature.⁷¹³ This phrase codifies the “competitive advantage” factor set forth in comment b of §757 of the Restatement (First) of Torts (1939).⁷¹⁴ In essence, it means that the secret nature of the information must confer upon the trade secret holder an advantage over its competitors, irrespective of the inherent value of the good or service in which it is embodied.⁷¹⁵ In the words of the Supreme Court in *Ruckelshaus v. Monsanto*, “the value of a trade secret lies in the competitive advantage it gives to its owner over competitors”.⁷¹⁶ Thus, the asserted trade secret must not be valuable only in the abstract.⁷¹⁷ However, such an advantage need not be considerable, just “more than trivial”.⁷¹⁸ This requirement is crucial, as it allows to draw the line between protectable and non-protectable information. Most information concerning professional matters is deemed confidential. Yet, only information that confers a competitive advantage to its holder is deemed a trade secret.⁷¹⁹ This has been construed in the widest sense, in line with

713 See UTSA § 1(4)(i): “derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable (...)”.

714 Similarly, comment e of the Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) stresses that “a trade secret must be of sufficient value in the operation of a business or another enterprise to provide an actual or potential economic advantage over others who do not possess the information”.

715 *Abba Rubber Co. v. Seaquist*, 286 Cal.Rptr. 2d 518, 526 (Cal. Ct. App. 1991).

716 *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, footnote 15 (1984).

717 Sharon K. Sandeen 2010 (n 642) 524.

718 Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment e.

719 Roger M. Milgrim 2014 (n 160) § 1 understands that “not every commercial secret can be regarded as a trade secret. In business most matters are considered confidential; however only secrets affording a demonstrable competitive advantage may be properly considered trade secrets”.

comment b of the Restatement (Third) of Unfair Competition, which provides that: “Although rights in trade secrets are normally asserted by businesses and other commercial enterprises, nonprofit entities such as charitable, educational, governmental, fraternal, and religious organizations can also claim trade secret protection for economically valuable information such as lists of prospective members or donors”.

Notably, the Church of Scientology relied on this requirement to enforce trade secret rights over the Church’s funder works that had been disseminated through the Internet.⁷²⁰ In *Religious Tech. Ctrl. v Netcom On-Line Com.*, the District Court for the Northern District of California noted that religious materials can be the object of a trade secret, because there is “no category of information (that) is excluded from protection as a trade secret because of its inherent qualities”.⁷²¹ In addition, it was further noted that the Church’s spiritual training materials were eligible for trade secret protection because they had a “significant impact on the donations received by the Church”, and therefore had commercial value.⁷²²

Crucially, the UTSA, the DTSA and the Restatement (Third) of Unfair Competition indicate that value may be actual or potential. This approach departs substantially from the “continuous use” requirement laid down in the Restatement (First) of Torts, and according to some commentators, it was introduced to ensure the protection of research and development efforts.⁷²³

Some of the criteria that have been suggested to assess whether information is valuable and therefore worth copying are: (i) whether a competitor or another third party is trying to obtain the information; (ii) the identification of the information as having commercial value by competitors and consumers;⁷²⁴ (iii) the actual use of the information; and (iv) the measures taken by the holder to prevent misappropriation.⁷²⁵

720 *Religious Technology Center v. Netcom On-Line Com.*, 923 F. Supp 1231(N.D. Cal. 1995).

721 *Religious Technology Center v Netcom On-Line Com.*, 923 F. Supp 1231, 1251 (N.D. Cal. 1995).

722 *Religious Technology Center v Netcom On-Line Com.*, 923 F. Supp 1231, 1253 (N.D. Cal. 1995).

