

CHAPTER 11

VENDOR'S LIABILITY FOR DEFECTIVE SOFTWARE IN A GLOBAL MARKET

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11.01 Introduction

(a) In General

Most of the functionalities of and practically all services available in a modern communications network are based on computer software. Consequently, laws applicable to software and transactions involving software have significant impact on the development of communications networks and services based on the use of such networks.

Similarly, as with other aspects of law governing activities related to communications networks, the software-related aspects also would need international solutions for trade in software across borders without undue legal barriers.

The work to establish internationally accepted regime governing software has only begun recently and, thus far, any development has mainly concentrated on the legal protection of software, primarily through copyright.

(b) Scope

Legal issues related to licensing and delivery of software have not been addressed to any significant extent in any international instrument. This chapter seeks to shed light on one of the key aspects related to software deliveries, namely, the allocation of liability for defective software between the vendor and the purchaser of software.

The authors have selected France, Germany, Finland, and the United States and made a comparison of the regimes these countries apply to the liability

for defective software. The allocation of liability in a delivery chain between the vendor, any distributors or resellers, and the purchaser for the defects in a software product will not be covered.

This overview focuses on laws that have a direct impact on software delivery contracting. The authors have, therefore, limited themselves to the substantive laws applicable to determining the liability of the vendor and excluded dealing with rules of procedural law, although procedural questions, such as evaluation of proof and practices related to assessment of damages, may substantially affect the overall picture of vendor's liability.

The chapter will address only the civil liability issues arising in relation to business-to-business relationships. On civil liability, it will cover both tort and contractual liability although, for issues covered in this chapter, the importance of the contractual liability is predominant.

In terms of the nature of the software, the authors will only assess liability issues arising out of delivery of ready-made software. The liability structures related to provision of custom software or consultancy work resulting in software are significantly different and would justify a separate chapter on those topics.

(c) Why the Vendor Is Liable for Defects in Software

If a vendor and purchaser have agreed on a delivery of software, all of the western legal systems protect the purchaser's expectation that the software will be delivered in accordance with the agreement. Liability for defects is a part of the system enforcing this protection.

Liability serves a reparative function in compensating the purchaser for the damage caused by the vendor not fulfilling the expectations. In addition, the liability has a preventive function since the threat of liability gives the vendor an incentive to deliver in accordance with the agreement.

Both the reparative and preventive function should be taken into account when evaluating the legal regimes on vendor's liability for software defects. Especially, the preventive function should be emphasized as, often after completed delivery and commissioning of particular software, its removal and replacement with other software is extremely costly in comparison to the value of the software delivered.

(d) Market Practices on Contractual Limitations of Liability

Vendors of software typically seek to limit their liability for software defects extensively through the use of general terms and conditions, which are often in the form of end-user license agreement, or individually negotiated limitation of liability clauses.

Examples of extensive liability limitations and warranty exclusion are not hard to find. More often than not, general terms and conditions for standard software include clauses limiting vendor's liability solely to cover liability for defects in the media on which the software is provided. In addition, common is a clause expressly stating that the vendor does not represent or warrant that the software is error or virus free or that any errors will be corrected.

The software industry justifies extensive liability limitations by the fact that no software is error free and that it is impossible to make sure that software is free from viruses. These statements have certain truth to them but, unfortunately, the world is not quite so simple. In theory, software could be made error free, but this would require much more rigorous testing than what is the current practice in the information technology industry.

(e) Distinction between Responsibility for Testing and Liability for Defects

To a large extent, the software industry is used to testing its products on customers, also beyond any express alpha and beta testing. Generally, the software industry relies heavily on getting feedback from its customers, e.g., relating to bugs in the software, and fixing sometimes even critical bugs in some cases years after the first release of the software.

Arguably, the users of software have benefited from this practice through the availability of more extensive functionalities for an affordable price, or simply through lower prices.

However, although the authors would accept that it is beneficial for both the software vendor and purchaser at large that the purchaser performs some of the testing of the software for defects and bugs in the course of using the software, this does not necessarily justify the total exclusion of liability of the vendor for such defects in the general terms and conditions.

The vendor of software should generally have an incentive to develop and test the software so as to minimize the amount of defects in the code. It is the vendor who knows and has access to the code and, therefore, has much better means to assess eventual defects in the software and also take precautions against and remedy any defects in the software.

With wide liability limitation and warranty exclusions, it could be even beneficial to the vendor not to fix known bugs if the cost of repair would be higher than the limited liability exposure under its agreements with the purchasers constituting efficient breach or, in case of wide warranty exclusion, no breach at all.¹

¹ Mercurio and Medema, *Economics and the Law, from Posner to Post-Modernism* (1997), at pp. 74 and 75.

As a standard practice, the purchaser does not get the source code of a standard software product. Furthermore, although the purchaser would have access to the source code, in most cases it could not with reasonable efforts gain such understanding of the code that would be sufficient to assess the potential risks caused by defects in the code, let alone avoid or fix such defects.

On the other hand, a vendor of software is usually not in the position to evaluate even the direct damages that a defect in the software could cause to a particular purchaser. In addition, in many instances it is impractical and would result in unbearable transactions costs if the vendor would even attempt to assess the purchaser's liability exposure in sufficient detail.

Consequently, black and white solutions either way in the allocation of liability are not likely to result in satisfactory solutions. The appropriate level of liability and the allocation thereof should be assessed case-by-case and, in a perfect world, would be agreed on by the parties for each case. As we are not living in a perfect world, this does not happen and the parties end up with standard contractual clauses which may be unfit to govern the relationship between them.

11.02 General Questions

(a) Applicable Statutes

(i) *In General*

Although financial interests related to software are increasingly important, there are, with the exception of the Uniform Computer Information Transactions Act (UCITA) which has been enacted in a few states in the United States, no specific statutes or provisions on software contracts in force in any of the jurisdictions covered.²

In the absence of specific legislative instruments, the software contracts are governed mainly by the respective general contract law and analogies to the existing law on sale and lease of movable property in each jurisdiction. In this section, the main applicable statutes in each of the jurisdictions will be described.

The contract laws in Germany, France, and Finland are built on the principle of freedom of contract subject to a varying number of limitations based on mandatory law. Consequently, the parties are in principle free to determine allocation of liability for defects in the software as they deem

2 In the United States, the National Conference of Commissioners on Uniform State Laws approved in 1999 the Uniform Computer Information Transactions Act (UCITA), including specific provisions concerning transactions in the information society and recommended its enactment by the states. To date, only two states have enacted the law at least in some form, i.e., Maryland and Virginia. The basic set of rules governing also software transactions in the United States is thus the Uniform Commercial Code (UCC).

appropriate. However, each of the countries has at least some mandatory rules governing the issue of liability. In addition, the contract laws provide content of the legal relationship between the parties on issues the parties have not agreed on in their agreement.

(ii) *Germany*

In Germany, rules concerning, for example, the sale and lease of goods, are contained in the German Civil Code (*Bürgerliches Gesetzbuch* — BGB). After the reform of the law of obligations in Germany,³ the substantive provisions most relevant for this discussion can be found in the German Civil Code as the Act on the Regulation of General Business Terms (*Gesetz zur Regelung des Rechts der Allgemeinen Geschäftsbedingungen*, AGBG) was incorporated in the Civil Code.⁴

Since most of the standard software is provided under general business terms, the provisions found earlier in the Code, severally limiting the enforceability of limitations of liability contained in such clauses, are very significant with respect to the subject matter of this article.

Under the German Civil Code, software contracts for the provision of standard software would usually be treated in accordance with the rules of the Civil Code covering sale or lease of movable property. In exceptional cases, also a separate category covering work-for-hire situations could be applied. The categorization of the software contract in one of the three categories for the application of the Civil Code has crucial importance in determining the parties' responsibilities and, for example, the applicable warranties.⁵

It appears to be clear that, in the case of standard software being sold against a one-off payment for an unlimited term, the software contract falls under the provisions of sale (see text, below). However, if one of said criteria is not present, the contract could be considered a lease or a contract for provision of work rather than sale.⁶

3 Effective as of 1 January 2002.

4 Those provisions are now found, as amended, in sections 305–310 of the German Civil Code. Section 307 of the Civil Code sets forth a detailed list of conditions under which a clause in a standard business contract may be invalid. In general, according to the Civil Code, individually negotiated terms take precedence over standard business terms.

5 For example, under German law, the lessor/licensor is obligated to repair defects at no charge for the entire duration of the term of the lease. This may lead to interesting questions with respect to maintenance and support agreements concluded in connection with a software license agreement.

6 Marly, *Softwareüberlassungsverträge* 3. Auflage (2000, 4. Auflage, 2004), at pp. 74 *et seq.* In addition, the parties may conclude a leasing contract for software. On individual and modified standard software in general, see Redeker, "Anpassung von Standard-Software", in Redeker (ed.), *Handbuch der IT-Verträge I* (2004). and Witte.

(iii) France

The French Civil Code is, for the purposes of the discussion in this chapter, similar in scope to the German Civil Code, and it includes rules concerning sale, lease, and work-for-hire related to goods. According to the French Civil Code, sale is defined as a contract in which a party undertakes to deliver an object (*chose*) and the other to pay for the object,⁷ resulting in a transfer of title in the object from the first party to the other party.

In principle, the provisions of the Civil Code governing sales contract are applicable to contracts for the supply of goods regardless of the nature of the objects of such transactions. To the extent a software contract is construed to constitute a sale of software, such contract is not subject to any special regime and the general provisions of the Civil Code, along with consumer protection rules (*Code de la consommation*), appear to apply to the contract.⁸

The French legal regime is different from the corresponding regimes in Germany and Finland in that businesses may under certain conditions enjoy the protection provided by the consumer protection laws. Thus, a purchaser may benefit from consumer protection with unenforceable liability limitations and statutory warranties in business-to-business relations.

The notion of “professional of the same specialty” (*professionnel de la même spécialité*) has been developed in French courts to determine the scope of application of the consumer protection in business-to-business relationships. The French Supreme Court (*Cour de cassation*) has ruled that, when a contract is concluded between two entrepreneurs representing different fields of activity, and which are, therefore, not considered as “professionals of the same specialty”, the consumer protection rules become applicable to the benefit of the purchaser.⁹ Thus, when a software supplier enters into a sales agreement or license with a non-software company, there is in principle a risk that consumer protection laws are applied.

In the light of the most recent case law from the *Cour de cassation*, the risk that consumer protection rules would be applied to a software contract between a software vendor and a non-software company appears more limited.

In a case involving software for the management of the customer relationships of a business, the *Cour de cassation* expressly excluded from the consumer protection the purchasers who utilized the software in direct relation with its business operations, although the purchaser operated in a different field of specialty than the software supplier.¹⁰

7 French Civil Code, article 1592.

8 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 6 and 7.

