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Tartalomjegyzék

Miskolczi Bodnár Péter[1*]: A körülmények gyors változásához alkalmazkodó szabályok a Ptk. egyes szerződéstípusokra vonatkozó rendelkezéseiben

Absztrakt

A gyorsan változó piaci helyzet miatt a szerződéskötést követően kiderülhet, hogy a megrendelt nyersanyagra, alkatrészre, szolgáltatásra nincs szükség, de a szerződés ilyenkor is kötelező a felekre. A bírói szerződésmódosítás és a szerződés lehetetlenülésének bírói megállapítása legfeljebb kivételes helyzetekben oldja meg a problémát. A tanulmány arra keresi a választ, hogy a jogosultat illető elállási lehetőség gyakorlása révén a szerződéses kötelezettségek hozzáigazíthatók-e a változó szükségletekhez. Az objektív elállás megfelelő jogi eszköz lehet. Azért alkalmas a probléma kezelésére, mert mindkét szerződő fél és a társadalom érdekét, a környezetvédelem szempontját figyelembe véve képes kiküszöbölni az előre látható módon fölöslegessé váló munkát. A jogalkotó azonban nem használja ki az intézményben rejlő lehetőségeket, csak három szerződéstípus kapcsán nyílik lehetőség objektív elállásra.

Kulcsszavak: Ptk, szerződésmódosítás, elállás, lehetetlenülés, jogalkotó

I. A körülmények változásának szükségletcsökkentő hatása

A cégek igyekeznek hosszú távra szóló szerződésekkel előre biztosítani azt, hogy a későbbiekben

- gyártandó termékeikhez legyen elegendő nyersanyag, alkatrész és
- előállított termékeiket képesek legyenek értékesíteni.

Gyorsan változó világunkban azonban a szerződés megkötése és teljesítése közötti időben kiderülhet, hogy a megrendelt nyersanyagra, alkatrészre, szolgáltatásra nincs szükség. A változás többféle ok miatt következhet be. Az okok az értékesítési és a beszerzési oldalon is bekövetkezhetnek.

Nehezíti a jogosult által előállított termékek értékesítését, ha megszűnik, vagy lecsökken a kereslet a megrendelő által gyártani tervezett termékre, mert a felgyorsult technológiai fejlődés eredményeként könnyebben kezelhető, divatosabb termékek kerültek forgalomba (pl. mobiltelefon készülékek), vagy korszerűbb, nagyobb hatékonyságú termékek (pl. napelemek, akkumulátorok) váltak elérhetővé.

A beszerzési oldalon is bekövetkezhet változás, pl. ha jobb minőségű, vagy olcsóbb másik alkatrész is elérhetővé vált a piacon, amelyet célszerűbb felhasználni a korábban megrendelt helyett.

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II. Keresletváltozás és a jog

II.1. A megkötött szerződés főszabályként irányadó

A magánjog – főszabályként – nincs figyelemmel a körülmények változására. A pacta sunt servanda a polgári jog egyik alapvető tétele, nevezetesen a szerződéseket be kell tartani. A megkötött szerződés akkor is kötelező a felekre, ha az eddig előállított termékre már nincs kereslet, így az annak előállításához eredetileg szükséges nyersanyagra, alkatrészre, szolgáltatásra nincs szükség. Megfontoltan, előrelátóan és – bizonyos fokig – jövőbe látó jósként kell, kellene eljárni a szerződéskötéskor. Ha a szerződés érvényes és hatályos, akkor a megrendelt, de időközben szükségtelenné vált

- dolgot át kell venni, és az ellenértéket ki kell fizetni,
- a dolog átvételének és a fizetésnek az elmulasztása szerződésszegésnek minősül, ami kártérítést, esetleg kötbérfizetést von maga után.

A hagyományos jogi megoldások egyrészt drágák, másrészt rugalmatlanok, mivel több szempontból is pazarlásra vezetnek. Az alkatrészgyártó helyzete kockázatosabbá válik, mert van rá esély, hogy a másik fél önként nem fizeti meg a számára fölöslegessé vált termék árát, emiatt pert kell indítania, végrehajtási eljárást kell kezdeményeznie. A felhasználó kénytelen megfizetni az ellenértéket. Veszteségét esetleg megpróbálja csökkenteni, és értékesíteni az alkatrészt. Az átvett, de számára már szükségtelen terméket várhatóan csak a beszerzési ár alatt tudja eladni, feltéve, hogy egyáltalán sikerrel jár az értékesítés. Addig is kénytelen raktározni az árut és időt fordítani potenciális vevők felkutatására, és a velük folytatandó szerződéskötési tárgyalásokra. A szerződő feleket ért hátrányokon túl társadalmi szempontból veszteséget jelent a kapacitások pazarlása és a fölösleges környezetszennyezés, ami a szükségtelenné váló termék előállítása során bekövetkezik.

II.2. Jogi eszközök a keresletváltozás kezelésére

A tanulmány áttekinti a keresletváltozás miatt felmerülő problémák orvoslására bevethető jogi eszközöket, és részletesen elemzi az egyiket.

II.2.1. Bírói beavatkozás a felek szerződésébe

Létezik két olyan eszköz a bíróság kezében, amely révén el lehet kerülni a vázolt negatív hatások egy részét.

a) Bírói szerződésmódosítás

   A bíróság módosíthatja a szerződést a körülmények változása nyomán. Erre hat feltétel egyidejű fennállása esetén nyílik csak lehetőség, így ez egy meglehetősen ritkán

alkalmazott megoldás.[2] A kereslet csökkenése esetén a szerződésben rögzített mennyiségek bírói ítélet általi csökkentése esetleg megoldást jelenthet, de a kereslet teljes megszűnésével előálló problémákat bírói szerződésmódosítással sem lehet megoldani.

b) A szerződés lehetetlenülésének bírói megállapítása

A bíróság megállapíthatja a szerződés lehetetlenülését.[3] A bírói gyakorlatban a fizikai, vagy a jogi lehetetlenülés megállapítása elő-elő fordul, de napjainkban csak elvétve kerül sor annak kimondására, hogy a szerződés érdekbeli lehetetlenülésére került sor, arra tekintettel, hogy a jogosultnak már nem áll érdekében az, hogy a szerződést teljesítsék.

II.2.2. A felek által gyakorolható egyoldalú szerződésszüntető jogosultságok áttekintése

A szerződéses viszonyba történő, számos feltétel megvalósulását igénylő és ezért ritka bírói beavatkozásnál hatékonyabban szolgálja a változó körülményekhez való alkalmazkodást a szerződés egyoldalú megszüntetése valamelyik fél részéről. A tanulmányban elemzett helyzetben a jogosult által gyakorolható szerződésszüntetési hatalmasság érdemel részletesebb vizsgálatot.

Az elállás és a felmondás az a két nyilatkozat, amely megszünteti a szerződést, az elállás visszaható hatállyal, míg a felmondás a jövőre nézve.

Mind az elállás, mind a felmondás jogát biztosíthatja maga a szerződés és az fakadhat a Ptk. rendelkezéséből. Nem jellemző hazánkban az olyan szerződési gyakorlat, amely előre figyelembe veszi azt a lehetőséget, hogy a jogosultnak a teljesítésre kijelölt időpontban már nem lesz szüksége a szerződés tárgyát képező dologra és emiatt számára elállási vagy felmondási jogot biztosít maga a szerződés. Ezért a tanulmány a Ptk.-ban rögzített elállási és felmondási jogokat veszi górcső alá.

III. Az elállás

Az elállásra két körülményre tekintettel hatalmazza fel bármelyik felet a törvény:

- a másik szerződő fél szerződésszegése ill. az emiatt bekövetkező érdekmúlásra,

[2] Miskolczi Bodnár Péter: A szerződések módosítása rendkívüli helyzetekben in 10 éves a Polgári Törvénykönyv Miskolczi Bodnár Péter (szerk) Károli Gáspár Református Egyetem Állam- és Jogtudományi Kar, Budapest 2024. 153-170. o.

[3] Miskolczi Bodnár Péter: Érdekbeli lehetetlenülés és bírói szerződésmódosítás Jogtudományi Közlöny, 2024 évi. 5. szám 213 – 223. o.

- a körülmények nevesített változására – elsősorban a teljesítésre való alkalmatlanná válásra – tekintettel, utóbbi körülményre csak bizonyos szerződésekben lehet hivatkozni.[4]

Bizonyos alanyokat anélkül illet meg törvényi elállási jog, hogy az azt megalapozó körülményt a törvény részletezné és az elállási jogával élő személynek azt indokolni kellene. Ilye elállási joggal rendelkeznek

- a fogyasztók a vállalkozással kötött szerződésekben[5] és
- néhány szerződéstípus jogosultja.

  Utóbbi elállást objektív elállásnak is nevezik elhatárolandó a másik szerződő fél szerződésszegése miatti szubjektív elállástól. A tanulmány további része az objektív elállást elemzi, részben a tartósnak tekinthető vonások (4. pont), részben a 2014. évi Ptk.-ban megváltoztatott sajátosságok (5. pont) bemutatásával.

III.1. Az objektív elállás maradandó jellegzetességei

III.1.1. Az objektív elállás esetei

Néhány szerződéstípus kapcsán mind a régi, mind az új Polgári törvénykönyv feljogosítja a jogosultat a szerződés teljesítési határidő előtti egyoldalú megszüntetésére. Mindkét kódexben találunk ilyen rendelkezést a vállalkozási és a fuvarozási szerződés tekintetében a megrendelő ill. a feladó tekintetében. A régi Ptk.-ban a szállítási szerződés jogosultjának megrendelőnek, az új Ptk.-ban a fajta és mennyiség szerint meghatározott dolog határidős adásvétele kapcsán biztosít a jogosult (vevő) számára elállási jogot.

III.1.2. Az objektív elállás indokai

A tanulmányban bemutatott jogi megoldás alkalmas arra, hogy kiküszöbölje a kötelezett olyan munkáját, amelyről egyébként csak a teljesítési határidő bekövetkeztekor derülne ki, hogy elvégzése fölösleges volt. Az objektív elállás nyomán a szerződés megszűnése lehetőséget ad a kötelezett számára, hogy olyan tevékenységet végezzen más szerződések kapcsán, amely társadalmilag hasznos.

A régi Ptk. kommentárja az alábbiakkal magyarázza

[4] Miskolczi Bodnár Péter: A kötelezetthez kötődő körülmények változásának szerződésszüntető hatása (Glossa Iuridica megjelenés alatt)

[5] Fazekas Judit: Fogyasztóvédelmi jog 2.0. Gondolat Kiadó, Budapest 2022, Miskolczi Bodnár Péter: Fogyasztói szerződések

- a szállítási szerződés megrendelőjét megillető objektív elállási jogot „A Ptk. 381. § (1) bekezdésében foglalt rendelkezéssel megakadályozható … olyan termék gyártása, amelyekre a felek ugyan szállítási szerződést kötöttek, de azok vagy már a szerződés megkötésekor sem töltöttek volna be szükségletkielégítő funkciót, vagy a szerződés megkötése utáni időszakban az igények változása, módosulása miatt váltak szükségtelenné. A szabály érvényesülése révén elkerülhető, hogy a termelőkapacitást szükségletkielégítésre nem alkalmas, a piacon nem, vagy gazdaságosan nem értékesíthető termékek gyártására használják fel, illetve, hogy az ilyen termékekből felesleges készletek halmozódjanak fel. Az elállási jogosultság feloldja a szerződés merev kötöttségét és lehetővé teszi a változó szükségletekhez való alkalmazkodást …”[6]
- a vállalkozási szerződés megrendelőjét megillető objektív elállási jogot „A vállalkozási szerződés – más szerződésekhez hasonlóan – valamely szükséglet kielégítése céljából jön létre … . A teljesíts tehát szorosan kapcsolódik létrehozásának indokához. Olykor a szerződés megkötése után válik nyilvánvalóvá, hogy az a szükséglet, amelynek kielégítésre létrejött, valójában nem áll fenn, vagy megváltozott, s így a célzott eredmény létrehozására már nincs szükség. A megrendelő személyétől függetlenül indokolt számára biztosítani azt a jogot, hogy ilyen esetben a szerződés léte felett rendelkezzék. … (A gyakorlatban közhasználatú kifejezéssel: általános elállási jog.)”[7]
- a fuvarozási szerződés feladóját megillető elállási jogot „A Ptk. 496. § (1) bekezdése a feladót általános érvénnyel jogosítja fel a szerződéstől való elállásra, amennyiben a fuvarozási tevékenység még nem kezdődött meg. Hangsúlyozni kell, hogy az adott törvényhely szerint a szerződés megkötését követően, de a tényleges fuvarozás megkezdését megelőzően érvényesíthető elállásról van szó.”[8]

Megjegyezzük, hogy a fuvarozási szerződés feladóját megillető elállási jogot a jogirodalom általában nem sorolta az objektív elállási jogok közé.[9]

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[6] A Polgári törvénykönyv magyarázata 2 KJK-KERSZÖV Budapest 2004. 1479. o.

[7] A Polgári törvénykönyv magyarázata 2 KJK-KERSZÖV Budapest 2004. 1547. o.

[8] A Polgári törvénykönyv magyarázata 2 KJK-KERSZÖV Budapest 2004. 1805. o.

[9] Megítélésem szerint – legalábbis a régi Ptk.-ban – a fuvarozási szerződés tekintetében is fennállt az objektív elállás minden lényeges eleme:
a szerződésszerű teljesítés befejezésénél korábbi szerződésszüntető hatás,
a magatartás jogszerűsége,
a másik fél kárainak megtérítése.

III.2. Változások a régi Ptk.-hoz képest az objektív elállás új szabályaiban

III.2.1. Az objektív elállási jog gyakorlásának végpontja

1.1.1. Régi Ptk.

A régi Ptk. szállítási és vállalkozási szerződés esetén – helytelenül – úgy fogalmazott, hogy a jogosult bármikor elállhat a szerződéstől. A joggyakorlat azonban ezt úgy értelmezte, hogy a szerződésig, egész pontosan a szerződésszerű teljesítésig lehetett elállni.

- A teljesítés megkezdése előtt a jogosult élhetett az elállási jogával,
- a szerződés teljesítése alatt osztható szolgáltatás esetén azon kötelezettségekre nézve lehetett az elállási jogokat gyakorolni, amelyek tekintetében a teljesítés még nem kezdődött el,
- a hibásnak bizonyuló teljesítést követően pedig célszerű volt a szubjektív elállási joggal élni.

1.1.2. Új Ptk.

a) A fajta és mennyiség szerint meghatározott dolog határidős adásvétele kapcsán az új Ptk. az alábbi rendelkezést tartalmazza:
„A … vevő az eladó teljesítésének felajánlásáig elállhat a szerződéstől, ha az eladó a szerződést részletekben köteles teljesíteni és a szolgáltatás egy részének teljesítését már felajánlotta, akkor a vevő a teljesítésre még fel nem ajánlott szolgáltatásokra vonatkozóan a szerződést felmondhatja.”[10]

b) A vállalkozási szerződés kapcsán az új Ptk. az alábbi rendelkezést tartalmazza:
„A megrendelő a szerződéstől a szerződés teljesítésének megkezdése előtt bármikor elállhat, ezt követően a teljesítésig a szerződést felmondhatja.”[11]

c) A fuvarozási szerződés kapcsán az új Ptk. az alábbi rendelkezést tartalmazza:
„A feladó a szerződéstől a fuvarozás megkezdése előtt állhat el.”[12]

1.1.3. Értékelés

Az új Ptk.

- előbbre hozta az elállási jog gyakorlásának végső határidejét fajta és mennyiség szerint meghatározott dolog határidős adásvétele kapcsán, amikor a teljesítésnek nem a megkezdése, hanem a felajánlása zárja le a jogosultságot.

[10] Ptk. 6:231. § (3) bek.
[11] Ptk. 6:249. § (1) bek.
[12] Ptk. 6:262. §

- kiküszöbölte a régi Ptk. szövegének hibáját, amikor – összhangban a korábbi bírói gyakorlattal – pontosította a „bármikor” kifejezést a „teljesítés megkezdéséig bármikor” fordulatra változtatva azt.
- Nem változtatott az elállási jog gyakorlásának végső határidején a fuvarozás tekintetében.

  Összességében megállapítható, hogy a korábbi joggyakorlathoz képest – különösen a fajta és mennyiség szerint meghatározott dolog határidős adásvétele kapcsán a szállítási szerződéshez képest – rövidült az elállásra rendelkezésre álló idő. Nem érzem indokoltnak, hogy a másik két esettől eltérő végső határidőt rögzít a Ptk.

III.2.2. Az objektív elállási jog gyakorlása miatt fizetendő kártalanítás

1.2.1. Régi Ptk.

Az objektív elállási jog előnyös a jogosult és a szélesebb körben a gazdaság számára. A kötelezett számára azonban az elállási jog gyakorlása azt eredményezi, hogy nem kerülhet sor arra, hogy teljesítsen és így nem is kapja meg a szerződésben kikötött ellenértéket. Ezt a negatív következményt a régi kódex úgy kompenzálta, hogy kötelezte az elállási jogával élő jogosultat a kötelezett kárainak megtérítésére. Mivel a kötelezettet ért kár egy jogszerű magatartás következménye ezért a kár megtérítésére nem kártérítés, hanem kártalanítás címén kerül sor. A kárenyhítési kötelezettség azonban így is terheli a kötelezettet. A kárenyhítési kötelezettség részeként az elállási nyilatkozat eredményeként felszabaduló kapacitásait – amennyiben tud új megrendelést szerezni – köteles hasznosítani, és az eredeti szerződés teljesítéséhez beszerzett nyersanyagokat, alkatrészeket is köteles más szerződések teljesítésére felhasználni, amennyiben ez lehetséges.

1.2.2. Bizonyítási nehézségek

a) Tényleges kár

A kötelezett köteles bizonyítani azt, hogy

- mennyi időt fordított a teljesítésre való felkészülésre és az előkészületekre
- mit szerzett be a teljesítés érdekében és
- mibe kerültek a beszerzett nyersanyagok, alkatrészek.

A jogosult nincs abban a helyzetben, hogy kontrollálja azt, hogy

- hol tartott a teljesítésre való felkészüléssel a kötelezett az elállás időpontjában,
- tudja e beszerzett nyersanyagokat, alkatrészeket más szerződés teljesítésre felhasználni,
- képes e felszabadult kapacitásait más szerződés teljesítésre felhasználni.

Valójában tehát már a tényleges kár mértéke és a kárenyhítési kötelezettségként azt csökkentő bevétel nagysága is kérdéses. Korrekt, fair play szellemében történő együttműködés esetén ezek a nehézségek leküzdhetők lennének, de a mai magyar valóságot figyelembe véve valószínűsíthető, hogy

- a kötelezett olyan számlákat is bemutat, amelyek nem a szerződés teljesítéséhez szükséges beszerzési összegekről szólnak, vagy ilyen tételeket is tartalmaznak és
- elhallgatja a sikeres kárenyhítési tevékenységét.

b) Elmaradt haszon

Az elmaradt haszon mértékének megállapítása különösen sok bizonytalanságot rejt magában.

1.2.2. A bizonyítási problémák hatása a kötelezettre

Az előző pontban érzékeltetett bizonyítási problémák miatt a kötelezettek sokszor nem élnek az elállási jogukkal, mert

- ellenértékként lehetséges, hogy nem kell sokkal többet fizetniük, mint kártalanítás címén és
- a fizetési kötelezettség később keletkezik
- elkerülhető egy hosszú és költséges pereskedés a kártalanítás összegéről.

1.2.3. Az új Ptk.

a) A fajta és mennyiség szerint meghatározott dolog határidős adásvétele kapcsán az új Ptk. az alábbi rendelkezést tartalmazza:
„Az elállási vagy felmondási jog gyakorlásával az eladónak okozott kárért a vevő kártalanítási kötelezettséggel tartozik.”[13]

b) A vállalkozási szerződés kapcsán az új Ptk. az alábbi rendelkezést tartalmazza:
„A megrendelő elállási vagy felmondása esetén köteles a vállalkozónak
a díj arányos részét megfizetni, és
a szerződés megszüntetésével okozott kárt megtéríteni azzal, hogy
a kártalanítás a vállalkozói díjat nem haladhatja meg .”[14]

c) A fuvarozási szerződés kapcsán az új Ptk. - eltérően a régi Ptk.-tól – nem tartalmaz rendelkezést arra vonatkozóan, hogy a feladó köteles a fuvarozó kárát megtéríteni.

[13] Ptk. 6:231. § (3) bek.
[14] Ptk. 6:249. § (2) bek.

1.2.4. Értékelés

Mindenképpen hibaként értékelem azt, hogy nem konzekvens a szabályozás

- van ahol csak deklarálja a kártalanítási kötelezettséget,
- van ahol maximálja azt,
- van ahol hallgat róla.

Nehezen érthető a fuvarozásra vonatkozó szabály.

- Kártérítés fizetésére annak ellenére sem lehet kötelezni a feladót, hogy a károkozás önmagában tilos, azt nem kell külön nevesíteni, mivel a jogellenesség a kártérítés feltétele, ami itt hiányzik
- A kártalanítási kötelezettséget viszont nem mondja ki a kódex hatályos szabályai, tehát kártalanítás címén sem lehet az elállási jogával élő feladót a fuvarozót ért kár megtérítésére kötelezni.

Véleményem szerint ez az értelmezés a jogilag helyes, de méltánytalan, így rossz eredményre vezet. A fuvarozó kénytelen viselni az őt ért kárt, ami indokolatlan vagyoneltolódásra vezet a szerződő felek között. A kártalanítási kötelezettség hiánya miatt – megítélésem szerint – nem is lehet a feladó elállási jogát objektív elállásnak tekinteni.

IV. Összegző értékelés

A technológiai fejlődés gyorsulása folytán a szükségletek a korábbinál gyorsabban változnak. A kereslet módosulása ma erőteljesebben érinti a tartós szerződéseket, mint korábban. Nőt az igény olyan jogi eszközök iránt, amelyek révén a szerződéskötés és a teljesítési határidő között bekövetkező változásokra rugalmasan lehet reagálni.

Az objektív elállás olyan jogi eszköz, amely részben alkalmas a probléma kezelésére. Az objektív elállás képes mindkét szerződő fél és a társadalom érdekét figyelembe véve lezárni az ügyletet. A bírói szerződésmódosítás és a szerződés – tanulmányban nem érintett – felmondása mellett – megítélésem szerint – az objektív elállás az a jogintézmény, amely képes kezelni a körülmények változása miatt keletkező problémákat. Tény, hogy a kapacitások fölösleges lekötésének elkerülése ma kevésbé égető probléma, mint a hiánygazdaságban. A környezetvédelem és az energia felhasználás mérséklése azonban ma még inkább indokolná a szennyező és energiapazarló tevékenységek elkerülését.

Tartok tőle, hogy a jogalkotó nem használja ki az intézményben rejlő lehetőségeket. Változatlanul csak három szerződéstípus kapcsán nyílik lehetőség objektív elállásra, és ezek egyikét a gyakorlatban ritkábban alkalmazzák, mint „elődjét” a szállítási szerződést. A Ptk. nem kezeli egységesen a három szerződéstípusban alkalmazható elállási jog szabályait. Az elállási

jog alkalmazhatóságának végső határideje a 2013. évi Ptk.-ban közelebb került a szerződéskötés időpontjához, így rövidebb idő áll nyitva a szerződéses viszony gyors lezárására. A fuvarozás kapcsán a Ptk. nem kötelezi kártalanításra az elállási jogával élő feladót, ami hátrányos a fuvarozóra. Ez ugyan növelheti az elállási jog alkalmazásának esélyét, de ilyen áron ezt nem látom célszerűnek. A vállalkozási szerződés kapcsán ugyan a jogalkotó törekszik arra, hogy jogi keretek között tartsa a kártalanítás címén fizetendő összeg nagyságát, de itt is szükség lesz arra, hogy a joggyakorlat pontosítsa az új szabályt.

Összességében a jog az objektív elállás új szabályaival nem vált rugalmasabbá, a korábbinál nem segíti jobban a szerződés során felmerülő keresletváltozás problémájának megoldását.

Botond Breszkovics[15]*: A brief summary of MiCA's white paper requirements[16]

Abstract

One aspect of the regulatory trend in crypto-assets is the development of provisions to protect investors in relation to initial coin offerings (ICOs). These rules essentially summarize detailed rules on transparent and adequate prospectus information. These rules serve not only to protect investors but also to ensure fair play on the markets. The so called white paper is a document which focuses on the prospectus disclosure of investors in a decentralized finance (DeFi) regime. This paper provides a brief overview of the whitepaper requirements established by the MiCA. It takes into account the fundamentals of prospectus disclosure requirements applicable in the European Union's centralised financial markets (CeFi).

Keywords: MiCA, whitepaper, blockchain, ICO, DeFi, CeFi,

I. The main historical milestones of CeFi prospectus disclosure in the EU

The prospectus disclosure in the CeFi system is a regulated institution under capital market law. To provide a broad range of information, the institution of the prospectus or prospectus is used.[17]The function of the prospectus is not only to provide detailed information to investors, but also to attract their interest.[18]

In the European Union, the relevant legislation covers the regulation of the prospectus to be published when securities are offered to the public, previously set out in Directive 2003/71/EC,[19] and nowadays regulated by Regulation (EU) 2017/1129.[20] In particular, the Regulation is suitable to harmonize the prospectus rules applicable throughout the EU when

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[16]A KULTURÁLIS ÉS INNOVÁCIÓS MINISZTÉRIUM ÚNKP-23-3-II KÓDSZÁMÚ ÚJ NEMZETI KIVÁLÓSÁG PROGRAMJÁNAK A NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS ALAPBÓL FINANSZÍROZOTT SZAKMAI TÁMOGATÁSÁVAL KÉSZÜLT

[17] Kecskés András - Halász Vendel: A 2003/71/EK irányelv (prospektus irányelv) szabályozási rendszere és a kibocsátási tájékoztatók új szabályozása. 2019. Európai Jog, 2019(4), 1-3. pp.

[18] Ross Geddes: IPOs and Equity Offerings (Securities Institute Global Capital Markets) 1st Edition. 2003. Butterworth-Heinemann, 94-98. pp.(ISBN: 978-0-7506-5538-5)

[19] Directive 2003/71/EC of the European Parliament and of the Council of 4 November 2003 on the prospectus to be published when securities are offered to the public or admitted to trading and amending Directive 2001/34/EC (Text with EEA relevance) (hereinafter: Prospectus Directive). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003L0071 (2024. 06. 06.)

[20] Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/ECText with EEA relevance. (hereinafter: Prospectus Regulation) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R1129 (2024. 06. 06.)

securities are offered to the public or admitted to trading on a regulated market.[21] The efforts to standardize prospectus information itself have an independent international dimension, which is fueled by the development of standards to help legal practice. One example of this is the International Disclosure Standards published by the International Organization of Securities Commissions (IOSCO) in September 1998.[22] These IOSCO standards are designed to facilitate the smooth conduct of cross-border securities issues.[23]

II. The fundamental characteristics of CeFi's prospectus disclosure in the EU

The purpose of the Prospectus Regulation is complex, focusing on simplifying the previous regulatory regime, reducing bureaucracy and providing clear yet simple information, while maintaining the priority of investor protection.[24] The preamble to the Prospectus Regulation states that, because of the specificities of different securities, issuers, offerings and listings, the Regulation lays down rules for several different forms of prospectus.[25] It also distinguishes between primary offerings of securities with or without prospectus disclosure. As a general rule, the disclosure of a prospectus is compulsory, with a possibility to exempt it if one of the situations listed in the Prospectus Regulation is fulfilled.[26]

The prospectus consists of three main parts: the registration document, the securities note and the summary.[27] This separation is derived from a logical interpretation of the Prospectus Regulation and consistently found in the rules regarding the separate documents that compose the prospectus.[28] The registration document contains information on the issuer.[2930] A special version of the registration document is the universal registration document, which provides a comprehensive information on the situation of the issuing company.[31] The securities note provides information on securities offered to the public or to be admitted to trading on a

[21] Szilovics Csaba: Az állami pénzügyek rendszere. In: Kálmán, János (szerk.) A pénzügyi jog alapintézményei. ORAC, Budapest, 2022, 258-303. pp.
[22] International Organization of Securities Commissions: International Disclosure Standards for Cross-Border Offerings and Initial Listings by Foreign Issuers. 1998. szeptember. https://www.iosco.org/library/pubdocs/pdf/IOSCOPD81.pdf (2024. 05. 21.)
[23] Kecskés András - Halász Vendel. op.cit. 2019. 1-2. pp.
[24] Prospectus Regulation. Preamble (1)-(89).
[25] Regulation (EU) 2017/1129. Preamble (24).
[26] Regulation (EU) 2017/1129 . Article 1 (4) a)-j).
[27] Regulation (EU) 2017/1129. Article 7 (1).
[28] Regulation (EU) 2017/1129. Article 6 (3) 2nd turning point, Article 10 (1)-(3).
[29] Regulation (EU) 2017/1129. Article 9 (1)-(14).
[30] Regulation (EU) 2017/1129. Article 13 (2)
[31] Regulation (EU) 2017/1129. Preamble (39).

regulated market.[32] The summary includes all the key information investors need to know to understand the nature and associated risks of the issuer, the guarantor and the securities being offered or admitted to trading on a regulated market. When it is read together with the other parts of the prospectus, the summary also helps investors to make investment decision.[33]

In the European Union's CeFi system, the initial public offering of securities is subject to the disclosure of the prospectus, the mandating of the investment service provider[34] and the Supervisory Authority's approval of the prospectus.[35] The timeframe is tight, as the validity period is 12 months after the approval of the prospectus,[36] with an additional period for making the approved prospectus publicly available, which effectively means publishing it on the issuer's website.[37] These three key moments, until the approval of the prospectus by the Supervisor, are prior to the initial public offering. While other stages, following the completion of the initial public offering process, are the allocation or eventual redemption of the securities and the reporting of the result of the offering to the Supervisor.[38] These main stages are the phases of the IPO, which are strictly regulated by capital market law to ensure a transparent and prudent market operation and sound investor protection.

III. The fundamental characteristics of DeFi's white paper and lite paper disclosure

Moving to the decentralized finance system,[39] the starting point is the ICO. Because in this case, we are talking about a block chain project, which is new to investors, and which is preparing to raise capital from the public. Hence, in an ideal case, it is vital that the project team provides transparent and comprehensive information to the target audience, thus helping to build investor trust and the success of the fundraising. Over more than a decade, the crypto sector has developed its own disclosure documents, called whitepaper for larger projects and lite paper for smaller projects.

[32] Regulation (EU) 2017/1129. Article 6 (3). 2nd turning poin.

[33] Regulation (EU) 2017/1129. Article 7 (1).

[34] Kecskés András – Bujtár Zsolt: Az árnyékbankrendszer jogi szabályozása az Egyesült Államokban és az Európai Unióban. 2017. JURA 23(1). 267-270. pp.

[35] Szilovics Csaba: *Pénzügyi Jog* [Financial Law]. Inter-Szféra Kft, Pécs, 2020, 381. pp.

[36] Regulation (EU) 2017/1129 Article 12 (1).

[37] Regulation (EU) 2017/1129 Article 21 (1)-(13).

[38] Kecskés András - Bujtár Zsolt - Halász Vendel: Tőzsdeuniverzum. 2019. HVG-ORAC Lap- és Könyvkiadó, Budapest. 204. pp.. (ISBN: 9789632584317)

[39] Bujtár Zsolt: A digitális jegybankpénz bevezetésének kihívásai Magyarországon és az Európai Unióban. In: Kis Kelemen Bence – Mohay Ágoston (szerk.). A technológiai fejlődés jogi kihívásai: Kézikönyv a jogalkotás és jogalkalmazás számára. 2021. Pécs, Pécsi Tudományegyetem Állam- és Jogtudományi Kar, 22. pp

First of all, it should be noted that before the emergence of the crypto sector, whitepaper documents were created for different purposes and used in different ways. During this period, whitepaper may have functioned as an informal document used for marketing purposes. On the other hand, it could be a document providing business information resulting from direct cooperation between businesses, or it could be a summary of a business organization's policy and governance objectives.[40][41]

In contrast, in the crypto sector, a whitepaper is a document, typically a short document, which contains clear and easily understandable information about a project. The scope of the information is not defined and it varies from project to project. Indeed, the whitepaper is the only document that serves to inform users and plays a critical role as an investor protection instrument. In reality, another common instrument is the lite paper, which is used by smaller projects. The lite paper can also be described as a disclosure document for investors, almost like a snipped version of the whitepaper. A lite paper is generally a short document consisting of a few pages in plain English.

III.1 The general features of the MiCA white papers

The concept of a whitepaper is introduced in the preamble of the MiCA as an information document providing disclosure of mandatory information to the public. A crypto-asset base document must be prepared by offerors or persons applying for admission to trading of specified crypto-assets when making a public offer of such crypto-assets in the European Union or when applying for admission to trading of such crypto-assets. Thereafter they must send it to the competent authority and finally publish it. Here it should be noted that at the request of the competent authority, a crypto-asset marketing communication must also be sent.[42] While publishing the duly submitted documentation is an obligation of the competent authorities.[43]

The whitepaper should contain general information, without describing risks that are unforeseeable and highly unlikely to occur.[44] A key requirement for the content is that it should

[40] Bujtár Zsolt: A kriptovaluták európai és máltai szabályozásának összehasonlítása. 2018. Európai Jog, 2018(5) 9. pp.
[41] World Economic Forum: The Complex Regulatory Landscape for FinTech. An Uncertain Future for Small and Medium-Sized Enterprise Lending. White Paper. 2016. augusztus. https://www3.weforum.org/docs/WEF_The_Complex_Regulatory_Landscape_for_FinTech_290816.pdf (2024. 05. 18.)
[42] Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 (Text with EEA relevance) (hereinafter: MiCA). MiCA Preamble (31)
[43] MiCA Preamble (35)
[44] MiCA Preamble (24).

be fair, clear and free from misleading information. If these requirements are not met, the competent authority may suspend or prohibit the public offer or admission to trading of crypto-assets.[45]

III.2 The different white papers and their disclosure elements under MiCA

The MiCA specifies the obligatory content of the whitepaper, which is discussed in more detail in Annex I.[46] The general requirement for content is that all information must be true, clear and not misleading. Further, the whitepaper must not leave out any essential information and must be presented in a brief and understandable form.[47] According to the language requirements, the whitepaper must be prepared in an official language of the Member State in which the issuer is established or in a commonly used language in the international financial sector.[48] The format must be computer readable.[49] The structure of the whitepaper is laid down in the Annex referred to in the above-mentioned number, using a uniform scheme.

The MiCA regulatory framework regulates three different whitepapers, corresponding to the types of named crypto-assets. Thus, there is a set of requirements for crypto-assets other than asset-referenced tokens or e-money tokens, as well as a number of rules covering asset-referenced tokens and last but not least e-money tokens. The regulation is structured in a uniform scheme but is not identical. The obligatory content of the whitepaper is set out in a table below for easy understanding.[50]

[45] MiCA Preamble (34) and (47)
[46] MiCA Article 6 (1) a)-j).
[47] MiCA Article 6 (2).
[48] MiCA Article 6 (9)
[49] MiCA Article 6 (10)
[50] MiCA Annex I, II, III.

Disclosure items for the crypto-asset white papers			
Parts	**Crypto-assets other than asset-referenced tokens or e-money tokens**	**Asset-referenced tokens**	**E-money tokens**
A	Information about the offeror or the person seeking admission to trading	Information about the issuer of the asset-referenced token	Information about the issuer of the e-money token
B	Information about the issuer, if different from the offeror or person seeking admission to trading	Information about the asset-referenced token	Information about the e-money token
C	Information about the operator of the trading platform in cases where it draws up the crypto-asset white paper	Information about the offer to the public of the asset-referenced token or its admission to trading	Information about the offer to the public of the e-money token or its admission to trading
D	Information about the crypto-asset project	Information on the rights and obligations attached to the asset-referenced token	Information on the rights and obligations attached to e-money tokens
E	Information about the offer to the public of crypto-assets or their admission to trading	Information on the underlying technology	Information on the underlying technology
F	Information about the crypto-assets	Information on the risks	Information on the risks
G	Information on the rights and obligations attached to the crypto-assets	Information on the reserve of assets	-
H	Information on the underlying technology	-	-
I	Information on the risks	-	-

Table 1: Disclosure elements for different white papers. /edited using canva.com/

As an additional essential element to the information in Table 1, where the whitepaper is not prepared by offeror or the person seeking admission to trading or the operator of the trading platform, it must include information on the identity of the person who prepared it and the reason why that person prepared the document.

The whitepaper must also include on the first page a statement warning that the whitepaper has not been approved by a competent authority stating that ‘This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The

offeror of the crypto-asset is solely responsible for the content of this crypto-asset white paper.'.[51]

This is followed by different safeguard statements to protect investors, such as a warning that the crypto asset may partly or fully lose its value and that the crypto asset may become illiquid.[52] It is also prohibited to make any statements about the future value of the crypto-asset.[53] This is followed by a statement from the management body of the crypto project. This is made by the management body of the offeror or the person seeking admission to trading or the operator of the trading platform.[54] A further safeguard element to protect crypto asset holders is that the offerors or persons applying for admission to trading and their board members are legally liable under civil law for the information provided to the public in the whitepaper.[55]

After the management body's statement, the whitepaper finally includes a summary, which provides key information relating to the initial public offering or planned admission to trading of the crypto-asset in a short and clear manner, without the complexity of technical language. The summary shall be simple, understandable, and in plain English with readable characters. The summary of the whitepaper shall support the decision-making process of potential holders of the crypto-asset.[56] However, only knowing the summary is neither sufficient nor can it be the reason for an investment decision.

We can see that different whitepapers are basically structured in three relevant parts, these are the investor protection statements, followed by the management board's guarantee statements and then a summary of key information. Finally, from the perspective of the legislator, European Securities and Markets Authority (ESMA) in cooperation with the European Banking Authority (EBA) s facilitating the preparation of MiCA-compliant whitepapers by developing draft standards, templates and formats.[57]

III.3 Exemptions from the whitepaper disclosure obligation

In order to ensure proportionality, the law provides three exemptions for issuers from the requirements to prepare and publish the white paper. Firstly, these include offerings of crypto-assets other than asset-referenced tokens or e-money tokens, which are made available to fewer

[51] MiCA Article 6 (3).
[52] MiCA Article 6 (5) a)-f)
[53] MiCA Article 6 (4).
[54] MiCA Article 6 (6)
[55] MiCA Preamble (39)
[56] MiCA Article 6 (7).
[57] MiCA Article 6 (11)-(12)

than 150 persons per Member State. Secondly, offerings of crypto-assets to qualified investors, which are only available to them. Thirdly, small and medium-sized enterprises (SMEs) and innovative start-up companies are excluded from the whitepaper disclosure obligation. In this last case, the requirement is that SMEs offer crypto-assets other than asset-referenced tokens or e-money tokens for public offer for purchase in the EU within a 12-month period, not exceeding a total value of €1,000,000.[58]

Furthermore, the law also favours those market participants already providing services and activities related to crypto-assets other than asset-referenced tokens or e-money tokens offered before the MiCA enters into force. In this case, the legislator exempts issuers of such crypto-assets from the whitepaper disclosure requirements in order to avoid the disruption of existing business' flows and the disruption of the market. However, some obligations will apply if such crypto-assets have been listed for trading before the application date of MiCA.[59]

Finally, it is important to note that offerings that involve utility tokens for goods or services that are not yet available to the public, the public offering period specified in the white paper should not exceed 12 months. This limitation on the duration of the public offer is unrelated to when the product or service will become available and usable by the holder of the utility token after the expiry of the public offer period.[60]

IV. Closing thoughts

Based on the above, it is my view that although the CeFi and DeFi systems are conceptually different, there is an overlap between regulation of fundraising and the public offerings in the two different sectors. These similarities include, for example, the scope of the rules on the form, content and language requirements of prospectus disclosure documents. The existence of similarities is logical, as legislation has a universal, sector-independent objective of protecting and informing investors in a transparent market environment. In my view, the MiCA's rules on whitepapers are de iure capable of providing investor protection in a transparent DeFi market where users and investors can make investment decisions with adequate information. However in my view, the de facto effectiveness of whitepaper disclosure will only be properly measured in a few years' time.