723 James Pooley 2002 (n 66) § 2.03[2] 2-14, 2-15.

724 Daniel Gervais 2012 (n 505) para 2.488.

725 Nuno Pires de Carvalho 2008 (n 529) para 39.2.57; in the U.S., case law refers to the following factors based on Restatement (First) of Torts § 757 (Am. Law Inst. 1939): “(1) the extent to which the information is known outside of the plaintiff’s business; (2) the extent to which the information is known by employees and others involved in the plaintiff’s business; (3) the extent of measures

The quantification of commercial value is most complex in the field of undisclosed information, and it usually appears in connection with the assessment of damages in the event of trade secret misappropriation.⁷²⁶ It has been generally accepted that it should be calculated on the basis of the holder's lost profits, the reasonable royalties that should have been paid in the context of a licensing agreement or the account of the defendant's profits.⁷²⁷

By way of illustration, consider a hypothetical market for goods lifts consisting of 10 sellers and 10.000 businesses that may use this equipment within their premises. In this hypothetical market, it is uncertain which of these companies use goods lifts and which rely on other transportation means such as escalators. Seller A has a list of 1.500 businesses to which he has sold goods lifts in the past. If the content of A's customer list is unknown to the other nine competitors, it will be regarded as a trade secret, as its disclosure would allow the other market participants to target individual consumers. In the event that the other nine competitors are aware that each of the businesses enumerated in A's list are goods lift consumers, the list has no independent economic value. Under those circumstances, the identities are already known to A's competitors and cannot be protected under the law of trade secrecy, as they do not provide a competitive advantage.

The burden of proving that the information confers a competitive advantage by virtue of its secret nature lies with the trade secret holder. He can provide direct evidence by showing advantageous use in his own business.⁷²⁸ Yet, in practice, most holders rely on circumstantial evidence, such as investments in research and development,⁷²⁹ security measures adopted to protect the secrecy of the information⁷³⁰ and that others may be willing

taken by the plaintiff to guard the secrecy of the information; (4) the value of the information to the plaintiff's business and to its competitors; (5) the amount of time, effort and money expended by the plaintiff in developing the information; and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others", according to *Learning Curve Toys Incorporated v. Playwood Toys Incorporated*, 342 F. 3d 714, para 38 (7th Cir. 2003).

726 Nuno Pires de Carvalho 2008 (n 529) para 39.2.59.

727 Nuno Pires de Carvalho 2008 (n 529) para 39.2.59.

728 Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment e.

729 *Gates Rubber Co. v. Bando Chemical Industries, Ltd et al.*, 9 F.3d 823, 848 (10th Cir. 1991).

730 *Rockwell Graphic Systems, Inc. v. DEV Industries, Inc.*, 925 F.2d 174, 179 (7th Cir. 1991).

to pay to access the information.⁷³¹ From a legal perspective, it has been suggested that the economic value due to the secrecy requirement differentiates trade secrets protection from common law. In a breach of contract or tort law claim, it is not necessary to show either economic value or secrecy.⁷³²

As a final remark, research shows that the value requirement is rarely invoked before U.S. federal courts during the litigation of trade secrets. In the few instances where it has been, the existence of value has been assumed or its threshold has been interpreted to be low.⁷³³

3. Reasonable measures to maintain secrecy

The third and last requirement set forth in § 1(4) UTSA (and the DTSA)⁷³⁴ specifies that information must be subject to “efforts that are reasonable under the circumstances to maintain its secrecy”. This is consistent with the relevant case law, which provides that this requisite be fulfilled separately from the secrecy requirement,⁷³⁵ but departs from the multifactor test approach enshrined in the Restatement (First) of Torts and the Restatement (Third) of Unfair Competition. In the latter, precautionary measures were regarded as mere evidence of secrecy, value and improper appropriation.⁷³⁶ It has been argued that its inclusion in the UTSA as a separate condition derives from the negotiation history of the act and the removal of the originally envisaged requirement that secret information had to be in a tangible form. The adoption of protective measures was aimed at defining the scope of trade secrets, similar to the copyright fixation requirement.⁷³⁷

731 *Tan-Line Studios Inc. v. Bradley*, 1 U.S.P.Q.2d 2032, 2038 (E.D. Pa. 1986).

732 Michael Risch 2007 (n 15) 38.

733 David S. Almeling and others 2009-2010 (n 636) 319.

734 18 U.S.C. § 1839(3) (B).