9 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 40 and 41.

10 A company purchasing software destined for use in the management of its clientele information was assimilated to the professional of the same specialty by the *Cour de cassation*.

(iv) Finland

Finnish courts and legal scholars appear to agree that the Sale of Goods Act (*Kauppalaki*) applies widely to the software contracts involving licensing of off-the-shelf software. In addition, in most cases, determining whether the Sale of Goods Act applies directly to a contract involving a delivery of software is mostly of academic interest.

This is, first, because the provisions of the Sale of Goods Act are applied widely outside the scope of the Act by analogy and, second, because the parties may contractually agree to exclude the applicability of the Sale of Goods Act in whole or in part. Consequently, it is safe to assume that, as there are no special acts or statutes governing software deliveries, the Sale of Goods Act is applicable unless the parties have agreed otherwise.¹¹

In addition to the Sale of Goods Act, the principles of the largely uncodified, general Finnish contract law also are applicable to a contract involving software delivery. The general contract law provides, for example, the rules on determining the amount of damages awarded, the obligation to mitigate damages, and the order in which the purchaser could resort to different remedies in case of defect in a software delivery.

For the purposes of determining a vendor's liability for defective software, the provision of the Finnish Contracts Act empowering a court to adjust or declare unenforceable contract terms that are deemed to be unreasonable or that lead to unreasonable consequences relevant may, in some circumstances, be relevant.¹²

In practice, the courts have been reluctant to intervene in contracts between two business entities. The right to rewrite contracts has been used only in a handful of cases where the agreement has been entered into in a situation where there has been extreme imbalance between the parties' negotiation powers, or if an unexpected change in the circumstances renders the agreement significantly unreasonable.

(v) United States

United States contract law is largely state rather than federal law. There are separate statutes in the area of contract law but largely it is based on the Common Law. Despite the initial diversified appearance, contract law differs from one state to another mostly only in detail.¹³ The Uniform Commercial Code is a central codification in the area of commercial law, widely implemented in the

11 Routamo and Ståhlberg, *Suomen vahingonkorvausoikeus* (4th ed., 2000), at p. 14; Halila and Hemmo, *Sopimustyypit* (1996), at pp. 28 and 29.

12 Finnish Contracts Act, section 36; Ramberg, *Kauppalain kommentaari* (1997), at p. 29.

13 Farnsworth, *An introduction to the Legal System of the United States* (3rd ed.), at p. 122.

states of the United States, which applies generally to the sale of goods. It also is considered to be applicable to the sale of off-the-shelf software.

In addition, the *Restatement of the Law 2nd*, “Contracts”,¹⁴ codifies case law and Common Law rules with significance to the contract practices of the software industry, as well.

A special statute, the Uniform Computer Information Transactions Act, lays down specific provisions for transactions in the information society. The Uniform Computer Information Transactions Act is a proposed uniform law that would create new rules for software licensing, online access, and other computer information transactions, supplementing and substituting those of the Uniform Commercial Code. However, only two states to date, Maryland and Virginia, have adopted the Uniform Computer Information Transactions Act at least in some form.¹⁵ The Uniform Computer Information Transactions Act has evoked significant controversy, for example, due to allegedly shifting the balance of existing contract law dramatically in favor of software vendors. Although an interesting topic, the Uniform Computer Information Transactions Act is not discussed further in this chapter due to its limited implementation and significance.

(vi) *Summary*

As may be concluded from the above, none of the jurisdictions dealt with have, with the exception of the Uniform Computer Information Transactions Act in a few United States states, specific legislation covering the software contracts. It appears that the courts in each of the countries would most likely apply the rules established for sale and purchase of movable property and perhaps in some special circumstances, the rules regarding lease, either directly or through analogy.

None of the systems is necessarily well equipped to deal with the reasonable expectation of the parties related to software deliveries. In addition, the application of many of the rules to situations involving a software delivery may take place in general courts and require a great deal of interpretation, and the consequences of the application are not necessarily predictable for the parties to a contract.

14 The *Restatement of the Law 2nd*, “Contracts”, is maintained and published by the American Law Institute (at <http://www.ali.org/>). Although not official and not binding on the courts, the *Restatements* is nevertheless accorded a great deal of deference because of the reputations of its reporters and advisers. The *Restatements* is generally considered to be an authoritative work of legal scholars. The *Restatements* presents the general Common Law of the United States, not a discussion of its jurisdictional variations or the law of a particular jurisdiction.

15 The opposition to Uniform Computer Information Transactions Act has been strong in the United States, as three states have enacted laws that render void governing law clauses that refer to the Uniform Computer Information Transactions Act.

(b) United Nations Convention on Contracts for International Sale of Goods

The United Nations Convention on Contracts for International Sale of Goods (the “Vienna Convention”) may be applicable to international sale of software, as outlined below, depending on the interpretation and circumstances at hand in each case. Applicability being casuistic, the topic would deserve an elaborate study of its own. For the purposes of comparison, some basic principles of how the Vienna Convention may become applicable to an international contract for the sale of software have been outlined below.

The Vienna Convention provides a legal framework for sale and purchase of goods across borders where the parties are domiciled in different countries and both of the countries are parties to the Convention. The Vienna Convention also may apply if the connecting-factor rule of international civil law leads to applicability of the law of a country signatory to the Convention. Parties to an agreement are free to agree otherwise than what is stated in the Convention or exclude it altogether.

Since the Vienna Convention is perceived to be rather purchaser friendly, blanket exclusions of the Convention are fairly common in software contracts. If the parties have already defined the content of their relationship in detail in an agreement, applying the Vienna Convention could lead to unexpected consequences.

If, for example, the parties would have agreed on a process for repairing the delivered software in case of a defect without return obligations for the purchaser, applying the returning obligations of the Vienna Convention would not appear to be appropriate. To avoid such situations, excluding the application of the Vienna Convention may be justified.

Even if an agreement regarding the delivery of software would meet the criteria concerning the international aspects and the domicile of the parties and would not contain an exclusion of the Vienna Convention, it is not clear whether the Convention would be applicable. As set forth in article 1 of the Convention, its provisions are applicable to sale and purchase of “goods”, and there are arguments both for and against considering software as “goods” within the meaning of the Convention.

By its own terms, the Convention applies solely to sale of goods, excluding its applicability to the provision of services. However, the Convention provides no positive definition for “sale” or “goods”. Articles 2 and 3 further define the scope by expressly excluding its applicability to certain intangibles (such as electricity, shares of stock, and securities), while applicability to software is neither excluded nor confirmed.

A widely agreed view defines a “good” under the Vienna Convention as an “essentially movable and identifiable separate object”.¹⁶ The applicability of

16 Cox, “Chaos Versus Uniformity: The Divergent Views of Software in the International Community”, at <http://cisgw3.law.pace.edu/cisg/biblio/cox.html#iii>.

the Vienna Convention to international software sales is subject to scholarly debate and divergent judgments.

It appears that the prevailing view on this point currently in the court practice and the works of the commentators is to regard software that is provided on a tangible media as goods within the meaning of article 1 of the Convention.¹⁷

However, the Vienna Convention provides little guidance on whether it applies to software contracts where the software is delivered electronically and, although it appears questionable to treat software differently depending on the way it is delivered, the issue remains unsolved to date.¹⁸ At least one commentator¹⁹ is firmly, and fairly, of the opinion that the Vienna Convention should be applied to software, no matter what the delivery form.

(c) Software — Sale or Lease, Goods or Service?

The contracts for the delivery of software do not fit into the legal framework regulating any of the contract types established in the laws of any of the countries covered without a varying degree of difficulty.

In each of the examined jurisdictions, above, qualification of a contract providing for the supply of software as a sales contract has raised scholarly debates and was earlier rejected by the courts. Instead, the courts have tended to apply the provisions in the respective contract law governing lease or provision of services.

However, to date, the case law, along with positions taken by the scholars, shows a trend towards a different construction regarding standard software contracts more often under the provisions governing sale of goods contracts.²⁰

17 Lookofsky, “In Dubio Pro Conventione? Some Thoughts about Opt-outs, Computer Programs and Preemption under the 1980 Vienna Sales Convention”, *Duke J. of Comp. & Int’l L.* 263, at <http://www.law.duke.edu/shell/cite.pl?13+Duke+J+Comp.+&+Int%27l+L+0263>.

18 Cox, “Chaos Versus Uniformity: The Divergent Views of Software in the International Community”, at <http://cisgw3.law.pace.edu/cisg/biblio/cox.html#iii>.

19 Lookofsky, “In Dubio Pro Conventione? Some Thoughts about Opt-outs, Computer Programs and Preemption under the 1980 Vienna Sales Convention”, *Duke J. of Comp. & Int’l L.* 263, at <http://www.law.duke.edu/shell/cite.pl?13+Duke+J+Comp.+&+Int%27l+L+0263>.

20 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 161; Lipovetsky, “Les clauses limitatives de responsabilité et de garantie dans les contrats informatiques. Approche comparative France/Etats-Unis — quelles limitations?”, at http://www.kahnlaw.com/france/newsjob/publications/clauses_limitatives_sl.htm. See also the judgement of the *Cour d’appel de Montpellier* (2ème ch. A, 2 July 1991, *Caisse Régionale de Crédit Agricole et autres v. Sté Sud Conseil Services*, no. 88-2421), where the court expressly declined to apply the regime of *vente* to a software “sale” contract by basing its argumentation on the fact that proprietary rights to the software sold under the contract were not transferred to the purchaser in full. Siivola, “Tietokoneohjelmissa kaksinumeroisesta vuosiluvusta 2000-luvulla aiheutuvan ongelman oikeudellinen vastuu”, *Defensor Legis* (6/1997), at pp. 903–913.

The difficulty in placing software contracts under any existing provisions of contract law lies with the special nature of the contract, deriving from the unique nature of software itself. First, although often referred to as a sales contract, the contract providing for supply of standard software does not transfer the title to the software, but only to a copy of the software and to the tangible storage medium on which the software is provided, if any.