To conclude my thoughts, I would like to point out that the MiCA's regulation on whitepaper is definitely worthwhile, but by no means a novelty. Indeed, the legislation in Malta as early as

[58] MiCA Preamble 6 (27)
[59] MiCA Preamble (113)
[60] MiCA Preamble (30)

2018 created three overlapping legal instruments, which when read and applied together were intended to cover the regulation of the crypto ecosystem. The output of the legislation were namely the Malta Digital Innovation Authority Act (MDIA Act),[61] the Innovative Technology Arrangements and Services Act (ITAS Act)[62] and last but not least the Virtual Financial Assets Act (VFA Act).[63] Among the cited acts, the VFA Act provided the detailed regulation of whitepapers, which drastically reduced the level of investor vulnerability. The legislator already made a distinction between general[64] and specific[65] requirements regarding the content of whitepapers. In addition, the legislator published a series of guidance documents[66] to assist legal practitioners, for instance a guide to the registration of whitepapers. Currently ' The nature and art of financial supervision' series contains 6 volumes, [67] and Part 2 of this series contains specific practical statements on VFA offerings.[68]

[61] Malta Digital Innovation Authority Act (MDIA). https://legislation.mt/eli/cap/591/eng/pdf (2024. 06. 06.)

[62] Innovative Technology Arrangements and Services Act, ITAS. https://legislation.mt/eli/cap/592/eng/pdf (2024. 05. 18.)

[63] Virtual Financial Assets Act (VFA). https://legislation.mt/eli/cap/590/eng/pdf (2024. 06. 06.)

[64] VFA Act. Annex 1. 1-4.

[65] VFA Act. Annex 1. 6-13.

[66] MFSA: Whitepaper registration form guideline. 2019. https://www.mfsa.mt/wp-content/uploads/2019/05/VFAG_VFAWhitepaperRegForm_2.00.pdf (2024. 05. 18.)

[67] MFSA: The nature and art of financial supervision. https://www.mfsa.mt/publications/corporate-publications/the-nature-and-art-of-financial-supervision/ (2024. 05. 18.)

[68] MFSA: The nature and art of financial supervision. Volume II. Virtual financial assets VFA agents, VFASPS and IVFAOS. 2020. december 23. https://www.mfsa.mt/wp-content/uploads/2020/12/The-Nature-and-Art-of-Financial-Supervision-Volume-II-Virtual-Financial-Assets.pdf (2024. 05. 18.)

Hanin Ghanem[69*]: The role of technical progress in developing contract theory

Abstract

This research paper explores the profound impact of technological progress on the development of contract theory. With the advent of digital technologies, traditional contract models have undergone significant transformations, leading to new theoretical frameworks and practical applications. By studying the impact of technical progress, including artificial intelligence, on the automation of contracts, this paper examines how technological progress has reshaped the general theory of contracts, and the emergence of new types of contracting. By illustrating the challenges and opportunities presented by digitalization, this study aims to provide valuable insights into the evolving landscape of contract theory in the digital age.

Keywords: technical progress, artificial intelligence, contract automation, contract theory

I. Introduction

The intersection of technological progress and contract theory has significantly influenced the way contracts are conceived, interpreted, and enforced. From ancient times to the digital age, advancements in technology have reshaped the landscape of contract theory, driving innovation and evolution in legal frameworks. The evolution of contract theory can be traced back to ancient civilizations, where rudimentary forms of agreements were based on oral traditions and societal norms. However, as societies became more complex and interconnected, the need for formalized contracts arose. The invention of writing systems enabled the documentation of agreements, leading to the emergence of written contracts in ancient Mesopotamia and Egypt. Throughout history, technological advancements such as the printing press and telegraph revolutionized the dissemination of legal information and facilitated long-distance communication, contributing to the standardization and codification of contract law. The Industrial Revolution further accelerated the development of contract theory, as new economic relationships and modes of production necessitated more sophisticated contractual arrangements.

In the 20th and 21st centuries, rapid advancements in information technology have ushered in a new era of contract theory. The digitization of legal documents, the advent of electronic signatures, and the proliferation of contract management software have transformed the way contracts are created, executed, and stored. These technological tools have streamlined contract processes, reduced administrative burdens, and enhanced collaboration between parties. Moreover, the rise of blockchain technology and smart contracts has revolutionized contract

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theory by introducing decentralized, self-executing agreements that are tamper-proof and transparent.

this article aims to illustrate the pivotal role that technological advances and artificial intelligence play in shaping the legal landscape that governs the formation of contracts and legal procedures. It aims to achieve this by delving into three main areas: first, clarifying the concept of artificial intelligence and its role in the field of law; Second: Clarifying the concept of Blockchain technology, and Third: Exploring the impact of technological progress on the automation of contracts. Through this exploration, we aim to provide insights into the transformative potential of technology in revolutionizing legal processes and regulatory frameworks.

II. What is Artificial Intelligence (AI)?

Artificial intelligence (AI) refers to the simulation of human intelligence processes by machines, particularly computer systems. These processes include learning (acquiring information and rules for using it), reasoning (using rules to reach approximate or definite conclusions), and self-correction. AI can be applied to tasks traditionally requiring human intelligence, such as visual perception, speech recognition, decision-making, and language translation.

AI is defined as the field that seeks to understand the nature of human intelligence by creating programs on computers that imitate actions, actions, and intelligent behaviors[70]. It is also defined as the study of how to make computers do things that humans currently do better. Some have defined it as a set of scientific theories and modern technologies used to create machines capable of carrying out tasks and actions that humans previously carried out.[71]

Based on the previous definitions, it can be said that artificial intelligence is advanced technologies that simulate human behavior by programming machines that can think independently of humans. It is the field of computer science dedicated to solving cognitive problems typically associated with human intelligence, such as learning, creativity, and image recognition. Modern organizations collect large amounts of data from various sources such as smart sensors, human-generated content, monitoring tools, and system logs. Artificial

[70] Raafat Al-Obaidi, 2015: The role of artificial intelligence in achieving green production, in: Kirkuk University Journal of Administrative and Economic Sciences, Volume 5, Issue 1, Iraq, pp. 37-40.
[71] Mubarka Al-Ghanj, 2023: The Legal Personality of Intelligent Robots: Legal Challenges, International Forum on the Governance of Artificial Intelligence Systems in the Balance of Sharia and Law, Algeria, p 40-56.

intelligence aims to create self-learning systems that extract meaning from data. AI can then apply that knowledge to solve new problems in human-like ways. For example, AI technology can respond meaningfully to human conversations, generate authentic images and text, and make decisions based on real-time data inputs. Organizations can integrate AI capabilities into their applications to improve their business processes, improve customer experiences, and accelerate innovation.

III. The Development of Artificial Intelligence

The origins of artificial intelligence (AI) can be traced back to the middle of the 20th century when Alan Turing's groundbreaking research laid the groundwork for computational thought and machine intelligence. In his seminal 1950 paper titled "Computing Machines and Intelligence," Turing explored the concept of machines exhibiting cognitive capabilities, coining the term "artificial intelligence" and introducing it as a theoretical and philosophical concept. [72]

Between 1957 and 1974, advancements in computing technology enabled computers to store and process larger volumes of data at faster speeds. During this period, scientists began developing machine learning (ML) algorithms, prompting organizations like the Defense Advanced Research Projects Agency (DARPA) to allocate funding for AI research. Initially, the focus was on investigating the feasibility of computers transcribing and translating spoken language. Throughout the 1980s, progress in AI was facilitated by increased funding and the expansion of algorithmic tools available to researchers. Notable contributions include the research on deep learning techniques by David Rumelhart and John Hopfield, demonstrating computers' ability to learn from experience.

From the 1990s to the early 2000s, significant milestones were achieved in AI research, such as defeating the world chess champion. With modern advancements in computing power and data availability, AI research has become more widespread and accessible. There is a growing focus on developing general artificial intelligence capable of performing complex tasks,

[72] Asia Bin Daoud - Sabiha Abdel-Lawi, 2023: The role of employing artificial intelligence in activating the digital market to achieve institutional excellence, International Forum on the Governance of Artificial Intelligence Systems in the Balance of Sharia and Law, Algeria, p. 113-130.

including creation, decision-making, and autonomous learning, tasks previously exclusive to human intelligence.[73]

With the continuation of research and experiments to develop artificial intelligence, the efforts of researchers resulted in them being able to access an artificial intelligence program that simulates the knowledge and analytical skills that were limited to human activity, and could only be done by humans. This was done through new programs called systems programs. The expert, who achieved remarkable commercial and scientific success, prompted countries to pay attention to this research activity and fund it to advance it. Then, the successes of artificial intelligence continued and spread to include many aspects of life, especially at the beginning of the current century.

IV. The role of artificial intelligence in the field of law

At its core, the field of "AI and law" revolves around leveraging computer and mathematical methodologies to enhance various aspects of the legal domain, making it more comprehensible, manageable, useful, accessible, or predictable. This notion can be traced back to Gottfried Leibniz in the 1600s, who, in addition to being a renowned mathematician and co-inventor of calculus, possessed a background in law and was among the earliest proponents of exploring how mathematical formalisms could enhance legal systems.

In more recent times, particularly since the mid-twentieth century, there has been a notable trend of researchers drawing upon concepts from computer science and artificial intelligence to address legal challenges. This trajectory of AI's integration into the legal field closely mirrors the broader evolution of AI research. Initially, AI applied to law primarily concentrated on knowledge representation and rules-based legal systems. Much of this early research originated from university laboratories, with a significant concentration of activity in Europe. [74]

From the 1970s to the 1990s, numerous projects within the realm of AI and law focused on formally modeling legal arguments in a format conducive to computer processing and computationally representing legislation and legal regulations. Notably, since 1987, the International Conference on Artificial Intelligence and Law (ICAIL) has been hosting regular conferences, providing a platform to showcase the application of AI techniques to various legal

[73] Ibrahim Al-Desouki Abu Al-Layl, 2020: Smart Contracts and Artificial Intelligence and their Role in Automating Contracts and Legal Actions, in: Law Journal, Kuwait University - Scientific Publishing Council, Volume 44, Issue 4, Kuwait, pp.17-73.

[74] Trevor Bench-Capon, et al, 2012: A History of AI and Law in 50 Papers: 25 Years of the International Conference on AI and Law, in: Journal of Artificial Intelligence and Law, volume 20, p 215- 319.

contexts[75]. Since around the year 2000, the field of AI and law has shifted its focus from knowledge representation techniques to machine learning-based approaches, mirroring the broader trends within the AI domain. In recent years, many novel applications in AI and law have emerged from legal technology startups employing machine learning to enhance the efficiency and effectiveness of legal processes[76]. Additionally, significant advancements in AI and law have arisen from collaborative efforts between interdisciplinary university research centers, such as Stanford University's CodeX Center for Legal Informatics.[77]

AI holds a significant position within the legal realm, particularly amidst the proliferation of digital transformation technologies permeating various legal, social, and economic domains. Through smart machines, digital technologies, and their diverse algorithms, AI conducts numerous tasks, including those encompassing various legal facets, previously limited to human involvement. This burgeoning importance has elevated AI to the status of a third legal entity alongside humans and other traditional legal entities, such as corporations, associations, and legally recognized institutions.

The legal significance of AI manifests across numerous dimensions, notably within the realm of contracts and legal proceedings, owing to its capacity to streamline and facilitate the negotiation, scrutiny, validation, and execution of such actions and legal processes. This is exemplified through smart contracts, which obviate the need for intermediaries or third-party intervention, such as lawyers or notaries. Furthermore, AI extends its utility to a spectrum of legal tasks, including the preparation of legal documents like memorandums, comprising various arguments, evidences, and defenses. Recent studies have underscored AI's prowess in reviewing contracts and legal agreements, parsing through their diverse legal intricacies to identify errors and potential legal risks with remarkable precision. Moreover, AI's predictive capabilities extend to anticipating judicial rulings, with successful tests showcasing its ability to forecast the outcomes of hundreds of cases presented before the European Court of Human Rights, achieving an impressive accuracy rate of 79%.[78]

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[75] Kwadwo Osei Bonsu, 2020: Understanding the Benefits, Demerits and Criticisms of the Revolution of Computational Analysis and Artificial Intelligence in Law, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3630932. (13.04,2024)

[76] Daniel L. Farris, 2018: Top 5 Trends in Legal Tech and Privacy for 2019, WESTLAW J. CLASS, https://foxrothschild.gjassets.com/content/uploads/2018/12/WLJ_HEA2608_Farris.pdf (13.04,2024)

[77] See generally CodeX: Stanford Center for Legal Informatics, STANFORD LAW SCHOOL, https://law.stanford.edu/codex-the-stanford-center-for-legal-informatics/. (22.04,2024)

[78] Ibrahim Al-Desouki Abu Al-Layl, 2020: Smart Contracts and Artificial Intelligence and their Role in Automating Contracts and Legal Actions, in: Law Journal, Kuwait University - Scientific Publishing Council, Volume 44, Issue 4, Kuwait, pp.17-73.

The proliferation of AI has given rise to many legal challenges, particularly within the realm of contracts and legal proceedings. These challenges encompass various issues, most notably the determination of the legal framework underpinning the validity and enforceability of AI-generated actions. Contracts and legal actions inherently involve the notion of intent, requiring not only the will and capacity of the parties involved but also legal personality on the part of the entity executing them.

The question arises: Does artificial intelligence possess the requisite legal personality to engage in contractual agreements and render decisions that carry legal ramifications? Should AI entities be endowed with rights and obligations akin to those of natural persons or corporate entities? The significance and gravity of AI's involvement in contractual matters underscore the pressing need for clarity on this issue.

Granting legal personality to artificial intelligence necessitates the enactment of specialized legislation. However, such legislation remains largely absent in many jurisdictions. For instance, the European Parliament's 2017 report advocated for the recognition of legal personality for AI entities, particularly those embedded within robots. This recommendation stemmed from a legal analysis submitted by the Legal Affairs Committee to the Civil Law Rules Committee, highlighting the imperative of addressing the legal status of AI in the context of emerging technologies.

V. Blockchain technology

It is necessary to explain the concept of blockchain in order to understand the concept and mechanism of smart contracts, as blockchain is the most common use of technology to facilitate the process of executing smart contracts. The scientist Vitalik Buterin has defined blockchain technology as "a magic computer that allows anyone to upload programs to it and then leave it to work on its own, where all current and past work is open for everyone to see and relies on mathematical cryptography that protects and guarantees that this particular software continues to function as it was designed without deviating from the basic protocol for which the software was created".[79]

Blockchain technology is known as a huge digital base containing massive data that anyone can access at any time, and it is distributed across a huge network of computers by volunteers around the world, and it cannot be modified or removed, and it has no intermediary or third

[79] Mustafa Nemer, 2017: Blockchain towards new horizons, Egyptian Institute for Political and Strategic Studies, https://www.eipss-eg.org/. (01.04.2024)

party. Some also defined it as an open-source, decentralized base to be able to record any transaction, deal, or information such as cash transactions, the transfer of goods, public information, or even electoral votes, as it relies on encryption, mathematical equations, and algorithms[80]. A blockchain is a distributed database that has the ability to manage an ever-growing list of records called blocks. Each block contains a timestamp and a link to the previous block. The blockchain is designed so that it can preserve the data stored in it and prevent it from being modified, meaning that when you store information in the blockchain, it cannot be modified later.

In general, blockchain technology is real document evidence, independent of any central authority and access to it depends on the code. It provides access only to users who maintain special secret numbers that allow subscribers to add any data. One of the most important advantages of the technology is that it works through blocks that are connected to the previous and subsequent blocks so that any recording in the blockchain makes it impossible and difficult to uninstall the editor from the block, which allows the contracting party to be revealed as a guarantee[81]. It is noted here that activating mathematical operations with algorithms in blockchain technology allows the possibility of activating transactions, authenticating them, and saving them within the blockchain, without an actual need for a central authority, or what we call in today's world central banks.

Blockchain's emergence is associated with the rise of virtual electronic currencies, most notably Bitcoin. From there, its applications grew to encompass a wide range of transactions and other subjects, including those pertaining to land and real estate transactions in general, insurance and auto accident records, ownership documents, and various contracts and agreements in their respective fields. As a result, the application of blockchain technology expanded from encrypted virtual currency operations to include other financial transactions and contracts, converting them from conventional contracts to smart contracts.

The most prominent benefits and features of Blockchain are the following:[82]

[80] Hanaa AL-hunaiti, 2019: The nature of smart contracts, International Islamic Fiqh Academy Conference, 24th session, Dubai, p.1-48.

[81] Ayman Othman, 2023: Smart Contract: Theoretical Basis and Application Dialectic, In: Journal of Legal Sciences, Volume 38, Issue 1, Baghdad, p 239-272. https://www.iasj.net/iasj/article/275632. (17.04.2024)

[82] Simanta Shekhar Sarmah, 2018: Understanding Blockchain Technology, In: Computer Science and Engineering, p 23-29, https://www.researchgate.net/publication/336130918_Understanding_Blockchain_Technology (12.04.2024)

a) Decentralization: It is considered one of the most important features of Blockchain, which allows transactions to be conducted and data stored without the intervention of any central authority.
b) Security: This technology works as a linked list, where each block is cryptographically linked to the previous block. Therefore, if anyone tries to hack or manipulate the data in one block, they will have to hack all the blocks, which is almost impossible.
c) Stability: Blockchain technology provides a consistent and stable record of all transactions and data that are recorded through it. once the data recorded through this technology is verified, it is impossible to modify or change it.
d) Transparency: It is considered one of the most prominent advantages of Blockchain, as any member of the network can verify the recorded data, which provides a factor of trust for users. In contrast, traditional databases are centralized and do not support transparency, as users cannot check information whenever they want.
e) Speed and efficiency: The process of storing various data and information via blockchain technology is faster and more efficient than manual entry methods, which take a very long time, and are not without the possibility of errors. Thanks to the way blockchain technology works, the chances of making mistakes are almost non-existent.

Blockchain technology, while innovative, does come with several disadvantages. Here are some of the key challenges associated with blockchain: [83]

a) Difficulty in modifying data: Although stability is considered one of the most prominent advantages of blockchain, it is not always beneficial for companies and institutions. The immutable nature of data can be a major obstacle, when there is an urgent need to make positive modifications to recorded data.
b) High implementation costs: Although blockchain technology saves many expenses for users, reliance on it and use by companies and institutions requires very high costs. To start using this technology, any company needs to purchase many modern devices and contract with many experts, which will cost it huge expenses. [84]

[83] Julija Golosova- Andrejs Romanovs,2018: The Advantages and Disadvantages of the Blockchain Technology, Institute of Electronic and Electrical Engineering, DOI: 10.1109/AIEEE.2018.8592253 https://ieeexplore.ieee.org/document/8592253/references#references (12.04.2024)
[84] Simanta Shekhar Sarmah, 2018: Understanding Blockchain Technology, In: Computer Science and Engineering, p 23-29, https://www.researchgate.net/publication/336130918_Understanding_Blockchain_Technology(12.04.2024)

c) Unemployment: The decentralized nature of blockchain technology is expected to eliminate many intermediaries. As this technology is adopted and used on a large scale, many jobs will disappear, which will lead to a significant rise in unemployment rates.

In light of the many advantages that Blockchain has, as well as the disadvantages it entails, there have been many questions recently about the future of this technology, and the extent of its ability to overcome these disadvantages. The truth is that although there are some negative effects of this technology, its advantages have been able to outweigh these negative effects. Over the past few years, blockchain technology has achieved great popularity, and so far there is no sign of it slowing down. According to a survey conducted by the global company Deloitte in 2021 on blockchain technology, approximately 76% of the executives surveyed expect digital assets to be a strong alternative to paper currencies for global finance during the next decade, which means that there will be a strong trend towards. Blockchain technology, which underlies digital transactions. Therefore, we can say that it is time to prepare for a financial and technical revolution that will change the way we process transactions, manage data, and provide services.

VI. The Impact of technical progress on the development of Contract Theory

The relationship between scientific progress, the development of electronic technology, and the legal framework that governs society is deeply intertwined and mutually influential. This symbiotic relationship emphasizes interconnectedness and cooperation, with each area influencing and being affected by the other. In our contemporary era, one of the most prominent contributions of scientific and technological progress in the legal field, especially in contract theory, is the use of advanced technological tools and methods to initiate and prove contracts and legal procedures. This has led to the emergence of electronic contracts, which are characterized by their automated and real-time nature of negotiation, documentation, and authentication, in addition to traditional paper contracts.

Moreover, technological progress did not stop there. At the beginning of the current century, mechanisms and automation have spread in the formation of contracts and legal procedures through the incorporation of artificial intelligence (AI). Artificial intelligence seeks to provide devices and machines with human-like intelligence, paving the way for the emergence of smart contracts. The essence of smart contracts lies in their ability to independently enforce contractual terms and conditions based on pre-defined parameters. We will explain both types according to the following:

VII. Electronic contracts

Legal jurisprudence has established several definitions of the electronic contract, most of which include the basic considerations for defining any contract, taking into account the privacy of this contract as it is concluded via the Internet. Part of American jurisprudence has defined it as "a contract that involves the exchange of messages between the seller and the buyer, which are based on pre-prepared formats and electronically processed, and create contractual obligations. [85] Some Latin jurisprudence also defined it as: "an agreement in which offer and acceptance converge on an open international network for remote communication this is done through audio and visual means and thanks to the interaction between the offeror and the acceptor.[86]

As for Arab jurisprudence, it has established several definitions for this contract, including that it is "an agreement between the two parties to the contract through the meeting of the offer and acceptance through the use of an information network, whether in the meeting of the two wills, contractual negotiations, signing, or any part of its conclusion, whether this action is in the presence of the two parties to the contract in a council contract or through meeting via computer screens or any electronic audio or visual means.[87]

The definition contained in the United Nations Model Law on Electronic Commerce: In Article 2B, limited itself to electronic data exchange, which is "the electronic transfer of information from one computer to another using an agreed upon standard for composing the information." The committee preparing this law decided This definition applies to all uses of electronic information and includes the conclusion of contracts and various commercial works. Accordingly, the electronic contract, according to this law, is the contract in which the will is expressed between the contracting parties using the means specified in Article 2A and 2B, These are: - Transferring data from one computer to another according to a unified display system, - Transferring electronic messages using general rules or standard rules, - Electronically transferring texts using the Internet, or by using other technologies such as telex and fax. [88]

[85] Kazem Ali, 2009: The Electronic Contract, In: Al-Muhaqqiq Al-Hilli Journal of Legal and Political Sciences, Issue 1, University of Babylon, p. 277-298.
[86] Osama Mujahid, 2000: The Privacy of Contracting via the Internet, Dar Al-Nahda Al-Arabiya, Cairo, p. 39.
[87] Muhammad Al-Matalqa, 2011: Al-Wajeez in Electronic Commercial Contracts, Dar Al-Thaqafa for Publishing and Distribution, Amman, p. 28.
[88] UNCITRAL Model Law on Electronic Commerce (1996).

It is clear from the above that the Internet, according to this law, is not the only means for completing the contracting and electronic commerce process, but rather it is shared by other means such as telex and fax machines. Most jurists believe that the Uniform Law on Electronic Commerce issued by the United Nations International Trade Law Commission did not define the electronic contract, but it did define the means used to conclude it. This law also expanded the list of means of concluding these contracts. In addition to the Internet, there is the means of fax and telex.

As defined in Article 2 of Directive No. 07-97 of 20 May 1997 of the European Parliament relating to distance contracting: "Every contract relating to goods or services concluded between the supplier and the consumer within the framework of the system of selling or providing services at a distance, and regulated by the supplier who is used for this purpose." The contract is one or more remote communications technologies for concluding or implementing a contract. Communications technology is also defined in the same text as follows: "Any means that can be used to conclude contracts between two parties without the physical and actual presence of the supplier and the consumer.[89]

We believe that the definition of the electronic contract must focus on its specificity, which is mainly represented in the way in which it is concluded, without neglecting an important characteristic of it as it belongs to the category of contracts concluded remotely.

I. Characteristics of the electronic contract

The electronic contract is characterized by being a contract concluded by electronic means, and is concluded between contractors far apart in place. It is also predominantly commercial in nature, and these characteristics will be discussed below:[90]

a) An electronic contract is a contract concluded by electronic means.

The most important characteristic that distinguishes an electronic contract from other contracts is that it is a contract concluded by electronic means. The means through which the contract is concluded is what gives it this characteristic. These means are usually represented by computer systems linked to various communications networks (wired and wireless). It is noted that there

[89] Directive n°97-07 CE du 20 Mai 1997, JO CE 04/06/1997 N°144,P19.

[90] Hoda Al-Miqdad,2017: The Electronic Contract, In: Journal of Legal Studies, Volume 3, Issue 2, Pages 264-280.

is no All of these methods can be limited at the present time due to their connection with technological development.

b) An electronic contract is a contract concluded remotely.

The electronic contract is distinguished from the rest of the other contracts as well, in that it belongs to the category of contracts concluded at a distance. By contracts concluded at a distance, we mean those contracts that are concluded between two parties located in distant places, using one or more means of remote communication. The basic feature of this type of contract is the lack of physical presence of its parties at the moment of exchange of consent between them. It is a contract concluded between two parties who are not present face to face at the moment their will meet.[91]

Considering the electronic contract as one of the contracts concluded remotely requires that it have some special rules that we do not find analogous to contracts concluded by traditional methods. The matter is easy for contracts concluded in the physical presence of the parties, which allows ensuring some legal issues, the most important of which are: - The ability of both parties to verify The other person's capacity and capacity to contract. - Verifying the convergence of the two wills, as this was done simultaneously, such that the offer was issued by one of them and accepted by the other party. - Verifying the history of transactions and documents.

We can say here that considering the electronic contract within the category of contracts concluded remotely does not mean that it is always a contract between absent persons, because the spatial distance does not negate the possibility of the availability of a contract council, which is virtual in such contracts, such as if the contract was concluded over the Internet using the means of conversation and direct viewing.

c) The electronic contract is predominantly commercial in nature.

Electronic commerce is the field in which the electronic contract appears in particular, since the electronic contract is the most important means of this commerce, and this is what made some jurists express the term electronic commerce bypassing electronic contracts, and electronic commerce does not mean trade in electronic devices, but rather Transactions and commercial relationships that take place between dealers through the use of electronic devices

[91] Muhammad Qasim,2005: Distance Contracting, An Analytical Reading of the French Experience with Reference to the Rules of European Law, New University Publishing House, Alexandria, Egypt, p. 18.

and means such as the Internet, and some have defined it as: "the sum of electronic exchanges associated with commercial activities and related to goods and services by transferring data via the Internet and similar technical systems."[92]

II. Challenges of implementing electronic contracts

Despite the importance of electronic contracts, they face some challenges when applied, which can be summarized as follows:[93]

a) Legal Recognition: In many jurisdictions, there may be legal uncertainties regarding the validity and enforceability of electronic contracts. Laws and regulations governing electronic transactions may vary between countries and may not fully address the complexities of modern digital agreements.
b) Authentication and Security: Verifying the identity of parties involved in electronic contracts and ensuring the integrity and security of electronic signatures are critical issues. Without robust authentication mechanisms and encryption protocols, electronic contracts may be vulnerable to fraud and unauthorized alterations.
c) Consent and Capacity: Ensuring that parties to an electronic contract have the legal capacity to enter into the agreement and have given informed consent is essential. Issues such as the validity of electronic signatures, the adequacy of electronic disclosures, and the ability of parties to understand the terms of the contract may arise.
d) Recordkeeping and Documentation: Maintaining accurate records of electronic contracts and ensuring their accessibility and integrity over time can be challenging. Issues related to the storage, retrieval, and preservation of electronic documents may arise, especially in the absence of standardized practices and technologies.[94]
e) Cross-Border Transactions: Conducting electronic contracts across different jurisdictions may involve additional legal complexities, including conflicts of laws, jurisdictional issues, and differences in regulatory requirements. Harmonizing legal frameworks and ensuring compliance with international standards are critical considerations.
f) Technology Dependencies: Electronic contracts rely on digital infrastructure and technologies, such as internet connectivity, electronic devices, and software platforms.

[92] Mohamed Mansour, 2006: Electronic Responsibility, Al-Ma'arif Establishment, Alexandria, p. 18

[93] Saad Al-Azzam- Ahmed Bashir, 2022: Legal and practical challenges facing e-commerce, In: Ibn Khaldoun Journal for Studies and Researches, Volume 2, Issue 6, p 712-740 https://journals.asianindexing.com/article.php?id=1682060055167_2360&title= (01.04.2024)

[94] A comprehensive guide to electronic contracts: from contracting to documentation and printing https://www.9anon4dz.com/2024/02/electronic-contract.html (15.04.2024)

Dependence on these technologies introduces risks related to system failures, data breaches, and compatibility issues.[95]

g) Consumer Protection: Protecting the rights and interests of consumers in electronic transactions is essential. Issues such as transparency, fairness, and accessibility of contract terms, as well as mechanisms for dispute resolution and redress, need to be addressed to ensure consumer trust and confidence.

Addressing these problems requires a multifaceted approach involving legal reforms, technological advancements, industry standards, and consumer education. Collaborative efforts between governments, businesses, legal experts, and technology providers are necessary to overcome these challenges and promote the widespread adoption of electronic contracts in the digital economy.

III. Smart contracts

Smart contracts are considered modern contracts that are still being tested and implemented. Therefore, there are many definitions that researchers have addressed in defining smart contracts, and each of them has been dealt with by a specific party and given several names, including blockchain contracts, Crypto contracts, and digital contracts. Contracts are self-executing, so we will try to review the definitions that have been reviewed:

Szabo (1996) defined a smart contract as a set of promises, which includes protocols through which the parties implement other promises. These protocols are usually implemented on computer networks, or in other forms of digital electronics, and therefore these contracts are smarter than traditional contracts. Artificial intelligence is not used in its implementation. He also defined it as a computer transaction protocol that implements the terms of the contract. The general goal of designing smart contracts is to respond to general contractual terms, limit both harmful and incidental exceptions, or search for reliable intermediaries. [96]

It is also defined as a contract that is written using encrypted symbols, where the obligations under the agreement can be activated and implemented automatically. Smart contracts, in this sense, are considered contracts between two or more parties that are self-executing, through a protocol that is essentially built on mathematical codes called algorithms and includes all

[95]Legal problems in electronic commerce, https://modernelectronicmarketing.blogspot.com/p/blog-page_2804.html (02.04.2024)

[96] Nick SZABO, 1996: Smart Contracts: Building Blocks for Digital Markets. Fon.hum.uva.nl. Available at https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html (04.04.2024)

information about the rights and duties of the parties, and the implementation of all terms of the contract.[97]

Recently, certain states in the United States of America have introduced a proposed legislation incorporating the legal framework of smart contracts. In the draft law of one state, Arizona House Bill 2417, a smart contract is defined in a manner closely resembling previous definitions. It is described as an event management program operating on a distributed, decentralized, shared, and redundant ledger capable of assuming responsibility and directing asset transfers within that ledger. In Europe, Belarus was the pioneer in legalizing smart contracts in 2017, defining them as computer code designed to operate on a distributed ledger for the automatic execution and fulfillment of transactions or other legal actions.[98]

Smart contracts are categorized into two types: specific smart contracts and non-specific smart contracts. Specific smart contracts are those that do not rely on external information from outside the blockchain network for their operation and execution. All necessary information is contained within the blockchain network, enabling the contract to be executed and decisions regarding its fulfillment to be made internally. On the other hand, non-specific smart contracts depend on an external entity, known as an oracle, to provide them with the required information for operation and decision-making. These contracts involve factors that are not present within the blockchain network itself[99]. For instance, a smart contract requiring daily weather updates relies on oracles to furnish the necessary information for contract execution.

IV. Characteristics of the Smart contract:

Smart contracts possess a set of characteristics that can be succinctly outlined as follows:

a) Automatic execution: The self-execution feature of smart contracts stands out as a key advantage, allowing them to automatically enforce their provisions without human intervention. Once deployed on the blockchain platform, a smart contract initiates its execution process, adhering to its predefined conditions and rules. This includes the automatic payment of fees and obligations by the involved parties. Subsequently, the smart

[97] Salim MOHSEN, 2021: Applications of smart contracts via Blockchain technology to support and develop electronic government, In: Journal of Money and Finance Economics, Volume 1, Issue 1, Algeria, p. 24-41.
[98] Decree of the President of the Republic of Belarus 2017.
[99] Hossam El-Din Hassan, 2023: Smart contracts concluded via blockchain technology, In: The Legal Journal, Volume 16, Issue 1, Cairo, p. 1-52.

contract proceeds to interact independently, bypassing the need for manual interventions from its participants or external entities.[100]

b) Electronic nature: smart contracts can only be in electronic form, and this property creates specific topics for the smart contract. They may relate to digital assets (such as cryptocurrencies), or to digital manifestations of offline assets, the ownership of which is recorded in the blockchain. A smart contract inherently requires the use of electronic digital signatures, based on cryptographic technology.[101]

c) Implemented through computer programs: Smart contracts are in the form of a program or computer code, which expresses the intention of the contracting parties. Therefore, smart contracts have a special nature in the law, as they serve as a document that regulates the relationship between the parties. They are also considered computer programs according to intellectual property law. These programs are established at the request of the parties and subsequent participants.[102]

d) Conditional nature: Many contract terms can be written in a programming language. This is because the performance and implementation of a contract are essentially summarized in conditional statements. For example, in the case of a car loan guarantee, if a certain amount is not received within a specific date, then the car can be repossessed. This rule is the basis behind the implementation process, and this means that the contract becomes effective from the moment it is concluded, but the implementation of some of its conditions depends on certain events.[103]

V. Challenges of implementing smart contracts

Despite the importance of smart contracts, they face some challenges when applied, which can be summarized as follows:

a) Security Vulnerabilities: One of the most significant challenges facing smart contracts is security vulnerabilities. Since smart contracts operate on decentralized blockchain networks, they are susceptible to hacking, bugs, and vulnerabilities in the code. Any flaw

[100] Eliza Mik, 2019: Smart Contracts: A Requiem. In: SSRN Electronic Journal of Contract Law, p 1-22. https://ssrn.com/abstract=3499998. (07.04.2024)

[101] Alexander Savelyev, 2016: Contract Law: Smart Contracts as the Beginning of the End of Classic Contract Law. In: SSRN Electronic Journal,p 1-24. https://ssrn.com/abstract=2885241 . (07.04.2024)

[102] Daoud Mansour, 2021: The smart contract and its role in establishing trust in contractual relations, In: Journal of Legal and Economic Research, Volume 4, Issue 2, Algeria, p. 66-94.

[103] Abdul Razzaq Muhammad, 2021: The concept of the smart contract from the perspective of civil law - an analytical study, In: Journal of Economic, Administrative and Legal Sciences, Volume 5, Issue 8, 2021, Gaza - Palestine, p.83-99.

or loophole in the code can be exploited by malicious actors to manipulate or disrupt the execution of the contract, leading to financial losses or other adverse consequences.

b) Immutability: Immutability is an important feature of smart contracts. Once published, the code in the smart contract remains unchangeable by any party. In such cases, the inability to correct errors due to the immutability property poses a challenge. If circumstances change, modifying the smart contract becomes a complex task. This requires comprehensive reviews of smart contracts by experts before they are published on the blockchain to mitigate the immutability issue.[104]

c) Legal and Regulatory Compliance: Smart contracts operate within a legal and regulatory framework that may not always align with the decentralized and automated nature of blockchain technology. Ensuring compliance with existing laws and regulations, such as contract law, consumer protection laws, and data privacy regulations, can be challenging when using smart contracts. Additionally, the lack of legal clarity and precedent surrounding smart contracts may deter businesses and individuals from fully embracing their use.

d) Legal capacity to contract: Under a smart contract, it is difficult to verify the capacity of contractors, even with a monitoring program, as full legal capacity is not sought. Therefore, anyone can open an account without having the necessary qualifications.[105]

e) Scalability issue: Scalability stands as a major issue for numerous blockchain networks. For instance, the Ethereum blockchain's capability to verify 14 transactions per second pales in comparison to Visa's capacity of handling up to 24,000 transactions per second. This lack of scalability results in network congestion, elevated transaction fees, and prolonged confirmation times for transactions.[106]

f) Oracle Reliability: Smart contracts often rely on external sources of data, known as oracles, to trigger or execute certain actions based on real-world events. However, the reliability and accuracy of oracles can be questionable, leading to potential inaccuracies or manipulation of data fed into the smart contract. Ensuring the trustworthiness of oracles and mitigating

[104] Shafaq Nahid Khan, Faiza Al-Wakil, and others, 2021: Blockchain smart contracts: Applications, challenges, and future trends, In: Peer-to-Peer Networking and Applications, Volume 14, p 2901-2925. https://link.springer.com/article/10.1007/s12083-021-01127-0 (11.04.2024)

[105] Souad Majaji, 2022: The idea of smart contracts as one of the most important applications of Blockchain, In: Journal of Legal and Economic Research, Volume 6, Issue 1, Algeria, p. 537-577.

[106] Shafaq Nahid Khan, Faiza Al-Wakil, and others, 2021: Blockchain smart contracts: Applications, challenges, and future trends, In: Peer-to-Peer Networking and Applications, Volume 14, p 2901-2925. https://link.springer.com/article/10.1007/s12083-021-01127-0 (11.04.2024)

the risk of data manipulation is essential for maintaining the integrity and reliability of smart contracts.[107]

Addressing these challenges requires a concerted effort from various stakeholders, including blockchain developers, legal experts, regulators, and industry participants. By mitigating security risks, enhancing regulatory clarity, improving scalability, and simplifying development processes, smart contracts can realize their full potential as a transformative technology for automating and streamlining contractual agreements in diverse domains.

VI. The difference between a smart contract and an electronic contract

At first glance, a smart contract may resemble electronic contract transactions, after all, they are both "contracts" and legal software solutions that are done digitally or online, but these are two completely different things, and academic studies also refer to electronic contracts and smart contracts separately. They are a little similar in some respects. Smart contracts include, for example, automated bank payments, standing orders, or purchasing media online and downloading it after payment is confirmed, all of which are examples of electronic contracts. However, smart contracts differ from these static forms of electronic contract execution of an agreement. Essential in important ways.[108]

The main differences between smart contracts and electronic contracts come from the public and decentralized nature of the blockchain. Electronic contracts generally involve third parties who retain control of the relevant transaction. If one party is transferring money to another party, money transfer services or banks must be involved as intermediaries. Through it, funds are subtracted from one account and added to another, and they can also charge fees for their services, which will not happen in smart contracts as the need for any third party is eliminated.

Because they are the product of standards and attributes provided by the programmer of the relevant code, electronic contracts do not have the technical ability to adapt. For example, electronic contracts are not prompted by events such as certain weather conditions unless the developer specifies them differently. On the other hand, Smart contracts allow such a trigger even if the programmer does not explicitly include it in the code.

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[107] Souad Majaji, 2022: The idea of smart contracts as one of the most important applications of Blockchain, In: Journal of Legal and Economic Research, Volume 6, Issue 1, Algeria, p. 537-577.

[108] Amera Khozam,2022: what is the smart contract? https://jemmytrade.com/blog/what-is-the-smart-contract (05.04.2024)

With the implementation of electronic contracts, the code is exclusively in the hands of the third-party responsible for it. However, when it comes to smart contracts, all parties involved operate and store the same code because they use blockchain technology.

Sometimes these tokens are also publicly available, and since encrypted records of transactions are shared across smart contract participants, there is no need to wonder if the information has been changed for personal benefit. Thus, smart contracts create trust by utilizing the decentralized, open, and encrypted nature of blockchain technology that allows parties to trust each other and conduct peer-to-peer transactions, making the need for intermediaries and third parties obsolete. Another fundamental difference between electronic contracts and smart contracts is that electronic contracts are still essentially contracts, they are paperless document management systems that operate like a traditional contract (only digital or online), but this is not always the case with smart contracts.

VII. Conclusion

Contract theory, a cornerstone of legal jurisprudence, governs the agreements and obligations that underpin commercial and social interactions. Over the centuries, contract law has evolved in response to changing societal norms, economic structures, and technological advancements. In recent decades, the rapid pace of technological progress has brought about profound changes in how contracts are formed, executed, and enforced. Technical progress has significantly advanced contract theory, empowering businesses and individuals with innovative tools to streamline contractual processes and enhance efficiency and transparency. From the emergence of electronic contracts to the proliferation of smart contracts and AI-driven contract management systems, technology continues to reshape the way agreements are formed and enforced. As we navigate this digital era, it is essential to embrace these advancements while addressing the associated challenges to realize the full potential of technology in contract theory.

Aida Bektasheve[109*]: Investment law of Kyrgyz Republic and its economics perspectives

Abstract

According to UNCTAD's World Investment Report 2022[110], FDI flows to Kyrgyzstan reached USD 248 million in 2021, up by the level recorded one year earlier when inflows were negative by USD 402 million. In the same year, 2021 the stock of FDI reached USD 4.2 billion, or around 49.6% of the country's GDP. In the industry and mining sectors, most of the planned investments are in gold mining (64%) and cement (31%), followed by copper mining (5%). In fact, gold remains the primary mineral in terms of value mined in the Kyrgyz Republic. Foreign Investment Law guarantees national treatment and non-discrimination for foreign investors. Officially, Kyrgyzstan does not restrict investment in any sector, but certain limits do exist for the foreign ownership of land and real estate. It aims to develop a favorable investment climate and attract and stimulate domestic and foreign investment by providing a fair legal regime and guarantees of protection of investments.