735 Robert G. Bone 2011 (n 15) 57.

736 Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment g: “Whether viewed as an independent requirement or as an element to be considered with other factors relevant to the existence of a trade secret, the owner’s precautions should be evaluated in light of the other available evidence relating to the value and secrecy of the information. Thus, if the value and secrecy of the information are clear, evidence of specific precautions taken by the trade secret owner may be unnecessary”.

737 Robert G. Bone 2011 (n 15) 57 footnote 45 citing an informal conversation with Sharon K. Sandeen; see also Sharon K. Sandeen 2010 (n 642) 526-527.

Subsequently, and due to the influence of the U.S. delegation during the negotiations of the TRIPs Agreement, the reasonable measures requisite was included as a requirement for protection in Article 39(2)(c) TRIPs and is now a minimum standard for the protection of trade secrets in all WTO Member States.⁷³⁸ However, such an inclusion has not been without criticism.

a) Assessment of the “reasonableness” of the measures adopted

The UTSA and the DTSA do not require the holder of the information to take all possible measures, nor do they demand any level of efficacy. Essentially, they require the trade secret owner to adopt “reasonable measures under the circumstances”. From an economic perspective, trade secret holders should aim at achieving a balance between the measures taken and their viability.⁷³⁹ In the words of Posner, “The question is whether the additional benefit in security would have exceeded (the) cost (of protection)”.⁷⁴⁰ Indeed, the adoption of all possible measures would lead to an over-investment in the protection of information, which may adversely affect innovation, create inefficiencies and ultimately hinder the “spirit of inventiveness”.⁷⁴¹

738 See chapter 2 § 1 A) IV.2. d).

739 Victoria A. Cundiff, ‘Reasonable Measures to Protect Trade Secrets in a Digital Environment’ [2009] 49 IDEA 359, 363.

740 *Rockwell Graphic Systems, Inc. v. DEV Industries, Inc.*, 925 F.2d 174, 180 (7th Cir. 1991); similarly, Richard Posner, ‘Trade Secret Misappropriation: A Cost-Benefit Response to the Fourth Amendment Analogy’ [1992] 106 Harvard LR 461, 473-478 arguing that instead of comparing the “reasonable measures under the circumstances” yardstick with the “reasonable expectation of privacy” benchmark set forth in the Fourth Amendment, courts should apply a cost-benefit analysis to assess whether the owner has taken reasonable precautions: “Courts should require to firms to invest in precautionary measures until the marginal cost of those measures equals the marginal expected economic loss in the event of misappropriation, that is, the value of the to the trade secret to the owner multiplied by the decrease of the risk that the trade secret will be discovered by a competitor brought about by taking additional precautions”.

741 Victoria A. Cundiff 2009 (n 739) 363; William Landes and Richard Posner 2003 (n 38) 369; Douglas Gary Lichtman 2004 (n 80) 32; see also *E.I. du Pont de Nemours & Company v Christopher et al.*, 431 F.2d 1012, 1016 (5th Cir. 1970): “Our tolerance of the espionage game must cease when the protections required to prevent another’s spying cost so much that the spirit of inventiveness is damped”.

This is best illustrated in the *DuPont v. Christopher*⁷⁴² case decided by the Court of Appeals of the Fifth Circuit in 1970. DuPont was in the process of building a plant for the production of methanol through an unpatented process that gave DuPont a competitive advantage over other producers. One of its competitors hired the defendant to take aerial photographs while the facilities were under construction and before the roof was built. As a result, parts of the secret process were exposed from a bird's eye view, and the court had to decide whether aerial photography under these circumstances is an improper means of obtaining a trade secret. The court ruled that taking secret information without the permission of its right holder, if reasonable precautions to preserve secrecy are adopted, is improper. In particular, the court noted that it would be too burdensome to ask DuPont to cover the manufacturing facility while it was under construction:

