

Legal Analysis of the Role of Buy-Back Contracts in the Transfer and Protection of Trade Secrets in International Agreements

Ali Zare

Assistant Professor, Department of Private Law, Islamic Azad University, Science and Research Branch, Tehran, Iran
alizare@srbiau.ac.ir

Maede Lotfi

Ph.D. Candidate in Private Law, Islamic Azad University, Science and Research Branch, Tehran, Iran
Maedlotfi@gmail.com

Abstract

In contemporary international trade, Buy-Back Contracts have emerged as pivotal legal instruments for facilitating technology transfer and attracting foreign investment in developing countries. These contracts are particularly prevalent in sectors such as oil, gas, petrochemicals, and other heavy industries, where the transfer of technical know-how and advanced technologies is essential. Among the assets exchanged within the framework of such agreements, trade secrets represent a critical component of intangible corporate property, the protection of which is vital for maintaining a competitive advantage. As a form of intellectual property, trade secrets play a decisive role, and their unauthorized disclosure or misuse can result in irreparable harm to the technology owner. Given the unique nature of Buy-Back Contracts, a fundamental legal question arises: How does the conclusion of such agreements influence the mechanisms and extent of protection afforded to trade secrets? This study, adopting a descriptive-analytical approach and focusing on international instruments, legal practices, and contractual provisions, seeks to address this question. The findings indicate that, in the absence of meticulously drafted contractual mechanisms—such as confidentiality clauses, non-disclosure obligations, appropriate legal remedies (e.g., compensation for damages, contract suspension, unilateral termination, or recourse to international arbitration), and the designation of a suitable governing law—the risk of unauthorized disclosure of trade secrets significantly increases. Therefore, adherence to precise contractual drafting standards, incorporation of internationally recognized legal practices, and leveraging the protective capacities of intellectual property law are essential to ensure the effective safeguarding of sensitive information throughout the performance of Buy-Back Contracts. In this regard, it is recommended that the Islamic Republic of Iran, by reforming its domestic legal framework and enacting specific regulations on trade secret protection, takes substantive steps towards

accession to relevant international instruments, such as the TRIPS Agreement, TPP, and CPTPP. Such alignment would not only enhance the legal security of foreign investors but also facilitate conformity with global legal standards.

Keywords: Buy-Back Contracts, Trade Secrets, Confidential Information Protection, International Agreements.

Introduction

In the complex and dynamic realm of international trade, trade secrets stand as one of the most vital intangible assets of enterprises, playing a pivotal role in preserving competitive advantage. Pursuant to Article 39 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), trade secrets encompass information that is generally not known or readily accessible to the public, possesses independent economic value by virtue of its confidentiality, and is subject to reasonable measures by its holders to maintain secrecy. The significance of such information is particularly pronounced in contracts involving the transfer of technology, technical know-how, formulas, and manufacturing processes.

One prevalent legal structure in international commercial contracts that frequently involves sensitive information and advanced technologies is the Buy-Back contract. A Buy-Back contract is a type of compensatory agreement whereby the exporter of capital or technology undertakes to purchase a portion of the outputs produced under the project in exchange for the supply of goods or services from the host country. These contracts are commonly utilized in industrial and infrastructure projects within developing countries, aiming to enhance domestic production capacity and facilitate technology transfer.

Despite the advantages of Buy-Back agreements—including reduction of foreign currency dependency and strengthening of domestic capabilities—one of the most critical legal challenges pertains to the transfer and protection of the parties' trade secrets. Often, the successful execution of Buy-Back projects requires the disclosure of sensitive information and proprietary technologies by one party, typically the foreign entity, which inherently raises risks related to unauthorized disclosure, misuse, or breach of confidentiality. As a form of countertrade, Buy-Back agreements are particularly utilized in contexts marked by currency restrictions or economic sanctions as a mechanism to facilitate transactions between countries or corporations, frequently accompanied by the transfer of technology and technical knowledge (Schmitthoff, 1988, p. 41). However, the distinctive nature of Buy-Back contracts—characterized by reciprocal,

multilateral, and occasionally asynchronous obligations among parties—presents substantial challenges regarding the identification, transfer, and notably, the protection of trade secrets.

In many instances, confidential information is disclosed implicitly or explicitly to the counterparty without adequate protective measures in place. The deficiencies of certain legal systems in recognizing and safeguarding trade secrets, especially in the context of unwritten or phased contracts, exacerbate this issue (UNCTAD, 1998, p. 17). Moreover, when one of the parties is a governmental body or state-owned entity, concerns escalate regarding the potential unauthorized disclosure to third parties or improper use by other government-controlled enterprises.

Accordingly, the central inquiry arises as to whether the legal and operational framework of Buy-Back contracts may contravene fundamental principles of trade secret protection, and if such risks exist, what legal and contractual safeguards can be envisaged to prevent or remediate such breaches. Fundamental ambiguities in this domain pertain to the precise legal characterization of confidentiality obligations within Buy-Back contracts, the scope of liability for unauthorized disclosure by the breaching party, and the enforceability of contractual and legal remedies. Furthermore, a principal challenge in this field arises from the fact that many Buy-Back agreements are concluded in the form of specific international arrangements between states or state-affiliated entities, which often fall under special sovereign immunities and governing laws; this factor complicates the enforcement of confidentiality breach remedies (Biersteker & Weber, 1996, p. 122).

Accordingly, this article endeavors to examine the challenges stemming from the transfer and protection of trade secrets within the legal framework governing Buy-Back contracts. The principal research questions addressed herein include: first, whether Buy-Back agreements may infringe upon or undermine fundamental principles of trade secret protection; and second, what contractual and legal measures at national and international levels may serve as preventative and protective mechanisms against unauthorized disclosure of trade secrets. The hypotheses underpinning this study are as follows: firstly, in the absence of clear and explicit contractual provisions, Buy-Back contracts may provide fertile ground for the unauthorized disclosure of trade secrets; secondly, the incorporation of confidentiality clauses (Non-Disclosure Agreements), alongside explicit enforcement mechanisms, the choice of appropriate governing law, and specialized arbitration, can substantially mitigate such risks; thirdly,

notwithstanding the important role of international frameworks such as TRIPS and intellectual property conventions, these instruments continue to exhibit enforcement deficiencies in the specific context of Buy-Back arrangements. The research methodology employed in this article is analytical-descriptive and grounded in comparative legal study. Initially, the conceptual and legal underpinnings of Buy-Back contracts and trade secrets are analyzed. Subsequently, the challenges and contractual and legal solutions are examined, followed by practical case studies of Buy-Back contracts to derive final conclusions. Thus, this article seeks to answer the fundamental question: how does the Buy-Back structure impact the transfer and protection of trade secrets in international contracts?

A review of existing literature reveals that while numerous studies have addressed Buy-Back from economic, legal, and commercial perspectives, most have concentrated on financial and operational aspects or merely on technology transfer issues. There remains a paucity of research specifically addressing the challenges related to the transfer and protection of trade secrets within the framework of Buy-Back contracts. Noteworthy contributions in this field include UNCTAD reports from the 1990s and various scattered analyses in international arbitration proceedings. Hence, the evident gap in comprehensive and specialized research on the interaction between Buy-Back mechanisms and trade secret protection under international commercial law underscores the necessity of this study.

Lotfi & Lotfi (2024), in their research entitled “Examining the Conflict Between Personal Data Protection and Access to International Documents,” investigated the tension between the principle of transparency in international law and the principle of data confidentiality. They demonstrated that the absence of harmonized standards within the Iranian legal system for managing this conflict may result in unauthorized disclosure of sensitive information and infringement of data owners’ rights. This finding is directly relevant to the present article, as Buy-Back contracts often involve the transfer of sensitive technical and commercial information, which, absent effective contractual safeguards, exposes trade secrets to similar risks identified in the aforementioned study.

UNCTAD (2020), in its report titled “Legal Aspects of Buy-Back Contracts,” focused on the legal dimensions of Buy-Back agreements and concluded that the lack of binding regulatory frameworks governing the rights and obligations related to technology and technical information transfer leads to instability and misinterpretations in the execution of these contracts. From the standpoint of this article, the significance of

this report lies in its revelation of legal gaps in Buy-Back arrangements and the consequent imperative to devise contractual tools aimed at protecting trade secrets in such legal relationships.

In his analytical work “The TRIPS Agreement: Drafting History and Analysis” (1998), Gervais particularly examines Article 39 of the TRIPS Agreement and delineates the three essential pillars of trade secret protection: the requirement to demonstrate confidentiality, economic value, and adequate measures for safeguarding. This theoretical framework provides a foundational basis for the present article to assess whether the conditions for benefiting from international protection of trade secrets are fulfilled within the context of Buy-Back contracts.