Keywords: *Technological Progres,s Contract Theory, Artificial Intelligence, Contract Automation, Blockchain Technology*

I. Introduction

The Kyrgyz Republic (Kyrgyzstan) is a land-locked country in the north-east of the Central Asia with a land area of 199 951 square kilometres. The country was part of the former Soviet Union until 1991, when it became independent and entered a period of transition (with economic liberalization, market-led economy and democratic structures/processes). Kyrgyzstan is a mountainous country, almost 90% of the total territory is located higher than 1 500 meters above sea level and a population of over 6.6 million people, two-thirds of whom live in rural areas (about 4.3. million people) and urban (about 2.2. million people)[111]. The economy of the Kyrgyz Republic is primarily cash-based, although non-cash consumer transactions, such as debit cards and transaction machines, have quadrupled. By law, the country guarantees equal treatment to investors and places no limit on foreign ownership or control. Moreover, the Kyrgyz Republic does not have any FDI screening processes in place, and the tax burden on the repatriation of profits by foreign investors has been reduced to conform to the tax rate for domestic investors.

[109]PhD student, University of Miskolc, Deák Ferenc Doctoral School, Department of European Law and Private International Law.

[110] UNCTAD, 2022: https://unctad.org/system/files/official-document/wir2022_en.pdf

[111] National Statistical Committee of the Kyrgyz Republic, 2021.

Kyrgyz Republic joined:

- In 2014, the Kyrgyz Republic joined the Russian-led Eurasian Economic Union[112], which consists of Armenia, Belarus, Kazakhstan, the Kyrgyz Republic and the Russian Federation. As part of its integration into the Union, the Kyrgyz Republic reached an agreement with the Russian Federation to establish the Russian-Kyrgyz Development Fund, which approved USD 261.5 million in credit in 2017. As a member of the Eurasian Economic Union, the Kyrgyz Republic has preferential trade access to markets in Kazakhstan and the Russian Federation, and it borders China.
- Kyrgyz Republic in support of its accession to the WTO in 1998[113]. The Kyrgyz Republic accepted the 2005 Protocol Amending the TRIPS Agreement[114] and the 2014 Protocol concerning the Trade Facilitation Agreement[115]. The Kyrgyz Republic is a member of several groups in the WTO, including the group of Article XII Members and the group of low-income economies in transition.

Many changes that occurred in the economy in 1999-2018 affected the situation with the state budget and external public debt. The country's economic development is characterized by large external borrowings, the funds from which were used to finance both current expenses and investment projects. To ensure both macroeconomic stability and attract private investment, the state tried to provide maximum opportunities to increase and diversify exports. The government has intensified its efforts to create conditions in foreign markets that are favorable for the export of products of Kyrgyz enterprises and to reduce the costs of their transit through third countries. For this purpose, it was planned to fully use the potential associated with the republic's membership in the WTO. The priority task in the field of foreign economic relations was regional cooperation, where it was necessary to achieve a significant improvement in the export capabilities of local enterprises. The growth of exports would also be facilitated by the development of transport infrastructure, marketing and information support for local export-oriented enterprises.

[112] Eurasian Economic Union, 2014: Treaty on the Eurasian Economic Union, https://docs.eaeunion.org/docs/en-us/0003610/itia_05062014(26.05.2024)

[113] World Trade Organization, Kyrgyz Republic has been a member of WTO since 20 December 1998. https://www.wto.org/english/thewto_e/countries_e/kyrgyz_republic_e.htm(26.05.2024)

[114] World Trade Organization, 2005 Protocol Amending the TRIPS Agreement, Kyrgyz Republic accepted on 6 February 2016

[115] World Trade Organization, 2014 Protocol concerning the Trade Facilitation Agreement Kyrgyz Republic accepted on 6 February 2016

. Improvement of the investment climate is also a key objective of the National Development Strategy of the Kyrgyz Republic 2018-2040[116]. The Government aims to considerably improve the investment climate to make the country an attractive investment destination that has a competitive advantage. The Kyrgyz Republic's *Strategy-2040* and Development Programme both mention diversification of the industrial sector as key priorities, and name textiles and processed milk products among target sectors. National legislation: Law of the Kyrgyz Republic on Investments, March 27, 2003. Some laws directly or indirectly regulate investments such as Licensing law[117], Joint-Stock Companies law, Mining law[118], Free Economic Zones law of Kyrgyz Republic[119], Tax Code[120], Land Code[121], Customs Code[122], Civil Code[123], Public-Private Partnership law. [124]Case law: International investment agreements (IIAs), bilateral investment treaties (BITs -36), Treaties with investment provisions (TIPs)-9. Some cases with UNCITRAL, ICSID, PCA**,** SCC, ICC.

Kyrgyzstan is part of more than 36 bilateral investment treaties, as well as the Energy Charter Treaty[125]. However, there are still some problems with implementation of such investment policy. It is widely recognized that one of the main elements necessary to attract foreign investment into a host country is political stability. Kyrgyzstan's BITs include general principles of foreign investment in the country, like typical BITs. There are some similar provisions in Kyrgyzstan's BITs compared to Kazakhstan's BITs. One shared provision is the expiry of a certain amount of time before initiating international arbitration (typically, six months). The vast majority of Kyrgyzstan's BITs also contain territoriality requirements. Kyrgyzstan's investment treaties provide national and most-favored nation treatment. Some Kyrgyzstan BITs specify or limit the scope of national and most favored nation clauses.

[116] National Development Strategy of the Kyrgyz Republic 2018-2040, https://www.gov.kg/ru/programs/8(26.05.2024)
[117] Licensing law of Kyrgystan, 2013 https://cbd.minjust.gov.kg/205058/edition/5583/ru(26.05.2024)
[118] Mining law, 2018
[119] Free Economic Zones law of Kyrgyz Republic, 2014
[120] Tax Code, 2022
[121] Land Code, 1999
[122] Customs Code, 2004
[123] Civil Code, 1998
[124] Public-Private Partnership law, 2021
[125] European Energy Charter, Kyrgystan signed on 13 February 1992

II. Economics perspectives of Kyrgyz Republic

The Kyrgyz Republic is a landlocked, lower-middle-income country rich in natural resources and with significant potential for hydropower, agriculture and tourism. Economic growth is evident mainly in urban areas, driven by the expanding service, housing and construction sectors. They depend heavily on crop and livestock production, although remittances and welfare are also important income supplements. Industry is represented by the energy and mining sectors. There are light and food industry enterprises. A significant part of agricultural products is exported.

The volume of industrial production in January 2024 amounted to 37.6 billion soms and increased by 16.5 percent compared to January 2023 due to an increase in the production of wooden and paper products, printing activities (1.8 times), rubber, plastic products and construction materials (by 46.6 percent), basic metals (by 35.3 percent), food products (including beverages) and tobacco products (by 25.6 percent), refined petroleum products (by 17.8 percent), pharmaceutical products (by 17.6 percent), as well as in textile production, the production of clothing and footwear, leather and leather products, as well as chemical products (by 17.3 percent)[126].

Real Gross Domestic Product (GDP) contracted by 8.6 percent in 2020 because of the COVID-19 outbreak, the policies to limit its impact, and the domestic political turmoil.[127]It was classified by the World Bank as a lower-middle-income country ($1,046 to $4,095)[128] and chronic poverty, related food insecurity, malnutrition, climatic and environmental risks, gender inequalities, disparities in regional economic development and reliance on remittances are major challenges. Foreign investors in the Kyrgyz Republic have mostly been interested in the country's wealth of mineral resources. The metals industry received 79.5% of all FDI in the Kyrgyz Republic, more than ten times more than the next largest recipient industry, building and construction materials (7.1%). Infrastructure-related industries, such as transportation (3.3%) and alternative/renewable energy (1.3%), received more modest sums of FDI, while the fossil fuels industries received only 0.4% of FDI. According to data from the National Statistical Committee, FDIs are mostly directed towards the mining industry, followed by manufacturing and financial intermediation and insurance. The main investing countries are Russia, Kazakhstan, China, Malta (where many Russian investors reside), and the Netherlands.

[126] Static Committee of Kyrgyzstan, 2024 https://stat.kg/ (26.05.2024)
[127] World Bank, 2021: Country data information, https://data.worldbank.org/country/KG (26.05.2024)
[128] World Bank, 2021:Country data information, https://data.worldbank.org/country/XN(26.05.2024)

According to preliminary figures from the National Statistics Committee, the inflow of foreign direct investment in 2022 compared to 2021 increased by 4% and amounted to USD 1.046 billion. The inflow exceeded the outflow rate by USD 290.8 million[129].

Green investment is another promising area for potential investors as the Kyrgyz government increased its commitment to fighting climate change and sustainable development. In 2021, the Kyrgyz Republic joined the Global Methane Pledge and unveiled revised Nationally Determined Contributions (NDCs), which also opened many opportunities for foreign firms seeking to invest in industries such as hydropower, energy efficiency, and methane abatement. The Kyrgyz Republic is among the easiest countries in which to register property, ranking 7th out of 190 countries (ranked 8th in 2017, 2018 and 2019) in the World Bank's 2020 *Doing Business* report. Special legal regimes have been established in the free economic zones (FEZ) that provide benefits in the field of external economic and business activity.

III. Investment regime of Kyrgyz Republic

The Kyrgyz Republic maintains an open investment regime, with very few formal entry or ownership restrictions and no formal screening mechanism[130]. The legal framework for foreign investment mostly corresponds to international standards.

The Kyrgyz Republic's main legal framework for FDI remains the "2003 Law on Investments,"[131] which reflects multiple amendments up until September 2021. The Investment Law provides protection against adverse changes in the investment, tax and customs legal framework for a 10-year period following investment. The Foreign Investment Law guarantees national treatment and non-discrimination for foreign investors. Officially, Kyrgyzstan does not restrict investment in any sector, but certain limits do exist for the foreign ownership of land and real estate. It aims to develop a favourable investment climate and attract and stimulate domestic and foreign investment by providing a fair legal regime and guarantees of protection of investments. First, the Law sets out legal guarantees for foreign investors, including: national treatment and non-discrimination; the right of export or repatriation of investments, profits,

[129] Department of Geology and Subsoils at the Ministry of Natural Resources, Ecology and Technical Supervision under the Government of the Kyrgyz Republic, Investment Climate and Business Environment, investment law , https://geoportal-kg.org/investment-climate-and-business-environment/(26.05.2024)

[130] UNCTAD, Investment Policy Review: Kyrgyzstan, 2016: Restrictions on FDI exist in domestic and international transport and ownership of land, https://unctad.org/en/PublicationsLibrary/diaepcb2015d3_en.pdf (26.05.2024)

[131] Law on Investments of Kyrgyzstan, 2003: https://investmentpolicy.unctad.org/investment-laws/laws/111/kyrgyzstan-investment-law (26.05.2024)

property, and information; guarantees of protection with respect to expropriation of investments and compensation of losses; freedom of currency transactions; free access to open information; investors' economic independence and recognition of their rights; and rights under concession contracts. Second, the Law provides for the establishment of a state body to facilitate and attract investment. Third, it contains provisions on labour legislation, particularly employment of foreign workers by foreign investors. Finally, the Law contains provisions on the settlement of investment disputes, including the possibility of recourse to international arbitration.

In specific cases, the authorities limit participation through licenses and other regulatory requirements. Some of these laws directly or indirectly regulate investments in Kyrgyz Republic such as Licensing law[132], Joint-Stock Companies law, Mining law[133], Free Economic Zones law of Kyrgyz Republic[134], Tax Code[135], Land Code[136], Customs Code[137], Civil Code[138], Public-Private Partnership law. [139]

National Investments Agency under the President of the Kyrgyz Republic[140] is a governmental agency promoting foreign investments and assisting international companies in finding business opportunities in the Kyrgyz Republic. The primary objectives of the National Agency are to attract and promote investment inflow to the national economy, to assist existing and potential exporters in promoting their products to overseas markets, as well as to develop mechanisms for public-private partnership. The Institute of the Business Ombudsman was created in January 2019 as an independent non-state body, funded by external donor sources, to protect the rights, freedoms, and legitimate interests of business entities, both local and foreign.

Government of the Kyrgyz Republic, shall perform the following functions:

- ensuring connection between state bodies and investors;

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[132] Licensing law of Kyrgystan, 2013 https://cbd.minjust.gov.kg/205058/edition/5583/ru(26.05.2024)

[133] Mining law, 2018

[134] Free Economic Zones law of Kyrgyz Republic, 2014

[135] Tax Code, 2022

[136] Land Code, 1999

[137] Customs Code, 2004

[138] Civil Code, 1998

[139] Public-Private Partnership law, 2021

[140] National Investments Agency under the President of the Kyrgyz Republic, Mission is to attract and retain foreign direct investment that is of strategic importance to the economic development of Kyrgyz Republic. In all our services, we apply the following core values: passion, integrity, professionalism, customer service, business friendliness and responsiveness. We offer free advice and services to support companies from the planning stage right through to the launch and expansion of their business. https://invest.gov.kg/about-national-agency/about/(26.05.2024)

- preparing and distributing information about investment opportunities and conditions in the Kyrgyz Republic
- advising potential investors on legal, economic and other issues regarding a specific activity;
- providing investors with the necessary information related to the procedure of permissibility to implement activities and provides necessary assistance;
- providing assistance in resolving problems of the existing and potential investors, including assistance and protection if they become faced with illegal actions or hindrances caused by the state and other bodies;
- developing proposals for all agencies of the Kyrgyz Republic concerning improvement of the investment climate in the Kyrgyz Republic;
- within its competence, representing the Kyrgyz Republic or participating on behalf of the Kyrgyz Republic in international negotiations or consultations on foreign investments;
- taking measures aimed on liability fulfillment of the Kyrgyz Republic coming out from international contracts, conducting actions on international cooperation, organizing learning and use of international experience in these spheres;
- advising any agencies and officials on the existing policy or a policy being planned in the area of investments;
- organizing and conducting competition of investment projects and programs jointly with interested ministries and bodies;
- performing other functions directed to the promotion of investments, maintenance and protection of investors in the Kyrgyz Republic.

At the same time Investors shall be obliged to pay for its employees, who are the citizens of the Kyrgyz Republic, individuals without citizenship, the deductions on social insurance and provision established by the Law of the Kyrgyz Republic. Foreign investor shall have the right to transfer payment on social insurance and provision for foreign employee to the respective funds of the foreign state unless otherwise provided by the international agreements of the Kyrgyz Republic. In addition, relations between investors and employees which are the citizens of the Kyrgyz Republic shall be subject to the labor legislation of the Kyrgyz Republic.

For countries with developing market economies, the importance of political factors is decisive. It is in this area that the most significant risks for investors are concentrated, and it is these risks that are least amenable to generally accepted methods of analysis. What is natural

for countries with stable traditions (and with a stable credit history, meaning not only financial but also political creditworthiness) and is practically not taken into account by investors remains the main issue for "new market economies." But it is obvious that these risks (risks of loss of all property, danger to life, health, etc.) are primary in relation to the risks associated with the economic situation (fluctuations in demand, prices for production factors, etc.) The role of the political factor is most obvious for the Kyrgyz Republic. Three revolutions - 2005, 2010 and 2019 - directly affected economic activity in the country, including affecting risk assessments by investors.[141]

IV. Basic investment concept and its protection.

Investments mean tangible and intangible assets, in particular: money; movable and immovable property; property rights (mortgages, liens, pledges and others);stock and other forms of participation in a legal entity; bonds and other debenture liabilities; non-property rights (right to intellectual property including goodwill, copyrights, patents, trademarks, industrial designs, technological processes, trade names and know-how);any right to activity based on a license or in other form given by State agencies; concessions based on Law including concessions for search, development, mining or exploitation of natural resources; profit and revenue received from investment and reinvested on the territory of the Kyrgyz Republic; other forms of investments that are not forbidden by the legislation of the Kyrgyz Republic[142]. *Direct Investments mean* the holding, acquisition by an investor of not less than one third percent of stock and stockholders votes in joint stock companies registered or newly created on the territory of the Kyrgyz Republic, or any equivalent of such participation in business entities of other types and all further operations between an investor and a company which is invested to.

Investor means a subject of investment activity making his own, borrowed or attracted contributions as direct investments. *Foreign investor means* any natural person or legal entity which is not a domestic investor making contributions to the economy of the Kyrgyz Republic, including: Natural person who is a foreign citizen and legal entity. *Investments* shall not be subject to expropriation (nationalization, requisition, or other equivalent measures, including actions or ommissions by the state bodies of the Kyrgyz Republic which have resulted in forced

[141] Modern Management Technology, 2021: Problems of investment attractiviness of the Kyrgyz Republic ,. ISSN 2226-9339. — №3 (96). Art. # 9601, https://sovman.ru/article/9601/ (26.05.2024)

[142] Law on Investments of Kyrgyzstan, 2003: https://investmentpolicy.unctad.org/investment-laws/laws/111/kyrgyzstan-investment-law (26.05.2024)

withdrawal of investors' funds or in their deprivation of an opportunity to gain on the investments' results).

The Kyrgyz Republic shall provide foreign investors, making investments on the territory of Kyrgyz Republic, with the national regime of economic activity applicable in respect of legal entities and natural persons of the Kyrgyz Republic. Foreign investors, their representatives and foreign employees living in the Kyrgyz Republic in connection with their investment activity have the right for free travel on the territory of the Kyrgyz Republic, except for territories where they may stay on the terms and pursuant to the procedure as defined by respective legislation of the Kyrgyz Republic.

The Kyrgyz Republic in the person of its authorized governmental bodies *shall not permit discrimination* in respect of investors on the basis of their citizenship, nationality, language, sex, race, religion, place of their economic activity and country of origin of investors or investments.

The Kyrgyz Republic in the person of its authorized governmental bodies, officials and self-government bodies shall abstain from any interference with economic activity, rights and legal interests of investors, except as provided by the legislation of Kyrgyz Republic.

Investments shall not be subject to expropriation (nationalization, requisition, or other equivalent measures, including actions or ommissions by the state bodies of the Kyrgyz Republic which have resulted in forced withdrawal of investors' funds or in their deprivation of an opportunity to gain on the investments' results), except as provided by the legislation of the Kyrgyz Republic when such expropriation is effectuated in public interests on the basis of nondiscrimination, in observance of a proper legal order and is carried out with timely, appropriate and real compensation of damages, including lost profit. The compensation shall be equivalent to the fair market price of the expropriated investment or its part, including lost profit, fixed on the date of decision on expropriation. The fair market price must not reflect any change in the value as a result of knowing beforehand that the expropriation will take place. For example, *Kumtor Gold Company case*:[143] in May 2021, the Kyrgyz government raided the offices of Kumtor Gold Company, a local subsidiary of Canadian mining company Centerra Gold, and fined the Canadian firm $3 billion for alleged environmental damages caused by running the Kumtor gold mine. Kyrgyzstan and Canada's Centerra and Kumtor gold mine

[143] Centerra Gold Inc. and Kumtor Gold Company v. The Kyrgyz Republic, PCA Case No. 2007-01/AA278

investment activities cause serious damages to the environment and the local communities, and give rise to international disputes and political conflicts. In September 2021, the London Bullion Market Association suspended Kyrgyzaltyn, the state gold refiner, from its Good Delivery List over issues concerning delivery and the potential for fraud, while the sale of Kyrgyz gold still suffers transparency issues. In April 2022, the Kyrgyz government and Centerra reached a conditional agreement by which the Kyrgyz government will take full control of the mine and give up its 26 percent stake in Centerra.

The Kyrgyz Republic shall not be liable for liabilities of the residents and nonresidents of the Kyrgyz Republic, attracting foreign and/or domestic investments, except when these liabilities are guaranteed by the state. Insurance of investments and risks of investors shall be voluntary. Unless required by Kyrgyz legislation, the investments and risks may be insured both in and outside the Kyrgyz Republic. Kyrgyz Republic is not liable for obligations of insurance organizations.

V. Bilateral investment agreements of Kyrgyz Republic.

Kyrgyz Republic has entered into a number of bilateral agreements on mutual support, encouragement and protection of investment (capital expenditure). Such agreements have been signed with a number of countries such as United States, Armenia, Azerbaijan, Belarus, China, Finland, France, Georgia, Germany, Hungary, India, Indonesia, Iran, Kazakhstan, the Republic of Korea, Lithuania, Malaysia, Moldova, Mongolia, Pakistan, Sweden, Switzerland, Tajikistan, Turkey, United Kingdom, Ukraine, and Uzbekistan. Kyrgyzstan's BITs include general principles of foreign investment in the country, like typical BITs. There are some similar provisions in Kyrgyzstan's BITs compared to Kazakhstan's BITs. One shared provision is the expiry of a certain amount of time before initiating international arbitration (typically, six months). The vast majority of Kyrgyzstan's BITs also contain territoriality requirements. Kyrgyzstan's investment treaties provide national and most-favored nation treatment. Some Kyrgyzstan BITs specify or limit the scope of national and most favored nation clauses.

Kyrgyzstan guarantees protection against expropriation in the scope of its BIT. Such provisions provide no explicit definition relating to indirect expropriation. Instead of using this term, it is referred to as "equivalent to nationalization and expropriation". *Valeri Belokon v. Kyrgyz Republic*[144] is good example by which to evaluate Kyrgyzstan's indirect expropriation practice in the light of a BIT. The claimant alleged that Kyrgyzstan authorities restricted the operation

[144] Valeri Belokon v. Kyrgyz Republic, UNCITRAL, Award (Nov. 4, 2019), available at https://www.italaw.com/cases/3800

of foreign investment (Manas Bank assets) without a legitimate legal reason, which would be a violation of the expropriation provision in Article 5 of ***Kyrgyzstan–Latvia BIT***[145]. In response to the claimant's allegations, Kyrgyzstan argued that administration of Manas Bank is examined in the scope of regulatory exercise of the policy powers of the Kyrgyz Republic. The tribunal pointed out that violation of the maximum time limit related to administrative control defined in Kyrgyzstan can be considered expropriation of investment. One of the conditions of expropriation in the scope of Article 5 of the ***Kyrgyzstan–Latvia BIT*** is public purpose. The tribunal noted that Kyrgyzstan's temporary administrative regime is not consistent with public purpose and that this administrative regime focused on scrutinizing suspicious wrongdoing of certain political authorities.

VI. Investment dispute settlement

Investment dispute shall be resovled in accordance with any applicable procedure agreed in advance between an investor and authorized state bodies of the Kyrgyz Republic that does not exclude the use of other means of legal defense by an investor in accordance with the legislation of the Kyrgyz Republic. If such agreement is not reached the investment dispute between authorized state bodies of the Kyrgyz Republic and investor shall be resolved by conducting consultation between parties. If parties will not agree in 3 month period from the day of first written address for such consultation, the dispute shall be resolved by addressing to a court of the Kyrgyz Republic, unless one of the parties to a dispute between the foreign investor and the state body requests to consider the dispute in accordance with one of the following procedures:

- by applying to the International Center for Settlement of Investment Disputes (ICSID) pursuant to the Convention on settlement of investment disputes between states and citizens of other states or the rules regulating the use of additional means for conduct of hearings by the Secretariat of the Center[146]; or
- by applying to arbitrage or an international temporary arbitral tribunal (commercial court) formed in accordance with the arbitration rules of UN Commission on international trade law.

Any investment dispute between the foreign and domestic investors shall be considered by the judicial bodies of the Kyrgyz Republic unless the parties reach an agreement on any other dispute settlement procedure, including national and international arbitration.

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[145] of Kyrgyzstan–Latvia BIT, 2008 https://investmentpolicy.unctad.org/international-investment-agreements/treaties/bit/2327/kyrgyzstan---latvia-bit-2008-(26.05.2024)

[146]International Center for Settlement of Investment Disputes (ICSID), Convention, regulation and rules,2006.

Disputes between foreign investors and physical and legal entities of the Kyrgyz Republic may be resolved under agreement of parties by an arbitral tribunal of the Kyrgyz Republic as well as a foreign arbitral tribunal. In case if such agreement is not reached the disputes will be resolved in conformity with a procedure provided by the legislation of the Kyrgyz Republic[147].

While foreign investors claim to arbitration under either the ICSID Convention or UNCITRAL rules[148], the government argues each side must first seek consent of the other to bring the dispute to arbitration. The Code of Arbitration Procedures allows for international and domestic arbitration of disputes. Parties can agree to any judicial institution, including third-party courts within or outside of the Kyrgyz Republic, or domestic or international arbitration. If the parties fail to settle the dispute within three months of the date of the first written request, any investment dispute between an investor and the public authorities of the Kyrgyz Republic will be subject to settlement by the judicial bodies of the Kyrgyz Republic. Any of the parties may initiate a settlement by recourse to the International Centre for Settlement of Investment Disputes under the Convention on the Settlement of Investment Disputes between States and Nationals of Other States or arbitration or a provisional international arbitration tribunal (commercial court) established under the arbitration procedures of the UNCITRAL. Recognition and enforcement of international arbitration awards in the Kyrgyz Republic is carried out in accordance with the New York Convention and Kyrgyz laws. However, there are a number of features related to the recognition and enforcement of arbitration awards. Kyrgyz law expands a list of the grounds for refusal of recognition and enforcement of foreign arbitration awards in comparison with a list of the grounds referred to in the New York Convention.

VII. Challenges of investment climate in the Kyrgyz Republic.

According to the World Bank study “Investment climate in the Kyrgyz Republic - views of foreign investors”[149], obstacles to attracting investment are:

- Access to the market. Despite significant improvements in regulatory legislation, procedures for registering a business, obtaining permits and licenses, entering the market of the Kyrgyz Republic still imposes a certain burden on foreign investors.

[147] Modern Management Technology, 2021: Problems of investment attractiviness of the Kyrgyz Republic, ISSN 2226-9339. — №3 (96). Art. # 9601, https://sovman.ru/article/9601/ (26.05.2024)
[148] United Nations, UNCITRAL Arbitration Rules, 1976
[149] World Bank. 2015: Investment Climate in Kyrgyz Republic Views of Foreign Investors. DC.

- Access to the information. Some questions remain regarding access to information about the requirements for registering a company in the Kyrgyz Republic.
- Investor protection and confidence. Both current and past investors cited corruption and low transparency and predictability of government actions as the main obstacles to doing business in the Kyrgyz Republic. Public order and security in the country is another important issue for investors. Investor protection and confidence are low. Investors also fear possible unfair expropriation and confiscation of their assets in the country.
- Investor complaints and dispute resolution. Most investors did not file a formal complaint due to their dissatisfaction with the actions of government authorities. They question the transparency and fairness of the process.
- Investment incentives. Awareness of current incentives is low. Half of the investors surveyed are aware of tax incentives, and only 26% of investors are aware of non-tax incentives offered in the Kyrgyz Republic.
- Access to the information. 43% of investors who had to close their business in the Kyrgyz Republic reported great difficulty in obtaining clear, comprehensive and complete information about the relevant requirement.
- Corruption. The most important limiting factors for doing business in the Kyrgyz Republic, according to respondents, are corruption (80%), low transparency and predictability of government actions (79%), public order and security (62%).
- Relations with the state. Most complaints against government agencies relate to: 1) lack of transparency (for example, lack of or unclear criteria for applying for or obtaining a license; frequent changes in legislation without proper consultation and notification); 2) unpredictable, arbitrary and inconsistent government actions (for example, inconsistent application of the law by various government agencies).

Also, financial market has problems that hinder the growth of investments:

- Limited access to capital is a major constraint for the private sector. This is a serious obstacle to expanding exports, competition in international markets, and job creation.
- Interest rates are among the highest in Central Asia and pose one of the most significant constraints for borrowers. Interest rates remain high due to several factors, the most important of which are: (i) limited competition in the banking sector, (ii) lack of adequate financial information on companies due to weak accounting standards and practices; (iii) weaknesses in credit bureaus; (iv) weak risk management and credit assessment skills in financial institutions; (v) low public confidence in banks, which

increases the cost of attracting deposits; and (vi) a weak judicial system leading to poor contract enforcement, which increases lending risks.

- Insufficient protection of investor rights and low public awareness of investment issues in the capital market.
- Lack of attractive financial instruments. Corporate securities are mainly represented by shares; the corporate bond market is developing weakly. There is no legal framework regulating the circulation of mortgage, municipal and derivative securities. The supply of financial products for SMEs is particularly limited due to legal restrictions as well as weak banking sector capacity. Factoring (that is, the purchase of commercial receivables to provide short-term financing to small suppliers) does not exist, although all commercial banks and some non-bank institutions have licenses allowing factoring.
- Leasing is also used very little for equipment financing as it is taxed unfavorably compared to borrowing credit. In particular, imported equipment purchased on credit is not subject to value added tax (VAT), while imported equipment that is leased is subject to VAT. Moreover, there are inadequate export finance and financial instruments to finance start-ups and innovations due to weak and time-consuming credit assessment skills in the banking sector and lack of modern credit assessment tools such as credit scoring.
- Collateral requirements, especially the registration and enforcement of liens, are costly and time-consuming. Most loans are secured by real estate, although agricultural land is rarely accepted as collateral.
- Many small firms are considered unbankable due to their weak management skills and poor financial reporting. These firms have low levels of technical and managerial skills, outdated technology, low awareness of financial products, and low trust in the financial system.
- Insufficient transparency of the securities market. The current situation with the disclosure of information by issuers and professional participants in the securities market does not satisfy the information requirements of investors.
- Imperfect securities legislation. There are gaps in the current legislation related to the issue of securities, regulation, disclosure of information, etc., which sometimes leads to conflict situations.

VIII. Conclusion

Significant efforts have been made to form an open economic society, intensify market economic reforms, optimize the competitive environment, increase the volume of foreign capital attracted by Kyrgyzstan, and improve the quality of the use of foreign capital by the Kyrgyz Republic. Improving the legal environment for investment and attracting foreign capital is an important area at present. Kyrgyzstan needs to continue to actively improve the legal environment for investment, increase the attractiveness of foreign investment in important areas, clear legislation to eliminate investors' fear of the risk of the government easily revoking mining licenses, and accelerate the development of openness in other areas.

Kristóf Benedek Fekete[150]*: Inflation-adjusted Contracts in Agriculture: Leasehold Contracts[151]*

Abstract

The author describes the impact of inflation on domestic leasehold contracts. Within this framework, the author first clarifies the definition of inflation, its types, and possible ways of measuring it and then places it in a Hungarian context. The paper examines the minimum elements of an inflation adjustment clause based on the relevant international and domestic legal and economic literature and practice. The paper concludes that if its terms are adequately stipulated in the leasehold contract, the inflation adjustment clause effectively protects the lessor from the adverse effects of inflation.

Keywords: inflation rate, consumer price index, inflation adjustment clause, leasehold contract, leasehold payment

I. Introduction

In today's highly volatile economic environment, the need for financial stability is even more of a focus, with landowners renting out their land with particular care as intense inflationary pressures increase the need to preserve the value of their income. Thus, there is a growing need to adjust leasehold payments to inflation in leasehold contracts, i.e., to agree to an inflation adjustment clause in the leasehold contract. The solution could be to agree on a suitable leasehold contract that unambiguously provides for inflation tracking.[152]

The main aim of this paper is to present the impact of inflation on domestic leasehold contracts. Within this framework, first, it is necessary to clarify the definition of inflation, its types, and possible ways and means of measuring it, and then to place it in a Hungarian context.

The paper's methodology relies mainly on qualitative methods. The research is primarily based on the interpretation and analysis of relevant legal and economic documents using known interpretative techniques and on the identification of interrelationships and trends. This involves analyzing and synthesizing available international and Hungarian literature and practice.

[150]PhD hallgató, Pécsi Tudományegyetem Állam- és Jogtudományi Kar, Doktori Iskola, Alkotmányjogi Tanszék.

[151]The author would also like to thank Balázs Sztanics, the land officer of the Baranya County Directorate of the National Chamber of Agriculture, and Péter Tilk, professor and head of the Department of Constitutional Law at the Faculty of Law of the University of Pécs for the irreplaceable professional support provided for the study. The manuscript was completed on 12 May 2024.

[152] Cf. Deloitte: Hogyan kössünk jó bérleti szerződést infláció esetén, avagy az indexálás fontossága. https://www2.deloitte.com/hu/hu/pages/jog/articles/az-indexalas-fontossaga.html (12.05.2024.)

II. The definition, measurement and types of inflation

1. Definition of inflation

The term inflation originates from the Latin words *inflare* or *inflatio*, which initially meant to expand, blow or expansion, blowing up,[153] and later to increase prices in the sense of "money depreciation" or "money dilution"[154]. The meaning of the word inflation has gradually formed over time, first to describe the condition of currency and then of money, and nowadays to describe prices in general,[155] and often used as a synonym for "price increase".[156]

This is not surprising because inflation is understood in the economic literature as a general (or broad-based) and lasting rise in the level of consumer prices,[157] which some see as a permanent increase in the level of consumer prices,[158] others as a mere rise in prices.[159] In everyday language, inflation is more descriptive: inflation describes to an economic situation or process where "[i]nflation is an economic situation or process whereby more and more is paid for goods and services, resulting in a decline in consumer living standards and real income"[160]. More simply, inflation is "[a] general increase in prices coinciding with a fall in the real value of money"[161].

2. Measurement of inflation

There are many methods for measuring inflation, but the most commonly used inflation indicator is the so-called consumer price index, which is "[a] cost-of-goods index, designed to monitor purchasing power or the expenditure required to purchase a basket of goods of fixed

[153] See Páriz Ferenc Pápai, 1995: Dictionarium Latino–Hungaricum et Hungarico–Latino–Germanicum. Budapest, Universitas Könyvkiadó, p. 305.; Ágnes Szőke, 1999: Antik eredetű szakszókincs: Latin és görög eredetű szavak tankönyveinkben. Budapest, Athenaeum Kiadó, p. 117.
[154] See Magyar Helsinki Bizottság: Mik az infláció okai? Hogyan köthető a folyamat a jogállamiság lebomlásához? https://helsinki.hu/inflacio-okai/ (12.05.2024.)
[155] See Michael F. Bryan, 1997: On the Origin and Evolution of the Word Inflation. In. Federal Reserve Bank of Cleveland, Economic Commentary, October 15, 1997. p. 4.
[156] See Michael F. Bryan: On the Origin… i.m. p. 11.
[157] See for instance Mihály Hajnal – Judit Várhegyi, 2016: Infláció. Oktatási füzetek. Budapest, Magyar Nemzeti Bank, p. 11.; József Varga 2017: Az infláció definíciójáról és közvetlen újraelosztási hatásairól. In. Köz-gazdaság, Issue 2, p. 236.
[158] See for instance Katalin Solt – Dietmar Meyer, 2007: Bevezetés a makroökonómiába. Budapest, Aula Kiadó, p. 271.
[159] See for instance Gregory N. Mankiw, 2011: A közgazdaságtan alapjai. Budapest, Osiris Kiadó, p. 16.
[160] See Tibor Kiss, 2022: Az infláció hatása a magánjogi jogviszonyokra. Debreceni Jogi Műhely Issue 3-4, p. 53.
[161] See Henry Campbell Black et al., 1999: Black's Law Dictionary. Seventh Edition. St. Paul, West Group, p. 782.

quality, in order to capture pure price changes rather than changes in the quality of goods"[162]. In Hungary, the general measure of inflation is provided by the Consumer Price Index (hereinafter: CPI) of the Hungarian Central Statistical Office (hereinafter: HCSO), which measures "[t]he price change of the consumer basket of goods and services purchased by the average household"[163]. It is important to note that the so-called inflation rate is obtained by taking the percentage movement and change of the price as mentioned above index between periods as a basis.[164]

In the European Union (hereinafter: EU), it is inevitable to mention a primary indicator, the so-called Harmonised Indices of Consumer Prices (hereinafter: HICP-EU27), which is regularly published by Eurostat besides the Hungarian CPI.[165] The practical reason for using this index is to achieve the price stability objective of the EU and euro area countries, which, as a cost-of-goods index, is composed of national consumer price indices following the same approach in the euro area. It is also based on a "shopping basket" that reflects the state of the euro area, but the HICP-EU27 is still weighted by country because of the national differences that may occur.[166]

3. Types of inflation

Inflation can have several causes, such as demand shocks, supply bottlenecks, price increases by large companies, speculation, devaluation of a country's national currency, or unhedged wage outflows.[167] Depending on the inflation rate, i.e., the percentage change in the general price level, we can talk about the following:[168]

1. *Disinflation*, when the inflation rate is on a falling trend;

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[162] „Several alternative measures provide a different angle to price developments. For instance: the Industrial Producer Price Index (PPI) measures inflation at earlier stages of the production process; the Import Price Index measures inflation for imports; the Labour Cost Index (LCI) measures inflation in the labour market; and the Gross Domestic Product (GDP) Deflator measures inflation experienced by both consumers themselves as well as governments and other institutions providing goods and services to consumers." See Martin Höflmayr: Inflation explained: What lies behind and what is ahead? PE 729.352 – August 2022. p. 4., p. 11.

[163] See Mihály Hajnal – Judit Várhegyi: Infláció… i.m. p. 21.

[164] It can be increasing or decreasing. The former is inflation and the latter is deflation. See József Misz – Ferenc Tömpe, 2007: Közgazdaságtan II. (Makroökonómia). Debrecen, Debreceni Egyetem Agrár- és Műszaki Tudományok Centruma Agrárgazdasági és Vidékfejlesztési Kar, p. 110.; Gregory N. Mankiw: A közgazdaságtan alapjai… i.m. p. 375.

[165] See Mihály Hajnal – Judit Várhegyi: Infláció… i.m. p. 24.

[166] Cf. Martin Höflmayr: Inflation explained… i.m. p. 5.

[167] See Zoltán Pogátsa, 2022: Válság és infláció – A globális pénzügyi rendszer. Budapest, Kossuth Kiadó, pp. 33-37.; Gyula Lőrinczi, 2021: Funkcionális makroökonómia jogászoknak. Budapest, Magyar Könyvvizsgálói Kamara Oktatási Központ, pp. 56-59.

[168] It should be noted that there are several ways of categorizing types of inflation (e.g., by causes, coverage, occurrence, government reaction, etc.). However, this paper is limited to the exchange rate one.

2. *Creeping Inflation (also known as Mild or Low Inflation)*, when the price increase is prolonged, typically below 3% per year;[169]
3. *Walking* or *Trotting Inflation*, when prices increase at a moderate single-digit rate, i.e., above 3% but below 10%;
4. *Running Inflation*, when prices increase at a significantly faster rate, i.e., by more than 10% per year;
5. *Galloping* or *Jumping Inflation*, when prices increase at an annual rate of more than 20% but less than 1000%, in double or triple digits; and
6. *Hyperinflation*, when there is an exceptionally high rate of monetary depreciation (although there is no specific definition, typically, price rises of over 1000% are expected).[170]

III. Inflation- adjusted payments in contracts: leasehold contracts

The inflationary environment of recent years – with a coronavirus pandemic, war, and periods of drought – has made contracting parties cautious about any agreement they enter into. This is no different in the case of agriculture. Increasingly, so-called inflation adjustment clauses are included in agricultural leasehold contracts to correct for general price increases. The Hungarian provisions do not exclude the possibility for the contracting parties to include an inflation adjustment clause in the contract, but such a clause requires a clear and precise determination.[171]

The inflation adjustment clause should include, in terms of content, three essential elements, namely (i) the date of the price increase, (ii) the process of the price increase, and (iii) the inflation indicator.[172]

[169] "If creeping inflation persist for a longer period of time then it is often called as Chronic or Secular Inflation. It is called chronic because if an inflation rate continues to grow for a longer period without any downturn which may possibly lead to Hyperinflation." See Jawaharlal Nehru College: Inflation: Meaning and Types. https://jncollegeonline.co.in/attendence/classnotes/files/1621226785.pdf (12.05.2024.)

[170] See Inflation: Meaning and Types… i.m.; Tejvan Pettinger: Different types of inflation. https://www.economicshelp.org/blog/2656/inflation/different-types-of-inflation/ (12.05.2024.)

[171] It should be noted that a considerable number of service providers typically include an inflation adjustment clause in their general terms and conditions and in how municipalities rent out their real estate. Cf. Nemzeti Média- és Hírközlési Hatóság: Mit érdemes tudni az inflációkövető díjkorrekcióról? https://nmhh.hu/cikk/235326/Mit_erdemes_tudni_az_inflaciokoveto_dijkorrekciorol (12.05.2024.)

[172] Lásd Ondřej Preuss: Inflation clause in a lease agreement: to negotiate or not to negotiate? https://dostupnyadvokat.cz/en/blog/inflation-clause-lease-agreement (12.05.2024.)