We should not require a person or a corporation to take unreasonable precautions to prevent another from doing that which he ought not to do in the first place. Reasonable precautions against predatory eyes we may require, but an impenetrable fortress is an unreasonable requirement, and we are not disposed to burden industrial inventors with such a duty in order to protect the fruits of their efforts.⁷⁴³

In the light of the above, the reasonableness of the measures should be assessed against the specific circumstances of each case and considering the nature of the threat to disclosure, the value of the trade secret and the cost of the potential security mechanisms.⁷⁴⁴ In fact, “what may be reasonable measures in one context may not necessarily be so in another”.⁷⁴⁵

The UTSA and DTSA are silent on the nature of the measures to be adopted by trade secrets holders.⁷⁴⁶ Notwithstanding this, legal commenta-

742 *E.I. du Pont de Nemours & Company v. Christopher et al.*, 431 F.2d 1012, 1017 (5th Cir. 1970).

743 *E.I. du Pont de Nemours & Company v. Christopher et al.* 431 F.2d 1012, 1017 (5th Cir. 1970).

744 James Pooley 2002 (n 66) § 4.04. [2] 2-27.

745 See also *Matter of Innovative Construction Systems, Inc.*, 793 F.2d 875, 884 (7th Cir. 1986).

746 Restatement (Third) of Unfair Competition §39 (Am. Law Inst. 1995) comment g: “Precautions to maintain secrecy may take many forms, including physical security designed to prevent unauthorized access, procedures intended to limit disclosure based upon the “need to know”, and measures that emphasize to recipients the confidential nature of the information such as nondisclosure agreements, signs, and restrictive legends”.

tors have drawn a distinction between “standard” and “non-standard” measures.⁷⁴⁷ The former include physical methods (e.g. building fences); technical methods (e.g. protecting information through passwords or encryption); legal methods (e.g. NDAs) and enforcement/detection methods (e.g. security cameras), as well as IT measures. The latter refer to measures adopted when the holder does not rely on standard measures. They usually consist of fragmenting information, and a prime example is the assembly of products containing secret information in different locations.⁷⁴⁸

The evidence suggests that during litigation, the most relevant measures courts take into account to support a finding that reasonable efforts have been adopted are agreements with employees and third parties and, to a lesser extent, establishing restrictions to access information within an undertaking.⁷⁴⁹ Agreements with employees can consist of non-competition covenants, non-solicitation, employment contracts, confidentiality agreements and invention assignment agreements. For third parties, such as suppliers, trade secret holders most frequently resort to NDAs.⁷⁵⁰

b) Criticism

Three reasons are most frequently invoked by case law and academia in the U.S. to explain the imposition of such a requirement: (i) to give notice of confidentiality to third parties, (ii) to provide evidence of the value of the trade secret and (iii) to prevent misappropriation through the adoption of self-help measures.⁷⁵¹

However, in recent years, it has been widely discussed whether the reasonable measures requirement is entirely in line with the above outlined modern justifications for trade secrets protection. Bone, in his seminal article “Trade secrecy, innovation and the requirements of secrecy precautions”,⁷⁵² casts doubt upon the adverse impact that such a requirement may have on access to information.⁷⁵³ The author submits that two of the arguments generally put forward to justify demanding such measures in all

747 Michael Risch 2007 (n 15) 43.

748 Michael Risch 2007 (n 15) 43.

749 David S. Almeling and others 2009-2010 (n 636) 322-323.

750 David S. Almeling and others 2009-2010 (n 636) 322.

751 Victoria A. Cundiff 2009 (n 739) 363; *Rockwell Graphic Systems, Inc. v. DEV Industries, Inc.*, 925 F.2d 174, 179 (7th Cir. 1991); Michael Risch 2007 (n 15) 45-47.