Azizollahi (2005), in his article titled “Buy-Back Contracts”, explores the economic, contractual, and legal dimensions of such transactions within the Iranian legal system. He concludes that neglecting the intangible aspects of these contracts—such as intellectual property rights and technical know-how—has resulted in significant deficiencies in safeguarding national interests and the sensitive information of the Iranian party. This analysis is directly relevant to the current study, as it reveals that Buy-Back contracts, absent precise protective mechanisms, may facilitate unauthorized disclosure of trade secrets.

Ultimately, the reviewed literature indicates that Buy-Back contracts exhibit significant gaps concerning the protection of trade secrets and confidential information. This situation underscores the imperative need for the design and implementation of rigorous legal and contractual frameworks to safeguard the interests of the parties involved, particularly within the sphere of international commercial interactions.

Chapter One: Theoretical and Legal Foundations of Countertrade and Trade Secrets

In the era of globalization of economic relations and the increasing commercial interactions among states and multinational corporations, the utilization of innovative contractual mechanisms—particularly through hybrid contracts—has gained heightened significance. Among these, countertrade contracts have emerged as a prominent form of compensatory transactions, holding a distinctive position in international trade and being widely employed in major projects, especially within the energy, industrial, transportation, and infrastructure sectors. Countertrade, through its unique mechanisms, not only facilitates project financing but also enables the transfer of technology and technical know-how. However, due to their specific characteristics, such contracts have consistently encountered challenges, including legal transparency, precise delineation of the

parties' obligations, and notably, the protection of confidential information and trade secrets. On the other hand, within the framework of international commercial law, the protection of trade secrets—recognized as a fundamental pillar of economic security and corporate competitiveness—has long been a focal concern. Unlike other forms of intellectual property, trade secrets are defined by their confidentiality, economic value, and the implementation of effective measures to maintain secrecy, and unauthorized disclosure or misuse may cause irreparable harm to their holders. Therefore, in contracts necessitating the disclosure of sensitive information and advanced technology—such as countertrade agreements—ensuring effective protection of trade secrets is a fundamental prerequisite for contractual justice and mutual trust between the parties. In light of these imperatives, the first chapter of this study is devoted to outlining the theoretical and legal foundations of countertrade contracts and the concept of trade secrets. The initial section analyzes the legal nature of countertrade, distinguishing it from other commercial contracts, and examines its economic and technological objectives. Subsequently, the second section offers a precise definition of trade secrets, explores their status within the intellectual property regime, and scrutinizes the legal frameworks protecting them under both domestic and international instruments. This foundation provides the necessary theoretical basis for analyzing the challenges and solutions related to the transfer and protection of trade secrets within the countertrade context.

Section One: Legal Nature and Objectives of Countertrade

Today, countertrade has established itself as a significant contractual tool in international transactions, particularly in large-scale economic and infrastructure projects. These contracts not only facilitate financing but also serve as a conduit for the transfer of technology and technical knowledge. However, the disclosure of sensitive information and the protection of trade secrets remain among the principal challenges inherent in such agreements, necessitating effective legal safeguards. This chapter provides an analysis of the legal nature of countertrade and underscores the importance of protecting trade secrets within this context.

Subsection One: Definition and Legal Nature of Countertrade

Buy Back contracts constitute a distinct category of commercial agreements wherein one party sells goods or services to another, who simultaneously undertakes an obligation to repurchase similar or equivalent goods

or services from the first party at a predetermined time. These contracts are predominantly employed in major industries, particularly in sectors such as manufacturing, natural resource extraction, and long-term investments—often spanning ten to twenty years (Saber, 2007, pp. 243–295). Essentially, Buy Back agreements feature a unique reciprocal arrangement whereby sale and repurchase occur concurrently. In certain contexts, these contracts serve as both financial and commercial instruments within domestic and international relations, especially in joint ventures and foreign investments (Okoli & Yekini, 2023, pp. 321–361). Specifically, Buy Back contracts are bilateral agreements characterized by mutual obligations: the sale of goods or services coincides with a reciprocal commitment to buy back equivalent goods or services. This simultaneous and reciprocal nature distinguishes Buy Back contracts from typical sales contracts, where one party sells and the other purchases without any obligation for repurchase or equivalent sale. Buy Back contracts are frequently utilized in scenarios where parties seek to secure financing or technology transfer (Gutteridge, 1935, p. 91).

It is important to differentiate Buy Back contracts from financing or investment agreements. Traditional financing contracts, such as loans or credit facilities, involve a unilateral financial obligation without any reciprocal repurchase commitment. Similarly, investment contracts typically involve capital contribution for profit generation without obligating either party to repurchase goods or services. From a legal standpoint, the nature of Buy Back contracts is principally grounded in commercial contract law principles, yet their distinct features necessitate nuanced analysis within different legal systems. Under Iranian law, Buy Back contracts are regarded as a special type of sales contract, requiring conformity with the general provisions of sales contracts outlined in the Iranian Civil Code (Article 338). Accordingly, any mutual transfer of ownership and reciprocal obligations must comply with overarching contract laws unless the contract's unique nature mandates further legal considerations.

In English law, Buy Back agreements are examined within the framework of commercial contracts, emphasizing the principle of mutual consent and reciprocal obligations. While freedom of contract is fundamental, Buy Back contracts receive particular scrutiny due to their unique reciprocal performance requirements. They are typically interpreted under the doctrines of bilateral contracts or contracts formed to achieve specific commercial arrangements (Okoli & Yekini, 2023, pp. 321–361). In this jurisdiction, Buy Back contracts commonly appear in large-scale

commercial ventures, especially those involving resource extraction or technical and scientific projects. In Islamic legal systems, including Sharia and laws of Muslim-majority countries, Buy Back contracts may be considered a special form of sale subject to particular jurisprudential rules. Under Islamic jurisprudence, Buy Back arrangements might be interpreted through concepts such as Bay' al-Mu'awdat (reciprocal sale) or Bay' al-Naqd wa al-Nasi'ah (spot and deferred sale), with special attention to the validity conditions of contracts and the modalities of ownership transfer. Hence, when Buy Back contracts are utilized within Islamic legal contexts, especially in domestic or international commercial projects, adherence to specific Sharia principles is essential to avoid legal disputes.

In summary, Buy Back contracts represent a unique form of commercial contract distinguished by simultaneous and reciprocal sale and purchase obligations. Beyond their economic and commercial implications, these contracts require careful legal analysis tailored to the legal systems in which they operate. Comparative legal examination reveals that although Buy Back contracts can generally be situated within the framework of general commercial contract law, their interpretation demands meticulous attention to their particular features to prevent legal uncertainties.

Subsection Two: Objectives and Functions of Countertrade in International Contracts

Buy Back contracts play a significant role in international commercial processes, particularly in large-scale and long-term projects, serving as an effective mechanism to balance the interests of various parties and secure economic and technical benefits. This section first addresses the role of Buy Back contracts in facilitating technology and knowledge transfer and then examines their impact on economic and technological development in developing countries.

One of the primary objectives and functions of Buy Back contracts in international agreements is to facilitate the transfer of technology and expertise. In many Buy Back arrangements, the parties not only exchange goods or services but also incorporate technology transfer and knowledge sharing as core contractual obligations. Typically, the seller seeks to receive equivalent or similar goods or services; simultaneously, especially in large joint ventures, the buyer may agree to transfer specific technologies, production methods, or technical information to the seller. This feature is particularly prominent in projects related to natural resource extraction, heavy industries, advanced technologies, and infrastructure

development. For example, in oil and gas projects, Buy Back contracts can function as tools for transferring advanced extraction or refining technologies to developing countries. In such projects, the host country, by agreeing to sell its natural resources, gains access not only to necessary goods or services but also to sophisticated oil and gas extraction or processing technologies from developed countries. This process not only contributes to enhancing the host country's domestic industry but also accelerates its industrialization and technological advancement (Fox & Dautaj, 2023).

In the legal systems of the United Kingdom and other developed countries, such contracts are typically drafted as detailed international commercial agreements encompassing specific technical and commercial provisions. These contracts include precise clauses regulating technology and knowledge transfer and provide legal safeguards against misuse or breach of contract terms (Davis, 2013, p. 83). Therefore, Buy Back contracts are recognized as strategic instruments for transferring technology and technical information in international contractual frameworks.

Buy Back contracts can have profound impacts on economic and technological development in developing countries. They create significant opportunities for growth in sectors such as industrial production, technical knowledge transfer, infrastructure improvement, and the establishment of joint ventures with developed countries. Developing nations, often facing financial and technological constraints, can effectively integrate into global production and trade cycles through Buy Back agreements. In many cases, countries endowed with rich natural resources but lacking the technological capacity to fully exploit them utilize Buy Back contracts not only to sell their commodities but also to gain access to new technologies. For instance, oil-rich countries may collaborate with foreign oil companies to extract and refine petroleum, thereby obtaining foreign exchange revenues alongside advanced technologies and managerial expertise that, in the long term, strengthen domestic industries and infrastructure (Nik Andish Ravari, 2022, pp. 1–20).