Since the title and proprietary rights to the software remain with the vendor, the vendor's primary obligation under such contract typically consists of granting a license to use the software. Therefore, it appears fair to question whether the "sale" of software should be brought under the general rules governing sales contracts. The traditional solution to these hesitations has been to treat the contract as a lease or, in certain cases, as a contract for the provision of services rather than a sale.²¹

In both German and Finnish case law, the courts have set certain criteria for applying the rules concerning sale of movable property to software contracts involving the delivery of software. The courts have found that off-the-shelf (standard) computer programs which are embodied in a tangible medium and delivered to resellers, distributors, and end users against a one-off payment for an unlimited term constitute object of a sale and are not to be construed as a lease.²²

In Finland, it remains unsolved under these interpretations whether the sale of standard software online would be construed as a sale of goods — and whether a distinction should be drawn based on how, on a tangible disk or electronically via Internet, the software is delivered. Under German law, there is a consensus that software delivered both on tangible media and in electronic format is to be regarded as a good for the purposes of determining the applicable German Civil Code provisions. The German Supreme Court (*Bürgerliches Gerichtshof*) indirectly reached this conclusion in one of its judgments based on the intention of the party acquiring the software. According to the German Supreme Court, the absence of a disk does not change the intentions of the parties. Thus, electronic software should be treated equally to software on a disk.²³

The French case law appears somewhat less established. It is clear that, under French law, the software protected as intellectual property may be treated

21 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 160 *et seq.*

22 Finnish Supreme Court, KKO 2003:88. The ruling follows previous practice in Europe. See, for example, the decisions of the Court of Appeal of Munich (12 February 1998), 28U 5911/97, and the Court of Appeal of Frankfurt am Main (3 November 1998), 11U 20/98.

23 Cox, "Chaos Versus Uniformity: The Divergent Views of Software in the International Community", at <http://cisgw3.law.pace.edu/cisg/biblio/cox.html#iii>.

differently from the media through which it is transmitted. Standard software licenses as such have traditionally been treated as licenses or leases (*louage*) under French law.

However, it also has been maintained that, in “sale” of standard software, the parties do not intend to limit the term of contract in time (as is the case with licenses under French law, which does not acknowledge licenses — or any contracts — in perpetuity), which would lead rather to the conclusion that such contracts should be regarded as sale.²⁴

The applicability of the Civil code’s provisions governing sales seems, in a majority of cases where a contract has been construed by a French court as a sales contract (*contrat de vente*), to be determined by the fact that the contract in question concerns not only supply of software, but also transfers title to certain pieces of hardware, storage medium, or other such tangible objects related to the software.

In applying the principle of indivisibility of contract, both French and Finnish courts tend to hold that the object of the sale must be construed as consisting of all the material sold under the contract, including not only the copy of the program itself, but also the tangible storage medium on which the software is provided, support and maintenance services, as well as the related documentation and the hardware, where any piece of hardware is provided under the contract.

The terminology employed in a number of software-related judgments in France describes the object of the sale as an indivisible “information technology-based functionality or entity” (*tout informatique*) and places contracts involving the delivery of such entity under the regime for *contrat de vente*.²⁵

The same reasoning has been retained by a number of Finnish scholars as well to justify the application of the provisions of the Finnish Sale of Goods Act.²⁶ The French courts also have, not quite convincingly, employed the “theory of accessories” (*théorie de l’accessoire*), suggesting that the program itself should be regarded as an accessory to the tangible material sold under the contract to place it within the scope of application of the provisions on sales contracts.²⁷

24 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 161.

25 Lipovetsky, “Les clauses limitatives de responsabilité et de garantie dans les contrats informatiques. Approche comparative France/Etats-Unis — quelles limitations?”, at http://www.kahnlaw.com/france/newsjob/publications/clauses_limitatives_sl.htm; Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 160 and 161.

26 Routamo and Ståhlberg, *Suomen vahingonkorvausoikeus* (4th ed., 2000); Ramberg, *Kauppalain kommentaari* (1997), at p. 15.

27 Trezeguet, “Débat: Peut-on appliquer la garantie contre les vices cachés en matière de logiciels?”, at http://www.cejem.com/article.php3?id_article=131, 2003.

The majority of court decisions in the United States on this topic have found that software and related licensing constitute a sale of goods transaction under the Uniform Commercial Code. The sale of off-the-shelf software has been consistently regarded by the courts as a sale of goods under article 2 of the Uniform Commercial Code.²⁸

The sale of custom software is, as in the European systems, seen more often in the United States as a sale of services not covered by the Uniform Commercial Code, but rather by Common Law rules. However, several courts appear to have applied the Uniform Commercial Code even in cases where the essence of the contract is service.²⁹

As has been seen, the sale of pre-existing packaged standard software appears to be construed as a sale rather than lease in each country studied.³⁰ While the legal nature of software within the existing legal framework remains somewhat unclear, a further question open to interpretation has been whether software should be categorized as goods or services.

However, this question appears to be of relevance only in cases of furnishing tailored software. The supply of tailored software remains outside of the scope of this chapter, but the interpretations appear more established for software contracts involving the delivery of tailored software and that the courts do not generally hesitate to deem contracts for the supply of tailored software as service provision contracts.³¹

11.03 Defective Software

(a) Definition of “Defect” in the Context of Software — Defect in Quality

The essential question is whether the software meets the requirements set forth in the agreement or in the applicable statutes.

28 See, however, Lemley *et al.*, *Software and Internet Law* (2nd ed.), at pp. 312 *et seq* and the cited case law where it is argued that a sale of standard software could be seen as license in the case of a bargained agreement.

29 One goal of the Uniform Computer Information Transactions Act is to bring the goods and service aspects related to software transactions closer together.

30 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 160 and 161. Le Tourneau refers to the following judgments where the applicability often appears to be presupposed by the respective court: *Cour de cassation*, com. (22 January 1991), Giso, *Dr. informatique et telecoms* 1993/2, at p. 40; *Cour d’appel d’Aix-en-Provence* (21 May 1997), *J.C.P.E.* 1998, I, at p. 845; *Cour d’appel de Besançon* (9 April 1999), St, Lacroix, *Gaz. Pal.*; 2000, 1, at p. 820; *Cour d’appel de Bastia* (19 November 2002), *Comm. com. électr.* 2003, no. 123. The United States courts appear to treat software as goods as well. The most recent cases have extended the scope to customized software. Phillips, “When Software Fails: Emerging Standards of Vendor Liability under the Uniform Commercial Code”, *Business Lawyer* (November 1994), at p. 3.

31 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 162 *et seq*.

In the legal systems covered, a vendor, by a contract of sale, is bound to hand over the product to the purchaser and to transfer the ownership of the product. The vendor must deliver the product to the purchaser in a state that is free from defects as to quality.³²

Before it is possible to assess the liability of a vendor for defects in software, one must consider what constitutes such a defect that triggers the liability. In practice, the notion of “defect” is one of the most difficult issues related to determining the liability for software problems. The extremes are clear enough: if it is not possible to boot the software in the agreed hardware and software environment, the software is defective and, on the other hand, if the software functions in accordance with a detailed acceptance criteria set forth in the agreement, it is difficult to argue that it would be defective.

Unfortunately, the real-life cases are rarely that simple. How often may a software program crash or is the software defective if the cursor is red instead of blue. Practical difficulties relate often also to the interaction between the software provided with other software or hardware. The parties are likely to have very divergent views on which of the systems are defective when the interaction does not work.

As discussed above, issues related to software deliveries have not been dealt with in specific statutes in the legal systems covered, and the case law is still developing. Consequently, the notion of a defect in each country covered must be construed in accordance with the rules established to deal with the sale or lease of movable property or general principles of contract law. None of these sets of rules is particularly well equipped to resolve the issue.

Software vendors often state in their standard terms and conditions that the software delivered is not warranted to be free from “defects” in the sense that the software contains bugs or errors in code which may cause unexpected or unwanted functioning of the software or interruptions in the use of the software. Depending on the interpretation of this statement, it may be considered either self-evident or quite unreasonable.

If a word processing program crashes in daily use once per year, it does probably contain a bug, but the bug is probably immaterial to most users. However, if the same word processing program changes every “a” into a random character every time a document is saved, the bug defies the purpose of using the program, and releasing the vendor from liability based on the warranty exclusion requires probably more justifications.

More appropriate limitations of warranties are the ones based on limiting the warranty with the words “substantially” or “materially”. The warranty

32 Finnish Sale of Goods Act, section 18; German Civil Code, section 433.

language could read “. . . the vendor warrants that the software functions substantially in accordance with the specifications . . .”. This limitation, although being often subject to heavy negotiations, follows closely the traditions of the statutory warranties applicable to the sale of goods, where the warranties typically cover only defects that are material for the purchaser’s use or the value of the sales object.

The close alignment with the traditional structures makes the situation easier if the existing regime for the sale of goods must be applied on top of the contractual provisions, than in case of the exclusion for a warranty on uninterrupted and error-free operation of the software.

The primary contractual obligation imposed on the vendor is the duty of conformity, i.e., the obligation to deliver the goods in conformity with what is agreed. In the context of software sales, the object of the transaction, i.e., the software, is typically thoroughly specified in detailed specification documents describing the functionalities and properties of the software.

This is of course the case when the supplied software is tailored or developed specifically to meet the requirements set forth by the purchaser. When such specification documentation has not been included in the contract between vendor and purchaser, determining what has actually been agreed to be delivered becomes more difficult. In cases where the sold software can be categorized as standard software, the object of the transaction is typically determined by referring to a specific version and type of software and the software is accompanied by a user manual or the like.

In either case, the accompanying documentation typically forms a part of the delivery as a whole; the user documentation is an essential part of the software without which the use of the software is in most cases barely (or not at all) possible. Thus, the documentation amounts to a primary obligation and the lack of documentation or delivery of poor documentation leads to a failure in the performance of the contract by the vendor.³³

In Germany, there are, for example, warranty obligations in the law for misleading, confusing or otherwise insufficient manuals and assembly instructions. In short, if the assembly information for a product “meant to be assembled after the purchase” is defective, the purchaser is entitled to the same remedies as if the product itself were defective, provided that he does not manage to build the product properly as a result of the poor information.

33 Redeker, “Anpassung von Standard-Software”, in Redeker (ed.), *Handbuch der IT-Verträge I* (2004), at p. 22. Actually drawing a line between the duty of information and the delivery itself becomes somewhat hazy — the accompanying documentation may well be seen as a product description stating the qualities of the product in question; on the other hand, the documentation may be seen as an inseparable part of the delivery and a prerequisite for the contracted functioning (use) of the product.

It remains to be seen whether these rules also will apply to user manuals relating to the installation of software.³⁴

The vendor's statutory warranty against defects in quality provides purchasers with protection against defects which are inherent to the object sold, but invisible at the moment of conclusion of the contract (latent defect). To fall within the scope of latent defect, such defect must render the object unfit for its intended use, or restrict such use to the extent that the purchaser would not have purchased the object at all, or would only have paid a reduced price for it, had he been aware of the defect.