752 Robert G. Bone 2011 (n 15) 46-76.

753 Robert G. Bone 2011 (n 15) 46.

cases are in fact superfluous: (i) notice of confidentiality can be provided without resorting to specific measures and (ii) it is possible to provide evidence of the actual existence and value of a trade secret without showing that particular precautions were adopted.⁷⁵⁴

Against this background, the author reviews the general policies supporting the protection of trade secrets and their intersection with the “reasonable steps requirement”.⁷⁵⁵ From an economic perspective, the first justification argues that trade secrets protection should be encouraged to promote incentives to create. However, demanding reasonable steps to protect the secrecy of information ultimately increases the cost of innovation and the enforcement of trade secrets.⁷⁵⁶ The second economic reason presented is that providing effective legal protection in the event of trade secret misappropriation avoids (over) investing in costly self-help measures. However, by requiring firms to adopt reasonable protective measures, the law gives normative value to investment in precautionary measures, as their adoption becomes a requirement of protection that defines the subject matter covered, which may easily lead to over-investment. As a third justification, trade secrets laws encourage licensing and the commercial exploitation of information. In this context, Bone argues that these activities would be encouraged by the law of trade secrets, even if the holders of secret information were not required to adopt reasonable measures under the circumstances to protect the information.

From a deontological perspective, it has been suggested that trade secrets protection should be understood in terms of a firm’s right to privacy.⁷⁵⁷ However, Bone dismisses this argument in the context of the reasonable steps requirement, essentially due to the fact that privacy does not always call for specific measures and is not appropriate in the context of trade secrets protection.⁷⁵⁸ Notwithstanding this, the author concludes that it could be possible to justify such a requirement based on a potential reduc-

754 Robert G. Bone 2011 (n 15) 46.

755 As outlined in chapter 1 § 2.

756 Robert G. Bone 2011 (n 15) 58-62.

757 Robert G. Bone 2011 (n 15) 66.

758 Robert G. Bone 2011 (n 15) 66; in this regard, it is submitted that *Bone* does not contemplate the utilitarian dimension of privacy in trade secrets protection, as outlined in chapter 1 § 2 B) IV.

tion of enforcement costs⁷⁵⁹ and signalling benefits.⁷⁶⁰ However, he is of the opinion that further research is required to demand the application of the “reasonable steps requirement” in all cases.⁷⁶¹

It is noteworthy that Lemley comes to the same conclusion. He essentially holds that the main advantage of the law of trade secrets is that it limits the investment in the event that no such legislation existed. Consequently, conferring normative value to the establishment of a minimum level of investment should not be regarded as an end in itself.⁷⁶²

Risch conversely argues that demanding some efforts to maintain secrecy ensures that the adopted measures are efficient from an economic perspective. If no protection against trade secret misappropriation is afforded, the holders of valuable, confidential information would still adopt precautionary measures to avoid losing it. Similarly, if the holders of undisclosed information could adopt less than reasonable precautions, they would tend to under-protect information. Hence, requiring reasonable measures serves the purpose of finding an equilibrium in investments to protect secret information⁷⁶³

In the light of the above, it is submitted that it is not possible to establish a clearly defined standard that provides the number and types of mea-

759 Robert G. Bone 2011 (n 15) 67-75 argues that a potential explanation for the “reasonable measures requirement” is that it prevents process costs, i.e. the adoption of very costly self-help measures, which may be higher than litigation costs, as well as the error costs that arise in the context of “frivolous” trade secrets lawsuits, particularly against former employees.

760 In this context, Robert G. Bone 2011 (n 15) 72-74 notes that the adoption of reasonable measures under the circumstances may be justified because it provides information to competitors about the value of the secret concerned and the behaviour of the holder. By reducing such information asymmetries it allows to invest in the obtention of the most valuable trade secrets and avoids “the waste that results from obtaining the trade secrets unlawfully only to be sued and enjoined from using it”.

761 Robert G. Bone 2011 (n 15) 76.

762 Mark A. Lemley, ‘The surprising virtues of treating trade secrets as IP rights’ 109, 136 in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011); similarly, Jonathan R. Chally 2004 (n 44) 1293-1295 arguing that the “reasonable measures requirement” should only be taken into consideration by courts when an innovator may have revealed the information voluntarily. Furthermore, it is suggested that not demanding trade secret holders to adopt reasonable efforts is the most efficient approach, as it guarantees that the holder and potential competitors do not undertake unnecessary activities.