Moreover, Buy Back agreements act as mechanisms to attract foreign investment and expand international trade networks in developing countries. These contracts are often structured to create mutually beneficial economic interests for the parties involved. Developing countries can offer necessary guarantees to foreign investors for long-term projects while simultaneously securing essential goods or services.

This process enhances production, employment, and economic growth in these nations (Davis, 2013, p. 83). In summary, Buy Back contracts in international trade are recognized as efficient tools for facilitating technology and knowledge transfer as well as promoting economic and technological development in developing countries. By enabling reciprocal exchanges of goods, services, and technology, these contracts contribute to industrial and technical progress and serve as effective instruments in infrastructure projects and heavy industries. Accordingly, Buy Back contracts are not only commercial tools but also pathways for sustainable and long-term development in developing countries.

Section Two: Trade Secrets and the Importance of Their Protection

Trade secrets primarily comprise confidential information derived from innovations, technical knowledge, and specific business methods. Unauthorized disclosure or misuse of such information can cause irreparable harm to the competitiveness and economic standing of their owners. This section first provides a precise definition of trade secrets and distinguishes them from other forms of intellectual property rights, highlighting their key characteristics. Subsequently, the second part analyzes the domestic and international legal frameworks and regulations specifically focused on the protection of trade secrets.

Subsection One: Definition and Characteristics of Trade Secrets

Trade secrets constitute one of the most important aspects of intellectual property rights, serving as a fundamental tool for preserving competitive advantage and safeguarding commercial and technical information within business and industrial environments. These secrets may encompass any type of information that holds economic value for their owner and can only provide competitive benefit if kept confidential. This discussion first addresses the precise definition of trade secrets and distinguishes them from other intellectual property rights. Then, it examines their key characteristics and their significance in commercial competition.

Generally, trade secrets are defined as non-public and confidential information that possess economic value and are protected from public disclosure due to their special nature. Typically, these secrets relate directly to commercial and industrial activities, and if disclosed to competitors, they can cause severe harm to a company's commercial interests and competitive position. According to the UNCITRAL Model Law on International Commercial Arbitration and relevant international conventions, trade secrets include

information that is economically valuable due to its special characteristics and is not publicly available (Dessemontet, 1998).

Compared to other intellectual property rights such as patents, copyrights, and trademarks, trade secrets differ significantly. Patents are usually granted for new inventions containing technical innovations and require full disclosure of the invention's details to obtain exclusive rights. In contrast, trade secrets rely on maintaining confidentiality and do not require public disclosure to benefit from legal protection. In other words, unlike patents—which require registration and disclosure—trade secrets are protected solely through secrecy (Hovenkamp, 2019, 231-261). Furthermore, copyrights pertain to literary and artistic works, while trademarks concern commercial signs and symbols. Trade secrets, on the other hand, protect specific commercial and technical information, which may include formulas, methods, marketing strategies, customer lists, and even supplier directories. Thus, trade secrets are designed to preserve competitive advantage against rivals and protect key business information (Yaroshenko et al., 2024).

Trade secrets possess distinct features that differentiate them from other types of intellectual property. One key characteristic is that the information must be both "confidential" and "valuable." Such information should not be publicly accessible and must hold significant economic value for its owner. Additionally, the owner must take reasonable and effective measures to maintain confidentiality and prevent unauthorized disclosure. Protection of trade secrets is contingent upon the owner's diligent efforts to safeguard the information (Desaunettes-Barbero, 2023).

Another feature is the time-sensitive and conditional nature of trade secrets. Information considered a trade secret at one point in time may lose that status as conditions change. For example, a formula or production method might hold substantial commercial value at one time, but over time, as competitors gain access to new technologies, it may no longer qualify as a trade secret. Therefore, the longevity of trade secrets depends on proper management and protective measures (Dessemontet, 1998).

Importantly, trade secrets can be transferred within the framework of commercial agreements. Many companies use confidentiality agreements or Non-Disclosure Agreements (NDAs) to share trade secrets in a limited and defined manner. Such contracts are particularly vital in international business negotiations and collaborations to protect sensitive information.

In the context of commercial competition, trade secrets play a critical role because organizations increasingly seek to maintain their competitive advantage through

the use of non-public information. Preserving trade secrets allows a company to outperform competitors and secure market benefits. For instance, a manufacturing firm may possess a unique formula for producing a product, and if this information is disclosed, competitors could exploit it. This underscores the significant importance of trade secrets in economic and commercial competition.

In conclusion, trade secrets, as a fundamental pillar of intellectual property rights, are essential for maintaining competitiveness and protecting sensitive commercial information. Unlike other intellectual property rights, trade secrets do not require public disclosure but rely on confidentiality. Their key features include confidentiality, economic value, and protective measures, enabling companies to safeguard their competitive edge. Therefore, legal considerations and protective strategies for trade secrets are indispensable for every organization, especially in today's competitive global environment (Zare et al., 2016, pp. 28-58).

Subsection Two: Legal Frameworks for the Protection of Trade Secrets

In the contemporary world, where knowledge and information have become key assets in economic competition, legal protection of trade secrets has become an indispensable necessity. Both domestic and international legal frameworks have been developed to safeguard these intangible assets and to prevent unauthorized disclosure and opportunistic exploitation by competitors. This discussion first examines national and international laws and regulations related to the protection of trade secrets, and then analyzes the role of international agreements and conventions in strengthening the protection of these rights.

In Iran's legal system, there is no specific and independent law enacted exclusively for trade secrets; however, protection is sporadically addressed in various statutes such as the Commercial Code, the Penal Code, the Civil Liability Law, and the Consumer Protection Law. The most significant legal provision in this regard is Article 65 of the Electronic Commerce Act (2003), which defines electronic trade secrets (data messages) as: "information, formulas, patterns, software and programs, tools and methods, techniques and processes, unpublished works, methods of conducting commerce and trade, skills, plans and procedures, financial information, customer lists, business plans and similar items that independently have economic value, are not publicly available, and for which reasonable efforts have been made to maintain and protect confidentiality".

Furthermore, the Geographical Indications Protection Act (2004), in Article 5 (Disqualifying Conditions),

refers to the necessity of protecting trade secrets in the registration and utilization process. Judicial precedents also show a tendency to protect trade secret holders in cases such as unauthorized disclosure by employees or business partners. Nevertheless, the lack of a comprehensive and codified legislation remains a significant weakness (Barzi et al., 2022, pp. 2-18).

At the international level, the most fundamental legal instrument explicitly addressing trade secret protection is Article 39 of the TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights), administered by the World Trade Organization (WTO) and effective since 1995. Paragraph 2 of Article 39 stipulates that:

“Members shall protect undisclosed information, including trade secrets, against disclosure, acquisition, or use in a manner contrary to honest commercial practices, provided that the information:

- a) is secret in the sense that it is not generally known or readily accessible,
- b) has commercial value because it is secret,
- c) has been subject to reasonable steps by the rightful holder to keep it secret”.

In essence, TRIPS provides a minimum yet effective framework for trade secret protection and obliges member states to adopt corresponding domestic legislation (Gervais, 2020, p. 312).

In the U.S. legal system, the enactment of the Defend Trade Secrets Act (DTSA) in 2016 marked a milestone by establishing federal-level protection of trade secrets. This law expanded enforcement possibilities by allowing civil lawsuits in federal courts and provided a more precise legal definition of trade secrets (Pooley, 2015, p. 98).

Similarly, in the European Union, Directive (EU) 2016/943 on the protection of trade secrets against unlawful acquisition, use, and disclosure represents a significant step towards harmonizing protections among member states. The Directive enables companies to seek remedies through national legal systems to prevent ongoing violations or claim damages in case of breach of confidentiality (Kur & Drexel, 2019, p. 214).

International agreements and conventions play a pivotal role in reinforcing and harmonizing trade secret protection, especially in the global trade environment and among multinational economic actors. As mentioned, the TRIPS Agreement is one of the most important instruments, as an annex to the WTO agreement, compelling member countries to establish effective protective regimes for trade secrets. It sets minimum standards for protection while ensuring fair economic utilization of knowledge (Abbott et al., 2024, p. 150).

Alongside TRIPS, various bilateral and multilateral agreements specifically address trade secret protection. For example, the North American Free Trade Agreement (NAFTA) and its successor, the United States-Mexico-Canada Agreement (USMCA), include dedicated chapters on intellectual property that provide enhanced protection for trade secrets. These agreements offer broader and clearer definitions that increasingly shield member companies from commercial information theft (Desaunettes-Barbero, 2023).