However, typically, the vendor is not liable for such defects that the purchaser could reasonably have noticed before the conclusion of the contract. As held by the French courts in software-related cases, software defects, such as bugs or errors in programming which result in unwanted functionalities, are regarded as latent defects or defects in quality.³⁵

In the jurisdictions examined, a product is typically considered defective in respect of quality if, at the time of passing of risk, it is inconsistent with what was agreed between the parties or if it is not fit for the purpose specified in the contract or, as is the case in Finland and the United States, for a particular purpose if the vendor was aware of such purpose at the time of conclusion of the contract. Furthermore, a product is defective if it is not fit for its normal use and its quality does not correspond to the quality of products of the same kind and to what can be expected by the purchaser by virtue of the product's nature.³⁶ It is further expressly stated in the Uniform Commercial Code that implied warranties may arise from course of dealing or usage of trade.³⁷ Although not expressly stated in the Sale of Goods Act, usage of trade in Finland also may lead to an implied warranty. Typically, in the jurisdictions at hand, the delivery by the vendor of a different product or a product of lesser amount (in case of software, rather, lack in capacity, or absent functionalities or features) also constitutes a defect.

When determining defect in the absence of an explicit agreement between the parties regarding the quality of the product, the legal systems covered in this chapter are fairly close to each other. In such cases, objective criteria are decisive, such as the questions: what quality can an ordinary purchaser of that

34 Retzer, "The New German Contract Law — Impact on Information Technology Contracts", at <http://www.mofo.com/news/general.cfm?MCatID=9156&concentrationID=&ID=700&Type=5>.

35 *Cour d'appel de Bastia*, civ. (19 November 2002), *SARL Girashi voyages v. SA. Technique et développement informatique et éditions*, SA. Arius, SA. BNP Lease, *Banque Populaire Toulouse Pyrénées*, no. 2002/00772.

36 Finnish Sale of Goods Act, section 17; German Civil Code, section 434.

37 Uniform Commercial Code, section 2-314(3).

type of product reasonably expect the product to possess, or what quality and description is a common standard?

(b) Defect in Information

(i) Pre-Contractual Disclosure

All the legal systems covered above acknowledge the binding effect of information provided as regards qualities and functioning of the software. The information provided by the vendor concerning the software forms part of its contractual obligations. In the jurisdictions examined, the duty of information in terms of software sales could be construed as obligating the supplier of software to provide the purchaser with due information concerning the software by describing its qualities and technical specifications so as to provide the purchaser with adequate information for the making of a purchase decision.

If the software is described “by reference”, the contractual terms that the software must conform with are determined on the basis of the information provided by the software vendor in marketing or promotion materials and like documents describing the qualities or functionalities of the software.³⁸

The duty of information derives from the general principles of contract law or, more accurately, from the duty of loyalty between contractual parties. The French construction of the duty of information that the vendor owes *vis-à-vis* the purchaser appears to be extreme among the legal systems covered. Under French law, the vendor is under a duty to actively provide the purchaser with relevant information relating to qualities of the object of the transaction, including the risks that the vendor is aware of and could be reasonably understood to be relevant to the purchaser’s decision to enter into the agreement.

The duty of information further obligates the vendor to inform the purchaser about the fitness for a particular purpose, when such purpose is identified by the purchaser, provided that the vendor is in possession of such information.³⁹

The French case law has attached considerable importance to provision of information by the vendor both prior to and after the conclusion of the contract and has imposed an extensive duty on the vendor. The rationale of this approach lies, according to French courts, with the increasing complexity of the information technology systems, and related services and equipment.⁴⁰

38 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 107; *Cour d’appel de Paris* (10 May 1989), *Expertises* (1998), at p. 398.

39 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 17; Verbiest and Dervaux, *L’Obligation d’information du prestataire informatique à l’égard de son client* (30 December 2004).

40 *Cour de cassation*, com. (6 May 2003) *U.G.M.R. v. Proland*, *Expertises* (2003), at p. 262.

The supplier has a broad obligation to establish the needs of the purchaser, to ascertain the compatibility of the software with the purchaser's information system, and further recommend, when this may be necessary, appropriate products to the purchaser.⁴¹

In the light of French case law, it can be concluded that the duty of information under French law consists not only of a general duty to inform as such, but also of a duty to advise (*obligation de conseil*), as well as a duty to warn with respect to the possible problems and risks relating to the software (*obligation de mise en garde*).⁴²

The courts have applied an interestingly broad interpretation of these obligations. The *Cour de cassation* has, in its recent case law, expressly confirmed that the vendor's duty to inform the purchaser in the field of information technology applies not only to the more obvious supply of tailored software but also to supplying standard software. A supplier of software has an obligation to inform not only *vis-à-vis* consumers but also, to a certain extent, *vis-à-vis* more skilled or well-informed purchasers and even professionals in the field of information technology.

The German law establishes liability for statements in public made by the vendor, the producer, or someone on their behalf. Product descriptions, advertisement, and the like may form part of the warranted quality of the product. This includes in particular statements in advertisements, unless the vendor was not aware of such statement nor ought to have been aware of such statement.⁴³

The vendor can, however, attempt to exclude the liability for statements in public, but the subject matter (specifications for the software) should be expressly included in the contract and liability for public statements expressly excluded. Absent contractual specifications for standard software, an express exclusion of liability for public statements would be interpreted narrowly and only partially upheld.⁴⁴

41 Chauleur, "Le passage à l'an 2000 dans les contrats informatiques", *Les Notes bleues de Bercy*, no. 126 (1998), at <http://www.finances.gouv.fr/archives/an2000/documentation/appendum/nbb126.htm>; Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 17–19; Verbiest and Dervaux, *L'Obligation d'information du prestataire informatique à l'égard de son client* (30 December 2004).

42 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 17–22; Chauleur, "Le passage à l'an 2000 dans les contrats informatiques", *Les Notes bleues de Bercy*, no. 126 (1998), at <http://www.finances.gouv.fr/archives/an2000/documentation/appendum/nbb126.htm>.

43 German Civil Code, section 434(1).

44 Redeker, "Anpassung von Standard-Software", in Redeker (ed.), *Handbuch der IT-Verträge I* (2004), at pp. 26 and 27.

Liability for publicly made statements under both German and Finnish law is excluded if the description or the advertisement or other public statement has not influenced the purchaser's decision to purchase the product, or if the given information has already been corrected at the time the contract is concluded and, furthermore, if the product is installed correctly in spite of the misleading installation instructions.

In Finland, this principle is expressly stated in section 18 of the Sale of Goods Act, which provides that a product is considered defective if it is not in conformity with information relating to its properties or use that was disclosed by the vendor when marketing the product or otherwise before the conclusion of the contract. The product also must possess the qualities of goods which the vendor has held out as a sample or model. However, the applicability is subject to proof of a causal link between the information given and the purchase decision;⁴⁵ if the faulty information has no effect on the purchase decision, the vendor is not liable.

The importance of the information provided by the vendor is further elaborated in section 19 of the Finnish Sale of Goods Act, which provides that if a product is sold subject to an "as is" clause — as is the case in many standard software contracts — or a similar general reservation as regards the quality, the product is, nevertheless, considered defective if the product does not conform to information relating to its properties or as specified by the vendor prior to the conclusion of the contract.

The same applies when the vendor failed to disclose to the purchaser facts relating to the properties or the use of the product which the vendor could not have been unaware of and which the purchaser reasonably could expect to be informed about. This is, however, applicable only if the information given or the failure to disclose the facts presumably had an effect on the contract. In addition, the product will be held defective if it is in essentially poorer condition than the purchaser reasonably could expect taking into account the price and other circumstances, including information submitted.⁴⁶

The United States system does not, in light of the provisions of the Uniform Commercial Code, appear to differ that much from the Finnish or German systems. Any affirmation of fact or promise made by the vendor which relates to the software in question and becomes, or any description, sample, or model which is made "a part of the basis of the bargain" creates an express warranty that the software must conform to the affirmation or promise. However, an affirmation made by the vendor merely as to the value of the

45 Finnish Sale of Goods Act, section 18.

46 Finnish Sale of Goods Act, section 19.

software or a statement, purporting to be merely the seller's opinion or commendation of the goods, is not regarded as creating a warranty.⁴⁷

The German, Finnish and United States legal systems do not appear to require the vendor to actively track down the purchaser's needs save under exceptional circumstances where a lay purchaser particularly seeks professional assistance and has reasonably justifiable grounds to rely on the vendor's expertise. A more extensive duty of information also may arise when the purchaser expressly requests for information, recommendation, or advice. However, in cases where exceptionally wide advice is requested, it is likely that the vendor is inclined to propose a consultancy agreement.⁴⁸ With respect to off-the-shelf software, this is not common in a pre-contractual situation, but could come into question post-contractually in the form of a support agreement.

In addition, case law shows that, in sales of standard software between businesses, the purchaser is typically not regarded as a lay person but an entity with knowledge, bargaining power, and the possibility to refer to counsel.

In cases of false representation by the vendor, in the United States, an important fact to keep in mind is that the misrepresentation may be interpreted differently in different states. Misrepresentation can be innocent, negligent, or fraudulent and may lead to liability in tort. If the vendor, for example, knows or believes that the matter is not as he represents it to be, a misrepresentation is fraudulent. If, in addition, the purchaser in justifiable reliance on such statement chooses the course of its business and incurs damages, then such damages are recoverable in tort.

The states of the United States widely allow suing for fraud (and recovering punitive damages) in cases of fraudulent misrepresentation, and damages can exist separately from any recovery based on a warranty breach.⁴⁹ In cases of negligent misrepresentation in the United States, the duty is to exercise the care or competence of a reasonable person who is communicating information. The states of the United States vary in the degree to which they allow a negligent misrepresentation suit.⁵⁰

(ii) Post-Contractual Duty to Inform

In addition to the pre-contractual obligations described above, the vendor is under an obligation to provide the purchaser with information needed and

47 Uniform Commercial Code, section 2-313.

48 Marly, *Softwareüberlassungsverträge* (4th ed., 2004), at pp. 284 *et seq.*

49 Uniform Commercial Code, section 2-721. Fraud is a state law claim, however, and thus there are variations among states.

50 For misrepresentation see also *Restatement of the Law 2nd*, "Contracts", sections 159-173.

useful for the proper installation and use of software unless otherwise agreed. Provision of information need not always be based on a separate contract (such as a consultation agreement), but it may be, and to a certain extent is, part of the delivery of the product itself.

For example, in the case of software sales, the user documentation is an essential part of the software without which the use of the software is barely (or not at all) possible. Thus, the provision of the documentation in each of the legal systems covered amounts to a primary obligation of the contractual relationship, and the lack of documentation or delivery of poor documentation leads to a failure in performance.⁵¹

The post-contractual duty of information does typically not include any obligation to give training unless so agreed. Duties also are dependent on the purchaser's expertise in the field of software. As a rule, the German and Finnish legal systems do not require the software vendor to provide a purchaser with extensive information after the conclusion of the contract. For example, providing a lay person with a typical user manual that is understandable to a layman is sufficient.⁵²

In the legal systems covered, the seemingly extensive scope of the vendor's duty of information is essentially dependent on the skills and knowledge of the purchaser and is, therefore, basically determined on a case-by-case basis, evaluating the transaction as a whole, i.e., the more skilled the purchaser, the less extensive is the vendor's duty of information.⁵³ In France, however, the vendor may be held strictly liable on the basis of breach against the duty of information (see text, above).