763 Michael Risch 2007 (n 15) 45.

asures necessary to define “reasonable”, this will have to be assessed according to the specific circumstances of each case.⁷⁶⁴ Furthermore, despite Risch’s arguments, it seems unlikely that, in the event that no trade secrets protection is afforded, holders of valuable confidential information would under-invest in protective measures. Applying the prisoner’s dilemma line of reasoning, if the parties are uncertain about the efforts and investments competitors make in finding their valuable information, they will most likely adopt the highest possible means to protect the competitive advantage the trade secret confers. Ultimately, the maximum threshold of investment is determined by the value of the advantage conferred by the subject matter of the trade secret.

C) The legal regime for the protection of trade secrets under the UTSA, the DTSA and the Restatements of the law

Trade secrets protection cannot only be achieved through the regime of confidentiality created by the Restatements of the Law, the UTSA and more recently the DTSA. Other regimes play a crucial role in achieving such protection, including non-competition covenants, confidentiality agreements and tort law. The overlap between the multiple regimes has crucial doctrinal and practical implications, but its analysis falls outside the scope of the present research.⁷⁶⁵ This study focuses on the interpretation of misappropriation as regulated in the UTSA and the Restatements as well as the case law that applies them. Finally, some remarks on the new features introduced by the DTSA are made.

The Restatement (First) of Torts in § 757⁷⁶⁶ prevents the unauthorised *use* or *disclosure* of a trade secret.⁷⁶⁷ Some years later, the UTSA extended the misappropriation conduct to the *acquisition* of another’s trade secret by improper means and condemned both actual and threatened behaviours.⁷⁶⁸ In § 1(2) UTSA (which has been almost identically reproduced

764 David S. Almeling and others 2009-2010 (n 636) 321.

765 For an in-depth study of the four regimes of protection and their practical implications see Charles Tait Graves 2011 (n 689) 77-108.

766 See Restatement (First) of Torts § 757 (Am. Law Inst. 1939).

767 Similarly, the U.S. Supreme Court in *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475-476 (1974) indicated that the protection accorded to a trade secret was against the disclosure or use of information as a result of a breach of a confidentiality duty or the acquisition of knowledge through improper means.

768 See § 2(a) UTSA.

in the DTSA)⁷⁶⁹ misappropriation may consist of six specific types of conduct. The first one, as described in § 1(2)(i) refers to acquisition knowing (or with reason to know) that the trade secret was obtained through improper means. Next, § 1(2)(ii)(A) alludes to the use or disclosure of secret information without consent by a person who had used improper means to acquire it. The third conduct in § 1(2)(ii)(B) (I) extends liability to those used or disclosed another's trade secret with knowledge (or who should have known under the circumstances) that it had been acquired through improper means.

The behaviours subsequently described refer to acts of misappropriation resulting from a breach of a duty of confidence. Section 1(2)(ii)(B)(II) prevents the use or disclosure of a trade secret when the information was acquired under a duty to maintain its secrecy or limit its use. The fifth category imposes liability on the use or disclosure of secret information by a third party when such information was obtained knowing or with reason to know that the acquirer was under a duty of confidence with the trade secret holder. Specifically, it encompasses the disclosure of former employees in the context of their new employment relationship.⁷⁷⁰ Finally, § 1(2)(ii)(C) governs liability in the event of accidental or mistaken acquisition.

As discussed in chapter 1, one of the main features of trade secrets in contrast to other IPRs is that they only confer protection against improper taking or "misappropriation".⁷⁷¹ This does not prevent mere copying; anyone is free to inspect a publicly available product or reverse engineer it.⁷⁷² Hence, the use of "improper means" lies at the very foundation of the law of trade secrecy: the maintenance of commercial morality.⁷⁷³ Comment f in § 757 of the Restatement (First) of Torts convincingly notes that providing a list with *numerus clausus* of such means is not feasible. The UTSA attempts to shed light on the matter by giving an open-ended list of exam-

769 18 U.S.C. § 1839(5).