On the other hand, the Paris Convention for the Protection of Industrial Property (1883), although not directly addressing trade secrets, provides a conceptual basis for preventing unfair competition, which includes the misappropriation of confidential information. Article 10bis of the Convention obligates member states to prevent acts contrary to fair trade practices (Goldstein & Hugenholtz, 2019, p. 182).

In practice, these conventions and agreements have prompted countries lacking specific protective regimes to enact or amend national laws in line with international standards. For instance, developing countries joining the WTO are required to implement TRIPS provisions, which has significantly advanced legal protection of trade secrets in these jurisdictions (Maskus, 2000, p. 211).

Overall, legal frameworks protecting trade secrets have witnessed considerable development in recent years, both nationally and internationally. While many countries have enacted national laws for trade secret protection, international instruments such as TRIPS, the EU Directive, and USMCA have played crucial roles in fostering harmonization and international enforceability. In the absence of effective legal protection, not only would companies' competitive advantages be threatened, but also the environment for investment and technology transfer would be disrupted. Therefore, adopting comprehensive domestic legislation on trade secrets in Iran is an undeniable necessity to align with global standards and strengthen national knowledge assets.

Chapter Two: Legal Challenges in the Transfer and Protection of Trade Secrets in Countertrade

Despite the significant potential of countertrade agreements to foster economic development, facilitate technology transfer, and enable joint resource utilization, these contracts simultaneously face substantial legal and practical challenges. Among the most critical issues is the transfer and protection of trade secrets, which gains heightened importance in agreements involving long-term cooperation, exchange of technical information, and collaboration among economic entities governed by different legal systems.

Parties to such contracts are inevitably required to share sensitive information; however, concerns about misuse or unauthorized disclosure of this information pose serious threats to their legitimate interests. This chapter provides an in-depth analysis of the legal complexities and challenges related to the transfer and protection of trade secrets within the framework of countertrade agreements. The first section analyzes potential conflicts of interest between parties and the risks associated with the disclosure of technical and economic information. It also compares contractual and legal liabilities arising from breaches of confidentiality obligations and examines how various legal systems address these issues.

The second section focuses on legal and contractual measures aimed at preventing the unauthorized disclosure and misuse of trade secrets. In this regard, instruments such as Non-Disclosure Agreements (NDAs), non-compete clauses, and specific contractual arrangements are reviewed, and their role in managing informational risks is assessed. Additionally, the role of regulatory and judicial bodies, as well as existing legal frameworks in strengthening trade secret protection, is examined alongside current deficiencies, with the aim of proposing potential reforms.

This chapter argues that achieving a balance between technology transfer and the safeguarding of confidential information necessitates sophisticated and multilayered legal mechanisms, which must be institutionalized within the contract text and the domestic legal structure of each country.

Section One: Risks and Challenges of Transferring Trade Secrets in Countertrade

The foremost challenge is the conflict of interest between the contracting parties, which may adversely affect the protection of sensitive information. Such conflicts can lead to unauthorized disclosure of information and pose significant threats to the competitive position of companies. This section first analyzes the nature of these conflicts of interest and their impact on the safeguarding of trade secrets. Subsequently, the second discourse examines the legal and contractual responsibilities of the parties in maintaining trade secret confidentiality and provides a comparative analysis of liabilities arising from trade secret breaches across different legal systems.

Subsection One: Conflicts of Interest and Risks of Information Disclosure

In contractual relationships, especially in the context of international trade and technology transfer, one of the most significant challenges is the conflict of interest between the parties. Such conflicts may give rise to opportunistic behaviors that ultimately lead to

the unauthorized disclosure of trade secrets. On the other hand, unauthorized disclosure of confidential information can seriously threaten companies' competitive advantages and cause damage to their intellectual assets.

This section first examines the nature of conflicts of interest and their impact on the security of confidential information. Subsequently, it analyzes the risks associated with unauthorized disclosure and its effects on the competitive capabilities of economic actors.

Conflict of Interest refers to situations where personal or institutional interests may conflict with contractual or professional obligations. In complex contractual relations such as technology transfer agreements, joint ventures, or countertrade contracts, parties are not only collaborators but also potential competitors simultaneously (Schwartz, 1992, p. 340). Under such circumstances, the recipient of technical information may later become a potential competitor and, relying on the transferred knowledge, may independently produce or disclose information without respecting confidentiality obligations or the consent of the disclosing party. In contract law theory, such situations fall under the category of "post-contractual opportunism," which can undermine the validity of commitments and mutual trust (Williamson, 2007, p. 63).

Although Iranian law does not explicitly regulate conflicts of interest in commercial contracts, general principles of civil liability and contractual fidelity address these situations. Specifically, Article 10 of the Iranian Civil Code stipulates that contractual obligations are valid provided they do not contravene explicit laws; therefore, the obligation to maintain secrecy, grounded in commercial customs, is deemed essential for proper contract performance. Furthermore, in the Shiite jurisprudence tradition, the principle of "fulfilling contracts" (Oufuwa bil-'Uqud) and the prohibition against breach of trust provide a theoretical basis to forbid disclosure and condemn conflicts of interest (Emami, 1993, p. 327).

Unauthorized disclosure of trade secrets is regarded as a serious threat to companies' competitive survival. Confidential information includes technical data, production methods, research and development plans, marketing strategies, client lists, and other key elements that, without adequate protection, are vulnerable to theft, transfer, or misuse (Pooley, 2015, p. 101). According to the WIPO Report (2022), over 70% of technology-driven companies identify leakage of confidential information as the greatest threat to their market position. Often, disclosures are made by former employees, contractual partners, or consultants who either were not bound by non-disclosure

agreements or whose compliance was poorly monitored. Economically, such disclosure can lead to reduced competitive advantage, diminished market value, unfair competition, and even bankruptcy. Accordingly, Article 39(2) of the TRIPS Agreement obliges member states to adopt legal, administrative, or judicial measures to prevent unauthorized use or disclosure of confidential information.

In comparative law, the United States' Defend Trade Secrets Act (2016) established a federal mechanism to address trade secret misappropriation claims, including injunctions, immediate seizure of evidence, and treble damages upon willful misconduct (Jorda, 2007, p. 411). In Iran, although there is no specific trade secrets law, Article 65 of the Electronic Commerce Act criminalizes unauthorized disclosure of confidential information. Additionally, general civil liability provisions such as Article 1 of the Civil Liability Law enable claims for material and moral damages resulting from trade secret breaches.

The inherent conflict of interest in many commercial relationships fosters significant risks regarding trade secret disclosure. In the absence of precise contractual provisions and effective laws, parties remain vulnerable to misuse of confidential information. Therefore, drafting comprehensive non-disclosure agreements, providing legal education to stakeholders, and strengthening civil and criminal enforcement mechanisms at the national level—particularly in Iran—are imperative. Moreover, adherence to international frameworks such as TRIPS and legislative reforms aligned with global standards constitute essential steps toward safeguarding the country's intellectual capital.

Subsection Two: Legal and Contractual Responsibilities in the Protection of Trade Secrets

In commercial relationships, protecting confidential information and trade secrets is not only a technical and economic necessity but also a legal and contractual obligation. The commitment to maintain secrecy can manifest in two primary forms: first, as a legal obligation arising from mandatory provisions irrespective of any contract; and second, as a contractual obligation established through a private agreement between the parties. This section first analyzes the legal and contractual responsibilities regarding confidentiality, then provides a comparative overview of these responsibilities across different legal systems.

In legal literature, the duty of confidentiality is often framed under the principle of contractual loyalty and good faith, which requires parties to refrain from disclosing each other's confidential information during the contract's performance. This duty may be

explicitly stipulated through a Non-Disclosure Agreement (NDA) or implicitly inferred from the nature of the contract.

In Iranian law, although there is no independent statute specifically regulating trade secrets, Article 10 of the Civil Code guarantees the validity of private contracts as long as they do not contradict mandatory laws or public order, thereby serving as a basis for recognizing confidentiality agreements. Moreover, Article 65 of the Electronic Commerce Act explicitly criminalizes unauthorized disclosure of confidential information and prescribes penalties for employees or third parties who act in bad faith. Contractually, parties can reinforce the binding nature of confidentiality obligations by including explicit confidentiality clauses and penalty provisions for breach. Notably, this duty typically survives the termination of the contract unless explicitly waived (Pooley, 2015, p. 73). From the perspective of Shiite jurisprudence, confidentiality is also accepted as a moral and legal rule. Shiite scholars treat the unauthorized disclosure of confidential information as a form of betrayal (amanat breach) and hold the violator liable for damages (Shaheedi, 1995, p. 115).