The post-contractual duty to provide a purchaser of software with information relevant for the use of the software appears in the United States to relate largely to product liability and, thus, such aspects of the software that are relevant for the safe use of the software.

(c) Third-Party Claims

The object of a sale is deemed to contain a defect if it or its use is subject to a third-party right or claim and the purchaser is not, under the contract, required to tolerate the restrictions resulting from such claim or if the vendor has not excluded such warranty. Although a third-party claim may be based

51 In Germany, for example, if not agreed to the contrary, the documentation must be in the German language and, in France, respectively, in the French language. Redeker, "Anpassung von Standard-Software", in Redeker (ed.), *Handbuch der IT-Verträge I* (2004), at p. 22.

52 Marly, *Softwareüberlassungsverträge* (4th ed., 2004), at pp. 321–323.

53 *Tribunal de commerce de Créteil* (16 June 1998), *Expertises* (1998), at p. 316.

on other rights than intellectual property rights, copyright and other intellectual property rights are predominantly the cause for third-party claims related to software. As a rule, a *bona fide* purchaser is entitled to be compensated for losses incurred as a result of a third-party claim under the laws of Germany, France, Finland, and the United States.

Applying the provisions on third-party claims to software deliveries involves certain distinct difficulties. First, it may be that combining the software to another software or hardware results in a combination that is infringing third-party rights, although neither of the components is infringing. The authors are not aware of any case law involving this point but, in contracting practice, the problem is well known and often a difficult one to solve.

The vendor argues as a standard practice that it cannot control the combination that the purchaser makes and at the same time attempt to limit practically any use of the software outside its liability. The purchaser typically rejects this argument by explaining how it is going to use the software and by requiring the vendor to confirm that this does not constitute an infringement. In contracting practice, the issue is resolved in different ways, depending on the respective negotiation positions of the parties.

Second, since software can commonly be used for different purposes and only some of these purposes are infringing, it is unclear whether the purchaser or the vendor should be responsible for a third-party claim caused by a particular use. In principle, the purchaser decides on the use of the software and this would support the proposition that the purchaser should bear the liability for possible infringement. On the other hand, in many cases, the vendor is in a better position to judge which kind of use is infringing and which is not and, thus, would be the more natural party to take responsibility for possible infringement.

Third, software is regularly modified by the vendor in the form of maintenance updates. If the software is infringing only in its modified form, are the parties' respective liabilities the same as they would be in cases where the original product is infringing?

Each jurisdiction studied within this chapter contains provisions protecting purchasers against third-party claims violating purchasers' rights to the object purchased. It appears that the content of the applicable provisions in force in French, German, Finnish, and United States contract law is essentially the same.⁵⁴ The simple general rule is that vendor must deliver the software free of any third-party claims unless otherwise agreed. If the software is subject to such claims that the purchaser has not agreed to tolerate, the software is defective, and the vendor is in breach of contract.

54 French Civil Code, article 1626; German Civil Code, section 435; Finnish Sale of Goods Act, section 41.

In the French Civil Code, third-party claims are regulated through providing for a statutory warranty against third-party claims (*garantie d'éviction*). The applicability of the provision to intellectual property infringements has been expressly confirmed by the *Cour de cassation*.⁵⁵

In the Uniform Commercial Code, an implied warranty against third party claims arises out of section 2-312(1), where it is stated that a sales contract contains a warranty by the seller that the title conveyed must be good and its transfer rightful and, furthermore, that goods must be delivered free from any encumbrance of which the buyer at the time of contracting has no knowledge.

In contrast, it is not clear whether section 41 of the Sale of Goods Act, defining a defect in title under Finnish law, applies to intellectual property right infringements. In the light of its legislative history, section 41 could be construed as expressly excluding the vendor's liability for third-party intellectual property rights infringements. However, it appears likely that, if the parties have failed to address the issue in the contract text, the general principles of Finnish contract law that are in line with article 42 of the Vienna Convention, providing for an implied warranty against third-party claims, would be applicable.⁵⁶

11.04 Bases of Liability

(a) Contractual Liability

As generally with all the western jurisdictions, civil liability in the examined countries may be based either on contractual liability or on non-contractual liability (liability in tort). Although this fundamental distinction between the two bases of liability is far from clear,⁵⁷ it is of more than academic interest since the legal requirement for and the content of the two liability types have significant differences.

The question of whether liability is based on a contract or on delict may be of importance owing to the fact that different liability types lead to the

55 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 128 *et seq.*

56 Routamo and Ståhlberg, *Suomen vahingonkorvausoikeus* (4th ed., 2000); Finnish Supreme Court, KKO 1990:147. See article 42 of the United Nations Convention on Contracts for International Sale of Goods: "The vendor must deliver goods which are free from any right or claim of a third-party based on industrial property or intellectual property, of which at the time of the conclusion of the contract the vendor knew or could not have been unaware provided that the right or claim is based on industrial property or intellectual property".

57 Hemmo, "Sopimus ja delikti: Tutkimus vahingonkorvausoikeuden vastuumuodoista", *Lakimiesliiton kustannus* (1998), at pp. 328 *et seq.*

application of distinct bodies of law and ultimately to different outcomes. Furthermore, the legislators and courts in Germany, France, and Finland have taken a restrictive view on using alternative types of liability to justify liability for the same act or omission; in principle a claim must be based on either one.⁵⁸

The United States legal system appears to differ in this respect from the European systems and allows easier access to either of these different but parallel claims.

A pre-condition for the applicability of the rules on contractual liability is a valid contract between the parties and that the damage results from breach of an obligation arising out of the contract. To clarify the scope of the contractual liability regime and the line between the two co-existing liability regimes, the *Cour de cassation* has introduced a principle of non-cumulation (*non-cumul des responsabilités contractuelle et délictuelle*) to French law. This judge-made principle expressly excludes the right of the non-breaching party to make a choice between the different liability bases; the claim must be based on the rules governing contractual liability for a claim based on a breach of an obligation arising out of a contract.⁵⁹

For the purposes of this chapter, the authors have assumed a valid contractual relationship between the vendor and the purchaser of software. In addition, any general contractual terms referred to in this chapter are assumed to be validly incorporated into the contract.

(b) Non-Contractual Liability

Each of the jurisdictions falling within the scope of this chapter provides for separate liability regimes for contractual and tort liability. Where the contractual liability is based on the non-execution of contractual obligations and therefore requires a contract between the parties, the tort liability bases on the damage caused by the tortfeasor by his negligent conduct.⁶⁰

The general principles of tort law are practically the same in each of the European legal orders examined here, and the regime for non-contractual liability is construed as being secondary to the contractual liability regime in Germany, France, and Finland. When combined with the above

58 For discussion on the concurrence of claims (*Anspruchskonkurrenz*) and the two “schools” of interpretation in Germany, see Medicus, *Schuldrecht I. Allgemeiner Teil. 15 Auflage* (2004), at pp. 179 and 180.

59 Jourdain, *Les principes de la responsabilité civile* (5th ed., 2000), at p. 36.

60 French Civil Code, articles 1382 and 1383; Finnish Torts liability Act (*Vahingonkorvauslaki*), chapter 2, section 1.

mentioned rule that, in principle, a vendor is not allowed to choose between the liability type it seeks to enforce this means that a vendor may not resort to non-contractual liability where a damage relates to the performance of an obligation under a contract.

Naturally, it is possible that the purchaser suffers harm due to an extra-contractual cause which is attributable to the vendor, and which does not relate to performance of the contractual obligations of the vendor. The vendor's liability in such event would obviously be based on the tort liability regime.

In addition to the general civil liability provisions, a vendor's civil liability may be based on special provisions or statutes. A vendor may be held liable for defective software, for example, on the basis of the product liability legislation. The product liability laws in force in France, Germany, and Finland provide the purchaser with compensation for damage caused by a defective product on persons and personal property other than the defective product itself. These rules are not discussed here in detail since they apply to the relationship between the vendor and the purchaser in a business-to-business software contract only in exceptional cases.

Basing claims in tort in the United States is, to a European lawyer, a somewhat complex area since the law of torts varies from state to state and is mostly based on Common Law and not statute. It may be, for example, that a total disclaimer of warranties leaves the purchaser with no effective contractual remedies, thus opening the door for a tort action⁶¹ whereas, in Finland and Germany, the contract would be adjusted as unreasonable.

Restructuring a contract claim into a tort claim may affect warranty and liability disclaimers included in the contract as well as allow punitive damages and nullify choice of law and forum clauses. United States courts appear to be reluctant to allow tort claims without a *bona fide* tort basis, and the Uniform Commercial Code is seen as the proper framework for recovery of economic losses. Most torts can be divided into three broad categories, depending on whether liability is based on intent, negligence or absolute (strict) liability with no requirement of either intent or negligence.⁶² For purposes of this chapter, intentional misrepresentation and negligence cases would be the most important bases of non-contractual liability since strict liability is largely the basis for product liability for manufacturers and sellers of defective products which falls outside the scope of this article.

61 This is the case in Florida. See *Interface Inc. v. Pioneer Technologies Group and KSH Systems Inc.*, 774 F. Supp. 1355 (M.D. Fla., 1991).

62 Farnsworth, *An introduction to the Legal System of the United States* (3rd ed.), at p. 126.

11.05 Liability Standards and Recoverable Damage

(a) Liability Standards

If the software is found to be defective and this causes damage to the purchaser, the question remains if the vendor should compensate such damage. The rules on civil liability in France, Germany, Finland, and the United States are essentially based on fault and, furthermore, on the presumption of fault in case of a breach of contract. The vendor can release himself from liability by proving that the damage was not caused by his negligent or intentional act or omission.

Traditionally, liability not requiring fault (strict liability) has only been applied to certain special cases, such as employer-employee relationships. Departing from the fault-based liability, legislators in all the jurisdictions examined have more recently also adopted product liability rules, including the strict liability of the vendor. Furthermore, in France, the extensive duty of information (see text, above) imposed by the *Cour de cassation* on suppliers operative in the information technology field is essentially based on the strict liability rule, i.e., the vendor's failure to fulfill its duty to inform the purchaser on a rather extensive list of facts results in liability for damages irrespective of the degree of fault on the part of the vendor.⁶³

In French law, the liability standard applied to the vendor's liability for any defects in quality of software is exculpatory, whereby the vendor's liability is presumed.⁶⁴ The Finnish Sale of Goods Act applies the control liability rule and the burden of proof lies with the vendor as well, although control liability is viewed stricter and thus closer to strict liability. Under Finnish law, the vendor is, however, held strictly liable for defects in title and third-party claims.⁶⁵ Likewise, under German law, a vendor assumes strict liability for defects in title (*Rechtsmängel*). The same applies also to so-called initial incapability (*anfängliche Unvermögen*).