770 James Pooley 2002 (n 66) § 2.03.

771 Misappropriation is the term used in the UTSA; similarly, the Supreme Court in *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475-476 (1974) stated that "the protection accorded to a trade secret holder is against the disclosure or unauthorized use of the trade secret by those to whom the secret has been confided under express or implied restrictions of nondisclosure and non-use. The law also protects the holder of a trade secret against disclosure or use when the knowledge is gained, not by the owner's volition, but by some 'improper means.'"

772 Robert G. Bone 1998 (n 15) 250.

773 Restatement (First) of Torts § 757 (Am. Law Inst. 1939) comment f noting that improper means "In general (...) are means which fall below the generally accepted standards of commercial morality and reasonable conduct".

ples, including “theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means”.⁷⁷⁴ However, the means used to acquire a trade secret can be regarded as “improper” even if they are not independently wrongful.⁷⁷⁵ Ultimately, the assessment of whether the means can be deemed “improper” should be based on a flexible case-by-case analysis considering a number of factors and leaving considerable room for judicial discretion.⁷⁷⁶ As noted by the 5th Circuit in *DuPont v. Christopher*:

Improper will always be a word of many nuances, determined by time, place and circumstances. We therefore need not proclaim a catalogue of commercial improprieties. Clearly, however, one of its commandments does say that ‘thou shall not appropriate a trade secret through deviousness under circumstances in which countervailing defences are not reasonably available.’⁷⁷⁷

Crucially, in the Commentary in § 1 UTSA notes that “proper means” encompass, among others, (i) discovery by independent invention;⁷⁷⁸ (ii) discovery by reverse engineering;⁷⁷⁹ (iii) discovery as a result of licensing a product by the trade secret owner; (iv) observation of the item in public use or display; and (v) review of published literature.⁷⁸⁰ In a similar vein, the DTSA sets forth that “reverse engineering” and “independent derivation” constitute lawful means of acquiring a trade secret.⁷⁸¹

774 See UTSA § 1 (1) and 18 U.S.C. § 1839 (6) (A) ; in the same vein, Restatement (Third) of Unfair Competition § 43 (Am. Law Inst. 1995) comment c refers among others to the following types of conduct: entering a competitor’s offices without permission; spying a competitor’s telephone conversations; inducing a trade secret holder to disclose secret information through using deceptive means as regards representation; see 18 U.S.C. § 1839 (6) (A).

775 Restatement (Third) of Unfair Competition § 43 (Am. Law Inst. 1995) comment c.

776 For a detailed analysis of the way in which courts in the U.S. have construed “improper means” William E. Hilton, ‘What sort of improper conduct constitutes misappropriation of a trade secret’ [1990] 30 IDEA 287.

777 *E.I. du Pont de Nemours & Company v. Christopher et al.*, 447 F.2d 1012, 1017 (5th Cir. 1970).

778 *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 476 (1974); also Roger M. Milgrim 2014 (n 160) § 7.02.

779 *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 476 (1974); also Roger M. Milgrim 2014 (n 160) § 7.02.

780 Commentary to § 1(1) UTSA.

781 18 U.S.C. § 1839 (6) (B).

With regard to enforcement, if the plaintiff prevails, state courts usually award monetary damages, as well as injunctive relief.⁷⁸² Against this background, the adoption of the DTSA has introduced greater legal certainty, as it sets forth a comprehensive array of remedies in the event of trade secret misappropriation. These include (i) the grant of an injunction against threatened or actual misappropriation;⁷⁸³ (ii) the award of damages for the actual loss caused by the misappropriation of the trade secret; as well as of any damages derived from any unjust enrichment caused by the infringing conduct⁷⁸⁴ and (iii) the award of exemplary damages (up to twice the amount of regular damages) if the trade secrets is misappropriated with wilfulness and malice.⁷⁸⁵ When a claim is made in bad faith, the prevailing party may apply for attorney's fees.⁷⁸⁶