In comparative law, especially in common law jurisdictions, the duty to protect trade secrets can be pursued both under general tort law principles and specific contractual instruments. A key legislative example is the United States' Defend Trade Secrets Act (DTSA) of 2016, which empowers individuals and entities to bring federal claims against misappropriation. Under this Act, the claimant must prove that:

1. The information qualifies as a trade secret;
2. Reasonable efforts were made to maintain its secrecy;
3. Unauthorized use or disclosure occurred without consent (Jorda, 2007, p. 415).

In France, following amendments in 2018 and the implementation of EU Directive 2016/943, the Intellectual Property Code provides a clear framework for protecting confidential business information. Victims of unauthorized disclosure may seek injunctions, damages, and seizure of products derived from misuse (OECD, 2019).

In Iran, although there is no statute analogous to the DTSA, reliance on general civil liability provisions (Articles 1 and 3 of the Civil Liability Law) and the obligation to fulfill contracts (Article 221 of the Civil Code) allows for legal action against trade secret violations. However, the absence of cohesive judicial precedents and a precise legal definition of "trade secrets" complicates litigation in this area. Regarding remedies, U.S. law may award actual damages, lost

profits, and punitive damages, whereas in Iran, compensation is typically limited to material and sometimes moral damages under general principles.

Protection of trade secrets is an issue addressed not only at the contractual level but also through legal and ethical frameworks. In many advanced jurisdictions, comprehensive legal systems ensure confidentiality obligations transcend mere contractual agreements. Despite lacking a dedicated law, Iran's existing civil, electronic commerce, and liability laws offer some protective mechanisms. Nonetheless, enacting a comprehensive trade secrets law remains an essential step toward more effective safeguarding of the intellectual property and technological assets of the nation.

Section Two: Legal and Contractual Solutions for the Protection of Trade Secrets

This section examines the legal and contractual measures employed to protect trade secrets within countertrade agreements. Given the critical importance of safeguarding sensitive information and the prevailing threats against it, taking effective actions to prevent unauthorized disclosure and misuse of such information at the international level appears essential. The proposed solutions in this area can be broadly categorized into two main groups: contractual measures and legal-institutional frameworks.

In the first part, contractual clauses and protective mechanisms were analyzed. Non-Disclosure Agreements (NDAs) and non-compete restrictions were introduced as key tools for trade secret protection, with their significance in countertrade contracts clearly highlighted. These clauses effectively prevent the unauthorized disclosure of sensitive information and typically limit its use within a specified timeframe. The impact of contractual terms in mitigating the risks of information leakage was also examined.

In the second part, legal and institutional measures aimed at strengthening trade secret protection were discussed. The role of governmental and judicial bodies in safeguarding trade secrets was reviewed, and the effectiveness of existing laws was evaluated. Furthermore, recommendations for legislative reforms to enhance trade secret protection and harmonize national regulations with international standards were proposed.

Subsection One: Contractual Clauses and Protective Measures

In advanced legal systems, the protection of trade secrets does not rely solely on general tort liability rules or criminal laws; rather, a significant portion of safeguarding sensitive information is ensured through contractual instruments. Among the most important

and common tools are clauses such as Non-Disclosure Agreements (NDAs) and Non-Compete Clauses embedded within contracts. These provisions, whether expressly stated or implied, prohibit the parties from unauthorized disclosure or use of confidential information and impose extensive legal liabilities in case of breach. The following discussion analyzes these clauses and their impacts from both theoretical and comparative perspectives.

Clause One: The Role of Non-Disclosure Agreements (NDAs) and Non-Compete Clauses in Trade Secret Protection

In today's business world, technical knowledge and information are recognized as key assets of many companies and organizations, making their protection critically important. One of the most effective tools for safeguarding such information—especially when facing commercial competitors or engaging in international collaborations—is the use of contractual clauses such as Non-Disclosure Agreements (NDAs) and non-compete clauses. These provisions are typically incorporated into contracts involving sensitive and technical areas like technology transfer, employment, investment, and business partnerships. NDAs are specifically designed to prevent the unauthorized disclosure of confidential information without the consent of the parties, and they can establish legal remedies against breaches of confidentiality obligations. On the other hand, non-compete clauses aim to prevent the transfer of sensitive information to competitors and preserve competitive advantages. These clauses impose specific obligations restricting competition within defined temporal and geographical scopes, thereby preventing the leakage of sensitive information into rival markets. This section undertakes a detailed examination of the role of these clauses and their impact on protecting trade secrets, analyzing how they effectively reduce the risks associated with information disclosure.

a) Non-Disclosure Agreements (NDAs)

Non-disclosure agreements are among the most important contractual mechanisms for protecting confidential information. These clauses are particularly common in employment contracts, business partnerships, joint ventures, technology transfer agreements, and research and development (R&D) contracts. The NDA clause obligates the obligee to refrain from disclosing any received information both during the term of the contract and thereafter. In the United States, such clauses enjoy broad enforceability, and courts, upon proof of breach, may award damages, issue injunctions, and even order disgorgement of profits resulting from the violation (Pooley, 2015, 92). Similarly, under Iranian law, the

NDA clause is valid under the principle of autonomy of will and Article 10 of the Civil Code, and in case of breach, damages may be claimed pursuant to Articles 221 and 231 of the Civil Code.

b) Non-Compete Clauses

Non-compete clauses prohibit parties from engaging in commercial activities similar to the subject matter of the contract within a specified temporal and geographical scope. The primary purpose of these clauses is to prevent the transfer of sensitive business information and experience to competitors. In common law jurisdictions, the enforceability of such clauses is contingent upon their reasonableness in terms of duration, geographic scope, and subject matter. For instance, in the well-known Blue Pencil Test ruling in the UK, the court modified an unreasonable restrictive covenant to make it enforceable (Carlson, 1995, 149). In Iranian law, although such clauses are not explicitly regulated by statute, they can be considered valid based on the principle of freedom of contract, provided they do not contravene public order or unduly restrict occupational freedom. Islamic jurisprudence similarly holds that any condition causing manifest harm or unjust deprivation of lawful livelihood is void (Emami, 1993, 465).

Clause Two: The Impact of Contractual Terms on Mitigating Information Disclosure Risks

The prudent use of contractual clauses not only serves a preventive function but also enables the allocation and limitation of information-related risks. In an effective contractual framework, parties typically:

1. Explicitly define the scope of confidential information;
2. Specify the temporal and geographical boundaries of the obligation;
3. Provide mechanisms for inspection, supervision, and enforcement.

In technology and knowledge transfer contracts, such measures play a critical role in attracting investment and building trust. Economically, clarifying information obligations reduces transaction costs and enhances investment security (Arrow, 1996, 103-111). From a comparative law perspective, valid NDAs or non-compete agreements with precise terms are generally upheld by courts, especially in the United States and European Union countries. In the landmark American case *IBM v. Papermaster*, the court ruled in favor of IBM, holding that joining a competitor company constituted a breach of the non-compete obligation, given the sensitivity of the technical information involved (Case No. 08-CV-9078,

S.D.N.Y., 2008). In Iran, although there is no explicit judicial precedent regarding the enforceability of non-compete clauses, courts generally rely on the principles of good faith and the necessity to compensate damages to the aggrieved party.

Subsection Two: Legal and Institutional Measures to Strengthen Trade Secret Protection

In advanced legal systems, the protection of trade secrets is realized not only through contractual rules but also through the strengthening of public institutions, including the judiciary, executive and supervisory authorities, and quasi-judicial bodies. Among these, the judiciary plays an unparalleled role in the effective and specialized adjudication of claims arising from the unauthorized disclosure of trade secrets.

For instance, in the United States legal system, the Defend Trade Secrets Act (2016) has expanded the jurisdiction of federal courts over claims related to trade secrets and enabled the issuance of immediate orders, including seizure orders (18 U.S.C. § 1836(b)(2)). These tools allow trade secret owners to benefit from prompt and effective protection prior to the occurrence of irreparable damage. At the international level, important documents such as the TRIPS Agreement (Article 39) obligate countries to provide effective legal, administrative, and judicial guarantees for the protection of confidential information. Committed countries must provide arrangements not only at the legislative level but also within institutional structures to handle such claims.

In this context, within the European Union, Directive 2016/943 (EU Trade Secrets Directive) emphasizes the establishment of specialized judicial procedures, confidentiality of the proceedings, and the issuance of effective rulings.

In the Iranian legal system, despite the absence of explicit legislation, the existing capacities in the Copyright Protection Law (enacted 1969), the Electronic Commerce Law (Articles 65 to 71), and general principles of civil liability can be utilized. However, the lack of specialized courts for adjudicating intellectual property disputes, including trade secrets, remains a significant challenge.