(b) Recoverable Damage

Software defects may result in a plethora of different types of damages. Probably the most obvious damage caused by a defect in software is the repair and replacement cost for the software. However, repairing and replacing standard software also may not be a straightforward exercise.

63 Viney and Jourdain, *Traité de droit civil Les effets de la responsabilité* (2nd ed., 2001), at pp. 175 *et seq.*

64 Viney and Jourdain, *Traité de droit civil Les effets de la responsabilité* (2nd ed., 2001), at pp. 175 *et seq.*

65 Finnish Sale of Goods Act, section 41.

Anyone who installed updates or reinstalled a program knows that, even with relatively simple and widely used software, such as office programs installations of updates or re-installing the program requires at worst significant time and may result in unexpected difficulties with the interaction with other software and hardware.

The second type of damage in relation to software results from the down time of the software or, worse, a wider system requiring the software to run. If an operating system is defective in a way that it does not boot or crashes repeatedly, for example, this effectively prevents the use of the whole system, including the hardware. These examples are illustrative of the second type of loss, i.e., loss of use. Loss of use often causes difficult questions as to the amount of damage because it is not necessarily clear what is the amount of damage for a system being down unless there is a substitute system that is used during down time.

The third typical software-related damage type is loss of data. Loss of data arises when a defect in a software results in corruption of files or crashes, during which unsaved data is lost. The damage caused by loss of data is often even more difficult to measure than the damage for loss of use, but it is relatively easy to construe that the damages are considerable. The liability caused by loss of data typically relates inseparably to the question on the content of the agreement as to how and by whom back-up copies of data are to be made.

Lastly, software defects may cause the same types of damages as a sale or lease of a movable property typically causes, such as loss of profit, cost for substitute products, and legal fees.

If the vendor is liable to compensate the purchaser for the damage that defective software has caused, the parties almost invariably disagree on the amount of such damage. In all western jurisdictions, there is a well-established body of law on the principles determining the amount of recoverable damages. All of the legal systems falling within the scope of this chapter are based on the principle of full compensation. Accordingly, the damages for compensating the injured party for its loss should in principle cover the loss, irrespective of its nature, in full.

Since the liability in Germany, France, Finland, and the United States is based on fault, the causal link between damage and the vendor's conduct is required. The rule applied in determining this causal connection is based on the principle of foreseeability in all four jurisdictions. Despite different wordings in the applicable regulations or rules in each country, the main rule is the same: to be recoverable, concrete harm must be foreseeable in a way that is based on the factors that the non-breaching party ought to have known at the time of conclusion of the contract. This results in excluding the purchaser's

right to compensation for the loss suffered if such damage is extraordinary or objectively unforeseeable to the vendor.

As a rule, the actual scope of the different types of loss to be compensated is not regulated exhaustively. Although the Finnish Sale of Goods Act provides a non-exhaustive list of recoverable types of damage,⁶⁶ the full scope of the damage to be compensated is not regulated in detail in the Finnish contract law, but rather assessed in the light of general tort law principles.⁶⁷ Briefly, the compensation is provided in Germany, Finland, and the United States in accordance with the theory of expectation interest. Accordingly, the awarded compensation aims at putting the plaintiff into the position she or he would have been in had the contract been performed in accordance with its terms.

In other words, the law compensates for any gains which the plaintiff expected to realize as a result of the performance but which he has not received on account of the defendant's breach. The plaintiff is, thus, entitled to compensation for, e.g. lost profit, or payment of damages for the cost of substitute performance. In contrast to German, Finnish, and United States law, the approach adopted in France aims at recovering negative interest of the injured party, i.e., to put the plaintiff into the position he would have been in if he had never concluded the contract. Applying this theory, which also is referred to as the "theory of reliance interest", in practice results in, e.g., compensating the plaintiff for expenditures made towards performance of the contract.

It should be noted that, according to the Finnish Sale of Goods Act, a vendor's liability to compensate for indirect damage follows stricter rules than is the case with direct damage. The purchaser is, under Finnish law, entitled to damages for direct losses that he suffers as a result of a defect in the software, unless the vendor proves that there was an impediment beyond its control which he could not reasonably be expected to have taken into account at the time of the conclusion of the contract.⁶⁸

In contrast to direct damage, liability for indirect damage is based on the vendor's fault. The Finnish Sale of Goods Act defines indirect loss as including loss due to reduction or interruption in production or turnover; other loss arising because the goods cannot be used as intended, loss of profit arising because a contract with a third party has been lost or breached, loss due to damage to property other than the goods sold, and other similar loss that is difficult to foresee. However, the compensation for loss suffered by

66 Finnish Sale of Goods Act, section 67. See also Routamo and Ståhlberg, *Suomen vahingonkorvausoikeus* (4th ed., 2000).

67 Routamo and Ståhlberg, *Suomen vahingonkorvausoikeus* (4th ed., 2000).

68 Finnish Sale of Goods Act, section 27.1.

purchasers may be limited if the result would otherwise be unreasonable to the vendor or if the damages are extraordinary or unforeseeable.

(c) Purchaser's Liability to Mitigate Damages

The law in all the legal systems treated here enforces a contractual duty of loyalty where the participants may not act solely in their own interest at the expense of the other party.

Deriving inherently from this duty of loyalty, the law imposes on the contracting parties a general duty to mitigate the loss suffered as a result of breach of contract. Accordingly, the injured party in the contractual relationship is obliged to take all reasonable measures which may be needed to limit the damage suffered.⁶⁹

In the case of a purchase of defective software, the purchaser's duty to limit the extent of losses incurred may, in practice, require the purchaser to take measures aiming, for example, at replacing the defective software without undue delay to limit the damage to its business operations. The contributory fault of the purchaser also may be construed on the basis of an omission to call the attention of the vendor to danger of unusually high damage that the vendor neither knew of nor should have known of.

The duty to mitigate the damages has been codified both into the German Civil Code and the Finnish Sale of Goods Act, with practically the same content. Section 70 of the Sale of Goods Act specifically provides that, if a party who has suffered damage as a result of a breach fails to take all the reasonable measures to mitigate the loss, the vendor's liability is reduced by the amount that could have been avoided had the purchaser mitigated the damage. Section 254 of the German Civil Code also includes a rule defining the relevant factors to be taken into consideration in assessing the respective attribution and the liability of the parties.

The *Restatement of the Law 2nd*, "Contracts", section 350, describes this as damages that could have been avoided without undue risk, burden, or humiliation; damages that a non-breaching party could have reasonably avoided cannot recover.⁷⁰

Germany, France, Finland, and the United States appear to take a holistic case-by-case assessment as a starting point for determining the liabilities of each party. Clear-cut lines are hard to draw and universally applicable rules of course hard to establish, and the actual scope and the limits of the purchaser's duty are

69 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 45.

70 See also Uniform Commercial Code, sections 2-712 and 2-715, for the approach of the Uniform Commercial Code.

obviously difficult to define at a general level. However, a purchaser's duty does not extend to averting or calling the vendor's attention to a fact that is unreasonable taking into account the possibilities of the purchaser to foresee and prevent the loss.

(d) Purchaser's Contributory Action

In all of the four jurisdictions, a purchaser may not passively wait for vendor's performance, but instead has a duty of collaboration.⁷¹ One of the illustrations of this duty is the above-discussed duty to mitigate damages. In Finland, this duty is expressly codified in section 50.1 of the Sale of Goods Act, which states that a party's failure to cooperate constitutes a ground for rescission of the contract. However, the Finnish Sale of Goods Act does not clearly state anything about the purchaser's contributory action and whether the purchaser's acts or omissions increasing the amount of damages affects the vendor's liability and appraisal for damages.

Particularly in French tort law, the non-breaching party's duty to mitigate damages suffered is strengthened through the fact that considerable attention is paid to the contributory negligence of the victim. In the light of French case law, the contributory negligence is taken into account as a mitigating factor when appraising the party's negligence in tort and leads, thus, to a proportional division of responsibility between the parties (*partage de la responsabilité*).

Such allocation of liability between vendor and purchaser consists, in practice, of lowering the amount of damages to be paid to the purchaser.⁷² However, as is the case in general with establishing civil liability, the causal link between the negligent act and the damage suffered must be proved — in addition to establishing the presence of negligence and the damage. Thus, the negligent action committed by the purchaser has no legal relevance where the causal link between his action and the damage suffered is missing.

In cases where the purchaser's negligent action or omission is intentional and there is no negligence on the part of the vendor, the vendor has no liability for the damage. The same applies, according to French case law, to cases where the purchaser itself is actually the sole cause of the damage, and the damage was unforeseeable and insurmountable for the vendor. The United States approach appears to be similar, i.e., contributory negligence affects a vendor's liability by either barring a damages claim completely or lowering the amount of damages.

71 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 173.

72 Jourdain, *Les principes de la responsabilité civile* (5th ed., 2000), at pp. 163–165.

(e) Punitive Damages and Contractual Penalties

Punishments by law related to contract law are more or less fundamentally rejected in all of Germany, France, and Finland. Without going into detail in analyzing the differences in doctrine between the countries, the purpose of granting damages to the injured party serves the compensatory purpose and does not strive for punishment or deterrence in any of the European jurisdictions examined.

Accordingly, in these countries, punitive damages are not available under contract or tort law, the underlying ideologies of which are compensation: compensation awarded for the non-breaching or suffered party aims at restoring the situation and achieving the situation as it would be if the cause giving rise to the damage had not occurred at all.

As the *Cour de Cassation* has, in French case law, consistently pointed out, the courts are not allowed to take into consideration the absence of fault, the degree of fault, or other such moral aspects on the side of the breaching party and the assessment of damages must be carried out independently of such factors.⁷³

However, the recent case law shows a certain trend towards attenuation in this respect and some judgments may fairly be regarded as not only fulfilling the function of providing the aggrieved party with a full compensation for the damage suffered, but also measuring damages with the view of sanctioning the defendant. This trend is materializing through the use of the discretionary powers of the judges to estimate the scope of damage as particularly broad in the case of a gross negligence.⁷⁴

Liquidated damages setting the damages payable to a predefined damage amount representing a fair estimate of the foreseeable damages for a breach are enforceable with little limitations in each of the three countries. The French law departs from the principle of freedom of contract in relation to liquidated damages by providing that such limitations, through agreeing on the sum of damages, are permissible only to the extent that they do not lead to limiting non-contractual liability, setting a floor to the amount of liquidated damages. In addition, French courts could intervene and adjust the amount of liquidated damages if the amount is considered to be excessive or unreasonably low in comparison to the actual damages.⁷⁵

Contractual penalties providing for a contractually agreed damage amount in excess of an estimate of the damages resulting from a breach are in

73 *Cour de cassation*, civ., 8 May 1964 (“L’indemnité nécessaire pour compenser un préjudice subi doit être calculée en fonction de la valeur du dommageé sans que la gravité de la faute puisse avoir aucune influence sur le montant de ladite indemnité”).