1. Date of price increase

In Hungary, leasehold contracts generally shall be concluded for a fixed term of not less than one market year,[173] and not more than twenty years.[174] In this regard, if the parties have concluded a contract for a period of more than one year, the inflation adjustment clause may be relevant. Depending on the term of the contract, the inflation adjustment clause should determine the date (e.g., an agreed date or the anniversary of the contract) on which the leasehold payment agreed at the time of the contract will or may change. It can be a single occasion but also recurrent.[175] It is practical to choose a date when the CPI indicator, which is the basis for the correction, is already known to them.[176] Considering that the annual price indexes are typically published in the first quarter of the calendar year, the lessor may not know the rate for a few months. Therefore, it is advisable to stipulate that if, for example, a CPI is published in March, the leasehold payment will be adjusted with retroactive effect from 1 January, i.e., the leasehold payment for the months already "paid" (January and February) will also be indexed (increased by inflation as stipulated in the contract).[177]

2. Process of price increase

There are two main mechanisms for price increases: automatic and unilateral. In the former case, the leasehold payment agreed upon at the leasehold contract is automatically adjusted for inflation. In contrast, in the latter case, it is left to the discretion of the lessor whether or not to increase it by the rate of inflation in a given circumstance by means of a unilateral statement.[178]It is possible that inflation is relatively high, at 17%, but the lessor does not want to increase it by that much. In such cases, it may be practical to write a clause allowing discretion to decide the rate of increase within the inflation rate. However, it is also helpful to cover cases where inflation is not increasing but is decreasing (see deflation). Although it is not typical to reduce leasehold payments with such a clause, as there is the institution of reduction or consolidation

[173] The definition of the *marketing years* is set out in Article 6 of Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013, the period defined for each sector, with the calendar year being the marketing year for those sectors not covered by Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013. See a) Point a) of Subsection (1) of Section 1 of Decree No 2/2018 (II. 1.) of the Ministry of Agriculture and Rural Development.

[174] See Subsection (1) of Section 44 of Act CXXII of 2013 on Transactions in Agricultural and Forestry Land.

[175] Cf. Patrick Shaunessy: What is an Inflation Adjustment Clause. https://zuva.ai/contract-central/inflation-adjustment/ (12.05.2024.)

[176] Cf. Ondřej Preuss: Inflation clause… i.m.

[177] Cf. Deloitte: Hogyan kössünk jó bérleti szerződést infláció esetén… i.m.

[178] Cf. Ondřej Preuss: Inflation clause… i.m.

of lease payments,[179] a clause itself should be limited to an increase only; it might set a ceiling on the amount of the adjustment allowed each year.[180]

3. Price increases and the inflation indicator

It is not sufficient to indicate that the contract is inflation-adjusted. However, a precise reference index must be defined based on which indexation is possible,[181] i.e., when the leasehold payment agreed at the time of the contract must be increased by the rate of inflation as stipulated in the contract.[182] The parties may choose any price index as a reference. However, choosing a reference index with a transparent methodology and a precedent is advisable, such as the CPI calculated by the HCSO or the Monetary Union Index of Consumer Prices, and the HICP-EU27 calculated by the Eurostat. As leasehold payments do not have to be expressed in HUF, the latter two price indexes are more in line with the euro used throughout Europe. There may be other ways of calculating the leasehold payment, for example, if the agreement is made in terms of crops rather than money or terms of crops and money. In such cases, a formula or calculation method for calculating inflation should be provided, thus reducing the risk of (legal) disputes.[183]

In practice, there may be a case where the leasehold contract includes an inflation adjustment clause, but the lessor does not use it for a long time and then suddenly wants to claim the value for several years. In this case, the general limitation rule of the Civil Code applies, i.e. the adjustment of the leasehold payment is possible within a period of five years.[184] To avoid this, a time limit for indexation can be set to mitigate the leasehold risk (e.g. six months after the publication of the CPI), and if the lessor does not increase the price, he is not entitled to index for that year and, implicitly, for the previous years.[185]

[179] See Subsection (2) of Section 6:352 of Act V of 2013 on the Civil Code (hereinafter: the Civil Code) and Section 63 of Act CCXII of 2013 on Certain Provisions and Transitional Arrangements related to Act CXXII of 2013 on Transactions in Agricultural and Forestry Land.
[180] See Patrick Shaunessy: What is an Inflation Adjustment Clause… i.m.
[181] Cf. Patrick Shaunessy: What is an Inflation Adjustment Clause… i.m.
[182] Cf. Gregory N. Mankiw: A közgazdaságtan alapjai… i.m. p. 383.
[183] Cf. Patrick Shaunessy: What is an Inflation Adjustment Clause… i.m.
[184] Cf. Subsection (1) of Section 6:22 of the Civil Code.
[185] Cf. Deloitte: Hogyan kössünk jó bérleti szerződést infláció esetén… i.m.

4. Inflation adjustment clauses

The following clause samples can be found if the above requirements are fulfilled.

1. The contracting parties agree that the leasehold payment shall be increased automatically each year from 1 January by the inflation rate, expressed as an increase in the average annual consumer price index published by the Hungarian Central Statistical Office.
2. The contracting parties agree that the lessor is entitled to review the amount of the leasehold payment every year and to adjust it unilaterally, by a written unilateral statement of the lessee, with retroactive effect to 1 January of the current year, up to the amount of the Consumer Price Index (inflation) of the Hungarian Central Statistical Office (HCSO). Provided that the lessor does not adjust within six months after the publication of the Consumer Price Index of the HCSO he or she is no longer entitled to increase the price in this way for the current year and retrospectively for the previous years.
3. The contracting parties agree that the leasehold payment shall be increased on 1 July of each year by the inflation rate of the previous year, i.e., the rate of the Harmonised Indices of Consumer Prices (HICP-EU27) calculated by Eurostat.
4. The contracting parties shall agree on the amount of the leasehold payment of HUF 120 000/ha/year plus inflation, with the leasehold payment being automatically increased from 1 January of each year by the rate of inflation published by the Hungarian Central Statistical Office for the previous year. The starting date of the inflation adjustment is 1 January 2025.

IV. Conclusion

To summarize, provided that its content is adequately stipulated in the leasehold contract, the inflation adjustment clause effectively protects the lessor from the adverse effects of inflation. However, this option should be used prudently, as tracking the inflation rate may be a legitimate desire on the lessor's part, but they should remember the lessee. The latter will have to earn the leasehold payment agreed at the time of conclusion of the contract and, where appropriate, the difference plus inflation, which is not easy since, in general income and revenue

do not follow expenditure in the same way, and agriculture is one of the most sensitive sectors.[186]

[186] For example, in 2022, while the CPI showed an inflation rate of 14.5%, the producer price index for agricultural products showed an inflation rate of 49.7%. See KSH: 1.1.1.1. Főbb ármutatók [előző év = 100,0%]. https://www.ksh.hu/stadat_files/ara/hu/ara0001.html (12.05.2024.)

Gondos Kitti[187]*: The European Union approach to artificial intelligence

Abstract

It has been five years since the first call for a single set of rules on Artificial Intelligence was put on the table in the European Union. Several milestones have marked the importance of this area since then. This paper aims at presenting the legal environment of Artificial Intelligence in the European Union, focusing on the specific provisions of the current legislation, in particular the provisions of the agreement between the European Union Member States and the European Parliament on the draft European Union Regulation on Artificial Intelligence, without claiming to be exhaustive.

Keywords: draft EU AI regulation, EU AI concept, risk-based approach, general purpose AI models

I. Introduction

Nowadays, with the development of technological processes, the question of how to view artificial intelligence (AI) and its impact is particularly pressing. Could Rembrandt have imagined in the 17th century that his works would give rise to new works and that the creator would not be another famous painter but AI itself?[188]

Not only in the field of creative arts[189], but also in many other fields, such as the health sector and pharmaceuticals[190] or even in forensics[191] , the widespread applications and achievements of AI could be touched upon.

The AI and its technology, which is fundamentally transforming economic, political, scientific and social systems, therefore requires rapid responses from individuals, countries and international organisations. Keeping pace with these changes also implies a common regulatory commitment and the early definition of frameworks.

II. EU AI legislation

2.1. The basics of EU AI regulation

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[187]PhD hallgató, Pécsi Tudományegyetem Állam- és Jogtudományi Kar, Doktori Iskola, Pénzügyi Jogi és Gazdasági Jogi Tanszék.

[188] A joint venture between Microsoft and ING Bank in the Netherlands has created a project where a database of Rembrandt's works has been created and the AI has analysed these works to create a completely new work of art by further analysing Rembrandt's painting technique. https://medium.com/@DutchDigital/the-next-rembrandt-bringing-the-old-master-back-to-life-35dfb1653597 (01/12/2023)

[189] For more information on the development of evidence-based teaching strategies, see Mollick, Ethan R. and Mollick, Lilach, Using AI to Implement Effective Teaching Strategies in Classrooms: Five Strategies, Including Prompts (March 17, 2023), The Wharton School Research Paper, Available at SSRN: https://ssrn.com/abstract=4391243

[190] Manne, Ravi and Kantheti, Sneha C., Application of Artificial Intelligence in Healthcare: Chances and Challenges (April 24, 2021) Current Journal of Applied Science and Technology, 40(6): 78-89, 2021

[191] Broadhurst, Roderic and Maxim, Donald and Brown, Paige and Trivedi, Harshit and Wang, Joy, Artificial Intelligence and Crime (June 21, 2019).

The European Union, through its institutions, has been working for years to create a legal environment for AI, using a variety of tools for its application and development, including the setting up of expert groups, the promotion and implementation of research, and the drafting of strategic documents and recommendations on various aspects.

In September 2017, the Commission of the European Union (the Commission) published a Communication[192] entitled "Investing in smart, innovative and sustainable industry: a renewed industrial policy strategy for the European Union", which puts job creation and growth through innovation and investment at the heart of its initiatives. It drew attention to the crucial nature of digital transformation and the growing need for a Digital Single Market strategy for European industry. The initiative to create such a strategy covers areas such as the creation of a data economy, artificial intelligence and high-performance computing.

Another landmark event in the development of EU legislation on artificial intelligence is the conclusions of the European Council (hereinafter "Council") meeting on 17 October 2017[193] . In addition to the objectives set in the context of building a successful digital Europe, it invited the Commission to present a proposal for a European approach to Artificial Intelligence by early 2018, which was the subject of the Cooperation Statement on Artificial Intelligence of 18 April 2018.[194]

The Commission calls for concerted action in its Communication "Artificial Intelligence for Europe"[195] to ensure that the European Union can make the most of the opportunities and address the new challenges that AI brings.

Following the setting up of the first Commission Expert Group[196] in August 2018[197] to support the implementation of the European Strategy on Artificial Intelligence, already mentioned earlier in the definition, one of the Commission's policy initiatives, which is a notable highlight, is the proposal for a first draft regulation on AI (*Artificial Intelligence Act*) in April 2021. And on 6 December 2022, the Council of the European Union adopted its Common Position on the

[192] European Commission: Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank - Investing in smart, innovative and sustainable industry - A renewed industrial policy strategy for the European Union https://eur-lex.europa.eu/legal-content/HU/TXT/?uri=CELEX%3A52017DC0479 (01.12.2023)

[193] European Council conclusions EUCO 14/17. https://www.consilium.europa.eu/media/21607/19-euco-final-conclusions-hu.pdf

[194] https://digital-strategy.ec.europa.eu/en/events/digital-day-2018 (05/12/2023)

[195] https://data.consilium.europa.eu/doc/document/ST-8507-2018-INIT/en/pdf (05/12/2023)

[196] called *High-Level* Expert Group on Artificial Intelligence (*AI HLEG*)

[197]European Commission: High-Level Expert Group on Artificial Intelligence. https://ec.europa.eu/digital-singlemarket/en/high-level-expert-group-artificial-intelligence

draft AI Act and amended its provisions several times[198] . On 14 June 2023, the European Parliament (Parliament) adopted its negotiating position on the draft legislation[199] before negotiations with EU Member States on the final form of the legislation start. On 9 December 2023, a *provisional agreement on* AI legislation was reached between the Council Presidency and the European Parliament. The European Parliament adopted legislation on artificial intelligence on 13 March 2024. The legislation will become applicable two years after its entry into force, except for a few specific provisions.[200]

2.2. The European Union's draft regulation on artificial intelligence in the light of the interim agreement

The provisional agreement introduced new elements to the rules of[201] compared to the original Commission proposal, but the aim has not changed, to ensure that artificial intelligence systems placed and used on the European market are safe and respect fundamental rights and EU values.

2.2.1. Definition of AI systems

In order to distinguish them from simpler software systems, the definition of AI systems has been modified using the approach proposed by the Organisation for Economic Cooperation and Development (OECD), rejecting the original cumbersome version proposed by the Commission. The new definition of an AI system is based on the draft Regulation:

> *"An artificial intelligence system is a machine-based system designed to operate with varying degrees of autonomy, which, once deployed, can exhibit adaptability and, for explicit or implicit purposes, infers from the input received how to generate outputs such as predictions, content, recommendations or decisions that can affect the physical or virtual environment."*[202]

[198] https://www.consilium.europa.eu/hu/press/press-releases/2022/12/06/artificial-intelligence-act-council-calls-for-promoting-safe-ai-that-respects-fundamental-rights/ (05/12/2023)
[199] https://www.europarl.europa.eu/news/en/press-room/20230609IPR96212/meps-ready-to-negotiate-first-ever-rules-for-safe-and-transparent-ai (05/12/2023)
[200] The bans will apply after 6 months, while the rules on general purpose AI will apply after 12 months.
[201] https://www.consilium.europa.eu/hu/press/press-releases/2023/12/09/artificial-intelligence-act-council-and-parliament-strike-a-deal-on-the-first-worldwide-rules-for-ai/ (16/01/2024)
[202] AI Final Draft (21 January 2024) https://artificialintelligenceact.eu/wp-content/uploads/2024/01/AIA-Final-Draft-21-January-2024.pdf (2024.01.21.)

The initial definition in the OECD Recommendation adopted in 2019 has often been a reference for regulatory initiatives on AI.[203] This definition is:

> "A *machine-based system that can make predictions, recommendations or decisions affecting the real or virtual environment for a given set of human-defined objectives. AI systems are designed to operate with varying degrees of autonomy".*[204]

However, the definition used in the draft Regulation is based, as mentioned above, on the definition contained in the OECD Recommendation as amended on 8 November 2023, thus:

> *"An AI system is a machine-based system that, given explicit or implicit goals, infers from the input it receives how to produce outputs such as predictions, content, recommendations or decisions that can affect the physical or virtual environment. Different AI systems provide different degrees of autonomy and adaptability once deployed."*[205]

One of the visible differences with the original definition is the removal from the definition of goals that they must be humanly defined. In addition, the function of the input received has been added as a new element, as well as the appearance of a reference to content on the output side. It is also interesting to note that the designation of the physical or virtual environment, rather than the real or virtual environment, is one of the components of the definition and that, in addition to varying degrees of autonomy, the provision of adaptability is a key element in the finalisation of the definition.

The agreement not only introduces innovations in the concept of the AI system, but also defines several new concepts, such as the definition of "sensitive operational data" (Article 3(33e)), which can be summarised as the set of operational data related to preventive activities in the detection, investigation and prosecution of criminal offences. The disclosure of such information may compromise the integrity of the criminal proceedings. It is important to underline the introduction of the concepts of general purpose AImodel (Article 3(44b)) and

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[203] Similar elements are also contained in the text of the US President's Executive Order on AI:
15 U.S.C. 9401(3) "a machine-based system that can make predictions, recommendations, or decisions for a particular human-defined target system by influencing a real or virtual environment. Artificial intelligence systems use machine- and human-based inputs to sense real and virtual environments; abstract these senses into models through automated analysis; and formulate information or action options using the model's inferences."

[204] https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449 (15/01/2024)

[205] https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449#mainText (15/01/2024)

general purpose AI model system (Article 3(44e)) and the new provisions in this context which also concern specific cases of general purpose AI systems. [206]

2.2.2. General purpose artificial intelligence systems

A general-purpose AI model is therefore an AI system based on a general-purpose AI model that can serve different purposes, both for direct use and for integration into other AI systems.

A general purpose AI model shall be classified as a general purpose AI model with systemic risk if it meets any of the following criteria:

(a) have high-impact capabilities assessed through appropriate technical tools and methodologies, including indicators and benchmarks,

(b) a general-purpose AI model has capabilities or effects equivalent to those in point (a), either ex officio or by decision of the Commission following an alert [Alerts of systemic risks by the scientific panel] .[207]

The amending proposal also sets a threshold for the high impact capability under point (a) (the aggregate calculation volume used to train it, measured in *FLOP-Floating-Point Operation, is* greater than 10^25[208]), for which the Commission shall adopt delegated acts to amend the threshold, if necessary, and to supplement the benchmarks and indicators.

The first step in the general purpose AI model procedure is for the relevant service provider to notify the Commission of compliance without delay and at the latest within two weeks (however, due to the specific characteristics of the general purpose AI model, it may not always constitute a systemic risk, which the service provider can justify by providing substantiated arguments). However, if the Commission becomes aware of a model that has not been notified, it may itself classify it as such. It is important to underline that the Commission will ensure that a list of general-purpose AI models posing a systemic risk is published and kept up to date,

[206] A whole new title (VIIIA) is added to the text of the draft regulation for general purpose AI models.

[207] The AI Office will be assisted by a scientific panel of independent experts to advise on general-purpose AI models by contributing to the development of methodologies for assessing the capabilities of basic models, advising on the identification and emergence of high-impact basic models, and monitoring the potential material security risks associated with basic models.

[208] Scientists measure computer performance in terms of, among other things, floating point operations per second (FLOPS). These operations are not entirely simple arithmetic operations, such as multiplication, division, etc. 1 FLOPS is the performance (in the 1950s) of a machine that performed a machine-coded floating-point multiplication in 1 second. Today we use prefixes describing speeds in the thousands of orders of magnitude. The prefix "exa" stands for 18 zeros, a million times a million times a million orders of magnitude. So an exascale computer can perform several times 1 000 000 000 000 000 000 000 000 FLOPS, i.e. several times exaFLOPS. To get a sense of how powerful an exascale computer is, a human would have to perform one sum every second for 31 688 765 000 years to achieve what an exascale computer can do in a single second. Source: https://itbusiness.hu/technology/aktualis-lapszam/tech/aurora/ (12.01.2024)

without prejudice to the respect and protection of intellectual property rights and confidential business information or trade secrets in accordance with EU and national law.

Also in view of the need to create new rules for general-purpose AI models and to implement them at EU level, an Artificial Intelligence Agency will be set up within the framework of the European Commission. Its tasks will include overseeing these AI models, contributing to the promotion of standards and testing practices, and monitoring the enforcement of common rules for all Member States.

2.2.3. Scope of the draft regulation

On the one hand, the Interim Agreement clarifies that the Regulation does not apply outside the scope of EU law and in any case does not affect the exercise of the functions of Member States or other entities with responsibilities in the field of national security. Furthermore, the AI legislation does not apply to systems developed or used for AI (irrespective of the type of entity) that are used exclusively for military, defence or national security purposes[209] . It is important to note that the agreement does not, however, change the requirement that the Regulation does not apply to AI systems that are specifically developed and deployed for: scientific research and development. Nor does the Regulation apply to persons who use AI in the course of their non-professional activities.

2.2.4. Risk-based approach and prohibited practices

As originally proposed by the Commission, a clearly defined, risk-based approach[210] should be taken to introduce a proportionate and effective system of binding rules[211] for AI systems. Under this approach, the type and content of such rules should be adapted to the intensity and magnitude of the risks posed by the AI systems. To this end, certain artificial intelligence practices should be prohibited, requirements should be set for high-risk AI systems and

[209] For more on this topic, see Smuha, Nathalie A. and Ahmed-Rengers, Emma and Harkens, Adam and Li, Wenlong and MacLaren, James and Piselli, Riccardo and Yeung, Karen, How the EU Can Achieve Legally Trustworthy AI: A Response to the European Commission's Proposal for an Artificial Intelligence Act (August 5, 2021). pp 17. Available at SSRN: https://ssrn.com/abstract=3899991

[210] "Risk-based regulation" is also promoted as a strategic approach to implementation. See Karen Yeung and Lee A. Bygrave, Demystifying the Modernized European Data Protection Regime: Cross-Disciplinary Insights from Legal and Regulatory Governance Scholarship, Regulation & Governance at 11 (2021). https://doi.org/10.1111/rego.12401

[211]For a discussion of risk levels and their implications, see more in Tobias Mahler, Between Risk Management and Proportionality: The Risk-Based Approach in the EU's Artificial Intelligence Act Proposal, in Nordic Yearbook of Law and Informatics, 2021. 246-267.

obligations for the operators concerned, as well as transparency obligations for certain AI systems.[212]

The provisions under Title II of the draft regulation contain a list of prohibited AI practices. The prohibitions apply to practices that have the potential to manipulate persons to a large extent, unconsciously, through unconscious[213] stimuli, or to exploit the vulnerability of certain vulnerable groups, such as children or persons with disabilities, in order to distort their behaviour in a way that is likely to cause them or another person psychological or physical harm. Other manipulative practices involving adults that AI systems may facilitate may fall within the scope of existing legislation on data protection, consumer protection and digital services, which seeks to guarantee that natural persons are adequately informed and free to choose not to be subject to profiling or other practices that may influence their behaviour. From the outset, the proposal prohibits social scoring by public authorities based on artificial intelligence for general purposes. The use of "real-time" remote biometric identification systems in publicly accessible locations for law enforcement purposes is also prohibited, subject to certain specific, limited exceptions. The Interim Agreement limits the exceptions to cases involving victims of certain crimes, the prevention of actual, present or foreseeable threats, in particular terrorist attacks, homicide, kidnapping[214] , and the tracing of persons suspected of committing the most serious crimes.

The Interim Agreement by Title II 5. Under the new provisions to be introduced under Article [215][216] , in essence, among other things, biometric categorisation for the derivation of sensitive data, in particular political opinions, membership or religious beliefs, will be prohibited, and natural persons will be prohibited from being judged on the basis of their behaviour as predicted by artificial intelligence, without, for example, there are reasonable

[212] Risk assessment models for the effective implementation of the AIA, in particular for the assessment of significant risk and impact on fundamental rights, have been proposed several times.Novelli, Claudio and Casolari, Federico and Rotolo, Antonino and Taddeo, Mariarosaria and Floridi, Luciano, Taking AI Risks Seriously: a New Assessment Model for the AI Act (May 14, 2023). AI & Society, Springer, Vol.38, N. 3, 2023, https://doi.org/10.1007/s00146-023-01723-z.

[213] The term "subconscious" is not explicitly defined in the proposed AI Act, Nathalie A. Smuha et al., "How the EU Can Achieve Legally Trustworthy AI: A Response to the European Commission's Proposal for an Artificial Intelligence Act," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, August 5, 2021), https://doi.org/10.2139/ ssrn.3899991. "Generally refers to sensory stimuli that consumers cannot consciously perceive": Mihai Radu Ionescu, "Subliminal Perception of Complex Visual Stimuli," Romanian Journal of Ophthalmology 60, no. 4 (2016): 226-30.

[214] See AI Final Draft (21 January 2024) IIa Annex to Title 5 (1) (iiii)

[215] The addition of a social moat to the list of harmful effects of this kind of manipulation currently in Article 5 has already been proposed in Uuk, Risto: Manipulation and the AI Act, Future of Life Institute (2022), pp. 5. https://bit.ly/3qzTqpO.

[216] See AI Final Draft (21 January 2024) Title II Article 5(1)(ba), (da-dc)

grounds to suspect the involvement of an individual in the commission of a crime, or the use of AI systems using the same risk analysis to profile non-natural persons in this way. The practice of systems that create or enhance facial recognition databases or collect facial images from CCTV (*Closed Circuit Television*) footage through non-targeted queries should also be prohibited. The marketing and use of artificial intelligence systems designed to learn about the emotional state of individuals in work and educational situations is also prohibited, but this prohibition does not apply to artificial intelligence systems marketed for strictly medical or safety reasons, such as systems for therapeutic purposes.

2.2.5. High-risk and low-risk AI systems

High risk AIS refers to AIS that pose a high risk to the health and safety of natural persons or to their fundamental rights. Such an AI system is considered to be a high-risk AI system if the AI system is intended to be used as a safety component of a product covered by Union harmonisation legislation listed in Annex II or as such a product in itself (Chapter 1, Article 6(1)(a)) and the product of which the AIsystem is a safety component or the AI system itself as a product is covered by Annex II, Article 6(1)(a)). In addition, the AI systems referred to in Annex III shall be considered as high risk, which list has also been extended by new elements under the Interim Agreement. [217]

The requirements for high-risk AI are set out in Chapter 2 of the Regulation. High-risk AI systems must establish, implement and maintain a risk management system, which includes a documentation obligation (Article 9). High-risk AI systems using techniques involving the teaching of models with data must be developed on the basis of training, validation and test data sets that meet specified quality criteria and must be subject to appropriate data management and reporting practices (Article 10), which are also clarified in the proposed amendment.[218] Technical documentation shall be prepared and kept up to date before such systems are placed on the market or put into service (Article 11). When designing and developing high-risk AIS, it shall be equipped with capabilities to allow for the automatic recording (i.e. logging) of events during the operation of the high-risk AIS. These logging capabilities must comply with

[217] The high-risk classification is also explicitly indicated in the draft regulation with regard to certain areas of healthcare, for more information see Miklós Zorkóczy: The legal and ethical dimensions of artificial intelligence in healthcare. MTA Law Working Papers, 2021/25. pp 11., There are already artificial intelligence systems that should be classified as high risk, but they are not currently listed in Annex III, nor would they fall into any of the categories. High-frequency trading algorithms, for example, have a profound impact on the market and can have a destabilizing effect on the economy: See generally Maureen O'Hara, "High-Frequency Trading and Its Impact on Markets," Financial Analysts Journal 70, no. 3 (2018).

[218] AI Final Draft (21 January 2024) Title II Article 10 (2) aa), fa)

recognised standards or common specifications (Article 12). The draft Regulation also contains provisions on transparency and information to users, requiring that high-risk AI systems are accompanied by instructions in an appropriate digital format or other form of instruction manual. In addition to the rules on mandatory information contained therein, the draft agreement also sets out clarifications that can be used to explain the output of the system, including, where appropriate, by providing technical capabilities and information on the specific AI system. [219]

The draft Regulation also contains precise rules on the requirements for effective monitoring of natural persons during the period of use of the AI system, whereby it requires that, in the case of AI systems for the "real-time" and "non-real-time" remote biometric identification of natural persons, the user shall not take any action or decision based on the identification from the system unless it has been verified and confirmed by at least two natural persons (14. In this context, the draft agreement makes an additional exception to the requirement of verification by two natural persons, which does not apply, inter alia, to high-risk AI systems used for law enforcement, migration, border control purposes, where EU or national law considers the application of this requirement to be disproportionate.[220] These systems must also achieve an adequate level of accuracy, stability and cyber-security to ensure consistent performance throughout their lifecycle (Article 15).

The amending proposal also introduces a new mechanism to extend the scope of the rules relating to the protection of fundamental rights.[221] The aim is to ensure that fundamental rights are adequately protected against possible misuse of high-risk AI systems. In this respect, the impact of the systems on fundamental rights will be assessed *(assisment consisting of an assessment of the* following elements: a) a description of the deployment process, b) an indication of the intended period or frequency of use of the systems, c) an indication of the categories of natural persons and groups of persons likely to be affected by their use in the Member State, d) a point-by-point identification of the specific risks of harm likely to affect the categories or groups of persons, taking into account the information provided by the service provider in accordance with Article 13(2) of the Directive. (f) the measures to be taken in the event of such risks materialising, including provisions on internal management and complaints mechanisms. The obligation to carry out an evaluation shall apply to the first use of the system and the applicant may rely on the results of impact assessments carried out previously in similar

[219] AI Final Draft (21 January 2024) Title II Article 13 3 (3) (iiia)
[220] AI Final Draft (21 January 2024) Title II 14 Article 5.
[221] AI Final Draft (21 January 2024) Title II Article 29a

cases. It is, however, the responsibility of the installer to ensure that the necessary information is updated in case of changes to the previously listed factors. The AI Office will develop a template for the questionnaire, including an automated tool, to facilitate the implementation of the obligations of this Article in a simplified way for users.

The Interim Agreement sets out criteria for the high-risk AI systems mentioned above, where one or more of these criteria are met, the system is not considered to be high-risk because it does not present a significant risk to the health, safety or fundamental rights of natural persons (Article 6.2a of the Interim Agreement). Therefore, such schemes are also subject to less stringent transparency rules. The criteria for classification under the new paragraph are: the AI system is designed to perform a narrow procedural task (a), the system is designed to improve the outcome of a human activity previously performed (b), the system is designed to detect patterns of decision-making or deviations from previous patterns of decision-making and is not designed to replace or influence a human evaluation previously performed without adequate human review (c), or the system is designed to improve the outcome of a human activity previously performed (d), the system is designed to improve the outcome of a human activity previously performed (e), the system is designed to detect patterns of decision-making or deviations from previous patterns of decision-making and is not designed to replace or influence a human evaluation previously performed without adequate human review (f), or the system is designed to improve the outcome of a human activity previously performed (g). However, notwithstanding criterion (a), an AI system shall always be considered as high risk if the AI system performs profiling of natural persons.

III. Further milestones in EU AI regulation

In the period prior to the application of the AI legislation, the Commission has called for the conclusion of an AI Pact, bringing together AI developers who volunteer to apply the obligations of the AI legislation in advance. In November 2023, the Commission launched a "call for stakeholders" for interested parties willing to participate in the Pact, and the next step will be to discuss the objectives of the Pact and to present preliminary ideas and best practices in the first half of 2024. Following the formal adoption of the AI legislation, the Pact will be launched, which will make it possible to publish the first commitments.[222]

On 24 January 2024, the European Commission presented a new package of measures. The aim of the package is to support European start-ups and SMEs in developing reliable AI

[222] https://digital-strategy.ec.europa.eu/hu/policies/ai-pact

technologies that are in line with EU values and rules. As part of the package, the Commission Communication on boosting trusted AI start-ups and innovation should be highlighted, which sets out in particular a strategic investment framework for the European Union.[223] In the framework of the strategy, in particular to further support the development of AI models, the EU intends to provide access to world-class supercomputers to accelerate the training time for AI and to further develop the AI capabilities of EuroHPC17[224] supercomputers to help start-ups and the scientific and innovation communities to access them. The EU will accelerate the development and deployment of common European data structures and will support the development of algorithms that are reliable and consistent with the draft AI legislation by providing funds to support R&D. The EU will also strengthen the EU talent pool for generative AI by combining AI-specific and sector-specific skills and attracting and retaining talent. Last but not least, the European Union will promote the widespread uptake and use of generative AI, including in application areas such as public administration, and finally, encourage public and private investment in AI-related or start-up companies, including through venture capital or equity support.[225]

A further milestone is the Commission Decision establishing the European Artificial Intelligence Agency (hereinafter "the Agency").[226] The Office will carry out the following tasks for the implementation and enforcement of the forthcoming Regulation establishing harmonised rules for AI:

(a) contribute to strategic, coherent and effective EU international initiatives on AI in line with Member States and EU positions and policies;

(b) contribute to the promotion in the Commission of actions and policies that will bring benefits in terms of the social and economic benefits of AI technologies;

(c) support the accelerated development, deployment and use of trusted artificial intelligence through the development of systems and applications that contribute to the Union's competitiveness and economic growth. In particular, the Agency shall support innovation ecosystems in cooperation with relevant public and private actors and the start-up community;

(d) monitor the development of artificial intelligence markets and technologies.

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[223]https://digital-strategy.ec.europa.eu/hu/library/communication-boosting-startups-and-innovation-trustworthy-artificial-intelligence

[224] The EuroHPC Joint Undertaking has now acquired nine supercomputers across Europe: https://eurohpc-ju.europa.eu/supercomputers/our-supercomputers_en

[225]Communication_on_boosting_startups_and_innovation_in_trustworthy_AI_3V9PtH703Rb5OjDHYc64ptlpZs_101621%20(1).pdf

[226] https://digital-strategy.ec.europa.eu/hu/library/commission-decision-establishing-european-ai-office

In carrying out its tasks, it works, inter alia, with stakeholders, relevant Commission DGs, all relevant EU bodies and with Member States.[227] The Commission Decision establishing the Office entered into force on 21 February 2024.

IV. Concluding thoughts

The rise of AI necessarily brings with it anomalies in its regulation. The EU regulation as it stands already seeks to address the challenges of a rapidly evolving technological environment in areas that have long been affected by AI. The results achieved are unquestionable, but it is clear that legislation cannot always keep pace with such changes in technological development, even if we take the example of copyright law, as mentioned in the introduction. It should be stressed, however, that such a diverse use of technology and the ability to imitate almost perfectly the stylistic features of individual authors also entails serious risks, particularly as regards the proliferation of counterfeits and the increasing difficulty of distinguishing them from original works. Many examples of this could be cited outside the key areas and sectors concerned by AI.

It is difficult to find the right balance between the growing use of AI, the promotion of innovation and the protection of the fundamental rights and values of natural persons. The increasingly sophisticated provisions of the draft regulation, including the establishment of codes of conduct applicable to the sector, a more precise definition of prohibited practices and consistent sanctioning provisions, could represent a significant step forward in eliminating the harm caused by AI systems[228] . One positive aspect is the EU's toolbox to support an innovative AI environment, whereby start-ups can work closely with industrial users, gain access to key components of AI and thus attract investment in the EU.

[227]European Commission: Commission_Decision_Establishing_the_European_AI_Office_oOYnc1NHm3RrUvrwOW5NIsFRuTg_101625.pdf

[228] For more on the development of an analytical framework for identifying the disruptive features of artificial intelligence, see T Rodríguez de las Heras Ballell, 'Legal Challenges of Artificial Intelligence: Modelling the Disruptive Features of Emerging Technologies and Assessing Their Possible Legal Impact' (2019) Uniform Law Review 1-13.

Ha Van Thai[229]* – Nguyen Thanh Dung[230]*: The Rise in Popularity of Cryptocurrency and Associated Criminal Activities: The Case of Vietnam

Abstract

In recent years, cryptocurrencies are increasingly accepted by traditional commercial vendors, and payment processors, and companies. While fiat currencies issued by the government bodies have central repositories, such as banks, most popular cryptocurrencies are decentralized and not backed by a central government or bank. Many cybercriminals and online criminal markets find the anonymity and security of cryptocurrencies extremely attractive and opt for virtual currencies. As the demand for cryptocurrencies increases, it provides opportunities for criminals to hide behind the presumed privacy and anonymity. Identifying these cryptocurrency-related criminal activities have posed challenges for law enforcement due to the cross-border nature of transactions, the use of evasion technology to mask the identity of users, and inconsistent regulations. To address the role of cryptocurrencies in criminal activities, with a focus on the Vietnam context, the paper tries to find out: (1) describe the current application of cryptocurrency technology and demonstrate how malicious actors have exploited it to cause injury to cryptocurrency users, exchanges, and investors, as well as to facilitate a wide variety of criminal activities? (2) What factors facilitate cryptocurrency-related criminal activities? and (3) What are the challenges they pose for regulators and law enforcement and implications should be done to better deal with this phenomenon.

Keywords: Cryptocurrency, money laundering, blockchain, crime prevention, Vietnam

I. Introduction

Technology innovations frequently have a positive impact on society. However, criminals, terrorists, or even rogue nations might employ the same technologies for their own illegal purposes, inflicting significant costs on the public. Few technologies today have the potential to be transformational and disruptive, as well as more subject to exploitation, than cryptocurrencies.

Individual and institutional investors alike have been interested in cryptocurrency. Cryptocurrency regulation in Vietnam is gaining traction and will play an important role in the growth of this new financial system. Public interest in cryptocurrencies, such as Bitcoin and Lithium, has recently increased as several companies investigate ways to leverage on the new technology. A wide range of criminal activity may involve or be facilitated by the use of cryptocurrency

Cryptocurrency is a type of virtual asset that employs cryptography to safeguard financial transactions. A significant number of the fundamental characteristics of cryptocurrency. The

[229]People's Security Academy, Ministry of Public Security, Hanoi, Vietnam.
[230]People's Security Academy, Ministry of Public Security, Hanoi, Vietnam.

technology presents new and unique challenges for public safety, including decentralized operation and control and, in some cases, a high degree of anonymity, that must be addressed to prevent it from being used predominantly for criminal activity. Cryptocurrency technology, despite its comparatively brief existence, is in fact involved in a number of the most significant national security and criminal threats that the world is currently facing. For instance, cryptocurrency is being utilized more frequently to purchase and sell lethal drugs on the dark web, as well as by drug cartels who are attempting to launder their profits. This has contributed to a drug epidemic that resulted in the deaths of over 67,000 Americans by overdose in 2018.[231]

II. Cryptocurrency and its features

„Virtual currency" is a digital representation of value that, similar to traditional coin and paper currency, serves as a currency of exchange. It is capable of being traded or transmitted digitally and utilized for investment or payment purposes. Virtual currency is a form of "virtual asset" that is distinct and separate from digital representations of traditional currencies, securities, and other traditional financial assets. Additionally, virtual currency lacks legal tender status in any specific country or for any government or other creditor, in contrast to "traditional currency," which is also known as fiat currency, real currency, or national currency. The exchange value of a specific virtual currency is typically determined by the level of trust or agreement among its user base. Virtual currencies may be convertible, which implies that they have an equivalent value in real currency or serve as a substitute for real currency. Alternatively, they may be non-convertible, which means that they are exclusive to a specific virtual domain, such as an online gaming community, and cannot be exchanged for cash.

Cryptocurrency is a virtual currency with particular properties. Most cryptocurrencies are decentralized, meaning they have no central bank to issue currency and manage payment ledgers. Instead, cryptocurrencies use complex algorithms, a distributed ledger called the "blockchain," and a network of peer-to-peer users to track payments and receipts. The name implies that cryptocurrencies use cryptography for security. Some cryptocurrencies are Bitcoin, Litecoin, and Ether. Cryptocurrency can be traded directly, through an exchange, or through intermediaries. An individual "wallet," or virtual account, stores cryptocurrency. Wallets can interact with blockchains to produce and store public keys (like bank account numbers) and private keys (like PINs or passwords) for sending and receiving cryptocurrency. Cryptocurrency wallets can be stored on a physical device ("hardware wallets"), downloaded

[231] US Department of Justice. (2020). Report of the Attorney General's Cyber Digital Task Force

as software (“software wallets”) onto a desktop computer or server (“desktop wallets”) or a smartphone application (“mobile wallets”), printed public and private keys (“paper wallets”), or exchange accounts.

The anonymity of cryptocurrencies depends on whether their blockchain is public or private. Bitcoin addresses lack customer or personal information. Bitcoin's blockchain is the cryptocurrency platform. Users, called "miners," ensure that units have not been spent on this site. They validate the transaction by solving a sophisticated algorithm. Next, the transaction is appended to the blockchain, which contains consecutive transactions in blocks. Miners contribute to community validation and receive public rewards. Users can ask about addresses to watch and understand Bitcoin transactions. Other cryptocurrencies use non-public or private blockchains, making transaction tracing difficult.

Cryptocurrency advocates say a decentralized, distributed, and secure digital currency has legitimate uses. Around 14,750 cryptocurrencies allow global virtual currency exchange for goods, services, and other value.[232] Bitcoin advocates say it can reduce transaction costs and reduce corruption and fraud by eliminating the need for financial intermediaries to verify and support transactions. Some people, especially those in countries with high inflation and limited access to foreign currency, may use virtual currency to avoid the consequences of inflation on fiat currencies.[233]

Bitcoin may also enable "micro-payments" in the future, allowing firms to sell cheap goods and services that may not be profitable with credit and debit due to high transaction costs. Cryptocurrencies may offer new business opportunities, especially in underbanked developing nations. Bitcoin proponents also note that while cryptocurrency privacy can be problematic for law enforcement, it can also be beneficial. Advocates say anonymity may reduce account.[234]

III. Cryptocurrency and associated criminal activities

In 2013, the virtual currency Bitcoin also began to creep into Vietnam, attracting a number of people interested and investing because of the appeal of advertisements about profits earned from increasing the price of bitcoin. these currencies when investing. As of December 2022, Vietnam has more than 200 active blockchain projects.[235] According to data from Chainalysis,

[232] https://www.coingecko.com/

[233] Farell, R. (2015). An analysis of the cryptocurrency industry. *Wharton Research Scholars*, *130*, 1-23.

[234] Al Shehhi, A., Oudah, M., & Aung, Z. (2014, December). Investigating factors behind choosing a cryptocurrency. In *2014 IEEE international conference on industrial engineering and engineering management* (pp. 1443-1447). IEEE.

[235] https://www.vietnam.vn/nguy-co-rua-tien-trong-linh-vuc-tien-ma-hoa-tang-cao/

the total value of cryptocurrency received by Vietnam within 1 year from October 2021 to October 2022 is 90.8 billion USD. Of which, illegal activities are 956 million USD. Vietnam ranks in the top 5 countries with the highest trading volume on the Binance exchange.[236]

In Vietnam, virtual currency is not a legal currency or means of payment. Currently, Vietnam does not have an official legal framework for virtual currency and it is not on the list of prohibited goods and business services, is not a means of payment or transfer tool and has not been recorded in any law. Any legal document of the legal system leads to many negative consequences for monetary security, poses many potential threats to national security, and causes social disorder and safety.