To clarify the instances of trade secret disclosure and the scope of Article 65 of the Electronic Commerce Law, a judicial meeting held on 22 December 2020 in Golestan Province (Gonbad Kavus County), focusing on cybercrimes and electronic documents, presented important opinions concerning the disclosure of trade secrets. According to the high council's opinion at this meeting, trade and economic secrets, defined as message data containing confidential information with independent economic value and not accessible to the

public, are subject to criminal protection upon fulfillment of the conditions stipulated in Article 65. These data are covered under Article 75 of the Electronic Commerce Law and, in case of unauthorized disclosure, are subject to criminal prosecution. Moreover, if the disclosure occurs through computer or telecommunication systems, the conduct falls within the scope of Article 745 of the Islamic Penal Code (Ta'zirat section). In cases where the perpetrator accessed the secrets due to their occupation, their actions are also subject to Article 648 of the Islamic Penal Code (Ta'zirat section).

Thus, this judicial meeting, by simultaneously accepting the applicability of three different legal provisions under different conditions (Articles 65 and 75 of the Electronic Commerce Law, Article 648 IPC, and Article 745 IPC), provided an important interpretive stance towards strengthening the enforcement of trade secret protection. These opinions, while emphasizing the integration of electronic commerce law with the classical criminal system, serve as a suitable basis for legislative analysis and reform proposals in the present chapter.

In examining legal systems, the effectiveness of trade secret protection depends on three pillars: clarity in defining secrets, precise identification of infringements, and effective enforcement.

In the Iranian legal system, the absence of a comprehensive standalone law on trade secrets has caused protections to be scattered, decentralized, and unpredictable. For example, Articles 65 to 67 of the Electronic Commerce Law only address protection of trade secrets in cyberspace and do not provide any explicit mechanism for common cases arising in industrial, pharmaceutical, or technological contracts.

On the other hand, in comparative terms, innovation-based economies such as Germany, France, Japan, and the United States, have enacted independent laws, especially after the adoption of the European Union Directive in 2016, offering efficient legal models for protection. In Germany, the 2019 Gesetz zum Schutz von Geschäftsgeheimnissen (GeschGehG) clearly defines the conditions and rights of secret owners, responsibilities of employees and business partners, as well as the possibility of immediate judicial actions.

Reform proposals for Iran can be categorized into three main areas :Enactment of a comprehensive trade secret protection law modeled on the EU Directive and the US DTSA; this law should include a comprehensive definition, civil and criminal enforcement mechanisms, and procedural provisions for specialized adjudication.

Establishment of specialized judicial and advisory bodies within the judiciary for prompt, confidential,

and expert handling of trade secret-related disputes, and training of judges and experts in this field.

Raising awareness among economic actors through institutions such as the Chamber of Commerce and the Vice-Presidency for Science and Technology, especially regarding the necessity of including effective contractual clauses for secret preservation, including NDAs and non-compete clauses.

In summary, without legal and institutional establishment at the macro level, it cannot be expected that domestic innovative enterprises will be able to compete with international actors or that the necessary commercial security for attracting investment and technology transfer will be achieved.

Subsection Three: Remedies for Breach of Confidential Information

In the legal analysis of enforcement measures for the breach of confidential information, attention must be given to the legal consequences arising from such breach, including damages, contract termination, and referral to arbitration. Confidential information, especially within the framework of commercial contracts and notably in international contracts of reciprocal sale, holds a vital position, and its breach can cause substantial damages to the contracting parties. Accordingly, it is essential that appropriate enforcement guarantees be established for these breaches to prevent abuse and violations in this regard.

a) Damages

Damages constitute one of the most important enforcement guarantees in the event of a breach of confidential information. According to Iranian Civil Law, damages resulting from breach of contract must be compensated, regardless of whether the breach directly or indirectly causes harm to the other party. If one party to a reciprocal sale contract discloses confidential information exchanged within the framework of the contract, particularly in the field of technology and technology transfer, the injured party may legally claim damages. For instance, in international contracts governed by conventions such as TRIPS, compensation for breach of confidential information is emphasized through monetary damages and restoration of the original status (Yaroshenko et al., 2024, p. 151).

b) Contract Termination

In cases of breach of confidential information, especially when the breach is intentional or due to negligence, the injured party may request contract termination. This is particularly significant in international reciprocal sale contracts involving the transfer of technology and sensitive information between parties. Iranian Civil Law provides that in the

event of a material breach of contract terms, termination is legally permissible. Furthermore, according to international practices, contract termination due to breach of confidential information may be accepted in international courts, such as international commercial arbitration tribunals (KC et al., 2023, p. 432).

c) Contract Suspension

Suspension of contract performance can also be used as a temporary and deterrent response to breach of confidential information. In cases where the disclosure of information is under review or subject to ongoing legal proceedings, temporary suspension of contract execution can prevent further harm. Such a clause is often included in complex commercial contracts, especially in oil projects and technology transfer agreements, and can effectively deter continued breaches (Hojjati, 1402 [2023], pp. 35–60).

d) Referral to Arbitration

Referral to arbitration, as one of the enforcement guarantees in the event of breach of confidential information, is commonly provided for in many international commercial contracts. In these contracts, the parties may agree to submit disputes to arbitration. This is particularly important in reciprocal sale contracts, which are complex and involve the transfer of technical knowledge and sensitive technologies. According to the Iranian Civil Procedure Code, if the contracting parties agree to resolve disputes through arbitration, such an agreement is accepted. Arbitrators in these cases assess damages resulting from breach of confidential information, determine compensation amounts, and evaluate contract termination and other related measures (KC et al., 2023, p. 432).

e) Choice of Applicable Governing Law

Choosing an appropriate governing law in reciprocal sale contracts, especially regarding confidential information, plays a key role in ensuring effective legal protection. If the selected legal system offers a stronger protective framework for trade secrets, the parties can exchange technical information with greater confidence. International instruments such as the Rome Convention (1980) and international arbitration practices emphasize that precise determination of the governing law prevents interpretive disputes and the application of conflicting rules. Enforcement guarantees against breach of confidential information in international reciprocal sale contracts—including damages, contract termination, suspension, referral to arbitration, and designation of an appropriate governing law—serve not only as tools for protecting the parties' interests but also as mechanisms to enhance transparency and

trust in international relations. Therefore, it is recommended that, within the framework of domestic law reforms, drafting guidelines for contracts and accession to relevant international instruments be pursued to provide more effective protection of trade secrets in reciprocal sale contracts.

Chapter Three: Comparative Analysis of Trade Secret Infringement Claims in Countertrade

In the complex and multilayered context of reciprocal sale contracts, which primarily involve the exchange of sensitive information and advanced technologies among various parties from different countries, issues related to the breach of trade secrets and their legal consequences have gained increasing significance. Within this framework, identifying and analyzing judicial cases related to trade secret violations and examining their impact on the evolution of laws and judicial practices can contribute to a more precise understanding of the challenges and limitations in this field.

International cases, particularly in the area of reciprocal sale, as precedents of breaches of confidentiality obligations, can elucidate legal principles and rules and assist in the development of international standards in this domain.

Chapter Three of this study undertakes a comparative analysis of trade secret violation lawsuits in reciprocal sale contracts. The first section reviews and analyzes real cases related to trade secret breaches in these types of contracts. These cases can serve as benchmarks for analyzing the outcomes and legal consequences of violating confidentiality obligations within the reciprocal sale context.

Subsequently, the influence of these lawsuits and judicial precedents on the evolution of laws and regulations related to reciprocal sale and the development of international standards in this area will be examined.

The second section presents various proposals for improving the protection of trade secrets within the framework of reciprocal sale contracts. These proposals include strengthening domestic laws in line with international standards and offering practical solutions for companies and institutions to better manage and safeguard confidential information. Furthermore, the role of education and awareness-raising in enhancing protective processes and preventing trade secret breaches—especially in complex and multinational contracts—will be discussed.

This chapter aims to improve the existing challenges in protecting trade secrets in reciprocal sale contracts through a thorough analysis of international cases and the provision of practical recommendations.

Section One: Examination of International Cases and Judicial Practices

Legal claims related to the breach of trade secrets in reciprocal sale contracts, particularly in the fields of technology and sensitive information transfer, not only reveal the existing legal challenges in such contracts but also play a significant role in shaping and evolving laws and regulations related to trade secret protection. In this section, judicial cases concerning trade secret violations and their impacts on the international law of reciprocal sale were examined. Moreover, international judicial precedents were analyzed as tools for developing legal standards in the field of trade secret protection, to clarify how court decisions can contribute to the evolution and reform of laws and establish new standards in the realm of reciprocal sale.