74 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at pp. 9–11; Jourdain, *Les principes de la responsabilité civile* (5th ed., 2000), at pp. 156–159.

75 Jourdain, *Les principes de la responsabilité civile* (5th ed., 2000), at pp. 163–165.

principle permissible in all of the three countries, but in each three with some mandatory limitations. The limitations are the strictest in Germany, where contractual penalties are unenforceable in certain cases, including mostly contractual penalties set forth in general terms and conditions.

Based on the case law, the unenforceability of contractual penalties also appears to extend to business-to-business relationships. In addition, German courts tend to regularly adjust the amounts of contractual penalties.⁷⁶

The French and the Finnish law basically only include the latter of these intervention mechanisms, and the courts could adjust the amount of such penalties if it is deemed unreasonable. Especially in Finland this would appear to require a very significant imbalance between the damage and the penalty and some special circumstances for the courts to intervene.

Although not unfamiliar to the United States legal system, punitive or exemplary damages are generally not awarded in commercial contract cases in the United States.⁷⁷ However, they may be awarded in limited circumstances.⁷⁸ According to the Uniform Commercial Code, section 2-718, the parties may, for breach by either party, liquidate damages in the agreement, but only at an amount which is reasonable in light of the anticipated or actual harm caused by the breach, the difficulties of proof of loss, and the inconvenience or non-feasibility of otherwise obtaining an adequate remedy.

Most importantly, section 2-718 of the Uniform Commercial Code renders void the use of liquidated damages if the amount of liquidated damages is unreasonably large. Liquidated damages clauses may be enforceable if the damages for contractual breach were difficult to ascertain or estimate at the time of conclusion of the contract and the amount agreed for liquidated damages is considered a reasonable forecast of compensatory damages in the case.⁷⁹ No actual pecuniary damages need be shown if the above prerequisites are met for the liquidated damages to be received.

(f) Enforceability of Liability Limitations and Exclusions

In business-to-business contracts, freedom of contract prevails and the parties are, as a general rule, free to agree on exclusions of warranties or

76 Medicus, *Schuldrecht I. Allgemeiner Teil. 15 Auflage* (2004), at pp. 223 *et seq.*

77 *Restatement of the Law 2nd*, “Contracts”, section 356.

78 According to the *Restatement of the Law 2nd*, “Contracts”, section 355, punitive damages are only recoverable if the breach also is a tort for which punitive damages are recoverable.

79 Unreasonable liquidated damages would be construed as a penalty and, therefore, held unenforceable on grounds of public policy; see *Restatement of the Law 2nd*, “Contracts”, section 356, and Uniform Commercial Code, section 2-718.

limitations of liability. In fact, the limitation clauses, addressing typically, for example, limitations of actions or caps to indemnities, are an essential part of contracts in business-to-business sales.

Outside the scope of consumer protection, the common principles of contract law, most importantly the principles of loyalty and the requirement for balance of the rights and obligations between the parties to the contractual relationship, as well as regulations aiming to preserve the loyalty in the contractual relationship, set boundaries to the enforceability of liability limitation clauses. The conduct of the vendor, primarily the presence or absence of good faith, is one of the essential factors determining the enforceability of contractual liability limitations.⁸⁰

Consequently, unreasonable limitations are not enforceable. As an example, contractual clauses may set forth a cap limiting the amount of indemnities where such caps are found unreasonable since they are construed as constituting a clause of non-liability and therefore regarded as void.⁸¹ Another expression of the rule, which appears to be found in all of the legal systems examined here, is the Uniform Commercial Code ban on limitation of remedies where such limitation leads to avoidance of liability for failure of essential purpose.⁸²

The vendor's right to limit its liability in none of the jurisdictions examined extends to limiting liability for damage resulting from its intentional acts or omissions. Limiting liability for gross negligence in all legal systems covered in this chapter also is unenforceable.⁸³ However, liability for harm resulting from simple negligence appears to be enforceable when the software contract is concluded between businesses.

Limitation of liability clauses regarding damages caused by simple negligence may still be invalid under German law, if contained in general terms and conditions to the extent their application would lead to a result that would defy

80 Lipovetsky, "Les clauses limitatives de responsabilité et de garantie dans les contrats informatiques. Approche comparative France/Etats-Unis — quelles limitations?", at http://www.kahnlaw.com/france/newsjob/publications/clauses_limitatives_sl.htm.

81 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 41; Lipovetsky, "Les clauses limitatives de responsabilité et de garantie dans les contrats informatiques. Approche comparative France/Etats-Unis — quelles limitations?", at http://www.kahnlaw.com/france/newsjob/publications/clauses_limitatives_sl.htm. 2000; Sédallian, "Garanties et responsabilités dans les logiciels libres", <http://www.juriscom.net/pro/2/da20020901.pdf>, 2002, p. 9. See also *Cour de cassation* 1ère civ. (22 October 1996), *Chronopost*, D 1997, at p. 121, where the court held that a clause limiting the liability of the contractor is not permissible when it leads to abolition of the material obligations of the professional contractor.

82 Uniform Commercial Code, section 2-719(2).

83 It appears that in the United States it is possible to also exclude gross negligence by way of an express contractual limitation.

the purpose of the contract: a provision is held invalid if it limits essential rights or obligations of a party.⁸⁴

The French law takes another step in limiting the freedom of contract. In French civil law, liability limitation clauses — whether included in consumer contracts or in business-to-business contracts — are only enforceable to the extent they aim at limiting the contractual liability of a party and, following the constant case law of *Cour de Cassation*, liability based on tort is a matter of public policy (*d'ordre public*) and cannot therefore be contractually excluded or limited.⁸⁵

In Germany, in case of contractual liability, it is a question of interpretation whether a provision of contract concerning limitation of liability would cover also delict-based liability. It is generally acceptable if and to the extent the limitation has only marginal effect. Case law sets another requisite for limitation of liability through standard terms and conditions: such a limitation must be clearly expressed.⁸⁶

The French courts also appear to have reserved themselves fairly large discretionary powers to limit the extent of clauses limiting software suppliers' liability on a case-by-case basis.⁸⁷ Thus, the judge-made rule of “professional of the same specialty” discussed above is of the essence when assessing the enforceability of the liability limitation clauses.⁸⁸

This rule also provides justification why under French law consumer protection rules may become applicable even to business-to-business contracts. It should be noted that, in accordance with settled case law, the professional vendors of software cannot in consumer contracts validly exclude liability for any defects in quality (*vices cachés*), third-party claims or for any of the essential obligations of the vendor.⁸⁹

With respect to legal defects, the German commentaries have pointed out that liability may be limited with moderate liability caps. Such a cap in an agreement must be in a reasonable proportion to the damages so incurred.

84 Redeker, “Anpassung von Standard-Software”, in Redeker (ed.), *Handbuch der IT-Verträge I* (2004), 2001, 1.2, at p. 95; German Civil Code, section 307, paragraph 2, number 2.

85 Sédallian, “Garanties et responsabilités dans les logiciels libres”, <http://www.juriscom.net/prof/da20020901.pdf>; Lipovetsky, “Les clauses limitatives de responsabilité et de garantie dans les contrats informatiques. Approche comparative France/Etats-Unis — quelles limitations?”, at http://www.kahnlaw.com/france/newsjob/publications/clauses_limitatives_sl.htm.

86 Medicus, *Schuldrecht I. Allgemeiner Teil. 15 Auflage* (2004), at pp. 178 and 180.

87 Le Tourneau, *Contrats informatiques et électroniques* (3rd ed., 2004), at p. 168; *Cour de cassation*, 3ème civ., 27 September 2000; *Cour de cassation*, com., 14 March 2000.

88 *Cour de cassation*, civ., 24 January 1995; *Tribunal de Grande Instance de Versailles*, 2 July 2004.

89 *Cour de cassation*, com., 15 May 2001, *Cedig informatique, Expertises* (2001), at p. 349.

With respect to a limitation of liability in case of third-party claims, the German scholars have set three other prerequisites, namely:

1. The vendor may not have been aware of the third-party rights;
2. The vendor must offer the purchaser help in legal defense; and
3. The vendor must hold the purchaser harmless from the third-party claims.⁹⁰

Finnish law also accepts liability caps in principle only with the limitation of reasonableness and a mandate of the courts to rewrite or invalidate unreasonable liability caps.

In Finland, if standard terms include an exemption clause that is onerous and unexpected, it will only become a part of the contract if it was especially emphasized when concluding the contract. An exemption clause limiting the amount of damage compensated is not automatically an onerous clause, but the evaluation of the content of the whole contract is needed. An exemption clause also may lose its binding force through the adjustment of the contract. Relevant factors, when evaluating the reasonableness of an exemption clause, include:

1. The price the vendor has received;
2. The possibilities to avoid the damages and to be protected against them; and
3. The overall view of the creditor's remedies and the content of the breach of contract.

The ambiguity rule (*in dubio contra stipulatorem*) is an interpreting principle that may narrow the meaning of an exemption clause if the debtor has written the clause.

In the United States legal system, the Uniform Commercial Code, section 2-316(1), expressly provides that an express warranty cannot be disclaimed. On the other hand, disclaimers to exclude an implied warranty of merchantability are permitted. To be effective, however, such disclaimer must be conspicuous and consistent with the requirements laid down in the Uniform Commercial Code.⁹¹

⁹⁰ Marly, *Softwareüberlassungsverträge* 3. Auflage (2000, 4. Auflage, 2004), at pp. 489 and 490.

⁹¹ For the definition of "conspicuous", see Uniform Commercial Code, section 1-201(10). The definition puts weight on the appearance of the disclaimer. The disclaimer must be so "written, displayed, or presented that a reasonable person against which it is to operate ought to have noticed it". See also Uniform Commercial Code, section 2-316(2) and (3), for exclusion or modification of warranties.