III.1. Using cryptocurrency directly to commit crimes

Criminals employ cryptocurrencies as a means to carry out illegal activities and elude detection, which would be more challenging to achieve with traditional fiat cash. By refraining from engaging in significant cash transactions, individuals can reduce the likelihood of their bank accounts being identified or banks reporting suspicious activities to governments.

There is a growing trend among criminals to utilize cryptocurrency for the purpose of buying and selling illegal goods. Additionally, there exists a thriving market for forged identification cards and illegally acquired personal data, such as pilfered credit card numbers. Illicit transactions involving unlawful goods and services are frequently conducted using cryptocurrencies through dark web markets that are specifically designed for this purpose.

For example, Visa's statistics for the third quarter of 2023 reveals that Vietnam had a greater rate of fraud in card issuing compared to the average rate in the Asia-Pacific region, and this rate was rapidly increasing. The majority of card issuance fraud in Vietnam originates from sites associated with internet advertising. Visa acknowledges that card acceptance units may unknowingly process unlawful transactions facilitated by third parties, which can be associated with money laundering activities.[237]

III.2. Buying and selling tools to commit crimes

Criminals also utilize cryptocurrency to purchase and exchange "tools of the trade," which are products that may or may not be illegal itself but are utilized for illegal activities thereafter. These instruments include the necessary resources to trade drugs. Drugs are hidden in the form of "gifts" delivered by express delivery or "hand-carried" goods. In particular, there are people

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[236] https://baochinhphu.vn/tang-cuong-hieu-qua-phong-chong-rua-tien-trong-giao-dich-tien-ma-hoa-102230920161324225.htm

[237] https://vnba.org.vn/en/card-payment-market--new-trends-of-risks-and-frauds-13866

using cryptocurrency (Bitcoin) to pay for illegal drug transactions.[238] Cryptocurrency can also be used to trade technological tools and computing capacities (such as servers and domains) to partake in cybercriminal activities. These commodities and services have been acquired by criminals using bitcoin, with the intention of evading detection of their illicit behavior and planning.

III.3. Ransom, blackmail, and extortion

Digital space is increasingly becoming a common platform for the execution of illicit extortion schemes. Malicious individuals can exploit cryptocurrencies as a means of payment to allow ransom and blackmail, avoiding the need to request large amounts of physical cash or the risk of having their bank accounts traced. In addition, criminals frequently deploy ransomware, a form of malicious software specifically created to encrypt or obstruct access to valuable data on victims' computers and servers. The victim is then coerced into making a stipulated payment in order to regain access to their data.

Vietnam has hundreds of illegal foreign exchange, attracting many people to invest. They often let brokers solicit and entice by calling and communicating via social networks. They introduce projects originating from abroad, linked to major cryptocurrency exchanges in the world with a committed interest rate of 15-30% a month.

In the beginning, they often let players win, stimulating them to deposit more money. After that, they will advise the "prey" to place large orders leading to losing all the money in the account. Admins can manually place orders in the customer's account, change the money balance, intervene in the order placing process such as extending the delay, buying and selling price range or even "burning" all the money in the customer's account.

At the end of March 2021, Hanoi Police destroyed four gold and virtual currency exchanges: Rforex.com, Yaibroker, Vistaforex, Exswiss and arrested 26 suspects to investigate the crime of using computer networks and electric vehicles committed an act of appropriation of property according to Article 290 of the Penal Code.[239]

III.4. Using cryptocurrency to conduct money laundering and tax evasion

Cryptocurrency is being utilized by criminals of all stripes to conceal their illicit earnings. Money laundering is the deliberate execution of a financial transaction that is associated with or derived from a criminal offense with the intention of concealing the proceeds, promoting the

[238] https://suckhoedoisong.vn/xuat-hien-hinh-thuc-pham-toi-moi-su-dung-bitcoin-de-giao-dich-ma-tuy-16923070316050117.htm

[239] https://vnexpress.net/sap-bay-san-ngoai-hoi-quoc-te-mat-hang-chuc-ty-dong-4440682.html

offense, or evading federal reporting requirements.[240] The exchange of cryptocurrency for other forms of cryptocurrency or the conversion of cryptocurrency to fiat currency can considerably simplify such behavior when the movement of funds occurs online and anonymously. In fact, the proliferation of online marketplaces and exchanges that utilize cryptocurrency may offer criminals new opportunities to transmit illicitly acquired funds in order to conceal their financial activities and to capitalize on their illicit earnings. Transnational criminal organizations, such as drug traffickers, may find cryptocurrency to be particularly advantageous in concealing financial activities and efficiently transporting substantial sums of money across borders without detection.

Vietnam's Ministry of Public Security is investigating a case of possible fraud related to the trading of the Pi cryptocurrency. Pi's operations were complicated and unregulated, and the level of profitability for an internet-based business was not possible. There were signs that Pi's operations in Vietnam were essentially a multi-level marketing model with a high risk of losses. Pi debuted in 2019 and has been highly popular in Vietnam since 2021. The item is not valued yet, however, it appears many people have traded Pi with real money after reaching deals. Trading cryptocurrencies, including Bitcoin, is currently not permitted and is a violation in Vietnam.

Criminals may also use bitcoin exchanges that violate international anti-money laundering rules to disguise financial activity. In general, "virtual currency exchangers" and "virtual currency exchanges" are individuals or businesses who exchange virtual currency for fiat currency, other virtual currency, or other assets for a commission. Unlicensed exchanges and money transmitters can provide an avenue of laundering for those who use digital currency for illicit purposes.

Similar to money laundering, the inherent challenges in monitoring bitcoin transactions might also enable individuals to evade taxes. Tax evaders may engage in various strategies to avoid paying taxes, such as failing to disclose profits made from selling or disposing of their cryptocurrency, not reporting income received in cryptocurrency for business purposes, not reporting wages paid in cryptocurrency, or utilizing cryptocurrency to facilitate deceptive invoice schemes aimed at dishonestly reducing business income.[241]

[240] Teichmann, F. (2020). Recent trends in money laundering. *Crime, Law and Social Change, 73*, 237-247.
[241] https://haiquanonline.com.vn/ngan-chan-he-luy-va-rui-ro-rua-tien-gian-lan-tron-thue-tu-tien-ao-165533.html

IV. Ongoing challenges and future strategies

The aforementioned cryptocurrency-related crimes are facilitated by the existence of online black markets on the dark web. Illicit activities using cryptocurrencies primarily take place on darknet websites and marketplaces. These platforms enable criminals from different parts of the world to interact and engage in unregulated virtual trading with a high level of anonymity. These underground marketplaces provide the chance to purchase and sell unlawful items and instruments for criminal activities, as well as to engage in money laundering and conceal illicitly acquired profits. Consequently, darknet markets provide as a natural environment for the widespread utilization and manipulation of bitcoin.

For instance, KyberSwap, a blockchain platform based in Vietnam, has experienced a cyber attack resulting in the theft of $47 million worth of cryptocurrencies. According to blockchain data reported by The Block, Kyber's liquidity pools were targeted by hackers, resulting in the theft of $7 million worth of Ethereum, $20.7 million worth of Arbitrum, $15 million worth of Optimism, $3 million worth of Polygon, and $2 million worth of Base. The aggregate sum of bitcoin pilfered exceeded $47 million, and the entirety of the funds were transferred to a single digital wallet.[242] Kyber Network was established in 2017 by Loi Luu, Victor Tran, and Yaron Velner. This project was among the earliest blockchain initiatives created by Vietnamese individuals and gained global recognition. Kyber Network's primary offerings consist of the decentralized platform KyberSwap and the digital property management platform Krystal.

IV.1. Legal framework and personnel training

Ministers from G7 countries created the Financial Action Task Force (FATF) in 1989. Its goals are to set standards and promote effective legal, regulatory, and operational measures to combat money laundering, terrorist financing, proliferation of weapons of mass destruction (WMDs), and other threats to the international financial system. FATF “Recommendations” are international norms for fighting money laundering, terrorist financing, and the spread of WMDs. FATF members must implement national guidelines for private sector compliance. This lays the groundwork for a coordinated multinational response to these financial system dangers.

[242] https://e.vnexpress.net/news/crime/47m-stolen-from-vietnamese-blockchain-platform-by-hackers-4680497.html

The FATF acknowledged the need to include virtual-asset-related activities in its scope in 2014 and provided global recommendations in 2015 to address the money-laundering and terrorist financing concerns of virtual asset payment products and services. The FATF reported to the G20 Finance Ministers and Central Bank Governors' meeting in July 2018 on their commitment to combating virtual asset-related illicit money. In October 2018, the FATF amended "Recommendation 15" and added two glossary definitions "virtual asset" and "virtual asset service provider" to clarify their application to virtual asset.

Vietnam ranks second in the world in cryptocurrency ownership with 21.2 per cent of the population adopting crypto, according to data from the Crypto payment gateway Triple-A. According to the Crypto Council for Innovation, cryptocurrency holdings in Vietnam are untaxed, making them an attractive asset.[243] Despite the fact that the Law on Anti-Money Laundering has been in effect since March 2023, credit institutions and state management agencies in Vietnam remain uncertain about how to manage acts related to this new type of asset due to the absence of a specific legal framework and a scarcity of high-quality personnel in cryptocurrency and digital assets.[244] In order to mitigate risks and prevent illicit appropriation, Vietnam must establish a legal framework for cryptocurrency.[245] Vietnam will not prohibit cryptocurrency; however, it is imperative to establish a legal framework to guarantee its continued advancement and mitigate potential hazards. Vietnam has not implemented regulations to oversee its development, and cryptocurrency is not regarded as a legal asset.[246]

IV.2. Managing cryptocurrency transactions

To effectively manage transactions using cryptocurrencies, it is necessary to develop specific legal and technological criteria to grant operating licenses to cryptocurrency exchanges and central companies time in this field in Vietnam. Relevant organizations can make some internal changes to suit the State's requirements and request state management agencies licensing country if it is eligible to operate according to the new criteria. At the same time, it is necessary to promote propaganda and encourage people to conduct transactions using cryptocurrency through exchanges or licensed intermediary organizations and companies; Limiting

[243] https://vietnamnews.vn/economy/1655455/vn-ranks-second-in-the-world-in-cryptocurrency-ownership-rankings.html

[244] Van Thai, H. (2023). Combating money laundering in Vietnam – The role of the police force. (Doctoral dissertation, Faculty of Law, University of Pécs).

[245] Van Thai, H. (2023). Anti-money laundering and countering financing of terrorism legislation in Vietnam: Criminalization, Practice and Challenges. *Essays of Faculty of Law University of Pécs.*

[246] https://vietnamnews.vn/economy/1653876/cryptocurrency-will-not-be-banned-in-viet-nam-justice-ministry.html

transactions between individual wallets to avoid the risk of criminals taking advantage of the anonymity of e-wallets to commit fraud and property appropriation.

IV.3. International cooperation

Strengthening cooperation and learning from international experience in controlling and managing cryptocurrency is very necessary, especially in the context of Vietnam where it does not have much experience in this issue. This will help Vietnam be more proactive in perfecting policies and legal regulations governing virtual currencies in the country on the basis of learning from previous countries' experiences.

Since 2013, the number of suspicious transactions detected by the Vietnam Department of Anti-Money Laundering has continuously increased over the years. From the information provided by the Department of Anti-Money Laundering, the authorities conduct investigations, inspections, inspections, of which, 21 cases have had decisions to prosecute, 15 cases have been prosecuted. Tax arrears with a total amount of arrears of more than 257 billion VND, 159 cases have written requests to provide additional information, 1 case has had an administrative sanction decision. Regarding providing information upon request, the Department of Anti-Money Laundering has received and processed about 2,297 documents and cases sent from competent agencies, requesting to review and provide information related to defendants or subjects in cases. In addition, the Department of Anti-Money Laundering has had 155 documents requesting foreign parties to provide information and received 66 documents responding and providing information. The recommendations of the Department of Anti-Money Laundering are often associated with crimes, incidents of organized gambling, and suspicious transactions. However, the number of responses from foreign partners to the requests of the Department of Anti-Money Laundering is still limited compared to the number of requests sent. According to information from partners, the main reason for not responding or not providing information is because the Department of Anti-Money Laundering has not signed a Memorandum of Understanding (MOU) on information exchange with these partners.[247]

V. Conclusion

Cryptocurrency is gaining popularity as a means for criminals to carry out unlawful activities. They can leverage the inherent pseudonymity and decentralized nature of

[247] https://congan.com.vn/an-ninh-kinh-te/ho-tro-dieu-tra-toi-pham-rua-tien-truy-thu-cho-ngan-sach-nha-nuoc_151929.html

cryptocurrencies to engage in money laundering and other illicit activities associated with cryptocurrency. Criminals may opt to utilize cryptocurrencies as an alternative to the conventional banking system for transferring significant amounts of money. This method has a significantly reduced chance of detection by law enforcement or regular financial institutions, which are obligated to report suspicious transactions. Key measures involve facilitating the coordination of regulatory and legislative frameworks, raising public awareness of the potential hazards associated with bitcoin usage, enhancing the capabilities of law enforcement authorities, and fostering international collaboration to dismantle criminal networks./.

Hottó István[248*]: The framework and objectives of the European Union's environmental law in terms of sustainability

Abstract

A crucial factor in the development of community environmental policy is that national environmental policies significantly influence the realization of fundamental freedoms (goods, people, capital, services) and undistorted competition. Thus, differing national regulations regarding the characteristics of a product create different competitive conditions in various member states. Consequently, the effective realization of fundamental freedoms requires the community regulation of certain product characteristics. It has become a conviction within the European Community that the unification of environmental policy is necessary to ensure the free movement of goods. The fundamental principles of the European Union's environmental law are not listed with the term "particular," thus they are considered exclusive, meaning the list cannot be freely expanded. These principles bind the Community and, by extension, the community bodies involved in legislation, compelling them to take measures essential for achieving the objectives of environmental policy.

Keywords: European Union environmental law, environmental law, The Habitats Directive, EU environment policy

I. Introduction

One of the most important objectives in nature conservation and environmental protection is to ensure the use of available natural resources in a way that avoids irreversible damage in the long term. The related regulations essentially cover the protection of the earth's atmosphere, climate, and nature, as well as waste management.

The primary focus of nature protection is not human environment and health, but the protection of species and their habitats. Its three main areas are species protection regulations, forest protection, and area-oriented regulations. The latter has two main parts: the Birds Directive and the Habitats Directive. The general protection of habitats is of paramount importance, within which adherence to and enforcement of regulations concerning the use of chemicals in waterways and wetlands is essential for our future. In the relationship between humans and nature, the agricrsity of Pécsultural revolution brought significant qualitative changes over time. This process not only utilized but also harnessed parts of nature, and I believe that the exploitation of natural resources that began then continues to this day. Therefore, the topic remains timely and presents a continuous challenge in both legislation and practical application

[248]PhD hallgató, Pécsi Tudományegyetem Állam- és Jogtudományi Kar, Doktori Iskola, Kriminológia és Büntetés-végrehajtási Jogi Tanszék.

When the European Community was established, the Treaty on its functioning made no reference to environmental policy and environmental law, nor did the founding documents of the European Coal and Steel Community and the European Atomic Energy Community address environmental protection. However, an important step was that the EC SC Treaty already facilitated the establishment of Community standards in the field of protection against radioactive radiation.[249]

When the European Community was established, the Treaty on the functioning of the Community did not contain any provisions on environmental policy or environmental law. The secondary legislation of the Community's environmental policy is enacted in both vertical and horizontal forms. The necessity of horizontal legislation is justified by the fact that while vertical legislative instruments pertain to specific environmental elements, the horizontal legislative instrument aims to protect all environmental elements.

II. Basic principles of European Union environmental law

The main lines of the European Union's environmental law are defined by the substantive provisions outlined in primary legislation, which contain binding principles for the development of secondary community law. The legal principles derived from both community law and national law, which are crucial for the remaining competences of the member states, are also of paramount importance in the application of the law.

2. Content requirements

The treaty establishing the European Community[250] enshrined those environmentally relevant provisions from which the principle of "the best possible environmental protection" can be derived. Both national and community environmental policies are oriented by certain goals and principles from a substantive perspective.

2.1.1. Aims and principles

Article 174(1) of the Treaty establishing the European Community defines the objectives and tasks of the community's environmental policy. The goals of environmental policy range from protecting the environment and ensuring the rational use of natural resources to supporting measures aimed at combating global environmental problems at the international level. It is

[249]Horváth Szilvia, 2006: Az Európai Unió környezeti joga. Egyetemi jegyzet, Szeged, Szegedi Tudományegyetem Állam- és Jogtudományi Kar, pp. 30-31.
[250]EUR-Lex: Az Európai Közösséget létrehozó szerződés. https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:12006E/TXT&from=SL, (2024.04.29.)

important to emphasize the equality of these goals. Article 174(2) states that the objective of the Community's environmental policy is a high level of protection, while taking into account the differences in conditions in the various regions of the Community. It highlights that this policy is based on the principles of precaution and prevention, the principle that environmental damage should be rectified at its source, and the "polluter pays" principle.

According to Article 174(3), in the development of its environmental policy, the Community shall take into account available scientific and technical data, the environmental conditions in the various regions of the Community, the potential benefits and costs of action or lack of action, and the economic and social development of the Community as a whole as well as the balanced development of its regions. Article 174(4) stipulates that the Community and the member states shall cooperate within their respective competencies with third countries and competent international organizations.[251]

The identification of goals and principles in the EC Treaty has a dual significance. Firstly, they are mandatory in the field of the Community's environmental policy, thereby limiting its activities in this area. Secondly, these principles oblige the Community and the community bodies involved in legislation to take the necessary measures to fulfill the provisions and objectives outlined in Article 174.

1.2. Environmental policy principles

Article 174(2) defines the means necessary to achieve the objectives, which makes environmental policy unique. In other Community policies, the EC Treaty typically outlines only the objectives, with limited or no description of the means to achieve them.

1.3. The principle of a high level of protection

Article 95(3) and the first sentence of Article 174(2) of the EC Treaty.

The Treaty contains two provisions regarding the level of protection that forms the basis of the Community's environmental policy.

Article 95(3) requires[252] the Commission to take into account the requirement for a high level of protection when preparing proposals under Article 95(1). The Council and the Parliament must also aim to achieve this objective.

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[251] Jogkódex. Az Európai Közösséget létrehozó szerződés, 174. cikk. https://jogkodex.hu/doc/1602603?ts=2006-12-29#ss1588 (2024.04.29.)

[252] EUR-Lex: Az Európai Közösséget létrehozó szerződés, 95. cikk. https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:12006E/TXT&from=SL (2024.05.02.)

The first sentence of Article 174(2) generally states that in the formulation of the Community's environmental policy, due consideration must be given to the different conditions in the various regions, with the aim of achieving a high level of protection.

Non-compliance with either of these provisions may lead to the annulment of the respective legal act. However, a high level of protection does not mean the highest level of protection, as economic and political considerations can also be taken into account.

1.4. Precautionary principle and prevention

Second sentence of Article 174(2) of the EC Treaty.

These principles, in their current form, can be traced back to the Maastricht Treaty, while the Single European Act introduced only the "precautionary" principle into the Treaty. These principles emphasize that preventive measures must be taken against environmental pollution; environmental damage should be prevented rather than managed.

Based on this fundamental idea, two levels of meaning can be distinguished in the principle of prevention: The principle of prevention essentially limits itself to the aforementioned preventive nature, but it also includes effective precaution in relation to environmental interests. Environmental damage should be avoided whenever possible, even if, in themselves, they do not cause lasting harm and are "acceptable." Therefore, in case of doubt, environmental burdens should be avoided to achieve long-term compatibility between environmental use and environmental protection.

From this basic tenet, the principle of damage minimization can be derived. Additionally, the principle of proportionality must always be examined, ensuring that the environmental damage reduction achievable through the chosen preventive measure is proportionate to the extent of the intervention. The principle of prevention includes eliminating dangers, reducing and avoiding risks, and it also implies that environmental burdens should be avoided as much as possible.

1.5. Source-principle

Second sentence of Article 174(2) of the EC Treaty

The source principle is based on the question of when and where environmental burdens can be primarily tackled. The EC Treaty contains the fundamental tenet that environmental policy measures should be taken where the burdens originate, that is, at their source. This means that environmental burdens should ultimately be addressed as close to their origin as possible, both

in terms of the earliest possible time and the geographical location. This principle shows a certain connection with the principles of prevention and precaution, as these principles also require addressing environmental burdens at the earliest possible stage. Additionally, the principle of proportionality must be considered here as well.

1.6. The polluter pays principle

Second sentence of Article 174(2) of the EC Treaty.

The polluter pays principle extends to bearing the costs. Essentially, the one who (potentially) caused the environmental burden is obliged to bear the costs of its elimination, avoidance, and reduction. Ultimately, this principle is based on market economy principles in terms of bearing the environmental burdens caused by certain activities and, thus, the actual costs. The polluter pays principle must be examined in conjunction with the principle of prevention when establishing the polluter's obligation to bear the costs of reducing or preventing environmental burdens. From this perspective, the polluter pays principle applies to both "legal" and "illegal" environmental damage. Accordingly, the polluter can be required not only to bear the costs of already incurred environmental damage but also to assume the costs of avoiding environmental burdens that originate from the environmental damage they caused.

The polluter pays principle is now a fully recognized principle, but there are still many open questions regarding its application, such as the extent of the obligation to bear costs, the potential magnitude of these costs, and how they are calculated and distributed. Concerning community law, it is necessary to refer to the principle of subsidiarity, which implies that it is not always the responsibility of the community legislator to implement the polluter pays principle. However, if the Community acts, it must take this principle into account.

1.7. The principle of integration

Article 6 of the EC Treaty[253]

Environmental considerations must be integrated into all decision-making processes at the earliest possible stage to achieve the intended goals, as integration (e.g., in industry, agriculture, tourism, etc.) holds the greatest significance among the tools of sustainability. The essence of this is that environmental policy cannot be pursued in isolation from other policies; it must be harmonized with other state political objectives. Thus, this principle allows for the incorporation of environmental policy requirements into the implementation of other

[253] Jogkódex: Az Európai Közösséget létrehozó szerződés, 6. cikk. https://jogkodex.hu/doc/1602603?ts=2006-12-29#ss1588

community policies as well.[254] The effectiveness of environmental policy can only be ensured if environmental interests are considered in the formation of other policies, meaning it cannot be pursued in isolation from other policies. Without this, significant successes cannot be achieved in areas such as agriculture, transport policy, energy policy, or industrial policy. This specific characteristic must be enforced at the Community level through the principle of integration. According to this principle, the issue of environmental protection should not remain isolated from other Community objectives but should be integrated into the areas of Community policies.

With the Amsterdam Treaty[255], the principle of integration became even more important, as it was included in the first part of the EC Treaty (among the general principles). Later, this principle was complemented by a reference to sustainable development. The requirements of environmental protection, particularly for *"promoting sustainable development,"*[256] must be incorporated into community actions so that the principle of integration ultimately serves as a means to implement the principle of sustainable development. Furthermore, determining the "value" of environmental protection presents a challenge, as emphasizing the priority of environmental interests over any other objective would be an exaggeration and is not derived from the EC Treaty. In such cases, a balance must be struck to determine the priority among objectives. Legislators violate this when the shaping of a policy leads to severe environmental damage or burden. The principle of integration can only be fully realized if the underlying requirement is actually implemented, meaning that community actions shaped based on this principle truly do not harm the environment.

The principle of integration is therefore a binding mandate, which implies the obligation that environmental interests must be incorporated into all Community policies. It is evident that,

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[254] Gellén Klára - Farkas Csamangó Erika - Molnár Szabolcs, 2021: Nukleáris jogi ismeretek I. Szegedi Tudományegyetem Állam- és Jogtudományi Kara, Üzleti Jogi Intézet, Szeged, p. 207.

[255] Amszterdami szerződés: 1996. márciusában, Torinóban kormányközi konferencia keretében felülvizsgálatra került az Európai Unióról szóló szerződést. A módosított Szerződés 1999. májusában lépett hatályba, mely keretében az együttdöntési eljárást leegyszerűsítették, hatályát pedig kiterjesztették. Amsterdam Treaty: the Treaty on European Union was revised at an intergovernmental conference in Turin in March 1996. The revised Treaty entered into force in May 1999, simplifying the codecision procedure and extending its scope. https://www.europarl.europa.eu/about-parliament/hu/in-the-past/the-parliament-and-the-treaties/treaty-of-amsterdam, (2024.05.06.)

[256] A fenntartható fejlődés: „A fenntartható fejlődés (sustainable development) tehát - ahogy az az Egyesült Nemzetek Szervezetének 1987-ea Brundtland-jelentésében (https://en.wikipedia.org/wiki/Our_Common_Future) szerepelt - olyan fejlődési folyamat (földeké, városoké, termelési folyamatoké, társadalmaké stb.), amely „kielégíti a jelen szükségleteit anélkül, hogy csökkentené a jövendő generációk képességét, hogy kielégítsék a saját szükségleteiket.”https://eionet.kormany.hu/a-fenntarthato-fejlodes-fogalma, (2024.05.06.)

based on the principle of integration, the requirements of different policies are on an equal footing, and the primacy of environmental interests cannot be derived from the EC Treaty.[257]

1.8. Subsidiarity principle

Article 5 of the EC Treat[258]

Regarding Community activities, the above article sets a dual condition: firstly, the objectives of the measure cannot be adequately achieved by the member states; secondly, given its scale, it can be more effectively achieved at the Community level. These conditions apply to areas that do not fall within the exclusive competence of the Community. Thus, the Community can act within its competence only if it meets the conditions of Article 5 of the EC Treaty and only to the extent defined therein. That is, if the objectives cannot be adequately achieved at the member state level and if Community legislation is more effective.

Based on the principle of *"effectiveness,"* alongside the aforementioned conditions, the Community can legislate if the adoption of a measure or regulation at the national level does not ensure sufficient effectiveness. The Community is subject to an increased obligation to justify the norms adopted under this principle, meaning that the competencies underlying the adoption of a given norm must be justified. Member states are also obliged to do everything possible to achieve the Community goal intended by the norm or measure.

III. Horizontal and vertical legislation

Community environmental policy's secondary legislation can be divided into two main parts: vertical and horizontal legislation.

While classical environmental legislation aims to protect only one environmental element (soil, air, water, flora, fauna, waste, noise) per regulation, the integrated approach in environmental legislation is considered a new direction, which has created the need for horizontal legislation. The essence of this approach is that the legislator aims to protect all environmental elements with the given horizontal legislative instruments, not just a specific one. The extension of environmental legislation in an integrated direction is justified by the simple fact that vertical legislation could not fully achieve its goal, as vertical legislative instruments targeting specific environmental elements sometimes achieved the opposite effect.

Horizontal legislative instruments include:

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[257] Gellén Klára - Farkas Csamangó Erika - Molnár Szabolcs, 2021: Nukleáris jogi ismeretek I. Szegedi Tudományegyetem Állam- és Jogtudományi Kara, Üzleti Jogi Intézet, Szeged, p. 207.

[258] EUR-Lex: Az Európai Közösséget létrehozó szerződés, 5. cikk. https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:12006E/TXT&from=SL, (2024.05.07.)

- environmental information, public participation, and the right to initiate legal proceedings,
- environmental impact assessment,
- assessment of the environmental effects of certain projects and plans/programs,
- environmental management and auditing systems,
- eco-labeling award system for environmentally friendly products,
- European Environment Agency,
- financial instruments,
- integrated prevention and reduction of environmental pollution,
- environmental liability.

Among the horizontal legislative instruments, I will provide a detailed explanation of environmental liability, followed by a discussion of the areas of vertical legislation.

IV. Responsibility for the environment

Directive 2004/35/EC.[259]

The Convention aims to apply the aforementioned *"polluter pays"* principle, which was preceded by the 1993 Lugano Convention that determined compensation for damages resulting from activities dangerous to the environment. In the future, polluters will be held liable for the environmental damage they cause under the conditions set out in the directive and to the extent specified therein. Indirectly, this instrument can prevent further environmental damage and remedy existing ones, thereby implementing the principle of prevention. In addition to the liability rules, the directive contains numerous other provisions aimed particularly at preventing imminent environmental damage, curbing or remedying the further spread of already incurred environmental damage, and responding to them.

„If environmental damage has not yet occurred, but there is an imminent threat of such damage, the operator must immediately take the necessary preventive measures."[260] Ebben az esetben a tagállami hatóság felszólítja a gazdasági szereplőt, aki a foganatosított intézkedésekről köteles megfelelő módon tájékoztatást adni. In such cases, the national authority will instruct the operator, who is obliged to provide appropriate information about the measures taken.

[259] Jogkódex: Az Európai Parlament és a Tanács 2004/35/EK irányelve (2004. április 21.) a környezeti károk megelőzése és felszámolása tekintetében a környezeti felelősségről. https://jogkodex.hu/doc/7260466, (2024.05.01.)

[260] Jogkódex: Az Európai Parlament és a Tanács 2004/35/EK irányelve (2004. április 21.) a környezeti károk megelőzése és felszámolása tekintetében a környezeti felelősségről
5. cikk (1) https://jogkodex.hu/doc/7260466, (2024.05.01.)

„If environmental damage has already occurred, the operator must immediately inform the competent authority of all relevant aspects and take all necessary measures to promptly control, contain, and remedy the environmental damage and any adverse effects on human health."[261] The competent authority may at any time require the operator to take remedial measures or may itself take the necessary measures, the costs of which shall be borne by the operator. The operator is liable for all environmental damage caused by their activities, irrespective of fault, if it involves specified hazardous economic activities.

The affected natural and legal persons, as well as associations and other organizations, may inform the competent authorities and call upon them to act. They may also initiate legal proceedings if there is sufficient interest or legal harm, which must be determined according to national law rules. Non-governmental organizations that work for environmental protection and meet national legal requirements have the right to legal recourse. Thus, the right of environmental legal action for associations (actio popularis) has been introduced in this area.
Defining environmental damage immediately delineates its scope, and particularly significant damages—such as those caused by oil spills or nuclear risks—are not covered. Moreover, the definition of environmental damage itself remains partially undefined. Since it remains the task of national legislation to adopt preventive and remedial measures, there is a risk that the transposition of the directive will not be uniform across different member states, thus questioning the directive's effectiveness. The case law of the European Court of Justice provides hope that the directive's effectiveness will be ensured, at least in the areas it covers.

V. The sectoral legislation

V.1. Water protection

Water protection regulation is one of the best developed areas of Community environmental law, dating back to the 1970s. Its original objectives included:

- ensuring water quality by preventing or reducing pollution,
- securing water supplies and making rational use of available resources, and
- collecting relevant information.[262]

[261] Jogkódex: Az Európai Parlament és a Tanács 2004/35/EK irányelve (2004. április 21.) a környezeti károk megelőzése és felszámolása tekintetében a környezeti felelősségről, 6. cikk (1) https://jogkodex.hu/doc/7260466, (2024.05.01.)
[262] Jogkódex: A Tanács irányelve (1973. november 22.) a tisztítószerekre vonatkozó tagállami jogszabályok közelítéséről, https://jogkodex.hu/doc/8716267, (2024.05.07.)

- Since then, the legislation has evolved considerably and has been extended to inland waters, groundwater and sea water. Water protection standards can be divided into three groups:
- imission standards for water quality: these include standards for maintaining and improving water quality. Different sets of standards have been developed, so that different waters have different pollution limits depending on their use, but following a common concept.
- is the concept of substance- or product-oriented emission standards to prohibit or restrict the introduction of certain hazardous substances.
- plant-oriented production standards and sectoral regulations: these are minimum requirements that apply to plants belonging to a specific industrial sector or activity.

In addition, the Community has acceded to a number of international conventions on water protection, mainly concerning the protection of transboundary waters and marine waters.
The main rationale for the Water Framework Directive - Directive 2000/60/EC[263] - was to develop a coherent approach to ensure more effective water protection in the European Union. The Directive takes into account both qualitative and quantitative aspects, aiming to protect waters from further pollution, to improve their quality and to protect the quantity of existing water as an environmental resource.

The Framework Directive establishes a framework for the protection of terrestrial surface waters, transitional waters, coastal marine waters and groundwater, with the aim of preventing and reducing pollution, promoting sustainable water use, protecting and improving the aquatic environment and mitigating the effects of floods and droughts. The overall objective is to achieve and maintain good environmental status for all water bodies, Member States are therefore called upon to develop river basin management plans based on natural geographical river basins and comprehensive programmes of specific measures to achieve the objectives as soon as possible. [264]

With regard to the tasks incumbent on the Member States, four categories of provisions and measures are distinguished as described above. One of these is the essential requirement to ensure and maintain water quality and good status. They must also take all necessary measures to assess the current status of waters. Member States are also obliged to draw up programmes

[263] Jogkódex: Az Európai Parlament és a Tanács 2000/60/EK irányelve (2000. október 23.) a vízpolitika terén a közösségi fellépés kereteinek meghatározásáról
https://jogkodex.hu/doc/2362641, (2024.05.07.)
[264] Ismertetők az Európai Unióról: Vízvédelem és vízgazdálkodás. https://www.europarl.europa.eu/factsheets/hu/sheet/74/vizvedelem-es-vizgazdalkodas, (2024.05.02.)

and action plans, the content of which is essentially defined in the Framework Directive. Last but not least, the Directive sets out the important role of public participation.

V.2. Air protection

Community air quality legislation is predominantly regulatory in its instruments, with the result that both indirect instruments (e.g. taxes) and planning measures are largely absent. In terms of regulation, it can be divided into two broad categories: immission standards, emission standards and product quality requirements.

Environmental quality standards: Quality-oriented (immission) regulation has a long tradition in the Community, with standards for sulphur dioxide, particulate matter, nitrogen dioxide and lead being adopted in the Community as early as the early 1980s, an environmental policy that was reinforced by Directive 96/62/EC[265] on ambient air quality assessment and management. For the harmful substances listed in the Annex to the Directive, the Council is required to establish environmental quality (immission) limit values based on a precise list of criteria. Where the limit values are exceeded in certain areas, Member States must draw up programmes or plans to ensure that the limit values are complied with. In the meantime, three other Directives have been adopted in this field, Directive 1999/30/EC[266], a 2000/69/EC[267], és a 2002/3/EC[268].

Emission standards: emission standards are an effective way to reduce emissions and help avoid distortions of competition. Emission standards cover both mobile and stationary emitters and can apply to both product and production. They can be:

- Product-oriented regulations.
- Product-oriented regulations.
- Product-based policies. Product-based policies.
- Product quality requirements: Limiting the pollutant content of certain products prevents or reduces emissions, so that such regulation is based in particular on the precautionary principle and the source principle.

[265] Jogkódex: A Tanács 96/62/EK irányelve (1996. szeptember 27.) a környezeti levegő minőségének vizsgálatáról és ellenőrzéséről. https://jogkodex.hu/doc/5407063, (2024.05.01.)

[266] Jogkódex: A Tanács 1999/30/EK irányelve (1999. április 22.) a környezeti levegőben lévő kén-dioxidra, nitrogén-dioxidra és nitrogén-oxidokra, valamint porra és ólomra vonatkozó határértékekről. https://jogkodex.hu/doc/4997910, (2024.05.01.)

[267] Jogkódex: Az Európai Parlament és a Tanács 2000/69/EK irányelve (2000. november 16.) a környezeti levegőben található benzolra és szén-monoxidra vonatkozó határértékekről. https://jogkodex.hu/doc/4263932, (2024.05.01.)

[268] Jogkódex: Az Európai Parlament és a Tanács 2002/3/EK irányelve (2002. február 12.) a környezeti levegő ózontartalmáról. https://jogkodex.hu/doc/4482443, (2024.05.01.)

Two directives should be highlighted in this area: the product-oriented and thus internal market-related Directive 98/70/EC[269] on the quality of petrol and diesel fuels, which aims to progressively tighten the labelling of existing fuels, and Directive 1999/32/EC on the reduction of the sulphur content of certain liquid fuels, which contains provisions on the sulphur content of liquid fuels and gas oils.

V.3. Soil protection

The Community does not yet have de facto de lege lata legislation on soil protection, although soil as an element to be protected is the subject of some directives, which are not primarily aimed at soil protection. These include the Nitrates Directive, some directives for general protection against dangerous substances, certain waste legislation and directives covering all the environmental elements. So, we can see that Community legislation thus also covers soil protection.

V.4. Noise protection

The Community regulates the permissible noise emissions of certain products in the field of noise protection. The specificity of the relevant Directives is that they only apply to products involved in cross-border trade, so the regulation of domestic noise emissions remains a national competence.

The main directives adopted by the Community:

- Directive 70/157/EEC[270] on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles,
- Directive 2000/14/EC[271] on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors,
- Directive 86/594/EEC[272] on noise emission by household appliances,

[269] Jogkódex: Az Európai Parlament és a Tanács 98/70/EK irányelve (1998. október 13.) a benzin és a dízelüzemanyagok minőségéről, valamint a 93/12/EGK tanácsi irányelv módosításáról. https://jogkodex.hu/doc/7478736, (2024.05.01.)

[270] Jogkódex: A Tanács 70/157/EGK irányelve (1970. február 6.) a gépjárművek megengedett zajszintjére és kipufogórendszereire vonatkozó tagállami jogszabályok közelítéséről. https://jogkodex.hu/doc/7478736, (2024.05.10.)

[271] Jogkódex: Az Európai Parlament és a Tanács 2000/14/EK irányelve (2000. május 8.) a kültéri használatra tervezett berendezések zajkibocsátására vonatkozó tagállami jogszabályok közelítéséről. https://jogkodex.hu/doc/9550485, (2024.05.10.)

[272] Jogkódex: A Tanács 86/594/EGK irányelve (1986. december 1.) a háztartási készülékek zajkibocsátásáról https://jogkodex.hu/doc/3658385, (2024.05.10.)

- Directives 80/51/EEC[273] and 89/629/EEC[274] on noise emissions from subsonic jet aeroplanes following the conclusion of the International Convention on International Civil Aviation,
- Directive 2002/49/EK[275] relating to the assessment and management of environmental noise.

V.5. Protection from certain activities and substances

Activities or substances are included here if they pose such a risk to the environment that the rules for the protection of certain environmental elements no longer provide sufficient protection against them and therefore specific protection is required. Such provisions cover:

- hazardous substances,
- chemical substances, and
- plant protection products and substances harmful to living organisms, and
- activities involving dangerous industrial risks.

V.6. Biotechnology and Genetic Engineerin

In this area, guidelines were already issued in 1990 on the contained use of genetically modified organisms and the release of such organisms into the environment. The legislation underwent a fundamental reform in 2001 and was supplemented in 2003 by a further regulation on the transboundary movement of genetically modified organisms.

V.7. Management of environmental resources

One of the most important goals, in terms of sustainable development, is to ensure the utilization of available natural resources in a way that prevents irreparable damage in the long run. The related regulations essentially cover the protection of the Earth's atmosphere, climate, and nature, as well as waste management.

V.8. Protection of nature

The primary object of nature conservation is not human environment and health, but the protection of species and their habitats. Three main areas of protection are:

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[273] Jogkódex: Council Directive 92/14/EEC of 2 March 1992 on the limitation of the operation of aeroplanes covered by Part II, Chapter 2, Volume 1 of Annex 16 to the Convention on International Civil Aviation, second edition (1988). https://jogkodex.hu/doc/4052513, (2024.05.10.)

[274] Jogkódex: A Tanács irányelve (1989. december 4.) a polgári szubszonikus sugárhajtású repülőgépek zajkibocsátásának korlátozásáról. https://jogkodex.hu/doc/6393039, (2024.05.10.)

[275] Jogkódex: Az Európai Parlament és a Tanács 2002/49/EK irányelve (2002. június 25.) a környezeti zaj értékeléséről és kezeléséről. https://jogkodex.hu/doc/8255122, (2024.05.10.)

- Species protection rules.
- Forest protection.
- Territory-based regulation:
- Birds Directive,
- Habitat protection.

V.9. Waste law

Waste law has emerged as the most self-contained area of Community environmental law. The current legislation is based on the system established by Directive 156/91/EEC[276] on Community waste legislation. The central element of the reform was the establishment of a single Community-wide waste stream.

Member States' room for manoeuvre is limited for particularly hazardous or specific waste streams, such as the Packaging Waste Directive and the End-of-Life Vehicles and Electronic Waste Directives.

In the area of waste shipment, the Community has overall found a consistent balance between "interventionist", more administrative in origin, and liberal in origin, relying on market forces. Community waste law consists of general rules on waste management and specific rules on different waste streams and on the export and import of waste.

Member States' room for manoeuvre is limited for particularly hazardous or specific waste streams, such as the Packaging Waste Directive and the End-of-Life Vehicles and Electronic Waste Directives.