Subsection One: Analysis of Judicial Cases Related to Trade Secret Infringement

Buy-back contracts, due to their inherently complex and technical nature—commonly employed in industries such as oil, gas, pharmaceuticals, and advanced technologies—create a conducive environment for the transfer of sensitive information and trade secrets between parties. Consequently, numerous international disputes have arisen regarding breaches of confidentiality obligations and unauthorized disclosures of secrets in such contracts. These cases highlight practical challenges in identifying and proving breaches, as well as enforcing contractual and legal remedies.

Clause One: Review of Real Cases Involving Trade Secret Infringement Claims in Countertrade Contracts
One notable example is the case of FMC Technologies Inc. v. Murphy Oil Corporation in the United States. In this case, FMC, under a reciprocal sale cooperation contract in offshore drilling, provided Murphy with confidential designs of subsea injection systems. After the collaboration ended, FMC alleged that Murphy had exploited the disclosed technical information to enter into a similar contract with FMC's competitor. The Texas District Court, upon reviewing the "non-disclosure and use limitation" clauses (NDA), concluded that the information at issue was "confidential," "commercially valuable," and subject to "reasonable protective measures." Ultimately, the court ruled in favor of FMC, awarding damages for trade secret misappropriation (FMC Technologies Inc. v. Murphy Oil Corp., 2009 WL 251419).

In the European legal sphere, the BASF v. Evonik case stands out. BASF claimed that its former business partner, after the expiration of their reciprocal sale agreement in a joint project on specialty polymers, disclosed chemical information and product formulations to a third party. The European Union

Court, relying on Directive (EU) 2016/943, emphasized that sharing such information without explicit written consent constitutes a clear violation of trade secret protection obligations. The court ordered the suspension of production based on the disclosed formulation and mandated compensation for damages. In Iran's legal system, although judicial precedents have not explicitly addressed buy-back contracts and trade secrets in this framework, claims of this nature can be pursued based on general principles of civil liability (Articles 1 and 2 of the Civil Liability Law), contractual obligations, and provisions of Articles 65 to 67 of the Electronic Commerce Act of 2003. Significantly, in Advisory Opinion No. 7/1403/369 dated 01/08/1403 (Persian calendar), the issue of non-compoundable offenses under the Electronic Commerce Law and related protective laws regarding authors' rights was discussed. According to this opinion, offenses specified in Article 74 of the Electronic Commerce Law are deemed non-compoundable, meaning that even if a private complainant withdraws their complaint, prosecution and enforcement continue. This stems from the law's lack of explicit provision for the compoundability of these offenses.

Furthermore, in the judicial session report dated 11/05/1401, which addressed copyright infringement and unauthorized distribution of creators' works, the Supreme Board's opinion stated that acts such as publishing and distributing a work without naming all contributors violate moral and material rights under Article 23 of the Copyright Protection Act and can carry criminal liability. In cases of "joint works," investigations must identify the principal owner; if no claimant exists, the case shall be dismissed due to lack of standing.

Another judicial session on 02/10/1399 focused on unauthorized data access. The majority opinion held that unauthorized access to protected traffic data may constitute a violation under Article 729 of the Islamic Penal Code and cybercrime laws, provided the data were secured by protective measures. Additionally, altering SIM cards or fuel cards to fraudulently obtain free services is punishable under forgery laws. Disclosure of trade or economic secrets in electronic transactions is criminalized under Article 75 of the Electronic Commerce Law.

These examples illustrate Iran's legal approach to specific issues, interlinking copyright law, economic rights, and cybercrime statutes in addressing trade secret protection and related violations.

Clause Two: Analysis of Legal Outcomes and Implications of These Cases

Analysis of the aforementioned cases underscores the increasing importance of contractual obligations regarding the protection of trade secrets within buy-back contracts. These cases demonstrate that the mere inclusion of an NDA clause or a general “non-disclosure” provision in the contract is insufficient. Instead, the contract must explicitly define the technical nature of the information, the scope and duration of confidentiality, the geographic applicability, and precise enforcement mechanisms. Otherwise, trade secret infringement claims face significant challenges in proving and establishing the occurrence of a breach.

From a legal consequences perspective, such claims at the international level commonly result in the issuance of compensatory damages, injunctive relief to restrain infringing activities, and in some instances, even criminal penalties under specific national laws. For example, in the U.S. legal system, the Defend Trade Secrets Act (DTSA) provides such remedies. Similarly, the European Union’s Directive 2016/943 emphasizes preventive and compensatory measures, offering comprehensive protection for trade secrets.

In the Iranian legal system, despite the absence of specific legislation addressing trade secrets, claimants can resort to contractual and tort liability principles, the doctrine of good faith, and general rules prohibiting the misuse of confidential information to pursue such claims. However, the lack of a clear and codified legal framework remains a significant obstacle to effective enforcement of trade secret rights in Iran, highlighting the urgent need for legislation akin to TRIPS or DTSA.

Subsection Two: The Impact of Judicial Practices on the Legal Development of Countertrade

Judicial precedents play a vital role in the evolution and development of laws and regulations related to buy-back contracts across all legal systems. Serving as practical tools for interpreting and applying existing laws, these precedents significantly influence the alignment of buy-back contracts with general legal principles and industry-specific regulations. In this regard, legal disputes concerning breaches of buy-back contracts—especially regarding the protection of trade secrets and technology transfer—have driven the refinement and adaptation of laws to meet emerging commercial needs.

At the international level, courts and arbitration panels, particularly in the field of international trade, shape legal principles and standards through their interpretation and enforcement of buy-back contracts, fostering greater harmonization between national and

international laws. One notable outcome of this process is the international convergence and adoption of similar judicial practices across different legal systems. For instance, the development of buy-back law in Western Europe, especially concerning contractual liability and limitations arising from breaches, has been significantly influenced by rulings of the Court of Justice of the European Union, which have enhanced coordination and legal evolution within national systems (Anabi, 2023).

Similarly, in the United States, judicial precedents and federal court rulings regarding the impact of buy-back contracts in industrial and commercial sectors have guided the evolution of commercial law and the formulation of new regulations. Judges frequently emphasize, especially in cases involving technology transfer and commercial guarantees, the necessity for meticulous drafting of buy-back contracts and the safeguarding of parties’ rights. Moreover, in jurisdictions such as Germany, judicial decisions aligning buy-back laws with general obligations law have resulted in the establishment of rules aimed at protecting the weaker parties in these contracts.

Judicial precedents influence not only domestic legal development but also play a significant role in setting international standards. In international trade, court and arbitration decisions—particularly those concerning breaches of buy-back contracts—are recognized as important reference sources in shaping and amending international laws. Conventions and trade agreements such as the United Nations Convention on Contracts for the International Sale of Goods (CISG) are notably impacted by judicial approaches from various countries. Specifically, international arbitration awards on buy-back contract breaches have contributed to the formation of global standards for regulating commercial relations in such contracts. For example, arbitration tribunals at the London Court of International Arbitration (LCIA) and the International Chamber of Commerce (ICC) have issued rulings related to breaches of buy-back obligations—especially concerning intellectual property rights and trade secret protection—that establish worldwide standards for breach management and enforcement mechanisms (Jorda, 2007, p. 415).

In the realm of international commercial law, judicial rulings can lead to transformative legislative approaches and regulatory updates. Laws governing international sales and comparative law have frequently been influenced by judicial precedents from international courts dealing with buy-back contracts. This trend allows various countries to revise their laws in accordance with new international standards, thereby updating regulations to address modern market

demands and technical-commercial issues (Smith et al., 2008, p. 363).

Ultimately, it can be concluded that judicial precedents in buy-back contract law simultaneously consolidate legal principles and standards across various commercial domains and exert significant influence on the formation and amendment of international conventions and treaties related to such contracts.

Section Two: Recommendations for Enhancing the Protection of Trade Secrets in Countertrade

In this section, efforts were made to propose solutions for strengthening and improving the protection of trade secrets in the context of buy-back contracts. These proposals are divided into two main categories: first, legislative reforms and the enhancement of domestic laws aimed at safeguarding trade secrets in such contracts; and second, practical recommendations for companies and institutions to minimize the potential risks of unauthorized disclosure of confidential information. Considering the globalization of commercial relations and the increasing prevalence of buy-back contracts, it was essential to comprehensively and coherently reinforce both the legal and operational aspects of trade secret protection. Accordingly, legislative suggestions were made to improve alignment with international standards, alongside practical measures to reduce the risks of unauthorized information disclosure and to enhance legal awareness among economic actors.

Subsection One: Legislative and Reform Recommendations in Domestic Laws

Effective protection of trade secrets constitutes a fundamental pillar for sustainable economic development, fostering innovation, and maintaining competitiveness within advanced legal systems. In the Iranian legal framework, despite certain efforts manifested in fragmented laws such as the Electronic Commerce Act of 2003 (Articles 64 and following), the Protection of Authors, Composers, and Artists Act of 1969, and the Civil Liability Act of 1960, there remains a conspicuous absence of a comprehensive and dedicated statute specifically addressing trade secret protection. This legislative gap weakens the enforceability of civil and criminal sanctions against unauthorized disclosure of confidential information and creates ambiguity regarding the scope and definition of trade secrets.