Remarkably, as a novel feature, the DTSA allows the holder of a trade secret to apply (ex parte) for an order providing the civil seizure of property to prevent further dissemination of the secret information.⁷⁸⁷ Yet, such an order is only granted under exceptional circumstances if an immediate and irreparable injury is likely to occur if such seizure is not ordered.⁷⁸⁸

Likewise, the DTSA provides that the *owner* of a trade secret has legal standing to bring legal proceedings.⁷⁸⁹ This aspect was not regulated in the UTSA and ultimately bears the question of whether licensees have legal standing to sue.⁷⁹⁰ As a final remark, the DTSA expressly provides that its provisions should not be interpreted as pre-empting or displacing any remedies of civil and criminal nature on the misappropriation of trade secrets set forth by federal, state and common law.⁷⁹¹ However, Sandeen and Seaman have warned of the difficulties that federal courts will encounter in interpreting the DTSA and applying the pre-existing body of state case law to fill the gaps of the DTSA.⁷⁹²

782 For a general overview of the remedies available, see James Pooley 2002 (n 66) Chapter 7 and Roger M. Milgrim 2014 (n 160) chapter 3.

783 18 U.S.C. § 1836 (b) (3) (A).

784 18 U.S.C. § 1836 (b) (3) (B) (i).

785 18 U.S.C. § 1836 (b) (3) (C).

786 18 U.S.C. § 1836 (b) (3) (D).

787 18 U.S.C. § 1836 (b) (2) (A) (i).

788 18 U.S.C. § 1836 (b) (2) (A) (ii).

789 18 U.S.C. § 1836 (b) (1); see further Victoria A. Cundiff and others, 'The Global Harmonisation of Trade Secret Law: The Convergence of Protection for Trade Secrets in the US and EU' [2016] 38 EIPR 738, 741.

790 See further Victoria A. Cundiff and others 2016 (n 789) 741.

791 18 U.S.C. § 1838.

792 Sharon K. Sandeen and Christopher B. Seaman 2017 (n 673) 912.

§ 3 Conclusion

Chapter 2 has reviewed the minimum standards of protection set forth at the international level regarding trade secrets (i.e. Article 39 TRIPs and Article 10bis PC), which all WTO Member States are bound to implement in their domestic legal regimes. These mostly coincide with those laid down in the most relevant sources of law in the U.S. (the UTSA and the DTSA), which shows the prevalence of the U.S. delegation during the negotiation process of Article 39 TRIPs.

To merit protection, information must (i) be secret; (ii) derive independent commercial value from its concealed nature, and (iii) the holder must adopt reasonable measures under the circumstances to keep it undisclosed. These three cumulative requirements are closely interconnected and ultimately reveal that the law of trade secrets is concerned with the protection of investments made in the creation of valuable information, but only against specific behaviours that do not comply with the accepted market practices. Information is protected by the mere fact of being kept undisclosed and providing its holder with a competitive advantage. No additional qualitative threshold beyond secrecy has to be met. As a result, if the information is disclosed, the competitive advantage disappears. In this context, this chapter has argued that the “commercial value” requirement laid down in Article 39(2)(b) TRIPs shall be interpreted in a broad sense so as to include any potential act of competition between the parties, as well as both actual or potential value in line with Article 1(4) UTSA. In the same vein, the expression “readily ascertainable” should be considered synonymous to “readily accessible”, which under Article 1(4) UTSA must be carried out “through or by proper means”.

As such, only when the acquisition, use or disclosure is carried out in a manner contrary to honest commercial practices is the holder of the information able to seek legal redress.

With the above in mind, the following chapter looks into the scattered regulation of trade secrets protection across several EU Member States, which led to the alignment of national legal regimes in this field of law. In particular, the methodology of comparative law is applied to study the legal regimes for the protection of trade secrets in England and Germany before the implementation of the TSD and the emerging harmonised legal framework according to the provisions of the TSD.