In the area of waste shipment, the Community has overall found a consistent balance between "interventionist", more administrative in origin, and liberal in origin, relying on market forces. This is a significant issue because waste as a commodity is essentially protected by the free movement of goods.

The tendency of Regulation No 259/93/EEC[277] to apply shipment bans within the Community to waste not destined for recycling, in principle under certain conditions, was not only reasonable but also necessary, as the exercise of fundamental freedoms may entail environmental policy risks.

[276] EUR-Lex: 155/91 EGK. https://eur-lex.europa.eu/legal-content/HU/TXT/?uri=CELEX:31991L0156, (2024.05.16.)

[277] Jogkódex: A Tanács 259/93/EGK Rendelete (1993. február 1.) az Európai Közösségen belüli, az oda irányuló és az onnan kifelé történő hulladékszállítás felügyeletéről és ellenőrzéséről. https://jogkodex.hu/doc/3434108, (2024.05.16.)

VI. The EU Habitats Directive

As a member of the European Union, the primacy of Community law also imposes a number of obligations on Hungary. EU legislation on nature protection focuses on the protection of wildlife and habitats that ensure their survival, and on the actions that most affect endangered species. The most important piece of Community nature protection legislation is Council Directive 92/43/EEC[278] of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. This Directive created Natura 2000, the "single European ecological network of special areas of conservation". The Directive is twofold in nature, building on the protection of species on the one hand and their habitats (sites) on the other.

Its fundamental aim is to contribute to the conservation of biodiversity by protecting natural habitats and wild fauna and flora. The measures taken in accordance with the objectives of the Directive are intended to maintain or restore habitats of Community importance and plant and animal species to a favourable conservation status.

VII. Summary

The principle of the best possible environmental protection can be derived from the environmentally relevant provisions. Environmental policy is oriented by certain goals and principles from a substantive perspective. Six environmental policy principles have been presented, among which I would highlight the precautionary and preventive principles, as well as the principle of integration, which is later supplemented by a reference to sustainable development. According to the principle of integration, the effectiveness of environmental policy can only be ensured if environmental interests are also taken into account in the formulation of other policies. Similarly, the principle of a high level of protection cannot be realized without considering economic and political aspects. According to the principle of source, environmental policy measures should be taken where the pressures originate. According to the polluter pays principle, the costs should be borne by the one who caused the environmental burden. The principle of subsidiarity applies to areas that do not fall within the exclusive competence of the Community. Taking efficiency into account, the Community may legislate if the adoption of the measure or regulation at the national level does not ensure sufficient efficiency.

The integrated approach can be considered a new direction in environmental legislation, which has created the need for horizontal legislation. This legislative approach ensures the

[278] Jogkódex: A Tanács 92/43/EGK Irányelve (1992. május 21.) a természetes élőhelyek, valamint a vadon élő állatok és növények védelméről, https://jogkodex.hu/doc/3128863, (2024.05.16.)

protection of all environmental elements. One such instrument is environmental liability, influenced by the Lugano Convention, which aims to apply the aforementioned polluter pays principle. Liability applies to the operator regardless of fault in the case of certain hazardous economic activities, while for other economic activities, those responsible are only liable for damage caused to protected species and natural habitats. Secondly, liability is only incurred in cases of negligence or intentional conduct. The definition of environmental damage, which also delineates its scope, remains partially undefined.

Sectoral legislation is divided into nine main areas, of which water protection is the most developed and waste law the most independent. Air protection is more regulatory in nature, while there are still many unresolved tasks in the field of soil protection.

In summary, it can be said that the protection of natural habitats and areas is given high priority both in the European Union and in Hungary. This includes prohibitive provisions and regulations that establish the involvement of licensing and specialized authorities. I believe that in certain cases it is justified to initiate criminal proceedings, as the future of humanity is at stake. Therefore, I agree with the current strict regulations and believe that further tightening is necessary in most areas.

Irem Nur Ustuntay[279*]: Turkish investors in CEE with a special focus on Hungarian FDI Regulations

Abstract

The outflow of Turkish foreign direct investment is not distributed in a balanced manner. As to the numbers of Turkish OFDI in the 21st century, it is seen that the majority of the investments are directed to Central and Eastern countries, Southeast European countries, or Middle East and North African countries. Considering the foreign policy that Turkey has adopted in the last two decades, bilateral relations with CEE countries have gained importance more than ever. This development in political affairs had its reflections on legal matters as well. Therefore, this section examines Turkish investment in the CEE region.

Keywords: investment law, turkish investor, fdi, ofdi, Hungarian fdi

Introduction

Turkey's economy was relatively closed until the 1980s. Industrialization in Turkey was closely focused on substituting imported goods and the development of the economy was fairly concentrated on the domestic market. Therefore, companies that are owned or financed by the state on a large scale have a low chance of expanding into new markets. Nonetheless, Turkey's economy has had to enlarge due to the rise in oil prices and the 1970s economic difficulties. Turkey made a dramatic change to its economic policies and declared that encouraging export orientation was a fundamental tactic for the advancement of the development of the economy. As a result of the economic expansion, private enterprises started to flourish, however, due to the quick growth in domestic demand, failures of economic management, and incompletely implemented structural reforms, expected profits could not be achieved.[280]

Since the 1980s, the economic policy of Türkiye has shifted from an "import substitutive" policy to an "export-based development" policy.[281] In the enactment that was issued on 24.01.1980, it was highlighted that both inflow and outward foreign direct investment are essential elements for development.[282] Moreover, new inducements were introduced within the frame of the amendments made in Law Nr. 6224 to encourage more and more foreign investors to invest in Turkey. The second article of the Law broadly defines the concept of capital, and in addition to the capital brought by the investor from abroad, the capital previously

[279]PhD student, University of Miskolc, Deák Ferenc Doctoral School, Financial Law Department.

[280] Tamas Szigetvari, 2017: Turkish Investments Abroad, with a special focus on Central and Eastern Europe. Working Paper Nr.233. "Non-European emerging-market multinational enterprises in East Central Europe". 2-3.

[281] Talha Genç, 2021: Türk Hukukunda Doğrudan Yabancı Yatırımların Hukuki Rejimi. Ondokuz Mayıs Üniversitesi Lisansüstü Eğitim Enstitüsü Özel Hukuk Ana Bilim Dalı, Master Thesis, 68-69.

[282] Yusuf Orduluoğlu, Yabancı Sermaye ve Yasal Uygulamalar, İstanbul Üniversitesi Sosyal Bilimler Enstitüsü Yayımlanmamış Doktora Tezi, İstanbul, 1989, s. 1.

held within the country is also considered within the concept of foreign capital. The items that can be brought in as foreign capital are not listed exhaustively, but are broadened by stating that they will be evaluated by the committee. By allowing capital to be brought in in the form of parts, spare parts, or raw materials, it was aimed to facilitate the establishment of factories that would be necessary for the production and assembly of these goods, which are normally imported. The reinvestment of profits from foreign capital was also considered and encouraged within the concept of capital. As a consequence, liberalization in the legislation paved the way for a more competitive domestic market which led Turkish investors to expand their investment margin to the neighboring countries.

The economic imbalance was imbricated with major setbacks in 1994, 1999, and 2001, which were derived from the finance system's failure and the banking structure's inadequate operation. To get through it, reform plans were projected in connection with the support of the International Monetary Fund which was successful. A major result of the successful reform plan was the decrease in the inflation rate.[283] Moreover, good relations with the European Union (hereinafter: EU) and stable economic conditions encouraged foreign investors to invest in Turkey. The stable economy and *"zero-problem"* strategy in foreign policy worked as a pull factor for foreign investors.[284] Meanwhile, increased competition in the domestic market and Turkish guest workers arriving in Europe worked as a push factor and led Turkish investors to invest abroad in the 1990s. Moreover, as a result of this strategy, Turkey initiated a "zero-problem" foreign policy with its neighbors, attempting to project a trading state image of the country that values strong commercial relations over undesirable external political confrontations.

Turkey has begun to transition from an economy centered on agriculture and an abundant low-skilled labor force used primarily in the textile sector to an industrial economy. Turkey is now a major European automobile producer, a global competitor in shipbuilding, and an important producer of electronics and household appliances. Turkish foreign economic strategy has evolved both philosophically and practically. The new foreign policy underlined

[283] Hasan Comert – Erinç Yeldan, 2018: A Tale of Three Crises in Turkey: 1994, 2001, and 2008-09.

[284] Republic of Foreign Affairs, Latest Developments, Zero Problems in a New Era, 2013, https://www.mfa.gov.tr/zero-problems-in-a-new-era.en.mfa (Date of Accession: 30/04/2024)

the importance of Strategic Depth: rather than being a mere periphery of Europe, Turkey, as a country with a strategic location, should use its position to increase its regional value. [285]

Foreign direct investment (hereinafter: FDI) encompasses the investment made by individuals, companies, or government entities from one country into businesses or assets located in another country. It involves a long-term relationship between the investor and the foreign enterprise, typically to establish a lasting interest and significant influence or control over the enterprise's operations. Outward foreign direct investment (hereinafter: OFDI) specifically refers to investments made by entities domiciled in one country (the home country) into businesses or assets located in foreign countries (the host country). It represents the expansion of domestic companies into international markets through direct ownership or control of foreign enterprises.[286]

A Turkish investor is an individual or entity based in Turkey that allocates capital to generate a financial return or acquire assets. Turkish investors can include individuals, companies, investment funds, or government entities operating within Turkey or internationally. Therefore, the term Turkish investor often refers to an individual who is holding a Turkish nationality. Moreover, Turkish investor terms can be extended to corporate investors and government entities as well. In summary, a corporate investor or government entity is considered Turkish if it is legally established or registered in Turkey, has significant Turkish ownership or control, operates primarily within Turkey, and is subject to Turkish laws and regulations. These criteria help distinguish Turkish corporate investors and government entities from those based in other countries.

In this article, the aim is to briefly examine the Turkish outward foreign direct investment (hereinafter: TOFDI) which is directed to the Central and Eastern European (hereinafter: CEE) region. Considering the given space for the article, Western and Southeastern Europe and the Balkans are intentionally excluded in this article to be examined further in the upcoming publications of the researcher. For this article, the doctrinal legal research method was used to explore the subsurface of the TOFDI by using primary and secondary sources. This method is favored by considering the examination process of evaluating the regulations. To unfold the topic of FDI the history of OFDI was examined

[285] Joshua Walker, 2007: Learning Strategic Depth: Implications of Turkey's New Foreign Policy Doctrine. Insight Turkey, 9 (3), 32–47. http://www.jstor.org/stable/26328891

[286] Samuel Globerman, 2016: Foreign Direct Investment (FDI). In: Augier, M., Teece, D. (Eds) The Palgrave Encyclopedia Of Strategic Management. Palgrave Macmillan, London. Https://Doi.Org/10.1057/978-1-349-94848-2_760-1

briefly. In the last section, the legislation in force concerning FDI in Hungary has been explained. Therefore the research is finalized with the evaluation of outward foreign direct investment of Turkish investors in CEE.

I.1. Turkish Outward Foreign Direct Investment

Until the end of the 20th century, Turkey did not prioritize outward FDI in government programs. Foreign investments, which were not numerous then, were associated with state-owned enterprises formed through partnerships with foreign companies or larger private firms seeking to facilitate international trade. After the 1960s, Europe became an attractive investment destination for Turkish finance and trade firms, particularly in Germany and the Netherlands, as Turkish workers began to arrive in Europe. In comparison, from the 1970s onwards, the increasing activities of Turkish construction firms, particularly in the Middle East, led to increased outward capital flows.

The liberalization of capital in the early 1990s provided a more favorable atmosphere for capital mobility. The internationalization of the Turkish economy opened up the Turkish economy to foreign investment, increasing domestic competition and prompting Turkish firms to expand their investments into foreign markets. Another driving factor was Turkey's high inflation rate and persistent economic fluctuations. At the same time, the political transformation in CEE, coupled with economic transformation, has made the region attractive for Turkish investors. Therefore, given the circumstances, the combination of the push factors in Turkey with the pull factors in CEE has created new business opportunities for Turkish companies to direct their investments.[287]

Governments began to develop projects to support OFDI not only in Turkey but also in many developing countries. There was a strong belief that the internationalization of local companies would contribute to a more effective integration of these countries' economies into the world economy. The Turkish government began to promote foreign investment as part of its foreign policy after macroeconomic stability was achieved in the early 2000s. The increasing focus of foreign investment on the Turkish market, the appreciation of the Turkish lira, and easier access to financing were the main factors supporting the outward orientation of Turkish multinationals at the beginning of this period. The European debt crisis during this period

[287] Canan Yildirim, 2017: Turkey’s Outward Foreign Direct Investment: Trends and Patterns of Mergers and Acquisitions. Journal of Balkan and Near Eastern Studies, 19(3), 276–293.

provided new opportunities for Turkish companies to acquire distressed companies in Europe, especially in the Balkans and developing countries. Turkey was one of the investor countries that invested in developing countries, along with China, India, and South Korea.

The Turkish government has been active in several ways in support of domestic companies' investment in foreign markets. The government's activities in this direction are not limited to providing information about the local conditions of the host countries, it has created programs to provide insurance support to companies investing abroad, provided tax reductions to companies that meet certain criteria, and the "Turquality" program to encourage the development of Turkish brands abroad.

Based on some relevant current studies in the literature on the subject[288], it is necessary to mention the main motivations of multinational Turkish companies in investing abroad. According to the literature review conducted for this article, outward investments made before 2007 revealed that Turkey's outward foreign direct investments were made mostly with market search motivation. As seen in research, foreign markets are used as a substitute for the domestic market for Turkish multinational organizations. On the other hand, it is undeniable that economic instability is one of the factors that pushes Turkish investors abroad, as much as the search for markets. Turkey's large current account deficit (combined with currency depreciation) worsens its OFDI potential, but recent domestic political turmoil may encourage Turkish multinationals to seek investment opportunities abroad.[289]

The study looked at why Turkish multinational companies invest in other countries. It found three main reasons: technology and branding (the most important reason), competitiveness, and better production and financing opportunities. Among those opportunities in the field of technology and branding found the most important reason for OFDI. Turkish companies care more about intangible assets (like know-how, patents, trademarks, and building a global brand) than physical assets. Many Turkish companies focus their foreign investments on branding. They want to buy international brands to increase their worldwide presence and then focus on acquiring technology, innovation, and design. While Turkish multinational companies primarily look for new markets, they also consider cost and tax benefits and access to resources. However, the main factor in their acquisitions is often the search for strategic

[288] For example: Raif Cergibozan, Caner Demir 2020:The Determinants of Foreign Direct Investment Outflows from Turkey. In I. Management Association (Ed.), Foreign Direct Investments: Concepts, Methodologies, Tools, and Applications (pp. 659-675). IGI Global. https://doi.org/10.4018/978-1-7998-2448-0.ch028
[289] KHU – DEIK – VCC: Turkish OFDI Continues to Grow, Report, 2014 March 24

assets, such as global brands, competitive technology, international experiences, and distribution networks.[290]

I.2. Turkish OFDI in CEE countries

The CEE region is the name given to the group of states in the east of Europe that share a common history, culture, and geopolitics. They are linked by history, culture, and geopolitics, especially the experience with the Soviet Union and the transition to democracy and a market economy. However, this does not change the fact that cultural diversity and differences in geopolitical positioning must be taken into account as well. The specific countries considered part of CEE can vary depending on context and definitions, but they generally include the following: Poland, Hungary, Czech Republic, Slovakia, Romania, Bulgaria, Croatia, Slovenia, Estonia, Latvia, and Lithuania.

As mentioned above, Europe and the EU have a special position when it comes to foreign investment by Turkish investors. In order to take advantage of the special regulations and tax regime, almost one-third of Turkish foreign investment has gone to the Netherlands. Ireland and Malta are also popular destinations for the same reasons. In addition, Jersey and Luxembourg also receive a significant share of OFDI when it comes to Turkish financial investment. Germany Austria, Switzerland, and the Netherlands are the main recipients of OFDI, showing some correlation with the share of the Turkish population in Western European countries.[291]

Considering the investments made in the last decade, it is essential to evaluate Turkish investments in Romania. Romania is the 6th largest country in the EU (in terms of population) and its attractive location between the EU, the Balkans, and Eastern Europe provides a unique gateway to the CEE market. Approximately 7,000 Turkish investors are currently active in Romania[292], according to the latest available data. Turkish investors have come to Romania either to capitalize on company-specific resources and capabilities or to acquire and explore new resources and capabilities that will provide them with the necessary competitive advantage.

[290] Szigetvari, 2017: 13-15.

[291] Szigetvari, 2017: 17.

[292] Republic of Turkey, Ministry of Foreign Affairs: Commercial and Economic Relations with Romania. https://www.mfa.gov.tr/turkiye_s-commercial-and-economic-relations-with-romania.en.mfa (Date of Accession: 30/04/2024)

In order to see the main features of this OFDI, it is crucial to examine some of the most important Turkish investments in the Visegrád countries (hereinafter: V4 countries).[293] Over the past decade, political interests between the V4 countries and Turkey have been aligning. A key moment was the October 2013 meeting in Budapest, where V4 and Turkish foreign ministers discussed their relations. Subsequent summits have highlighted shared interests such as economic cooperation, energy diversification, and security. The V4 and Turkey focus on the Eastern Partnership and Western Balkans, making joint initiatives likely beneficial. The importance of V4-Turkish relations has grown, partly due to political efforts to strengthen ties and partly because Turkey values V4 support amid tensions with Western Europe. Therefore, as a result of strengthened political relations, direct investments from Turkey to V4 countries have been on the rise. According to the official statistics of the Central Bank of Turkey, the latest data on Turkish OFDI in the CEE countries show that in Hungary, Turkish investments amounted to USD 112 million in the period 2002-2023[294], in Poland USD 113 million in the period 2002-2022[295], in Slovakia USD 2 million in the period 2002-2018[296], while in the Czech Republic USD 21 million in the period 2002-2022[297]. However, deeper research based on other sources reveals the presence of Turkish capital and Turkish Multinational Corporations (hereinafter: MNC) in the region. The Hungarian National Bank (HNB) also appears to have similar data on OFDI flows from Turkey; however, the bank's statistics show the status of the ultimate controlling parent companies of the investors, whereas the data presented here indicate indirect capital transfers. Under these "indirect" capital flows, Turkish capital in Hungary, for example, appears to be channeled to Hungary via a route that is considered more profitable for the companies, e.g. via the Netherlands.[298]

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[293] Turkey and the V4 paths for Current and Future Cooperation. http://turkishpolicy.com/article/911/turkey-and-the-v4-paths-for-current-and-future-cooperation (Date of Accession: 30/05/2024)

[294] Republic of Turkey, Ministry of Foreign Affairs: Relations between Turkey and Hungary. https://www.mfa.gov.tr/relations-between-turkiye-and-hungary.en.mfa (Date of Accession: 30/04/2024)

[295] Republic of Turkey, Ministry of Foreign Affairs: Relations between Turkey and Poland. https://www.mfa.gov.tr/relations-between-turkiye-and-poland.en.mfa#:~:text=Relations%20between%20T%C3%BCrkiye%20and%20Poland%20%2F%20Republic%20of%20T%C3%BCrkiye%20Ministry%20of%20Foreign%20Affairs&text=T%C3%BCrkiye%2DPoland%20relations%20have%20always,for%20rare%20occasions%20of%20war. (Date of Accession: 30/04/2024)

[296] Republic of Turkey, Ministry of Foreign Affairs: Relations between Turkey and Slovakia. https://www.mfa.gov.tr/commercial-and-economic-relations-between-turkey-and-slovakia.en.mfa#:~:text=Foreign%20direct%20investments%20from%20Slovakia,in%20Ankara%20in%20November%202012. (Date of Accession: 30/04/2024)

[297] Republic of Turkey, Ministry of Foreign Affairs: Relations between Turkey and Czech Republic. https://www.mfa.gov.tr/relations-between-turkiye-and-the-czech-republic.en.mfa#:~:text=Direct%20investments%20from%20T%C3%BCrkiye%20to,%2C%20tourism%2C%20textile%20and%20gift. (Date of Accession: 30/04/2024)

[298] Szigetvari, 2017: 19.

I.3. FDI Regulations in CEE

CEE countries began their economic transformation and integration into the EU almost 35 years ago by entering the democratic transformation process. In 1989, as these countries transitioned from decades of state-dominated economies to the new order, they faced great difficulties in creating markets due to the lack of large domestic private enterprises, market institutions, regulations, technology, and information.[299]

Opening up to FDI and encouraging the entry of multinational corporations seemed to be a rational way to quickly fill the above gaps for the first democratically elected governments in the region after the start of the transition process. In the short term, the FDI system was seen as an important source of financing for urgent and current needs, budget balancing, and the prevention of labor market crises. In the long term, FDI is expected to contribute to the modernization and transformation of the economies of CEE by ensuring that knowledge and experience of new technologies are established in the country, by stimulating and redirecting exports, and by integrating them into the global economy. Privatization has been seen as one of the main tools to attract MNCs, although it has taken very different forms and approaches in the region; many CEE countries have implemented generous incentive programs, including full corporate tax reductions and special economic areas, to attract new investment.[300]

In terms of FDI flows, the main competitive advantage of CEE countries, and hence their attractiveness to MNEs, is their fairly cheap but reasonably skilled and productive labor force and their geographic position close to European markets. Although other elements, such as access to domestic markets, also play a role, CEE countries have participated in the global production networks of multinational corporations, mostly as low-cost, export-driven manufacturing bases for one of the most extensive economic overviews of the determinants of FDI in CEE.[301]

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[299] Janos Kornai, 1994: Transformational recession: The main causes. Journal of Comparative Economics, 19(1), 39–63.

[300] Slavo Radosevic - Urmas Varblane - Tomasz Mickiewicz, 2003: Foreign direct investment and its effect on employment in Central Europe. Transnational Corporations, 12(1), 53–90.

[301] Liviu, Popescu, Brostescu Simina, Sitnikov Catalina, and Vasilescu Laura. 2023: Determinants of FDI Stock in Some Central European Countries. Journal of Risk and Financial Management 16, no. 3: 164. https://doi.org/10.3390/jrfm16030164

With the entry into force of the Lisbon Treaty on December 1, 2009, the regulation of FDI has been incorporated into the Common Commercial Policy. The regulation of foreign direct investment is now the sole responsibility of the EU. The Member States have largely lost their competence to conduct international investment policy. As a result, the task of making international investment policy now takes place at the level of the EU. In this context, international investment policy is defined as including the liberalization of investment through international investment agreements, standards of treatment after establishment, and rules for the protection of investments. There have been decades of debate about the role and powers of the EU in international investment policy. Since the 1970s, while Member States have consistently resisted such calls, the Commission has consistently pushed for a greater role and powers for the EU in this key area of global economic governance.[302]

I. FDI Regulation in Hungary

Towards the end of 2018, the Hungarian Parliament adopted a law including rules for the screening of acquisitions of Hungarian companies involved in certain strategic services and using certain technologies.[303] This law permits monitoring of acquisitions of Hungarian companies by foreign investors, particularly those from outside the EU. Before this, Hungary had no screening regime, except for sectoral reviews in regulated sectors like energy, utilities, and banking, where acquiring controlling stakes required prior approval from the relevant national regulator. The relevant law preceded the European directive, which later established a framework for the screening of FDI in the EU. In the context of the state of emergency declared to take certain measures in response to the COVID-19 pandemic, the need arose to introduce some supplementary provisions to the regulations on Foreign Direct Investment. The alternative regulations introduced in this context are currently being implemented as complementary to the FDI rules.

Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests draws the legal framework in terms of foreign investment in Hungary. The Act defines foreign investors as individuals from states outside the EU, the European Economic Area, and the Swiss Confederation, as well as legal entities or organizations registered in such states, acquiring ownership or interest in an economic entity registered in Hungary. This includes

[302] Janku, Martin, 2017: The Lisbon Treaty and Changes in the Legal Rules on the Common Commercial Policy. EU agrarian Law. 6. 10.1515/eual-2017-0002.
[303] Csongor István Nagy - Bálint Kovács, 2024: Country Note Hungary 2024. https://www.celis.institute/celis-country-reports/country-note-hungary-2024/

acquiring ownership shares or interest in an economic entity registered in Hungary, by establishing an economic entity or by acquisition, as well as establishing a branch.[304]

The main objective of the law draw attention to the notification obligations of foreign investors. Foreign investors can acquire an economic entity registered in Hungary by establishing an economic entity, acquiring ownership shares beyond 25%, or controlling interest after notifying the Minister and receiving confirmation of this notification. The notification obligation applies to acquisitions under 25% that would result in the total share of foreign investors in an economic entity registered in Hungary exceeding 25%. Foreign investors can establish a branch in Hungary provided they comply with the required conditions and meet the notification obligation. Activities subject to the notification obligation include manufacturing weapons, ammunition, military equipment, dual-use products, intelligence devices, financial services, payment systems, electricity, natural gas supply, water public utility services, electronic communications, and electronic information systems. The Government may also specify activities directly affecting a system element of national or European importance in its decrees.[305]

A foreign investor can acquire the right to use or operate essential infrastructures, facilities, and assets for their business activity after notifying the minister and receiving confirmation of the notification. The economic entity operating with the foreign investor's share of the percentage or interest specified under Section 2 can start conducting newly adopted activities after notifying the minister and receiving confirmation of the notification. The obligation arises from the registration of the activity as the main activity or further scope of activity in the company registry. The foreign investor must notify the minister of the completion of the legal transaction targeting the acquisition of ownership or the registration of the newly adopted activities in writing within the deadline set by the government decree.[306]

The ministerial procedure that needs to be followed is regulated under Section 6, which establishes procedural deadlines for foreign investors. The minister must inform the foreign

[304] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, 1. Interpretative provisions, Section 1. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

[305] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, 2. Foreign investors' notification obligations. Section 2. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

[306] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, Section 3-5. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

investor within 8 days of receiving a notification, which must be examined if the foreign investor's acquisition of ownership, right of operation, or conduction of newly adopted activities violates Hungary's security interests. If the notification complies with the requirements set under Section 5, the minister must inform the foreign investor within 60 days. If a circumstance exists, the minister may prohibit the acquisition of ownership, right of operation, or start of the newly adopted activity.

In justified cases, the minister may prolong the term of control by 60 days, with the foreign investor notified in writing before the deadline. A prohibiting decision may be made if it can be reasonably assumed that the legal entity acquiring ownership or interest was established for or serves the purpose of concealing a circumstance, making control difficult, and circumventing the procedure laid down in this act. The minister must communicate their prohibiting decision in writing, and the foreign investor may contest the decision in public administration proceedings. The Budapest Capital Regional Court has exclusive jurisdiction in such cases. The minister must manage the foreign investor's data for 5 years after the notification is filed prohibiting decisions, 5 years after the final decision made in appeal proceedings, and until the newly adopted activities are canceled from the company registry.[307]

The ministerial procedure in a government decree must confirm the acknowledgment of the notification required by the act for decisions related to ownership acquisition in activities specified in the decree. If there is no specified procedure, the minister must confirm the notification. The government establishes procedures for licensing certain activities in a decree, and the minister must communicate the prohibiting decision or the prolonging deadline for control to the authority responsible for administration in the procedure under (1) or (2).[308] [309]

The act requires foreign investors to comply with notification obligations, which are controlled by the designated government organ. If a foreign investor fails to fulfill these obligations, the minister may impose a fine, confirm the acknowledgment of the notification, or make a prohibiting decision. The foreign investor must have a deadline of 3 months for

[307] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, 3. The ministerial procedure, Section 6. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

[308] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests 4. The relation of the ministerial procedure to administrative procedures, Section 7. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

[309] OECD Report, DAF/INV/RD(2019)2 , Investment Policy related to National Security, Notification by Hungary, 2019 https://one.oecd.org/document/DAF/INV/RD(2019)2/en/pdf (Date of Accession: 30/04/2024)

selling their ownership share, closing the branch, or modifying its scope of activity. If the deadline passes without results, the minister may designate a state organ to take measures on behalf of the foreign investor. Legal proceedings targeting the invalidity of the acquisition of operation rights may be launched concurrently with the decision. The minister must also give a 30-day deadline for canceling newly adopted activities from the economic entity's activities. Administrative control or proceedings targeting a violation of law cannot be conducted for failure to comply with notification if 6 months have passed since the organ was notified.[310]

The act stipulates that entities violating notification or data provision obligations must pay a fine of HUF 1,000,000 for natural persons and HUF 10,000,000 for legal entities. Fine payment facilities are not allowed and the fine is considered public finance revenues. The government may grant authority to facilitate ownership acquisition in an economic entity registered in Hungary for assuming financial commitment in compliance with state aid rules, including state guarantees, warranties, public finance subsidies, or cash loans.

Finally, this act, effective from 1 January 2019, allows the government to designate ministers, specify notification obligations, and outline detailed rules for foreign investor ownership acquisition, operation rights, control procedures, licensing procedures, and fine imposing. The act applies to concluded legal transactions, economic entities pursuing newly adopted activities, and authority proceedings in control already launched. It also outlines the procedures for licensing activities and fines. The act's provisions apply to all relevant sectors.[311]

[310] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, Section 9. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

[311] Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, 7. Closing provisions, Section 11-13. https://investmentpolicy.unctad.org/investment-laws/laws/266/hungary-act-on-controlling-foreign-investments- (Date of Accession: 30/04/2024)

III. Turkish Outward Foreign Direct Investment in Hungary

TOFDI in Hungary has been part of a broader trend of increasing Turkish economic engagement with CEE.[312] This investment trajectory has been driven by various strategic and economic motivations, underpinned by Hungary's attractive investment climate, strategic location, and EU membership. This evaluation explores the patterns, motivations, challenges, and impacts of TOFDI in Hungary.

Trends in TOFDI to Hungary have been rising over the past decade as mentioned in section 3. There has been a notable rise in Turkish investments in Hungary. Turkish companies have diversified their investment portfolios across several sectors including manufacturing, construction, energy, retail, and financial services. Hungary's strategic position as a gateway to the broader European market makes it a particularly appealing destination for Turkish investors.[313]

Turkish companies have made significant investments in Hungary across several key sectors. In manufacturing, companies like Sisecam have established production facilities, taking advantage of the skilled workforce and favorable investment conditions.[314] In construction and real estate, firms such as Polat Group have contributed to major infrastructure and urban development projects.[315] The energy sector has attracted Turkish investment, particularly in renewable energy, with companies like GAMA exploring opportunities in this growing market.[316] TOFDI in Hungary reflects a strategic and multifaceted engagement driven by Hungary's favorable investment climate, strategic location, and access to the EU market. Turkish companies have made significant contributions to various sectors, enhancing economic ties and fostering mutual benefits. While challenges remain, the prospects for continued TOFDI

[312] Lucia Yar - Lucie Tungul - Mateusz Chudziak - Zoltán Egeresi, 2018: V4 countries and Turkey: Trade carried out directly, values voiced via Brussels. https://visegradinfo.eu/index.php/collaborative/574-v4-countries-and-turkey-trade-carried-out-directly-values-voiced-via-brussels-2 (Date of accession: 30/05/2024)

[313] Turkey And Hungary Taking Firm Steps Towards 5 Billion USD. https://www.deik.org.tr/press-releases-turkey-and-hungary-taking-firm-steps-towards-5-billion-usd (Date of accession: 30/05/2024)

[314] Şişecam Expands Capacity, Novation Tech Installs High-Tech. https://hipa.hu/news/sisecam-expands-capacity-novation-tech-installs-high-tech/ (Date of accession: 30/05/2024)

[315] Investment opportunities in Hungary for Turkish investors discussed at UEZ 2022. https://www.hepaoffice.com.tr/en/news/investment-opportunities-in-hungary-for-turkish-investors-discussed-at-uez-2022/ (Date of accession: 30/05/2024)

[316] Hungary strengthens energy cooperation with Turkey. https://ceenergynews.com/oil-gas/hungary-strengthens-energy-cooperation-with-turkey/ (Date of accession: 30/05/2024)

in Hungary are promising, with the potential for further growth and deepening of economic relations.

IV.Conclusion

Turkish investors are increasingly interested in the CEE region, including Hungary, due to factors such as economic growth, market potential, skilled labor force, and proximity. Hungary has established FDI regulations to attract foreign investment while safeguarding national interests. These regulations aim to create a fair and transparent investment environment for investors, including Turkish investors. Investment promotion agencies and platforms facilitate foreign investment, and bilateral agreements between Turkey and Hungary may provide legal protections and incentives. The regulatory framework in Hungary aims to create a transparent and investor-friendly environment, providing incentives and support for foreign investors, including those from Turkey. Therefore, the FDI regulations also serve to protect the interests of both the investors and the Hungarian economy. Turkish investors must familiarize themselves with the regulatory environment, sectoral opportunities, compliance with Hungarian laws, and risk management. Understanding local business practices, cultural norms, and geopolitical factors is essential for successful investment in Hungary. By understanding FDI regulations, sectoral opportunities, and risk factors, Turkish investors can make informed decisions about their investments in the CEE region. Overall, the strategic partnership between Turkey and Hungary, combined with favorable FDI regulations, presents promising prospects for Turkish investors seeking to expand their presence in the CEE region.

Jafaar Sakkour[317*]: A comparative analysis of progressive and flat income tax systems in terms of tax fairness

Abstract

This comparative analysis examines the debate surrounding progressive and flat-income tax systems from the perspective of tax fairness. The study evaluates how these tax systems align with the principles of tax justice, including horizontal and vertical equity, generality of taxation, and non-double taxation. Progressive taxation is characterized by higher tax rates on higher incomes, and flat-rate taxation applies a uniform tax rate across all income levels. The analysis highlights the complexities inherent in designing tax systems that promote fairness and equity while balancing economic efficiency. By examining arguments for and against both tax systems and assessing their practical implications, this study provides insights into the ongoing discourse on tax policy and its impact on societal welfare and economic growth.

Keywords: progressive tax - flat income tax- tax fairness- tax policy - Horizontal equity

Introduction:

This article discusses tax justice and evaluates how different tax systems, such as progressive and flat taxes, comply with its principles. Horizontal equity states that individuals with equal ability to pay should be treated equally, while vertical equity adjusts tax burdens to reflect unequal abilities of taxpayers to contribute. The principles of generality of taxation and non-double taxation ensure fair contributions to public expenditures without double taxation. The article evaluates progressive and flat-rate taxes based on their compatibility with these principles. This comparative analysis highlights the complexities of designing tax systems that promote fairness and equity.

I. Overview:

I.1 The flat and progressive status of tax within tax legislation:

The tax system expresses a limited and selected set of technical forms of taxes that are compatible with the economic, political, and social reality of society, and together they form an integrated tax structure that has a specific method through legislation, tax laws, and executive regulations in order to achieve its objectives.[318]

Taxes are considered one of the most important public revenues of countries. It has several definitions:

[317]PhD student, University of Miskolc, Deák Ferenc Doctoral School, Financial Law Department.

[318] Murad Nasser, 2008: The effectiveness of the tax system between theory and practice. University of Algiers, Faculty of Economics and Facilitation Sciences, p. 18.

There are several definitions to determine what a tax is, and one of the most famous old definitions is stated by "Jeans" which defined it as: "a deduction or obligation paid by the individual forcefully, permanently, and without compensation, to cover the general burdens of society."[319]

Many writers have adopted this definition, but due to the change and development of the tax, more modern definitions have been given. We can define the tax in the modern sense as follows:

It is a cash sum that is forcefully paid by the taxpayers according to their discretion, permanently, without compensation. To cover the state's expenses and achieve its goals.

Some scholars add to this definition by saying that it is the amount that the state imposes and deducts, in a manner

Directly, in order to distinguish the tax from monetary procedures that lead - as in the case of a reduction in value Currency - to indirectly deduct from people's wealth. Taxes have technical elements such as:

•The tax base: It is the taxable income whose elements are determined and estimated, excluding the legal exemptions that are deducted from the base.

•Tax rate: The percentage that is deducted from the tax base after determining the legal exemptions. The amount that must be paid to the tax administration is determined by applying the rate specified by a legal text.

There are many types of taxes: proportional, fixed, and progressive.

What is important to us in our research is to know what is the difference between fixed and progressive taxes:

- Flat rate taxes:

A flat rate tax is a tax system that applies a single tax rate to all income levels, which is a specific percentage deducted from the value of the base. The tax rate is fixed, but the value of the tax changes as the base changes. It was proposed as an alternative to the federal income tax

[319] Ahad Amoud Al-Qaisi, 2008: Public Finance and Tax Legislation. Amman, Thafa and Publishing house, p. 124.

in the United States, which was based on a system of progressive tax rates in which the proportion of tax taken increases as income rises.[320]

Here we can give the example of Hungary abolishing its progressive income tax rate in 2011 as part of broader tax reform efforts. A fixed income tax rate of 16% was followed, which was later reduced to 15% in 2016.[321]

- progressive taxes:

It is imposed at different rates depending on the difference in the taxable material. This increase is either total when the foundation base increases at one level of the two taxpayers, or it is variable when different percentages are applied to different levels of the foundation base. According to this, it is divided into[322]:

escalating brackets: According to this method, the material is divided Taxable into several equal, or unequal, brackets, and each bracket is assessed a rate that increases as we move to a higher bracket.

The overall escalation in classes: It is summed up in a simplified idea that lies in dividing the taxable material into several classes, each of which begins at the end of the first. According to this method, a special price is imposed, which increases as we move from one class to another, so the taxpayer pays one price, which is the price of the class he is in. It increases as we move from one class to another, so the taxpayer pays the tax at one rate, which is the rate of the class he is in, and as the income increases, so that he enters the scope of a higher class, the higher the price that the taxpayer pays on his income.

Among the countries that still use the progressive tax system is Syria through the wages and salaries tax, which has exhausted the first model that we mentioned, which is the progressive system in brackets, as follows:

Decree-Law No. 30 of 2023 amending some provisions of the Income Tax Law specified the sections subject to tax in a progressive proportion:

[320] Britannica: taxation. https://www.britannica.com/money/taxation, (28.04.2024)
[321] Katie karnosh, 2019: The Evolution of the Hungarian Tax System. In. IIP Research Paper, 2019/6, pp. 3-4.
[322] Nabek Abu Bakr, Makhloufi Al-Taher, Badrawi Yahya, 2021: a study of the extent to which tax justice is achieved in reality- the income tax case. In. Journal of Administrative and Financial Sciences, 2023/1, p. 312.

5% for the portion of net monthly income that falls between the exempted minimum and 250 thousand Syrian pounds.

7% for a portion of the net monthly income between 250,001 and 450,000 SYP.

9% for the portion of net monthly income that ranges from 450,001 to 650,000 Syrian pounds.

11% for the portion of net monthly income ranging from 650,001 to 850,000 Syrian pounds.

13% for the portion of net monthly income that ranges from 850,001 to 1,100,000 Syrian pounds.

15% for part of the net monthly income exceeding 1,100,000 SYP.[323]

I.2 Estimating the flat and progressive tax base:

Determining the amount of tax requires the necessity of arriving at a true estimate of the taxable item in order to carry out two successive operations:

The first: determining the cost capacity of the financier, and the second: estimating the value of the subject matter

For tax.

1. The financier’s cost capacity:

It means the taxpayer's ability to bear the tax burden without harming his existence or production capacity.

This means that it does not depend on the size of a person’s wealth, but rather on personal elements related to the source of wealth, the circumstances of earning it, and how it is used (consumption - saving), which is essentially what is known as the minimum necessary for living, in addition to the costs necessary to obtain wealth.

* Determining the cost capacity requires taking into account a number of factors, the most important of which are:

A- Exemption is the minimum necessary for living from the total taxable item.

[323] Syrian Ministry of Finance: https://www.syrianfinance.gov.sy/ar/page/, (28.04.2024)

B- Taking into account the taxpayer's family burdens, either by imposing a single tax rate but allowing the family burdens to be deducted from the total value of the taxable item, or reducing the tax rate on those who bear large family burdens.

C- Distinguishing income according to its source. We distinguish between income resulting from work and income resulting from capital by imposing a different tax rate, or imposing a supplementary tax.

D- Deducting debt interest and taxes, so the tax is imposed on the net disposable income.[324]

2. Quantitative estimation of the tax base:

After determining the tax base qualitatively, the value of the taxable item must be determined quantitatively in order to arrive at a true estimate of the tax amount. This is done in several ways:

A - Indirect estimation methods:

The assessment is indirect if the tax administration relies on an external element as evidence of the amount of the taxable item. There are two methods in this field:

1- Appearance style:

The value of the taxable item is estimated based on a number of external aspects that are easy to identify and are considered an expression of the taxpayer's wealth. Such as: real estate - cars - companies - and sales.

Among its disadvantages: it does not give a real meaning to the value of the tax item, nor does it take into account the personal aspects of the taxpayer.

2. Arbitrary estimation method:

The value of the taxable item is estimated arbitrarily based on several pieces of evidence determined by the legislator, which are considered indicative of the amount of the taxpayer's income.