For example, an “as is” clause effectively disclaims all implied warranties unless the circumstances indicate otherwise.⁹² Liability limitations may, under the Uniform Commercial Code, be challenged on two grounds, namely:

1. Unconscionability;⁹³ and
2. Failure of essential purpose.

Commercial transactions courts will traditionally place the burden on the party seeking to invalidate an allegedly unconscionable contract or contract term.⁹⁴ Although the “failure of essential purpose” doctrine varies from state to state, it appears fair to conclude that, if the exclusive remedy available in the case of defective software is repair and the software for some reason cannot be repaired, it would appear likely that such remedy fails its essential purpose. The unconscionability rule applies also expressly to consequential damages. Under United States law, consequential damages may thus be excluded unless regarded as unconscionable.⁹⁵

In each of the four countries, the party who has breached the contract deliberately or by an act or omission of gross negligence loses his possibility to appeal to the exemption clause almost without exception. If the breach of contract is due to the gross fault of a third person, whom the vendor has engaged to perform the whole or a part of the contract, there is a greater chance that the exemption clause is binding.

11.06 System of Remedies in Defective Software

Each legal system covered in this chapter provides several remedies for the purchaser if the software delivered is found to be defective. In addition, the parties to a contract may have agreed remedies that either add on to or replace the remedies available by law.

The statutory remedies available to a purchaser include the right to have the vendor repair or replace the defective software with non-defective software, to have the price of the software reduced, termination of the agreement, or

92 This appears, in light of the statutes, to be similar to the Finnish equivalent in the Sale of Goods Act, section 192 .

93 Uniform Commercial Code, section 2-302.

94 Courts have rejected such claims in commercial settings with arguments such as that the transaction was between “large, sophisticated merchants”; familiarity and understanding of the nature of contract; expert review of the contract; and equal bargaining power.

95 Uniform Commercial Code, section 2-719(3). The courts appear to deal with the unconscionability of limitation of consequential damages differently, depending on the court’s view as to whether the limitation of consequential damages should fall or be upheld together with limitation of remedies.

withholding payment of the purchase price. The exact content of these remedies is not the same in each of the countries.

Supply of defective software triggers the vendor's contractual liability. However, the purchaser needs to take certain practical steps to enforce the remedies for defects in the software. Such practical steps typically include inspecting and testing the software on receipt or shortly after receipt, and providing notice of any defects to the vendor without undue delay after becoming aware of the defect. The rules on these practical steps may be based on laws, but also on provisions in the contract between the parties. These practical steps could have significant impact on the parties' relevant positions in case of a software defect, but a discussion on the exact content of the requirements for the practical steps is outside the scope of this chapter.

The usual method of enforcement of contractual obligations is by compensation for losses caused by their breach, but claim for performance *in natura* also is generally recognized in each country covered by this chapter. In fact, although pecuniary damages remain the most common means for remedying the loss suffered by the purchaser, specific performance is regarded as primary to pecuniary damages in all the contract laws reviewed, with the exception of the United States.

The range of remedies at the purchaser's disposal is essentially the same in Germany, France, and Finland. The available remedies include redelivery, repair, price reduction, rescission of the contract, withholding payment and, finally, claim for damages and compensation. As a rule, any defect in quality or third-party claim allows the purchaser to repair the defect and, at the purchaser's discretion, to require the vendor either to replace the goods or to attempt to correct the defect. Thus, the purchaser basically has the choice between claiming for performance *in natura* either in the form of repair of the defective product or delivery of a new product.⁹⁶

A purchaser's right to performance *in natura* can only be limited on certain conditions, such as in cases where the performance of the contract turns out to be unreasonable or impossible. It should be noted that performance *in natura* also may be impossible or unreasonable only with respect to a particular part of the vendor's performance. In such cases, the purchaser also is respectively partly entitled to rely on other forms of remedies.⁹⁷

96 German Civil Code, sections 437, item 1, and 439. In the United States, it appears that the purchaser's option to invoke remedies may be limited by the contract. However, the limitation of remedies to only one remedy may result in the so-called failure of essential purpose problem where the only allowed remedy is, in practice, not applicable. Such situation may arise where the software is simply not repairable so that it would meet its purpose. In such cases, the courts may deem the essential purpose of the remedy to have failed and, as a consequence, may consider the limitation (or the disclaimer as the case may be) unenforceable as it would leave the customer without any practical remedies.

97 German Civil Code, section 439(3).

Accordingly, courts are basically not entitled to refuse the vendor's right to specific performance, such as right to have a bug affecting the software fixed by the vendor, if such performance is possible and can be considered to satisfy the purchaser.

If the seller fails to replace the goods or correct the deficiency, the buyer may rescind the contract or obtain a reduction of the price paid. The French law shows a somewhat diverging trend in this respect, since it places the choice between specific performance and pecuniary damages at the purchaser's sole discretion. In Germany, there is an explicit statutory obligation to take measures to repair defects (*Nacherfüllung*) in accordance to which the vendor may only refuse to repair the defect when it is unreasonable considering all the relevant circumstances, e.g., when cost of the item is low in comparison to the repair costs. In addition, the buyer may claim any damages that have been caused by a negligent or intentional act.⁹⁸

The systems of remedies in the United States legal order differs to some extent from the European systems examined here, mostly in that specific performance is clearly not used as much in the European systems. If the seller fails to make delivery or repudiates or the buyer rightfully rejects acceptance, the buyer may cancel and, whether or not he has done so, may, in addition to recovering the amount of the price as has been paid, "cover" and damages as to all the goods affected or recover damages for non-delivery. If the seller fails to deliver or repudiates, the buyer also may, if the goods have been identified, recover them or, in a proper case, obtain specific performance or replevy the goods.⁹⁹

Finally, it should be noted that the provisions in force, e.g., in Finland, specifically reserve the vendor the right, even in the absence of the purchaser's request, to remedy the defect or to deliver substitute goods at its own expense when this may take place without substantial inconvenience to the purchaser. In contrast to the Finnish approach, a vendor's right to remedy the defect in France is subject to discretionary assessment by the competent court.

11.07 Comparative Aspects

(a) Major Differences in Legislation

The legal regimes are significantly different on the liability of vendors of software. A good example of this is the enforceability of liability limitations and warranty exclusions; under French law, the enforceability of liability

98 Retzer, "The New German Contract Law — Impact on Information Technology Contracts", at <http://www.mofo.com/news/general.cfm?MCatID=9156&concentrationID=&ID=700&Type=5>.

99 Uniform Commercial Code, section 2-711.

limitations and warranty exclusions is overshadowed by affording certain businesses essentially the same protection as consumers. In Germany, the dividing line appears to be whether the limitations of liability or the warranty exclusions are included in a standard form contract or individually negotiated agreement and, in addition, such clauses could be unenforceable if the agreement would lose its essential purpose. The Finnish system limits the enforceability of contractual clauses through a reasonableness standard. However, between businesses, the courts have been reluctant to rule that certain clauses would be unenforceable.

Enforceability of liability limitations and warranty exclusions is not the only issue where the legal regimes are different. There appear to be differences in almost all the key aspects of the law covering vendor's liability, although each of the systems is an implementation of the principle that contracts should be honored and a breach should be remedied so that the non-breaching party is economically at the position it would have been if the other party had not breached.

(b) Impact of Choice of Forum and Law on Vendor's Liability

Despite the fact that it is a simple matter to declare that the laws on vendor's liability for software defect are different, it is not easy to determine which of the laws are beneficial or detrimental to a vendor or purchaser with respect to a particular software contract. Providing more guidance on this issue would require a more in-depth analysis of each of the laws covered. Merely outlining the laws does not give the full picture because the court practices on evaluating proof and the amount of damages awarded varies significantly.

In practice, in contract negotiation, the parties agree on the choice of law and dispute resolution provisions of an agreement last after everything else, including where the testing, repair, and liability provisions related to software defects have already been agreed. Based on the differences outlined above as to the rules regarding liabilities of the parties in case of software defects, it would make much more sense to agree on the applicable law and dispute resolution before agreeing on the liability provisions. However, it appears unlikely that the choice of law and dispute resolution sections of an agreement would be discussed anything but last in practice.

(c) Need for International Treaties on Liability for Defective Software

International harmonization in the field of liability for software defects would be welcome. The existing systems are fundamentally different and make assessment of crossborder transactions involving software difficult. However, the differences stem from differences in the basic principles

underlying the contract law in each country. Short-term success in international harmonization in questions where the diverging approaches are so closely tied to the fundamentals of national contract laws is unlikely to materialize.

The first step towards more a harmonized system of vendor's liability for defective software would be raising awareness of the differences and their consequences among researchers, governments, and practitioners. Legal differences are not going to stop the globalization of the markets related to delivery of software, but legal differences could cause unnecessary difficulties in special circumstances (such as treatment of liability limitations for open-source software).

(d) National Choices Related to Liability for Defective Software

Regulation at a national level could result in further fragmentation of the applicable laws as, absent international harmonization policies, national legislators in each country will be put into a situation where they will have to draft their legislation based on their own circumstances. Countries with a strong software industry could provide a more favorable environment for this industry through more limitations on liability, while countries with a weak or non-existing software industry could attempt to establish regimes onerous for software vendors.

However, the national choices related to the vendor's liability for software defects are not, and should not be, determined only by the strength of the domestic software industry. The liability regime will have an impact on the availability and pricing of software products available in a country. The most obvious result is that the vendors will seek to increase the prices for their products to take into account the increased liability exposure. Generally, most vendors may effectively provide different prices for different markets and prohibit parallel imports by using license terms that are restricted to a single market. Consequently, the practical effects of the liability regime on pricing will very much depend on the competition in the market affected by the liability regime.

The liability regime also could have a significant impact on the development and availability of new products and technologies. If the liability regime is very strict, this may inhibit the development of new technologies where the technology could result in significant liability exposure. This is especially true as the software industry commonly accepts the fact that products released will contain bugs, and the bugs may be repaired through new versions and patches after the products are already on the market. In addition, if software vendors are uncomfortable with the liability regime of a certain country, they could decide not to make a certain product available in a certain market at all or do so only after the software has been tested in other markets.

On the other hand, a country making choices as to liability for defects in software should properly take into account that the purchaser of a software product typically has no practical way to verify the quality of the software, either through testing or reviewing it before making the purchase decision. A regime that allows vendors to escape all liability for defects reduces the incentive of the vendors to provide good products. The vendors also have, of course, an incentive to provide products of acceptable quality based on the market realities, but intensifying this incentive through the liability regime may have a positive impact on the quality of the software on market.

This examination of the liability regimes for defective software in the limited number of jurisdictions specified here likely provides significant issues for legislators to consider on both the international and national level. National legal tradition and practical realities may result in rather diversified liability regimes, both in structure and in content. For parties engaged in software-related transactions, this examination has demonstrated that choice of law provisions in the contract, and possibly the country of establishment of the parties, have a significant impact on the parties' liabilities and anyone contracting at an international level must pay due attention to this impact.