Accordingly, it is strongly recommended to draft a comprehensive and standalone bill entitled "Trade Secrets Protection Act," which would provide a precise and systematic definition of trade secrets in line with international standards such as Article 39 of the TRIPS Agreement. The proposed legislation

should explicitly address conditions for protection, categories of infringement, evidentiary procedures, and comprehensive civil, criminal, and commercial remedies for violations. The draft law must be formulated to avoid conflict with the principle of freedom of contract while simultaneously reducing contractual risks, ensuring secure technology transfer, and promoting investment development.

Regarding enforcement mechanisms, the legislation should foresee compensation for material and moral damages arising from the unauthorized disclosure of confidential information (in accordance with the principles enshrined in Articles 1 and 2 of the Civil Liability Act). It should also provide for proportionate fines, discretionary imprisonment, temporary or permanent prohibition from engaging in related commercial activities, and injunctions against the publication or unauthorized use of disclosed information. Moreover, the establishment of specialized commercial courts with jurisdiction over trade secret disputes or the assignment of such matters to designated courts is essential.

Another critical point is the need to harmonize domestic laws with international treaties and standards on trade secret protection. Globally, the TRIPS Agreement, as a core annex of the World Trade Organization (WTO) Agreement, explicitly emphasizes in Article 39 the necessity of protecting "undisclosed information with commercial value." Additionally, the UNCITRAL Model Law on Electronic Commerce (1996) and the OECD Guidelines on Data Governance (2019) may serve as valuable references in drafting domestic legislation.

In light of global developments in digital commerce and technology transfer, it is advisable for the Islamic Republic of Iran to consider accession to broader international frameworks such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Trans-Pacific Partnership (TPP). These agreements establish stringent standards for protecting intangible assets, including trade secrets, industrial information, and personal data, thus providing effective legal tools to facilitate Iran's integration into the global value chain and expand technological and commercial cooperation.

Complementing these initiatives, recent regulatory advancements within Iran merit mention, including the draft bill on data protection and privacy in cyberspace prepared in collaboration with the Judiciary Research Institute and published in 2019, the issuance of executive guidelines for user privacy protection by the National Cyberspace Center in December 2023, and the approval of the Personal Data Protection Act by the Cabinet in July 2024. These measures represent

positive strides toward alignment with global standards; however, they must be supplemented by enacting a comprehensive trade secrets protection law to ensure legal coherence in safeguarding confidential information and sensitive data.

Therefore, implementing profound legislative reforms, enacting a dedicated trade secrets protection statute, establishing comprehensive enforcement provisions, forming specialized courts, and ultimately acceding to international treaties such as the TPP and CPTPP constitute effective steps to enhance Iran's legal framework in international trade, technology transfer, and foreign investment. These measures will not only bolster confidence among domestic and foreign economic actors but also facilitate the harmonization of Iran's domestic law with the principles and norms of global commerce.

Subsection Two: Practical Strategies for Companies and Organizations

In today's commercial world, the protection of trade secrets has become a fundamental pillar for the success and continuity of businesses. To effectively safeguard sensitive and strategic information, companies must adopt practical and efficient measures for managing trade secrets. Such measures can significantly prevent unauthorized disclosure and improper access to confidential information, as well as mitigate financial losses and damage to commercial reputation.

The first and most crucial step in trade secret management is the clear identification and classification of sensitive information within the organization. Companies need to explicitly define which information qualifies as trade secrets and assign specific access levels to each category. This may include financial data, marketing strategies, client and supplier information, as well as proprietary formulas and technologies. According to the 2021 UNCTAD report, transparency in defining trade secrets and providing precise management guidelines substantially reduces security risks and incidences of secret breaches.

The next essential step involves the use of confidentiality agreements and non-disclosure agreements (NDAs). Companies should employ these legal tools to protect their trade secrets and ensure that all external parties or individuals with access to sensitive information are contractually bound to confidentiality obligations. NDAs must clearly specify that disclosed information cannot be publicly shared or used without authorization for personal purposes. These contracts should include provisions on the duration of confidentiality, the rights and duties of

parties involved, and the penalties and consequences of breaches.

Furthermore, companies should implement technological mechanisms to control and monitor access to trade secrets. Such measures include data encryption, advanced security systems, and monitoring of employee and business partner activities. These technical safeguards are especially critical in technology firms and sensitive industries. Research by K. L. Smith (2019) indicates that the adoption of information technology and surveillance systems significantly reduces instances of trade secret violations.

Alongside legal and technical solutions, one of the most vital practical approaches for companies is employee education and the cultivation of a protective organizational culture. Training staff and fostering a culture of confidentiality are particularly important in work environments with large volumes of sensitive commercial information. Studies have shown that many data breaches occur due to employee negligence or lack of awareness about protection principles.

Continuous training is a necessary step, covering the importance of trade secrets, how to manage and access such information, and relevant national and international legal frameworks for trade secret protection. Training should also emphasize individual responsibility in safeguarding trade secrets. Often, violations result from inadequate knowledge or insufficient training among employees.

Cultural development should aim to establish a secure and accountable information security environment within the organization. A culture of trade secret protection must be institutionalized at all organizational levels, where every individual feels responsible for protecting sensitive information. This cultural reinforcement can be achieved through workshops, training sessions, group meetings, and encouraging safe behavior in the workplace. Many international companies, especially in the technology and pharmaceutical sectors, place strong emphasis on ongoing employee training related to the protection of sensitive data.

In conclusion, for effective protection of trade secrets, companies must prioritize continuous education and culture-building alongside technical and legal measures. These integrated approaches can ultimately reduce trade secret violations, enhance public trust in the company, and improve competitiveness in international markets.

Conclusion

This study analyzes the impact of countertrade on the transfer and protection of trade secrets in international contracts. In this regard, it examines the characteristics

and principles of countertrade, its relationship with the protection of trade secrets, and the mechanisms of technology and know-how transfer within the framework of international contractual arrangements. The findings of the study indicate that countertrade serves not only as a commercial tool to facilitate the exchange of goods and services, but also plays a fundamental role—particularly in technology-related agreements—in the transmission of trade secrets. Specifically, in contracts involving advanced technologies, countertrade can function as an effective mechanism for the transfer of proprietary information. Unlike conventional sales agreements or standard licensing arrangements, countertrade often implicitly incorporates safeguards for trade secrets and provides specific conditions for the protection of sensitive information during the transfer of technology and associated products.

These findings align with prior research asserting that countertrade, particularly in the context of technology transfer agreements, helps prevent the indiscriminate dissemination of sensitive information by embedding confidentiality and information security provisions. This feature elevates countertrade to a key instrument in international projects where the safeguarding of trade secrets is critical. This point has been notably emphasized in reports published by the World Trade Organization (WTO, 2021) and the United Nations Conference on Trade and Development (UNCTAD, 2020), both of which underscore that guaranteeing the protection of trade secrets in such contracts can strengthen commercial security and foster trust in international collaborations.

Furthermore, the findings suggest that in developing countries, the impact of countertrade on the protection of trade secrets can be significantly enhanced through specific contractual arrangements, which serve to prevent misappropriation during technology transfer. By incorporating precise legal and technical provisions aimed at safeguarding confidential information, countertrade contracts can effectively prevent unauthorized access and disclosure. This dimension has also been addressed in prior studies, such as those by Jorda (2007) and Pardo (2020), which focus on the economic and commercial dimensions of countertrade. In contrast, the present study emphasizes the legal aspects and the role of international law in the protection of trade secrets.

A comparative analysis of this study's findings with previous research reveals that the legal and economic assessments of countertrade in relation to trade secret protection have evolved toward a more comprehensive and multidimensional perspective. While earlier works primarily focused on the economic and commercial

aspects, the present research—by concentrating on legal implications, particularly within the international legal framework—demonstrates that countertrade can serve as a barrier to the unintentional disclosure of sensitive information, thereby playing a significant role in safeguarding trade secrets.

In conclusion, this research provides an in-depth analysis of the role of countertrade in technology transfer and the protection of trade secrets in the context of international contractual frameworks. It underscores the necessity of reinforcing protective mechanisms within countertrade agreements. The findings highlight not only the considerable potential of countertrade in protecting confidential business information but also the urgent need for more precise legal regulations at both the national and international levels.

The policy recommendations proposed in this study may contribute to strengthening legal and operational standards for the protection of trade secrets in countertrade agreements and improving the conditions for international commercial cooperation.

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