Among its shortcomings is that it is not based on specificity and is therefore far from truth and justice.

[324] Almerja: The appropriate amount for different types of taxes. https://almerja.com/aklam/indexv.php?id=29272, (28.04.2024)

B- Direct estimation methods:

Most modern legislation resorts to these direct methods in determining the tax base. It is possible to distinguish between two methods: the method of declaration and the method of direct administrative determination.

Declaration method: The taxpayer is required to submit a declaration detailing the amount of the tax base. The Tax Administration verifies the accuracy of the declaration by reviewing the records it has about the taxpayer. The legislator may resort to obliging others to submit a declaration on the taxpayer's tax material.

Direct administrative determination method: This method is used in the event that the financier refrains from submitting the declaration within the legal period. The base is determined based on the information the Financial Department has regarding the taxpayer's income in previous years or in the year of assessment.[325]

II. The argument for both progressive and flat taxation

II.1 argument for flat taxes

Proponents of a flat-rate tax argue for the simplicity of flat taxes as a primary argument for their adoption. This simplicity is expected to enhance transparency, reduce administrative costs, and enhance compliance, especially in countries that previously suffered from tax evasion.[326] In addition, proponents suggest that flat taxes can smooth out tax distortions, thus enhancing economic efficiency. By applying uniform rates to corporate and individual income, flat taxes can stimulate work, investment and innovation by reducing the tax burden compared to pre-reform levels. There is also a view that such reforms may pay for themselves by promoting increased investment, employment, and output growth.[327]

Clarity of the unified tax rates facilitates international comparisons, especially in light of increasing economic integration and the movement of capital and labor, especially within the European Union. Thus, countries may tend to set low fixed tax rates to attract mobile factors of production and tax bases, which may create pressure on high-tax countries. However, this could lead to a "race to the bottom" in tax rates, which could reduce tax revenues and undermine the

[325] Nabek Abu Bakr, Makhloufi Al-Taher, Badrawi Yahya, 2021: a study of the extent to which tax justice is achieved in reality- the income tax case. In. Journal of Administrative and Financial Sciences, 2023/1, p. 312.

[326] THE INVESTOPEDIA: Is a Progressive Tax more fair Than a Flat Tax. https://www.investopedia.com/ask/answers/042815/progressive-tax-more-fair-flat-tax.asp#:~:text=Progressive%20taxes%20are%20a%20system,of%20their%20income%20in%20taxes, (29.04.2024)

[327] Britannica: benevolence. https://www.britannica.com/money/taxation, (28.04.2024)

provision of essential public goods. Moreover, flat taxes raise concerns about equity because they affect the distribution of income. Studies suggest that while they may enhance economic efficiency, they may threaten vertical equity. However, some argue that redistribution goals can be better achieved through well-designed government transfer schemes.[328]

Empirical evidence on the impact of flat tax regimes yields mixed results. While some studies suggest positive effects in terms of simplicity and compliance, others find only marginal improvements, with continued complexity due to different exemptions and financial treatment of some income groups. Moreover, investigations into incentives for work, investment, and innovation in countries such as the Baltic states, Georgia, Romania, Russia, Slovakia, and Ukraine yield inconclusive results regarding the beneficial effects of flat taxes. Despite the claims of proponents, who argue for the simplicity and efficiency of flat taxes, empirical reports suggest that their impact varies, with their promised benefits not always being fully realized.

Also, Hayek added an argumentative structure on the relationship between the power tax and the progressive tax focusing on the progressive tax system (SFP), which he sees as conflicting with the principles of an open and liberal society. Hayek argues that higher tax rates under the SFP create a bias towards economic wealth, affecting incentives for the working population and extending beyond taxation mechanisms to impact fields related to equality and freedom. He contends that the SFP undermines market competition incentives compared to a proportional tax system, which aligns better with political equality principles. Hayek criticizes the progressive tax system's origins, arguing that it stems from flawed assumptions and ideological biases, with different interest groups influencing tax changes for external interests rather than economic concerns. He emphasizes the political nature of the progressive tax system and its disproportionate impact on productive individuals and economic growth.[329]

2.2 The argument for progressive tax

Advocates of the progressive taxation system argue that it is fairer because it ensures that those with higher incomes contribute more in taxes. This approach acknowledges that affluent individuals have the capacity to shoulder a greater tax burden, thereby lessening the financial strain on lower-income individuals. Given that individuals with lower incomes typically allocate a higher proportion of their earnings to basic necessities like housing, progressive

[328] European Central Bank, 2007: flat taxes in Central and Eastern Europe. In. economy and monetary developments, 2007/9, P. 82.
[329] Fernando Estrada, 2011: The progressive tax. CIPE, Universidad Externado de Colombia, pp. 4-5.

taxation allows them to retain a larger portion of their income.[330] In contrast, proponents assert that a flat tax system fails to account for these income disparities, leading to unfair treatment of the rich and poor alike.

The arguments supporting progressive taxation can be categorized into two main groups: socialistic and economic.[331] While some advocate for progressive taxation as a means of addressing societal inequalities, others argue for it on economic grounds, citing principles of fairness and ability to pay. Socialistic proponents, such as Wagner, advocate for socio-political taxation, contending that it is the duty of the state to rectify all inequalities of fortune. However, critics argue that such an approach may lead to a dangerous expansion of government intervention and undermine the principles of fiscal policy.

Economically-oriented proponents, like President Walker, advocate for the compensatory theory of progression, which suggests that where differences in wealth are partially due to the state's actions or inactions, compensation should be provided. Another argument is for ostensible progression, which entails increasing taxes on certain groups as a counterbalance to reductions in other taxes. However, these theories have faced criticism for being impractical or ineffective as standard measures of taxation.

The debate over the basis of taxation centers on theories of benefits received versus ability to pay. Historically, taxation was based on the principle of benefits, leading to proportional taxation. However, the introduction of the clear income theory modified this approach, as did the emergence of the sacrifice theory, which posits that benefits increase faster than property or income. Recent theorists have also emphasized the concept of faculty, which encompasses both production and consumption capacities. While no definitive rate of progression can be determined, proponents argue that progressive taxation, on the whole, is less unjust than proportionate taxation.

Practically, implementing progressive taxation poses challenges, including tax incidence considerations, the complexity of existing tax systems, and the balance between local and national taxation. While progressive taxation may align more closely with principles of justice, policymakers must carefully weigh its potential impact on economic growth and stability. Some

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[330] THE INVESTOPEDIA: Is a Progressive Tax more fair Than a Flat Tax. https://www.investopedia.com/ask/answers/042815/progressive-tax-more-fair-flat-tax.asp#:~:text=Progressive%20taxes%20are%20a%20system,of%20their%20income%20in%20taxes, (29.04.2024)

[331] Edwin R. A. Seligman, 1893: The Theory of Progressive Taxation. In. Publications of the American Economic Association, 1893/1, pp. 52-55.

argue that progressive taxation could discourage investment and hinder economic development, while others believe it could promote stability and long-term financial resources.

In industrializing economies, policymakers must navigate these complexities while striving to stabilize economic growth. One potential solution involves increasing domestic saving through progressive personal income taxation. By generating stable financial resources and enabling countercyclical fiscal policies, progressive taxation could enhance economic stability and promote durable growth. However, challenges such as tax collection efficiency and global capital flows necessitate careful consideration of alternative revenue sources, such as consumption taxes like the value-added tax (VAT).

Evaluating the effectiveness of progressive taxation in achieving economic stability requires a comprehensive empirical analysis, considering its potential constraints and alternative revenue options in the context of industrializing economies' unique challenges. Policymakers must balance the ideals of fairness and equity with the practical realities of taxation policy and global economic integration to foster sustainable development and prosperity.[332]

Based on the above, we conclude the following

2.2.1 Progressive tax benefits and Limitations:

Benefits:

Tiered Tax Rates Based on Individual Income: Progressive taxation employs different tax rates for different income levels, ensuring that those with higher incomes contribute a larger percentage of their earnings in taxes.

Reduction of Tax Burden on Low Earners: Lower-income individuals pay a smaller percentage of their income in taxes compared to higher earners, alleviating the tax burden on those with less income.

Enhancement of Income Equality: Progressive taxes help reduce income inequality by redistributing wealth from higher-income individuals to lower-income ones, fostering a more equitable society.

[332] Christian E. Weller, Manita Rao, 2008: Can Progressive Taxation Contribute to Economic Development?. Working Papers, Political Economy Research Institute, University of Massachusetts at Amherst, p. 1-2.

Increased Disposable Income for Essentials: Lower earners benefit from having more disposable income to spend on essential needs like housing and groceries, improving their standard of living.

Limitations:

Potential Economic Slowdown: Critics argue that higher tax rates on the wealthy may discourage investment and business expansion, potentially slowing down economic growth and job creation.

Reduced Motivation for Success: Progressive taxes might disincentivize individuals from striving for higher incomes or pursuing better opportunities due to the higher tax rates they would face.

Risk of Tax Evasion: There's a concern that individuals may seek to minimize their tax payments through legal loopholes or tax evasion strategies, reducing government revenue and fairness in the tax system.

2.2.2 Flat Tax Benefits and Limitations:

Benefits:

Uniform Tax Rate for Everyone: Flat taxes apply a single tax rate to all individuals, regardless of their income level. This simplifies the tax system and ensures uniformity, eliminating the complexity associated with progressive tax brackets. It also provides clarity and predictability for taxpayers.

Equal Tax Percentage Paid by All: Under a flat tax system, both lower and higher earners pay the same percentage of their income in taxes. This promotes fairness and equity in the tax code, treating individuals based on their income level rather than socioeconomic status. It reduces disparities in tax burdens across different income groups.

Absence of Higher Tax Burden on High Earners: Flat taxes do not impose a disproportionately higher tax burden on individuals with higher incomes, incentivizing wealth creation, investment, and entrepreneurship. By applying a consistent tax rate to all income levels, flat taxes encourage individuals to pursue economic activities without fears of facing punitive tax rates on their success.

Encouragement of Income Growth: Flat taxes create a favorable tax environment that encourages individuals to earn more income and pursue higher-paying opportunities. Unlike

progressive taxation, which imposes higher tax rates on higher earners, flat taxes provide individuals with the assurance that their tax liabilities will not increase as their incomes rise. This promotes economic growth and productivity.

Limitations:

Regressive Impact on Lower-Income Individuals: Critics argue that flat taxes can be regressive in nature, placing a proportionately higher burden on lower-income individuals compared to higher earners. Since everyone pays the same percentage of their income in taxes under a flat tax system, lower-income individuals may feel the financial impact more acutely, leading to greater income inequality and socioeconomic disparities.

Potential Reduction in Government Revenue: Lower tax rates for high earners under a flat tax system may result in reduced government revenue, limiting the funding available for essential public services and social programs. Critics caution that relying solely on flat taxes to generate government revenue may lead to fiscal challenges and budget deficits, particularly in times of economic downturn or increased demand for public services.

Oversimplification of Financial Situations: The simplicity of flat taxes, while appealing, may oversimplify the complexities of individuals' financial situations and tax obligations. Critics argue that a one-size-fits-all approach fails to account for variations in income sources, deductions, credits, and other factors that can significantly impact individuals' tax liabilities. As a result, flat taxes may overlook important considerations and result in inequities or inefficiencies in the tax system.

III. A flat tax and progressive tax in terms of tax fairness

III.1. The concept of tax justice

In modern financial thought, a theory appeared to build the concept of tax justice. The first called for building tax justice on the basis of benefit, and the second called for building tax justice on the basis of equality in sacrifice. The following is the most prominent of the two theories.

benefit theory and the social contract:

It is also called the financial contract theory, and the ideas of this theory prevailed between the eighteenth and nineteenth centuries: The traditional theory tried to give the state an argument for imposing taxes, which is due to the amount of benefit that individuals benefit from as a

result of paying taxes, represented by the public services provided by the state. On this basis, if it were not for the public benefit that accrues to individuals as a result of paying the tax, there would be no real legal reason to impose the tax and oblige individuals to pay it.[333]

This theory is based on the existence of an implicit contract between the state and members of society. This contract is called the social contract (le contrat social). These individuals are obligated to pay the tax in exchange for services that provide them with a public benefit. That is, according to this theory, the tax is considered the amount paid in exchange for benefiting from public services that are Performed by the state, in order for the state to provide the necessary revenues to cover public expenses.

However, the proponents of these theories differed regarding the nature of the contract, and some considered such as:

(A.D. Smit)" that the contract is "a contract for the sale of services," and he defined it as follows: the state's sale of its services

Individuals must pay for it in taxes.

As for others, such as: "Tayeh," he considered that this contract is a "production company contract." The concept of the implied contract, according to this concept, is that the state is a major production company, and each partner has a specific job to perform and bears special expenses for it, and in addition to these special expenses There are general expenses performed by the company's board of directors, the "executive authority," that benefit all partners, and therefore they must contribute to financing it, and these are the taxes imposed on them.[334]

According to what we mentioned, the tax system is fair according to this theory when the taxpayer pays taxes equivalent to the benefits he obtains. However, the theory in question failed to hold up against the criticisms it faced because it contradicts established knowledge this theory did not withstand the criticisms [335]because it contradicts, from the scientific standpoint, the concept of taxation and its legal nature. The taxpayer pays the tax because he is a solidary member of a joint political organization, which is the state. And not because he obtains benefits

[333] Muhammad Abbas Mahrezi, 2005: The Economics of Public Finance. Algeria, Algerian Publications Office, p. 225.

[334] Taher Al-Janabi, no publishing year: Science of Public Finance and Finance Legislation. Baghdad, The University of Baghdad, p. 139 -140.

[335] Mohamad Hani Kiki: Direct Taxes in Syria from the Perspective of Tax Justice. https://www.researchgate.net/publication/339712851_aldrayb_almbashrt_fy_swryt_mn_mnzwr_aldalt_aldrybyt_The_Direct_Tax_in_Syria_from_the_Fair_Taxation_Perspective. (01.05.2024)

from the state. Also, this theory is difficult to apply from a practical standpoint, as it is not possible to determine the extent of the benefit that each individual obtains as a result of the state carrying out its functions and activities so that it can establish justice on the basis of this benefit.

- The theory of societal solidarity:

The theory of societal solidarity and its relationship with taxation is a compelling lens through which to understand tax compliance and the establishment of a fiscal contract within a society. This theory posits that a cohesive and unified society is essential for the successful implementation of a fiscal contract, alongside the provision of necessary public goods. In essence, citizens in such a society willingly contribute a portion of their personal income toward the welfare of their fellow citizens, viewing it as a collective responsibility.

The foundation of societal solidarity rests upon high levels of social trust and a shared national identity without significant social divisions. In such an environment, citizens accept taxation as a means to promote the common good and ensure the well-being of all members of society. The government plays a crucial role in fostering these values by addressing ethnic cleavages, promoting economic equality, and delivering essential public services that benefit all citizens.[336]

- The ability to pay theory:

The ability to pay theory, advocated by thinkers such as Adam Smith and John Stuart Mill, is crucial to understanding tax fairness and justice in fiscal policy. This theory suggests that taxpayers should pay public burdens in proportion to their financial capacity, ensuring that taxation is equitable and doesn't unfairly burden individuals based on their economic circumstances.[337] Adam Smith emphasized the importance of taxing surplus income instead of necessary income to minimize the negative effects of taxation on economic activity.[338] He believed that excessive taxation could hinder industry and discourage people from engaging in productive endeavors, thereby impeding economic growth. Smith's maxim, "every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible," emphasizes his belief in minimizing the economic impact of taxation while still

[336] ELISE TENGS, 2020: TAXATION AS A SOCIAL CONTRACT. WORKING PAPER SERIES 2020/10, Department of Political Science, University of Gothenburg, p. 2.
[337] Mohamad Hani Kiki: Direct Taxes in Syria from the Perspective of Tax Justice. https://www.researchgate.net/publication/339712851_aldrayb_almbashrt_fy_swryt_mn_mnzwr_aldalt_aldrybyt_The_Direct_Tax_in_Syria_from_the_Fair_Taxation_Perspective. (01.05.2024)
[338] Nicolette Makovicky, Robin Smith, 2020: Tax Beyond the Social Contract. In.
Social Analysis, issue 2020/2, p. 5.

generating revenue for public purposes. Similarly, John Stuart Mill advocated for progressive taxation as a means to promote social equity while recognizing its potential deterrent effect on individual initiative and hard work. He argued for taxing unearned income, such as inheritance and rent, to address inequalities in wealth distribution and ensure a fairer distribution of the tax burden. Mill's perspective aligns with the principle of taxing individuals based on their ability to pay and the benefits they derive from state services.[339] These ideas from Smith and Mill are relevant to contemporary debates about the role of taxation in society and the moral considerations underlying fiscal policy. The notion that taxation represents a social contract reflects the broader understanding that tax policies should not only fund government expenditures but also uphold principles of fairness, justice, and social cohesion. In summary, the ability to pay theory emphasizes the importance of designing tax systems that reflect individuals' varying financial capacities while balancing the need for revenue generation with considerations of economic incentives and social equity. It serves as a guiding principle for policymakers seeking to create a tax framework that promotes both fiscal sustainability and societal well-being.

After discussing the theories on which tax justice is based, we must now arrive at the definition of tax justice:

Tax justice is the equitable distribution of the tax burden on individuals and projects, and the ability to pay is the monetary ability, that is, the purchasing power necessary to fulfill the tax obligation. It takes the meaning of personal sacrifice for benefit as a criterion for tax justice because the taxpayer is deprived of alternative uses for the amount he paid in tax.

In other words, a person's cost capacity, and thus his ability to pay, increases the higher his income.

Those with limited incomes allocate all or most of their income to satisfy their necessary needs. In contrast, those with high incomes remain with a surplus that is invested or allocated to luxury spending, which are uses whose benefit is less than satisfying essential needs. [340]Therefore, justice requires that they pay a greater amount of taxes. The principle of justice is formulated to include two parts: the first is that equal persons must be treated in the same manner, and

[339] Kim Kwangsu, 2023: New Light on Adam Smith's View of Taxation via the Concept of Equity. In. The European Journal of the History of Economic Thought, 24/1.

[340] Nabek Abu Bakr, Makhloufi Al-Taher, Badrawi Yahya, 2021: a study of the extent to which tax justice is achieved in reality- the income tax case. In. Journal of Administrative and Financial Sciences, 2023/1, pp. 308-309.

those with the same tax capacity must bear the same tax burden. The second means that people whose tax capacity is equal but whose circumstances are different, and people whose ability differs, should not bear the same tax burden. Therefore, differences in income and level of spending are evidence of the difference in ability to pay.

According to the above, there are two concepts of justice:

•Horizontal justice: It requires that individuals who have equal ability to pay are treated with equal tax treatment (the practical form of this is to impose the same tax rate on this ability)

•Vertical justice: It requires achieving justice when treating individuals by taking into account taxpayers who have unequal ability (the practical form of it is to impose progressive taxes on this ability).[341]

III.2 principles of tax justice

Tax justice is based on three main principles: the principle of generality of taxes, the principle of non-double taxation, and the principle of personal taxation. The following is an explanation of the three principles:

The principle of the generality of taxation: This principle stipulates that tax burdens be distributed among all persons who can contribute to public expenditures so that some classes are not exempted from participating in paying taxes, as happened in France before the French Revolution, which, the nobility and clergy, were exempted from heavy taxes,[342] and horizontal justice confirms the principle. The statement is that individuals living in similar economic circumstances should be treated equally under tax law, regardless of external factors such as social status or political influence. At the same time, vertical equity forces those with greater financial resources to bear a relatively higher tax burden, reflecting their enhanced ability to contribute to the public good. By upholding these principles of equity, the tax system seeks to mitigate wealth inequality and promote social cohesion and inclusion.[343]

The principle of non-double taxation: In order to achieve tax justice, there must be no double taxation on taxpayers. Double taxation is a tax principle that refers to cases in which taxes are

[341] Riad Mahdi Karim: Taxation in Public Finance. https://www.riadhkraiem.com/administrative-topics/public-financial-development/taxes, (02.05.2024).

[342] Mohamad Hani Kiki: Direct Taxes in Syria from the Perspective of Tax Justice. https://www.researchgate.net/publication/339712851_aldrayb_almbashrt_fy_swryt_mn_mnzwr_aldalt_aldrybyt_The_Direct_Tax_in_Syria_from_the_Fair_Taxation_Perspective. (01.05.2024)

[343] Andrzej Gomuowicz, 2006: Principle of Tax Justice and Tax System. In. Public Policy and Administration, issue 2006/15, p.29.

imposed twice on the same source of income. It can happen when a tax is imposed on income at the company level and the personal level. [344]This can result in a tax increase. In the context of international trade or investment when the same income is taxed in two different countries as well.

The Principle of Tax Personnel According to this principle, the financial and social conditions of the taxpayer must be considered before imposing any tax. Justice in distributing tax burdens on citizens does not mean imposing a tax with a uniform rate on all taxpayers. The requirement is to achieve equality in sacrifice among them.

Governments usually follow some policies to ensure that these principles are adhered to and thus achieve tax justice, the most important of which is exempting a minimum standard of living. Most tax legislation takes into account exempting a minimum level of income from bearing taxes, and this limit is because it is what is called the efficiency limit, the necessary capacity or amount necessary for the individual and his family to maintain their entity, and this exemption is considered to protect the poor classes, who bear a relative burden that must be cut off when they consume goods and services through taxes. The United States, for example, exempts organizations from income tax completely when they serve the public, such as charities or religious organizations.[345] Furthermore, it is important to consider the impact of family responsibilities when it comes to taxation. Married people who have children typically consume more than unmarried people, and therefore bear a larger portion of taxes on consumption. To address this, it is fair to reduce the burden of income taxes on them.[346] For instance, in Hungary, there is a program called "Families Allowance," which provides a monthly family allowance to eligible recipients. The Personal Income Tax Law specifies the persons eligible to receive the family allowance, as well as the amount of the monthly family allowance that the beneficiary can claim for their dependents. The amount of the allowance depends on the number of dependents. For one dependent, the allowance is 66,670 Hungarian forints. For two dependents, the allowance is HUF 133,330; for three or more dependents, the allowance is 220,000 Swiss francs.[347]

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[344] THE INVESTOPEDIA: Double taxation. https://www.investopedia.com/terms/d/double_taxation.asp, (03.05.2024)

[345] TurboTax Expert: What Are Tax Exemptions?. https://turbotax.intuit.com/tax-tips/irs-tax-return/what-are-tax-exemptions/L5xCsvZKO, (04.05.2024).

[346]Mohamad Hani Kiki: Direct Taxes in Syria from the Perspective of Tax Justice. https://www.researchgate.net/publication/339712851_aldrayb_almbashrt_fy_swryt_mn_mnzwr_aldalt_aldrybyt_The_Direct_Tax_in_Syria_from_the_Fair_Taxation_Perspective. (01.05.2024)

[347] Section 29/A(2a) of the Hunagarian Personal Income Tax Act.

The tax rate varies depending on the source of income when specific taxes are applied to income branches. It is fair to distinguish between incomes according to their source when imposing the tax, as the tax rate on capital must be greater than the tax rate on labor income because the source is old and weak due to the lack of ability to earn. As for the mixed-income rate, the tax rate imposed on it must be an average between the two previous rates. The tax rate on capital income can also vary depending on the type of assets subject to it, but this principle can only be applied if financial legislation imposes specific taxes on different branches of income, as is the case in the Syrian tax system. The legislator can diversify the tax rate imposed on each of these incomes, or adopt different rules regarding exemption from the minimum standard of living or reducing family burdens.

3.3 compliance of flat rate and progressive tax to tax fairness principles

Progressive taxation aligns with horizontal justice by treating individuals with equal ability to pay differently based on their income levels. By imposing higher tax rates on higher-income individuals, progressive taxation ensures that those who can afford to contribute more do so. This approach recognizes that individuals with similar economic circumstances should be treated equally under the tax law, regardless of their income status.

Furthermore, progressive taxation is explicitly aligned with vertical justice principles. By imposing higher tax rates on higher incomes, progressive taxation seeks to achieve fairness by taking into account taxpayers' unequal abilities to pay. This approach reflects the principle that those with greater financial resources should bear a relatively higher tax burden, reflecting their enhanced ability to contribute to public goods and services.

In contrast, flat rate taxes adhere to horizontal justice to some extent by treating individuals with equal ability to pay equally. In practical terms, this means applying the same tax rate to everyone, regardless of their income level. However, critics argue that this approach fails to consider the varying economic circumstances of individuals. While horizontal justice aims for equal treatment, it may overlook the disproportionate burden placed on lower-income earners compared to those with higher incomes.

Regarding the principle of generality of taxation, progressive taxation ensures that all individuals contribute to public expenditures based on their ability to pay. While higher-income individuals may pay a larger share of their income in taxes, they also benefit more from public services and infrastructure funded by tax revenues. Progressive taxation prevents certain classes from being exempted from taxation and distributes the tax burden more equitably across society. On the other hand, flat-rate taxes may not fully align with this principle. While they

ensure that all individuals contribute to public expenditures, they may inadvertently benefit higher-income individuals by allowing them to retain a larger portion of their income compared to progressive tax systems.

Both progressive and flat-rate taxes generally adhere to the principle of non-double taxation. They apply a single tax rate to individuals' income, minimizing the risk of double taxation. However, progressive taxation adjusts tax rates based on income brackets, while flat rate taxes apply a uniform tax rate to all income levels.

In terms of personal taxation, progressive taxation recognizes the financial and social conditions of individual taxpayers by imposing higher tax rates on those with higher incomes. While progressive taxation may not provide as much flexibility as other tax systems to consider individual circumstances, it aims to achieve fairness by ensuring that tax burdens are proportionate to individuals' ability to pay. Flat-rate taxes, on the other hand, may not fully consider the financial and social conditions of individual taxpayers. They lack the flexibility to adjust tax burdens based on individual circumstances and may overlook factors such as family responsibilities, which can significantly impact an individual's ability to pay taxes.

IV. Conclusion:

Progressive taxation aligns with the principles of tax justice by adjusting tax rates based on income levels. By imposing higher tax rates on higher incomes, it promotes horizontal and vertical justice. Flat-rate taxation presents challenges in adhering to tax justice principles, as it overlooks the disproportionate burden placed on lower-income earners. Policymakers must critically examine the trade-offs and implications when designing tax systems that promote fairness, equity, and social cohesion in society.

Raheleh Soltanibahrehmand[348*]: The Impact of Internet Infringements on Copyright Economic Rights

Abstract

In the era of digital technology, violations of copyright economic rights on the internet present a significant danger, affecting creators, industries, and the overall economy. This thorough research delves into the complex dynamics of online copyright violations, their repercussions, and possible methods of prevention. By deeply examining legal frameworks, technological solutions, and economic consequences, this article provides a complete understanding of the challenges faced by copyright owners in the digital world. The study investigates various types of internet violations, such as file sharing among individuals, illegal streaming, and online platforms selling pirated content. It also examines the effects on copyright owners, including financial losses, market distortion, and difficulties in enforcement. Examples from different creative industries, like music, film, publishing, and software, are presented to demonstrate the real-life impact of online copyright infringements. Furthermore, the article explores legal strategies to combat these infringements, including copyright laws, international treaties, procedures for handling complaints, and collaboration between countries. Additionally, it explores technological solutions such as watermarking, fingerprinting, and systems for protecting content, as well as the potential of blockchain and distributed ledger technology.

Moreover, the research highlights the economic effects of effective copyright protection, such as promoting innovation and creativity, creating jobs, fostering economic growth, and preserving cultural diversity and heritage. It also underscores the significance of education and awareness campaigns, cooperation with internet service providers, and public outreach programs in addressing this urgent issue. By offering a comprehensive analysis of internet infringements on copyright economic rights, this article serves as a valuable resource for policymakers, industry stakeholders, researchers, and the general public. It provides insights and recommendations for safeguarding intellectual property in the digital landscape.

Keywords: Copyright economic rights, internet infringements, piracy, legal measures, technological solutions, economic impact, education and awareness, public outreach, intellectual property protection

I. Introduction

Copyright is widely known as a form of intellectual property, mainly connected to the internet. It grants creators of original works recognition and motivation. Recognition means that the creators' work is acknowledged as their own, while motivation comes from the potential monetary gain through sales protection and the reputation boost gained by consumers associating the product with its creator. However, even with national laws and international treaties in place, it is evident that the internet's capabilities have surpassed legal systems' ability to adequately safeguard copyright. This has sparked new concerns about the rights held by copyright holders over their protected works.

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The concept of "Intellectual Property" encompasses a vast field of legal matters, ranging from literature and music to software development. We observe variations in the ways in which intellectual property is safeguarded, and even whether it is safeguarded at all. The primary objective of intellectual property law is to stimulate the creation of a diverse range of intangible assets. An ideal system of intellectual property law not only encourages inventors to produce new works but also allows the public to enjoy the benefits of these works. Typically, the creator is granted exclusive rights to their intellectual property for a designated period of time, in exchange for which the details of the intellectual property are made publicly available through patents or copyrights.

I.1 Background

A copyright grants the exclusive legal rights to reproduce, publish, sell, or distribute the content and form of a literary, musical, or artistic work. It specifically protects how an author expresses themselves, but not the ideas, systems, or factual information within the work. To be eligible for copyright, the work must be tangible and original, and it does not cover anything that is already in the public domain. Copyright has a limited duration, and when it expires, the work becomes available for public use. The purpose of copyright is to promote the advancement of the arts and sciences by safeguarding creators while also benefiting the public through the enlightenment and enjoyment of their work.

The internet is a worldwide system of interconnected computer networks that utilize a common internet protocol suite to serve billions of users. It has profoundly transformed communication methods and has given rise to numerous novel forms of entertainment. While the internet provides an excellent platform for expanding information and fostering creativity, the absence of regulation could pose potential risks to the economic interests of copyright holders and creators of original material.

I.2 Purpose of the Study

The objective of this research is to provide a thorough analysis of copyright infringement on the internet, specifically focusing on the economic rights. The study will offer clear explanations and a comprehensive wealth of information regarding the definition of economic rights, the consequences of internet infringement on these rights for the right holder, and strategies to enforce copyright in the digital era. To support these explanations, the Jakarta Declaration on the Principles of Intellectual Property Rights adopted in 1982 and the WIPO Copyright Treaty 1996 (referred to as WCT) will be utilized as reference points. It is important to note that this research will solely address the economic rights, namely reproduction,

communication to the public, adaptation, and translation rights, and will not encompass moral rights. This limitation arises from the rapid technological advancements in the internet, which increase the potential for economic rights infringement. Consequently, right holders are placing more emphasis on the enforcement of these rights in order to prevent future infringements. With the internet becoming increasingly accessible and affordable, the likelihood of encountering copyrighted works on the internet is higher, often without realizing it. Consequently, it is critical to understand the nature of economic rights and how to effectively enforce copyright infringement on these rights. The abundance of copyrighted works available online and the heightened risk faced by right holders insinuate a substantial impact. However, for the purposes of this discussion, the focus will be on the tangible impact and an overview of the impact rate. Given the problem statement and the study's limitations, the subsequent section of the introduction will delve into an examination of the research methodology.

I.3 Scope and Limitations

The objective of this study is to examine if there is a unique approach to dealing with copyright infringements on the internet. It focuses on identifying a specific kind of infringement and implementing effective and efficient measures to enforce copyright rights. The reason for this investigation is that online copyright works are more prone to duplication and harder to regulate compared to non-internet copyright works. It is important to note that this research will not delve into the overall copyright laws, as they are already addressed in international agreements and national legislations.

The purpose of this study is to investigate the effects of copyright violations on the economic rights of creators in the digital age. This particular topic has been selected due to the increasing prevalence of copyright infringements in today's globalized society, where the rapid advancement of information and technology has made it easy to infringe upon copyrighted works. The internet, being a cost-effective and convenient platform for disseminating information, plays a significant role in facilitating these copyright violations. In essence, the internet also has detrimental implications on the economic value of copyrighted works for their rightful owners.

II. Overview of Copyright Economic Rights

The economic rights that authors have in relation to their work encompass the rights to prohibit others from engaging in unauthorized copying, translating, adapting, or committing any other type of infringement on the work. These rights hold immense significance for both authors and the creative industries, which serve as the driving force behind cultural and

economic advancement. Over the last five decades, the economic value of copyright and the level of legal protection granted to copyrighted works have steadily risen. This is largely due to the perceived and actual increase in various types of infringements, leading to a decline in the potential remuneration authors can attain. However, recent developments in the way creative works are developed, distributed, and exploited indicate that the efficacy of safeguarding economic rights may become more intricate.

While this report does not have the scope to extensively examine these broad issues, it acknowledges that the context in which economic rights for copyright come into play greatly affects the economic well-being of authors and their motivation to create new works. Consequently, this report will operate under the assumptions that effective legal protection of economic rights for copyright is advantageous for authors, and without such protection, society as a whole may experience a substantial net loss of the cultural and educational benefits resulting from the endeavors of authors and the industries reliant on their creative endeavors.[349]

II.1 Definition and Importance

The concept of "economic rights and importance" holds great significance within copyright law, as it serves as the primary means to reward and empower creators for their artistic works. Economic rights achieve this by granting creators the ability to control the use of their works and receive financial compensation in return. This compensation is ensured by allowing creators to charge for specific authorized uses of their works and, in some cases, to prohibit others from using their works altogether, thereby reserving these rights exclusively for the creator. It is important to distinguish economic rights from moral rights, as the latter entitle creators to claim attribution for their works and prevent others from using their works in a manner that may be detrimental to their reputation. The granting and enforcement of economic rights depend on the existence of a work, as they pertain to the actions of using or exploiting the work. Only with regards to a specific and identifiable portion of the work can a creator safeguard these rights. Additionally, economic rights are not inherent and can be transferred between different parties. Although the nature and significance of economic rights vary across different regions, the Berne Convention mandates minimal standards for the protection of creators' economic rights among its member countries. Through European Union law, efforts have been made to harmonize copyright law in order to ensure compliance with these standards.

[349] Parc, J. & Messerlin, P. (2021). The true impact of shorter and longer copyright durations: from authors' earnings to cultural creativity and diversity. International Journal of Cultural Policy

However, challenges arise due to the broad scope of economic rights and the rapid advancements in media and information technologies in recent decades. These factors will be further considered in the future.[350]

II.2 Types of Copyright Economic Rights

These exclusive privileges can be classified into two broad categories. The initial category encompasses the privileges of reproducing, adapting, distributing publicly, performing publicly, displaying publicly, and transmitting digitally. The second category involves the privileges of rental and lending, making the work available to the public, and receiving fair compensation. The rights of reproduction and adaptation, along with the right to distribute publicly, are commonly referred to as the primary rights. This is because copyright owners grant licenses or assignments for the use of their copyrighted works to others in exchange for payment through the exercise of these rights. The remaining rights are known as the secondary rights. This is because after assigning or licensing the primary rights, a public performance or display, or the use of works in a digital environment, often involves utilizing works that are already in the public domain, such as those created over 50 years ago with expired copyrights or works assigned or licensed by current copyright owners. It is relatively uncommon for authors and publishers to create new works in these specific areas. These distinctions between primary and secondary rights are significant, as subsequent sections of this report suggest that the occurrence of infringement varies greatly depending on the nature of the right and the type of work it pertains to. However, it is generally the case that any substantial utilization of a copyrighted work will infringe upon one or more rights. This is because the notion of substantially taking the work, a crucial factor in determining infringement, is common to all the rights.[351]

II.3 International Legal Framework

International copyright laws are influenced by multiple international treaties and have become extremely comprehensive in their efforts to establish consistent copyright protection across different countries. The Berne Convention for the Protection of Literary and Artistic Works, initially adopted in 1886, serves as the fundamental framework for international copyright cooperation. This convention sets forth a set of "principles" and "minimum standards" to safeguard the rights of authors in their literary and artistic creations. It ensures the adequate

[350] Axhamn, J. (2023). Exceptions and limitations to moral rights. In Research Handbook on Intellectual Property and Moral Rights (pp. 267-291). Edward Elgar Publishing

[351] Guadamuz, A. (2021). The treachery of images: non-fungible tokens and copyright. Journal Of Intellectual Property Law and Practice.

and effective protection of their works and recognizes authors' entitlement to claim ownership of their creations. The Convention has undergone numerous revisions and stands as the most significant treaty in the realm of copyright, presently supported by 164 countries and growing. Under the Berne Convention, the rights of copyright owners have a basic duration that extends from the life of the author to 50 years after their death. The Convention permits specific exemptions to copyright, with perhaps the most notable being the concept of "fair use" of a work. The Convention also outlines principles for determining which types of works can be exempt from obtaining permission from the copyright owner. Furthermore, it provides guidance on the limitations and exceptions to copyright. The Convention also establishes international standards for copyright administration and protection. The Convention includes controversial provisions regarding the implementation of a compulsory copyright registration system and the protection of "neighboring rights" for specific performers, sound recording producers, and broadcasting organizations. The United States joined the Berne Convention on March 1, 1989, and officially ratified the Berne Convention Implementation Act of 1988 on September 16, 2019, thereby making its adherence to the Convention effective from March 1, 1989. In addition, the United States became a party to the Marrakesh VIP Treaty on May 9, 2017. This treaty aims to facilitate access to published works for individuals who are blind, visually impaired, or have other print disabilities. The United States is also party to other significant international copyright treaties, namely, the Universal Copyright Convention and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[352].

III. Internet Infringements and their Consequences

III.1 Categories of internet violations

Internet violations refer to the bypassing or breach of copyright-protected rights. These violations manifest in various ways, some of which align with current international copyright law, while others diverge from it. Due to the expansive and borderless nature of the internet, individuals engaging in infringement activities benefit from anonymity and a lack of accountability. This underscores the importance of achieving harmony in the rights being safeguarded, as well as the limitations and exceptions placed upon those rights. Primary and secondary infringements occur in a manner similar to traditional infringements, such as through direct reproduction or the act of copying and pasting. Additionally, they encompass indirect actions that involve authorizing others to engage in these acts. However, in

[352] Klimoska, K. (2020). The Berne Convention for the Protection of Literary and Artistic Works: Protection and the Public Interest in Scientific Work.

the online sphere, file sharing has emerged as the most prevalent form of infringement. Utilizing peer-to-peer networks and other file sharing services, individuals exchange copyrighted music and movies. In Australia, the percentage of internet users involved in sharing copyrighted files witnessed an increase from 23 percent to 33 percent in 2003, which translates to approximately 2.7 million Australians. This behavior is of significant concern to copyright holders, as it not only constitutes primary infringement, but also raises the possibility that the shared files may include unreleased works or leaked "preview" copies.[353]

III.2. Types of Internet Infringements

When it comes to traditional piracy, the process of reproducing copyrighted material required significant effort and expenses. This involved obtaining the original copy, making copies of it, and distributing it. However, the internet has drastically reduced the costs and challenges associated with copying and distributing various forms of content. Consequently, digital piracy poses a substantial threat to industries reliant on copyright protection. Not only has the internet made traditional piracy more efficient by providing easy methods for copying and distribution, but it has also given rise to new forms of piracy. These new methods are possible due to the internet's accessibility to copyrighted material and the anonymity it offers infringers. For instance, the popularity of broadband internet connections has made it feasible to stream or download high-quality music and video files, resulting in declining sales in the music industry and facilitating illegal sharing of music and films. Another concerning development for copyright holders is the prevalence of peer-to-peer (P2P) networks, which enable users to locate and share files with others, leading to extensive sharing of copyrighted material on a global scale. Additionally, there is the issue of websites that claim to be legitimate businesses but actually provide free or significantly cheaper access to copyrighted material. An example of this is online textbook exchanges, where scanned textbooks are traded in a digital format.[354]

III.3. Implications for Copyright Holders

The advent of the internet has had a profound impact on the reproduction and distribution of copyrighted material. The introduction of new technologies has made it possible to transmit copyrighted content through global communication networks, such as the internet, quickly,

[353] Davis, S. & Arrigo, B. (). The Dark Web and anonymizing technologies: Legal pitfalls, ethical prospects, and policy directions from radical criminology.
[354] Spilker, H. S. & Colbjørnsen, T. (). The dimensions of streaming: toward a typology of an evolving concept. Media.

effortlessly, and inexpensively. This has resulted in a significant reduction in the control that copyright holders once had over the dissemination of their works. The ease of making perfect digital copies and sharing them at minimal cost has made expressive material, like text, audio, and video, particularly vulnerable to piracy on the internet. Nowadays, copyrighted material can be uploaded to websites or peer-to-peer networks and downloaded by millions of users worldwide. On a larger scale, there is evidence of internet piracy directly impacting copyrighted material. Available data on download activity for mainstream video and music releases suggests that digital or internet piracy may result in substantial revenue losses, ranging from 10-30%. While this increased access to copyrighted works has been advantageous for consumers, as it has loosened the oligopolistic control of certain copyright industries, it has had destructive consequences for the copyright industries themselves. [355]

III.4. Economic Losses and Market Distortion

In cases where infringing material does not serve as a replacement for the original, there remains a possibility of economic harm to the copyright holder. In today's digital age, where information is easily accessed and shared, and there exists a more permissive attitude towards intellectual property, consumers are increasingly creating their own versions of copyrighted material for personal use or sharing with others. This is especially noticeable in the realm of music and videos, through the creation of mixtapes and compilations. Although the use of pirated material may not directly cause harm to the copyright holder, it does involve substituting their copyrighted material with the consumer's own, which may be nearly indistinguishable in the case of mixtapes and compilations. While this doesn't necessarily result in lost revenue for the copyright holder, it prevents the opportunity for additional revenue. Any form of copying, piracy, or counterfeiting of copyrighted material, whether exact or similar, diminishes the value of the original. This devaluation can ultimately lead to a decrease in licensing prospects and harm the reputation of the copyright holder, particularly when it comes to counterfeit goods.[356]

The economic costs of copyright infringements are quite apparent and indeed serve as the motivation for much research into the area of internet piracy and counterfeiting. A copyright holder suffers economic loss when infringing material is a substitute for the original thus displacing it from the market. This occurs with perfect digital copies, such as software, games,

[355] Alawida, M., Omolara, A. E., Abiodun, O. I., & Al-Rajab, M. (2022). A deeper look into cybersecurity issues in the wake of Covid-19: A survey. Journal of King Saud University-Computer and Information Sciences, 34(10), 8176-8206.

[356] Tang, X. (2020). Can Copyright Holders Do Harm to Their Own Works? A Reverse Theory of Fair Use Market Harm. UC Davis L. Rev..

and digital music. Consumers of these digital products have the ability to search for an identical copy of the desired product thus avoiding all costs associated with the legitimate copy. If the original and copied products are indistinguishable to the consumer and the copy is available at a cheaper price or no cost, then there is no incentive for the consumer to purchase the original. This will lead to a reduction in the demand for the original, and the copyright holder will suffer a loss in revenue. It is often difficult to measure the loss in revenue.[357]

III.5. Challenges in Enforcement

Based on experience, it is evident that legislation and judicial decisions hold little value without proper enforcement. However, enforcing laws against internet infringement poses a significant challenge due to several reasons. Firstly, the internet's global reach enables infringing activities to cause harm in multiple countries at a much lower cost compared to traditional methods aimed at specific national markets. This raises the issue of determining which laws should apply and provides a means for infringers to evade consequences.Secondly, technological advancements occur rapidly and constantly, making it difficult for laws and enforcement procedures to keep pace. Additionally, this leads to increased costs in gathering evidence and proving infringement. Thirdly, the magnitude of infringing activity is staggering. For instance, it has been estimated that, in 2004 alone, over 20 billion files containing infringing content were shared globally using peer-to-peer networks. Efforts taken by copyright owners to combat such activity can result in a fourth challenge, known as 'collateral damage'. This occurs when file sharing is conducted by individuals in their own homes using personal computers, where their legitimate interests related to privacy and access to information may be compromised through search and seizure orders or sudden termination of their internet connections.Lastly, resource allocation poses a problem. The available resources for copyright owners and public authorities to combat internet piracy pale in comparison to the potential infringing activity they face. Consequently, choices must be made regarding which activities to target, while infringers often manage to stay ahead by capitalizing on new technologies.[358]

IV. Case Studies on Internet Infringements

In terms of the economic impact of copyright infringements, the music and film industries are often cited as the prime examples due to their experiences with file-sharing over the past

[357] Towse, R. (). Dealing with digital: the economic organisation of streamed music. Media.

[358] Bäcker, K., & Feindor-Schmidt, U. (2021). The destruction of copyright—are jurisprudence and legislators throwing fundamental principles of copyright under the bus?. Journal of Intellectual Property Law & Practice, 16(1), 41-55.

decade. The transferring of music files over the internet started with the creation of the MP3 format in the mid-1990s, and since then the popularity of this practice has snowballed. With the inception of Napster in 1999, the music industry was quick to feel the effects of internet copyright infringements. Metallica was amongst the first high-profile artists to make a stand, filing lawsuits against Napster for facilitating the illegal trading of their songs. In 2000, a US district court ruled in favor of the music industry stating that Napster was liable for contributory infringement of copyright. This ruling led to a settlement which resulted in Napster having to pay the music industry $26 million in damages, on top of which they were ordered an injunction to prevent the trading of copyrighted material on their network. Although this effectively ended Napster's days as a file-sharing service, the damage to the music industry had already been done. According to the IFPI, global music sales had fallen from a high of $26.6 billion in 1999 to $14.4 billion in 2014, with internet piracy being the principal cause of this decline.

The film industry has experienced similar problems. In 2004, a statistical analysis of box office revenue and the effects of piracy in the US showed that a decrease in internet piracy would lead to an increase in box office revenues in the long run, with the most significant changes being increases in revenue for average and low-budget films. This is due to the fact that internet piracy disproportionately affects these films, as they are often available in good quality on the internet earlier than their big-budget counterparts. This phenomenon was evident in a case in Sweden in 2009, where the four founders of file-sharing website The Pirate Bay were found guilty of contributing to copyright infringement of the film industry. The trial saw the plaintiffs, consisting of various film and music industry organizations, claiming for damages totaling over $3 million. In spite of the guilty verdict, appeal trials and other legal technicalities have prevented the plaintiffs from receiving any compensation up to the present time. A report from the MPAA in 2010 stipulates that illegal copying of movies is still the single most damaging form of piracy for the film industry, with $5.4 billion worth of global revenue being lost annually.[359]

IV.1 Music and Film Industries

The music and film industries provide useful case studies regarding the impact of internet infringements upon economic copyright owners. Prior to the explosion of the internet, these industries were not only highly successful but they also had strong copyright protection and enforcement. The music and film industries have been markedly affected by the internet

[359] Weiss, J. W. (2021). Business ethics: A stakeholder and issues management approach

because the infrastructure for digital duplication and transmission of audio and video content is well established and widely used. For example, MP3 music files are easily downloadable and recordable onto blank CDs and the technology to create permanent copies of films (DVD writers) is both cheap and widely accessible. Consequently, the ease of being able to infringe copyright-protected music and film over the internet has caused rampant piracy with a staggering decline in sales of the genuine articles.
The Recording Industry Association of America claims that from 1999-2003, there has been a 33% decline in CD shipments and a 21% decline in revenues.This has led to a reduction in the signing of new artists and development of current artists. Employment in the music industry also fell by 17% with a loss of 71,000 jobs over the 4-year period. These trends can be directly linked with the increase in internet piracy and estimated that global music piracy causes a loss of $4.6 billion in sales annually - more than 35% of the world market for recorded music.[360]

IV.2 Publishing and Software Industries

The case of MGM Studios, Inc. v. Grokster, Ltd., on the other hand, was only concluded in June 2005. This case was an extension of the previous case of Sony Corporation v. Universal City Studios, Inc. Grokster and StreamCast created two peer-to-peer file-sharing software - Grokster and Morpheus. These two software programs enable users to search and download files from one another. MGM Studios, along with other various music and film companies, brought two separate suits against Grokster and StreamCast alleging that the two companies were guilty of copyright infringement and attempting to make a profit from it. This allegation was based on the fact that an estimate of 90% of all files traded on Grokster and Morpheus were copyrighted works for which no permission was given to distribute or copy. [361]

One of the leading cases involving internet infringements encompassed [Link] Elcomsoft specialises in the production of software, is involved in computer consulting, and creates custom software solutions. Elcomsoft was providing a software entitled the 'eBook Processor.' This software allowed users of Adobe eBooks to remove the program's security and then modify or copy the eBook. In July 2001, Elcomsoft was notified by Adobe that the distribution of the software violated the Digital Millennium Copyright Act ("DMCA"). This was due to the fact that the software was allowing users to evade the copyright protection technology built into

[360] Sole, K. B., Staff, A. C., Räisänen, S., & Laine, K. (2022). Substantial decrease in preeclampsia prevalence and risk over two decades: a population-based study of 1,153,227 deliveries in Norway. Pregnancy Hypertension.
[361] Rai, P. (2020). Copyright laws and digital piracy in music industries: The relevance of traditional copyright laws in the digital age and how music industries should cope with the..

Adobe's eBooks. Elcomsoft ceased distribution of the software and provided a plug-in that prevented the "eBook Processor" from modifying any eBook that was identified as copyrighted. Despite the changes made to the software, an injunction was filed and on July 15, 2002, Judge Ronald Whyte of the United States District Court in San Jose, California ruled that Elcomsoft was in violation of the DMCA and ordered that the "eBook Processor" be removed from the market. Elcomsoft was found liable, and an award of statutory damages was made in the sum of $15,540. Knowing that it could not afford to pay this amount, Elcomsoft filed for bankruptcy on July 18, 2002.

IV.3 Art and Design Industries

It was found that over 40% of software titles used by small to medium sized firms in Australia in 2000 were illegal, so too were 36% of those used by large businesses. It was estimated that 65% of this software was downloaded via the internet. Software theft has long been an issue for the industry, however with the advent of internet file sharing software, it made it a lot easier for someone to obtain a copy of a software title illegally. An example of the impact of this being the case is the case of AFACT v iiNet. It was alleged that between June 2008 and June 2010, over 95 million illegal downloads of films and TV shows were made, with 1 in 4 Australians over the age of 18 admitting that they had illegal copies of films or TV shows. The film industry stated that the value of an infringed copy of a film was between $7 and $8, while the value of an actual purchase was $17. During the trial, an expert witness for the film industry gave evidence that 400,000 people over the 2-year period had ceased their subscriptions with one of their companies due to internet piracy. The publishing industry has experienced losses due to internet infringements of copyrighted materials, with people photocopying books and journals at a reduced cost. Up to 32% of consumers had photocopied books or journals. This has led to a decline in new publications and has made it hard for smaller publishers to survive in the industry.[362]

V. Legal Measures to Combat Internet Infringements

From a logical standpoint, it is necessary to take legal measures in order to prevent copyright infringements on the internet. The existing copyright laws alone are insufficient in deterring such infringements. Additional provisions must be considered, taking into account the unique characteristics of the internet and its borderless nature. Prescribing a law in one country cannot

[362] Woodard, R. (2021). Waste management in small and medium enterprises (SMEs): compliance with duty of care and implications for the circular economy. Journal of Cleaner Production.

solely impact another country, hence the need for a universal norm that is not reliant on local legislation and has consistent interpretation across countries. One example of a law attempting to amend existing copyright laws is the Digital Millennium Copyright Act (DMCA), specifically United States Federal Law No. 105-304. The purpose of this law is to adapt copyright laws to the advancements in technology. Xue Liang (2002) highlights that the DMCA is highly advantageous for copyright holders compared to traditional copyright laws. By registering their copyright on a website, copyright owners find it easier to provide evidence and have a method of safe harbor. However, this approach can be a double-edged sword for individuals claiming innovation through replication. In some cases, copyright owners may be unaware of the existence of their copyrights, and it would be unfair to ban or destroy their work if someone coincidentally copies and pastes it. Furthermore, piracy remains a global issue with complex solutions. This raises concerns when copyrighted works are stored on servers in countries that do not enforce the DMCA and the copyright owners are unaware of the infringement. The DMCA specifically regulates copyright infringement of works distributed through the internet with digital footprints, making it challenging to enforce against simpler forms of piracy like direct copying between computers. Hence, further research is necessary to address copyright infringement for works not explicitly covered by the DMCA. Finally, it is crucial to regularly evaluate the effectiveness of the DMCA in preventing copyright infringement and its impact on copyright owners and fair-use principles.[363]

V.1 Copyright Laws and Treaties

The legal framework known as copyright aims to safeguard the exclusive rights of authors to their original creations. Its purpose is to grant creators control over their work while restricting public access to it. Copyright laws strive to strike a balance between protecting individuals' intellectual property and serving the public's broader interests. These laws encompass a broad range of creative forms, such as books, music, art, films, computer programs, and databases. Typically, copyright lasts for the author's lifetime plus an additional 50 to 100 years after their death, depending on the governing legislation. Notably, certain jurisdictions may exclude published works from copyright protection or impose limited terms for such works.[364]

[363] McGhee, H. (2023). Reinterpreting Repeat Infringement in the Digital Millenium Copyright Act. Vand. J. Ent. & Tech. L..
[364] Kahn, A. & Wu, X. (2020). Impact of digital economy on intellectual property law. J. Pol. & L.

V.2 Digital Millennium Copyright Act (DMCA)

The caution users of the global internet have regarding legal implications and the impact on their daily activities is a valid concern. Traditional copyright law, with its varying levels of protection and technological understanding, is insufficient in effectively addressing copyright issues. As a result, there has been international discussion on the need for harmonization in copyright law through an international agreement. The World Intellectual Property Organization Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) were created to address this concern and provide legal remedies for intellectual property rights in the digital era. However, despite the existence of these treaties and the TRIPS agreement, national copyright laws and their application still differ, creating obstacles in achieving legal certainty and global uniformity. The lack of effectiveness in copyright protection is evident in the United States legal system as well. The situation is further exacerbated by the internet, which enables easy and widespread dissemination of copyrighted works with just a few clicks. The United States has taken the lead in finding solutions to this problem by enacting specialized laws to combat copyright infringement in the digital environment. The Digital Millennium Copyright Act (DMCA) is a comprehensive reform of US copyright law, aimed at implementing the WCT and WPPT. [365]

V.3 Notice and Takedown Procedures

The notice and takedown procedures, based on Section 512 of the Digital Millennium Copyright Act in the USA, establish a framework for copyright owners to notify an Online Service Provider (OSP) about copyright infringements. To initiate this process, the copyright owner must submit a written notification with their signature, identifying the infringed works, indicating where the infringed material can be found, providing contact information, and verifying the accuracy of the information under penalty of perjury. Once the OSP receives this notification, they must promptly remove or disable access to the material. The OSP is then obligated to inform the individual who posted the material about its removal or takedown. This person has the option to send a counter notification to the OSP. The counter notification must be in writing, signed by the user, identify the material in question, consent to a federal district court's jurisdiction regarding the alleged infringement, and state that the user will accept services from the notifying party. If the OSP receives a valid counter notification, they must

[365] Ali, N., & Khan, K. I. (2021). Legal framework for compulsory licensing: a solution to the conflict of intellectual property rights and intellectual monopoly. International Journal of Public Law and Policy, 7(2), 122-133

inform the notifying party and take action to restore the material within a span of 14-10 days, unless the notifying party has filed a court order against the user who posted the material. Although notice and takedown procedures are generally considered crucial in combating online copyright infringements, opponents argue that they can restrict freedom of information. In Australia, the Australian Digital Alliance, which comprises various associations and groups representing information users, sought to intervene in a case involving Universal Music and several ISPs and Telstra. These entities aimed to block access to a website that the Federal Court of Australia had determined was authorizing copyright infringement. The ADA asserted that the site was a valuable resource for individuals such as law students, academics, and legal practitioners to gain insights into copyright law. They argued that if the site became inaccessible, it would negatively impact the public interest. Consequently, the fact that both cultural and economic interests are influenced can be considered evidence that the notice and takedown procedures may be overly effective, resulting in the removal of a broad range of materials.[366]

V.4 International Cooperation and Agreements

In recent years, several multinational agreements have been formulated to address the issue of copyright infringement. One prominent example is the World Intellectual Property Organization (WIPO) Copyright Treaty and Performances and Phonograms Treaty, which aims to safeguard copyright and related rights on the internet. These agreements are designed to establish international regulations and clarify existing obligations under other international agreements that serve as the foundation for national copyright laws globally. Additionally, the European Union (EU), its member states, and the United States are responsible for a significant portion of the world's copyrighted works. On May 10, 2000, representatives from both sides convened to devise a plan for strengthening international copyright protection. This commitment was further emphasized at the EU/USA summit in June 2001, where both parties expressed their dedication to fostering e-commerce growth by intensifying their efforts to protect intellectual property rights. [367]

International cooperation is an important factor in the fight against internet infringement. Copyright laws have traditionally been based on territorial boundaries while the internet is without borders and the infringement of economic rights happens globally. The only way to

[366] Mulvany, S. (2023). An IP Conundrum: Are Notice-and Takedown Provisions Excessively Reducing Free Expression in Their Protection of IP?. Plassey L. Rev..
[367] Citaristi, I. (2022). World Intellectual Property Organization—WIPO. In The Europa Directory of International Organizations 2022 (pp. 395-398). Routledge.

ensure effective protection is to eliminate safe havens for copyright pirates and that "requires enhancing international cooperation among law enforcement agencies, copyright owners, and intermediaries such as Internet service providers and operators of websites". Currently this is being done through a mixture of formal and informal agreements between private companies and public officials. [368]

VI. Technological Solutions and Digital Rights Management

The integration of content protection systems has been a longstanding feature in commercially available software. However, with the rise of internet delivery and widespread access to content from various locations, there is an increasing demand for these systems. Modern content protection systems focus on regulating access and controlling the usage of content through encryption, decryption, and license management mechanisms. Encryption involves converting data into an unreadable format that is only accessible to authorized users. It can then be decrypted back into a readable form using a secret key. Static analysis is the process of examining a program to understand its functionality without executing it. Execution control utilizes this information to determine whether the application can run and what actions it is allowed or forbidden to perform within virtual environments. To prevent unauthorized access, all encrypted data must undergo intensive randomization and manipulation to thwart attempts at altering it without proper decryption. This necessitates a complex system for managing user access to content, which can often be challenging to develop without compromising user experience. Ineffective management of this system can result in a loss of content usability and, in the worst scenario, authorized users may be unable to access their entitled content. By employing static and dynamic analysis techniques on the encrypted data and comparing it to the expected operation usage, it becomes possible to identify and prevent undesirable events that may pose threats to the owner's rights.[369]

Digital fingerprinting is a more sophisticated method of watermarking. It works by modifying content before it is made publicly available, by embedding a distinct, identifiable marker within it. This marked content can then be compared to a database of fingerprints to promptly determine the origin of the content. It is possible for a single piece of content to

[368] Topornin, N., Pyatkina, D., & Bokov, Y. (2023). RETRACTED: Government regulation of the Internet as instrument of digital protectionism in case of developing countries. Journal of Information Science, 49(3), 595-608.
[369] Xu, C. (2020). Regulatory Model for Digital Rights Management.

include several fingerprints, which can aid in tracking the distribution path and identifying instances of content leakage or piracy. [370]

One potential method for utilizing technology in the enforcement of copyright is the implementation of watermarking as a means of deterring piracy. Watermarking entails the concealment of information within a file, serving to establish ownership of copyrighted material. Watermarks possess a degree of resistance against tampering and elimination, allowing them to withstand various alterations made to the data. Hence, the mere presence of a watermark can dissuade individuals from infringing upon copyright. Digital watermarking encompasses both visible and invisible forms. Visible watermarks, while less effective, can be easily cropped from an image and do not offer significantly more protection than a simple signature. In contrast, invisible watermarks can accurately identify the owner without the knowledge of those attempting to remove it. [371]

VI.1 Watermarking and Fingerprinting Technologies

The process of digital watermarking involves adding identifiable information to a file without altering its appearance. This information is usually encoded in a digital signal, image, or text and serves to establish ownership of the file. The purpose of digital watermarking is to enhance security and provide the copyright owner with relevant details about the file's user. In the event that the file becomes publicly available or is claimed by someone else, the copyright owner can take legal action and prove their rightful ownership. Digital watermarks are additional data embedded within a signal, providing insight into its owner. While watermarking can be applied to various types of data, in the context of copyright infringement, it specifically pertains to digital media such as audio, images, or videos. A watermark may contain copyright information or serve as a unique identifier for the media owner. Information hiding is a closely related technique that clandestinely embeds data, including watermarks, in a file without being noticeable, ensuring that the data cannot be removed without compromising the file's integrity. If a file possesses a robust and highly imperceptible watermark, it acts as a deterrent against theft and holds significant value as evidence in disputes over copyright ownership. The

[370] Mohanarathinam, A., Kamalraj, S., Prasanna Venkatesan, G. K. D., Ravi, R. V., & Manikandababu, C. S. (2020). Digital watermarking techniques for image security: a review. Journal of Ambient Intelligence and Humanized Computing, 11(8), 3221-3229.

[371] Anandakumar, N. N., Rahman, M. S., Rahman, M. M. M., Kibria, R., Das, U., Farahmandi, F., ... & Tehranipoor, M. M. (2022). Rethinking watermark: Providing proof of IP ownership in modern socs. Cryptology ePrint Archive.

imperceptibility of the watermark is crucial, as the media's quality must be preserved, as failure to do so would result in a depreciation of its value.[372]

VI.2 Content Protection Systems

The second approach is referred to as the trusted system. This method utilizes encrypted material and an access control module with a user interface that grants access only if the user meets the necessary permissions. Permissions are deemed satisfied when the criteria for access is logically true. This system offers the highest level of security as it is challenging to manipulate encrypted material, and the user interface allows effective control over material usage by different stakeholders. The transaction of permissions can be monitored and payments can be enforced, making it particularly advantageous for copyright owners. However, this method significantly limits user actions to only those involving permissions, even if unintentional. Offline use of online material and certain device restrictions are examples of such limitations. Furthermore, trusted systems face challenges due to the independent development of encryption engines and access modules, making interoperability problematic. Consequently, a universally accepted standard for trusted systems has yet to be established.

The initial approach we will examine is referred to as the copy control mechanism. This approach implements regulations that govern the utilization of a substance, including permitting it to be viewed a certain number of times, prohibiting the substance from being printed, or hindering access to the material if payment has not been completed. This approach functions by deploying an application alongside the substance, which will intercept any action executed on the material and verify if it adheres to the usage regulations. In cases where the action violates the regulation, the application will prevent it from occurring. For instance, it can prevent the illegal downloading of a paid-for version of a song by restricting access to a free version. Although this system offers certain advantages, it also possesses limitations. If the application gets compromised or the material is utilized in an unmonitored environment, the control can be circumvented. [373]

Content protection systems offer technical safeguards to copyrighted material by regulating its accessibility. The rationale underlying this approach is that by retaining control of the work's access, its usage can be scrutinized, and authorization as well as subsequent payment can be

[372] Embaby, A. A., Shalaby, M. A. W., & Elsayed, K. M. (2020). Digital Watermarking Properties, Classification and Techniques. International Journal of Engineering and Advanced Technology (IJEAT), 9(3), 2742-2750.
[373] Abduh, R., & Fajaruddin, F. (2021). Intellectual property rights protection function in resolving copyright disputes. International Journal Reglement & Society (Ijrs), 2(3), 170-178.

enforced. Various categories of content protection systems exist, each espousing different levels of control over the utilization of the material.

VI.3 Blockchain and Distributed Ledger Technology

Blockchain and distributed ledger technology have emerged as innovative tools that could potentially support copyright holders in enforcing their economic rights. They offer a viable solution for securely managing intellectual property rights, functioning as a comprehensive record of all transactions. Specifically pertaining to copyright works, these transactions could involve the sale or licensing of individual works. The data stored within the blockchain can take the form of smart contracts, which are self-executing agreements with detailed terms written directly into code. By leveraging these contract capabilities, the terms of an agreement can be automatically enforced and monitored. For instance, in the case of a licensing agreement, once the licensee fulfills the payment obligations to the copyright owner and the smart contract verifies this, the licensee can immediately access the licensed work. This automated approach to enforcing licensing agreements effectively eliminates the potential for misuse or infringement by the licensee. The implementation of blockchain technology in the music industry is already evident through the pioneering efforts of Mycelia, a music platform that advocates for a fair-trade approach to music-making. Mycelia's report highlights the potential of blockchain-based smart contracts in revolutionizing royalty payments. By automatically distributing royalty payments based on the usage or sampling of music, this system could prove to be a significant improvement over the complex mechanical rights royalty payment schemes currently in place. Similarly, in the field of visual art, Monegraph is an online platform that utilizes blockchain technology to issue digital certificates confirming the authenticity and provenance of artworks. Additionally, Monegraph employs blockchain to facilitate the automatic execution of licensing agreements. These examples demonstrate how smart contracts on blockchain can streamline and automate the tracking and execution of licensing agreements for intellectual property rights.[374]

VII. Economic Impacts of Effective Copyright Protection

The digital landscape plays a crucial role in global economic growth and development. It offers substantial opportunities for international trade, particularly for developing nations, and

[374] Bonnet, S., & Teuteberg, F. (2023). Impact of blockchain and distributed ledger technology for the management, protection, enforcement and monetization of intellectual property: a systematic literature review. Information Systems and e-Business Management, 21(2), 229-275.
Zhu, P., Hu, J., Li, X., & Zhu, Q. (2021). Using blockchain technology to enhance the traceability of original achievements. IEEE Transactions on Engineering Management, 70(5), 1693-1707.

has the potential to boost GDP and employment rates. However, for the digital environment to contribute fully to the economy, it is essential to uphold the rule of law, particularly copyright law. Neglecting to provide adequate protection for copyrighted materials online will hinder economic activity, leading to lower returns on investments in creative works. As a result, there will be a decrease in investment in the creation and production of such works, leading to downsizing in the creative industries and potentially deterring new players from entering the market.[375]

Copyright protection plays a crucial role in driving economic activity both online and offline. It serves as a catalyst for innovation and creativity, fueling the generation of new works and advancements in products and services. When creators and inventors have the ability to prevent their works from being used without permission, they are more inclined to produce and share new creations. This assurance of being duly rewarded for their efforts is the cornerstone of copyright and patent laws. However, in the absence of robust copyright protection, many creators choose not to publish their works, and inventors may forgo research and development opportunities. This impact is particularly pronounced among independent creators and small to medium-sized enterprises. [376]

VII.1 Stimulating Innovation and Creativity

The correlation between the protection of intellectual property (IP) and innovation is widely acknowledged. This is especially true in industries that rely on constant innovation, such as the knowledge or information sectors, where the negative effects of piracy are most severe. It is commonly believed that IP protection not only stimulates investment in innovation by offering exclusivity, but also sends a signal to potential investors that there is an environment conducive to long-term commitments in innovative endeavors. Consumers are encouraged to reward companies that have pioneered superior products by showing brand loyalty, resulting in a larger market share. While there is some evidence suggesting that certain industries, such as software, may benefit from weaker IP protection by promoting compatibility and competition, the prevailing belief is that strong IP protection is crucial for innovation and that infringement carries significant economic costs. Industries that heavily rely on IP tend to play a vital role in economic growth and development. Although quantifying their contribution to GDP and

[375] Crews, K. D. (2020). Copyright law for librarians and educators: Creative strategies and practical solutions.
[376] Hugenholtz, P. B., & Quintais, J. P. (2021). Copyright and artificial creation: does EU copyright law protect AI-assisted output?. IIC-International Review of Intellectual Property and Competition Law, 52(9), 1190-1216.

employment is challenging, it is a key factor in determining the economic impact of IP protection. This will be explored further in the following subsection. [377]

VII.2 Job Creation and Economic Growth

Through a meticulous examination of the connection between piracy and economic activity, the LECG study has determined that a mere 10% rise in piracy rates would result in a noteworthy 2.5% decline in economic activity within the copyright sector. Extrapolating this finding to the EU's piracy rate in 2008, it can be concluded that a staggering loss of 186 billion euros and approximately 1.2 million jobs occurred. Additionally, utilizing an econometric model encompassing data from 56 countries, it was revealed that piracy has a substantial impact on the human capital employed in the copyright industries. A heightened piracy rate not only diminishes the production of creative works and subsequently stifles the demand for artists and other members of the creative workforce, but it also diverts the existing workforce away from the copyright industries and towards alternative sectors or higher education due to limited job prospects.[378]

Limited research has been conducted to demonstrate the economic significance of copyright protection in the global economy, despite the substantial role played by copyright industries. The only existing study on this matter was conducted by LECG, an independent economic consulting firm, commissioned by the International Chamber of Commerce's BASCAP division. By utilizing the World Intellectual Property Organization's definition of copyright industries, the study revealed that these industries contributed more than 11% to the overall GDP of the EU. It is noteworthy that this figure is quite remarkable considering that copyright industries only encompass narrowly defined sectors, excluding advertising, software, and non-creative primary products.[379]

VII.3 Cultural Preservation and Diversity

Analyzing copyright economic rights reveals that internet infringement has various implications for the economy. The preceding section explored the negative economic

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[377] Hou, B., Zhang, Y., Hong, J., Shi, X., & Yang, Y. (2023). New knowledge and regional entrepreneurship: the role of intellectual property protection in China. Knowledge Management Research & Practice, 21(3), 471-485.

[378] Martinelli, A., Nuvolari, A., Palagi, E., & Russo, E. (2022). Digitalization, copyright and innovation in the creative industries: an agent-based model.

Danaher, B., Smith, M. D., & Telang, R. (2020). Piracy landscape study: Analysis of existing and emerging research relevant to intellectual property rights (IPR) enforcement of commercial-scale piracy.

[379] Jin, X., Ahmed, Z., Pata, U. K., Kartal, M. T., & Erdogan, S. (2023). Do investments in green energy, energy efficiency, and nuclear energy R&D improve the load capacity factor? An augmented ARDL approach. Geoscience Frontiers

consequences of internet infringements by examining the resulting decrease in welfare and its impact on investment in intellectual property rights (IPR) creation. However, this analysis did not take into account the less tangible economic effects, including how IPRs influence innovation, cultural vitality, and diversity. Although these aspects are more closely related to social theories rather than strictly economic ones, they still have significant potential economic ramifications. This is due to the fact that extensive internet infringements can undermine the very IPRs they seek to infringe. While this theory has its fair share of criticism, it is worth considering the lost opportunities it represents. In cases where a work is culturally rich and protected by strong IPR, the cost of infringing upon it is higher. On the other hand, works with lesser cultural value may have inadequate IPR protection due to the high costs associated with enforcing global standards of infringement. Consequently, the enforcement costs lead to opportunity losses for different types of IPRs, resulting in a further migration of talent away from industries with robust IPRs towards those less affected. For instance, artists and musicians in the US have shifted their focus towards film production due to the music industry's struggles with internet infringements. This migration is driven by the higher opportunity costs associated with IPRs and the cultural value placed on the film industry, making it a more viable option. Nonetheless, this talent migration ultimately leads to a loss of cultural identity for certain countries, such as those in Europe, in comparison to the global uniformity of commercially popular music. Overall, internet infringement has a detrimental impact on welfare, culture, and identity, as it can destroy IPRs and result in irreversible opportunity losses. [380]

VIII. Strategies for Education and Awareness

Copyright education in schools and universities plays a crucial role in promoting understanding and awareness of copyright economic rights. These institutions have a significant presence on the internet, which increases the likelihood of students and faculty members unintentionally engaging in copyright infringement online. However, through proper education, these inadvertent infringements can be reduced. A study conducted on university students in Australia emphasized the importance of providing a clear explanation of what is legal and what is not in terms of copyright on the internet. Many students are uncertain about this issue and would greatly benefit from practical, relevant, and up-to-date information. These findings are particularly relevant in Japan, where the integration of copyright education into IT education is being considered. It is crucial to cultivate an awareness of foreign intellectual property as well,

[380] Samuelson, P., Golden, J. M., & Gergen, M. P. (2020). Recalibrating the Disgorgement Remedy in Intellectual Property Cases. BUL rev

considering the globalized nature of information on the internet. Ignorance or ethnocentric attitudes could lead to infringement of foreign copyrights. This focus on foreign intellectual property should also extend to students in law schools or other institutions with a legal education. In terms of teaching methods, a curriculum based on case studies and precedents may prove effective, and the potential of using the internet as an educational tool should not be overlooked. Assessing the effectiveness of copyright education at universities can pose challenges. However, conducting surveys or interviews with participating students to gauge their attitudes and awareness of copyright can provide valuable insights. At the primary and secondary education level, measuring students' knowledge of copyright law through assessments can be a useful approach. Encouraging students to further their understanding of copyright through additional study and ensuring easy access to copyright-related information for the public are important long-term strategies. Public campaigns and outreach programs utilizing various media formats have proven successful in raising awareness of copyright issues in countries like Singapore, Malaysia, and Thailand. Advertising on television, radio, or the internet, cinema advertising, posters, and placement of anti-piracy information on copyrighted goods are all effective formats. Consumer surveys can be used to measure changes in attitudes or awareness of copyright following these campaigns. The Australasian "IP Aware" campaign serves as a great example of a successful campaign in a developed nation. Collaborating with internet service providers (ISPs) can help expand the reach of such campaigns and ensure a wider audience is reached.[381]

VIII.1 Copyright Education in Schools and Universities

The Australian university system has a strong justification for allocating more resources to copyright education programs for tertiary students, due to the legal requirements in place. A recent change in funding policy for higher education has made universities more financially liable for the actions of their students. As part of the Commonwealth Grant Scheme and the Higher Education Support Act, 2003, universities are now obligated to have strategies in place to prevent the 'illegal' downloading of music and films using their internet connections. Although these changes are not direct copyright infringement laws, universities are now feeling the need to protect themselves legally by ensuring that students possess a solid understanding of copyright law. There have already been instances where universities have been held liable

[381] Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. Technology in Society, 65, 101565.

for the actions of students regarding P2P file sharing and copyright infringement. Therefore, it is crucial for universities to take proactive measures and educate their students on copyright issues, ensuring they comprehend what constitutes infringement and providing them with viable alternatives to engaging in infringement behavior with on-campus internet services.[382]

It is a well acknowledged view that 'winning the hearts and minds' of the younger generation of copyright users who have grown up in the internet age presents the most promising long term strategy for altering current infringement trends. Copyright education in schools and universities is therefore a crucial, albeit long term investment for a better copyright future. There are many different ways that copyright education can be incorporated into the curricula of educational institutions and this section examines some of the options, considering the likely effectiveness of each.[383]

VIII.2 Public Campaigns and Outreach Programs

The cultural information and copyright department in Japan implemented a noteworthy public campaign, utilizing a series of entertaining and memorable television advertisements, with the aim of educating the public about the illegality of downloading copyrighted materials from the internet. Despite the campaign's success in capturing the viewers' attention, an informal investigation uncovered that a minority of viewers wrongly interpreted the ads as endorsing the utilization of file-sharing programs. This serves as a demonstration of the challenge in effectively conveying the intended message to the public and underlines the significance of evaluating the campaign's effectiveness.[384]

The Copyright Awareness Project (CAP) is a recent initiative in New Zealand that aims to educate 14-16 year olds about copyright and promote respect for creators' rights through classroom activities. In the UK, the educational charity CITV has created a series of public information films with the goal of enhancing public understanding of copyright. Both CAP and the CITV campaign recognize that educating the younger generation of consumers and creators is essential in preventing future copyright infringements. By utilizing illustrations from popular

[382] Tomaselli, K. (2022). The 2022 Copyright Amendment Bill: Implications for the South African universities' research economy. Communicare: Journal for Communication Sciences in Southern Africa, 41(2), 14-33.
[383] Mintz, B. (2021). Neoliberalism and the crisis in higher education: The cost of ideology. American Journal of Economics and Sociology.
[384] Fisher, M. (2022). The chaos machine: The inside story of how social media rewired our minds and our world.

culture and contemporary examples, the CITV campaign strives to present the intricacies of copyright in a way that is comprehensible to both children and adults.[385]

Public campaigns and outreach initiatives have proven to be a successful approach for educating and raising awareness among the general population. Due to their broad scope and ability to target different demographic groups, these strategies possess significant potential. The widespread and casual nature of these campaigns often allows for greater public engagement compared to other forms of educational media. However, when addressing the matter of internet copyright infringements, it is crucial for campaigns and outreach programs to customize their message. By emphasizing the moral imperative behind protecting copyrights and illustrating the detrimental effects of infringement on future cultural creations, they can effectively persuade the public. [386]

VIII.3 Collaboration with Internet Service Providers

Therefore, ISPs can be approached to intervene in prevention strategies aimed at reducing copyright infringements within their customer base, mainly due to recent legislative and judicial developments around the world, which have made it an increasingly real possibility that they may be exposed to legal liability for authorizing copyright infringements made by their customers. This topic will be further discussed in section 9.2: Non-Authoritative Strategies. [387]

A recent study into the attitudes and practices of Australian internet users towards online cultural content found that 31% had used P2P services to access music files. 29% used P2P file sharing for movies and 24% for TV shows. This demonstrates that illegal file sharing is a popular activity in Australia and, as a predictable consequence, will continue to be a concern for the copyright industry.[388] (Ayyar, 2023)

It is possible that the most effective strategy in combating online copyright infringement would be to mobilise the cooperation of ISPs, particularly in the context of P2P file sharing. This is mainly because P2P file sharing is a more distributed activity than alternative means of downloading, such as cyber lockers or direct downloads, making it highly reliant on regular

[385] Vartiainen, H. & Tedre, M. (2023). Using artificial intelligence in craft education: crafting with text-to-image generative models. Digital Creativity.
[386] Tsai, L. L., Morse, B. S., & Blair, R. A. (2020). Building credibility and cooperation in low-trust settings: persuasion and source accountability in Liberia during the 2014–2015 Ebola crisis. Comparative Political Studies.
[387] Nguyen, B. T., Le Hong, L., Khuc, T. P. A., & Nguyen, H. Q. (2021). Liability of Internet Service Providers for Online Copyright Infringement: International Experience and Recommendations for Vietnam. VNU Journal of Science: Legal Studies, 37(2).
[388] Ayyar, R. V. V. (2023). New Technologies Unleash Creative Destruction. The WIPO Internet Treaties at 25: A Retrospective

internet access. ISPs, as a result, are critical control points in the prevention of copyright infringement through this method.[389]

IX. Conclusion

This research has shown that the UK measures to protect copyright economic rights on the internet are not fully meeting the obligations imposed by Article 8 of the WIPO Copyright Treaty. In order to try and combat the continuing infringement of copyright economic rights on the internet, UK copyright law has had to develop and adapt. Although technological evolution has made it increasingly difficult to enforce copyright laws, it is felt by many that the UK legal and regulatory system has failed to maintain a balance between rights owners and the public interest. This research has illustrated this point showing that the flexible legislative framework which has been developed to facilitate electronic commerce in the UK has not been used as a tool to promote consumer welfare, rather it has been used to complicate the process of enforcing copyright (as illustrated by the lack of any direct legislation to deal with a copyright infringement crime) which has in turn led to a decrease in revenues for rights owners. This has been exacerbated by the statement from the UK Government that there are no plans to implement the 2001 EU Copyright Directive. A striking example of this is in the lessening of control rights owners have in the distribution of their work due to the emergence of P2P technologies (as seen in the Aimster case). The law which has been developed is not specific and in many cases insufficient to regulate activities which fall under copyright infringement such as linking or framing. Rights owners have been forced to develop 'technological self-help' measures in an attempt to protect the distribution of their work. This research recommends that it is far more effective and efficient for UK law to be enforced at a national level to develop legislation which is clear and specific to regulate copyright infringements on the internet. This would serve to increase the level of legal certainty with regards to what constitutes an act of copyright infringement, thereby allowing for more effective enforcement of copyright laws and more protection from rights owners. A good example of this is the US law to regulate copy protection measures mentioned earlier in this paper. Considering that many copyright infringement issues today have international implications, UK law should aim to avoid conflict with foreign laws and decisions which tend to arise from the flexibility of the current legislative framework. This would serve to reduce domestic litigation and as Donaldson states, domestic

[389] Nguyen, B. T., Le Hong, L., Khuc, T. P. A., & Nguyen, H. Q. (2021). Liability of Internet Service Providers for Online Copyright Infringement: International Experience and Recommendations for Vietnam. VNU Journal of Science: Legal Studies, 37(2).

law and regulation will never be more than a reflection of what happens elsewhere. Article 9.1 of the TRIP Agreement imposes an obligation on member states to seek to provide a system of enforcement of rights which is expeditious and not pretrative. This shift in policy to avoid regulation which is ahead of its time may best be achieved by waiting for technological and market developments to provide indicative signals as to what regulation are necessary and most effective in the interest of rights owners and consumer welfare.

The most recurrent findings in respect to the economic consequences of internet infringements are that piracy has a negative impact on the sale of music and on musicians' revenues, although there is a lot of variation across studies. Similarly, while a few studies have found that legal streaming has had a positive impact on recorded music sales, the vast majority of results have been inconclusive or negative. With respect to revenues from live performances, nearly all the findings are inconclusive, although musicians generally believe that it has become harder to make money from live performances. This suggests that the impact of internet infringement and digital distribution has an indirect effect in reducing musicians' overall incentive to create music. Whether or not this has an impact on the volume and quality of music being created is difficult to measure, but it is a potential concern for music consumers and policymakers. Finally, the effects on the music retail industry were consistently negative, with findings that parallel import laws exacerbated the impact in Australia. This suggests that the music retail industry should not expect any recovery in lost sales from digital music and prepare for future with lower sales volumes.

The findings in the other creative industries were even less conclusive. Many studies on the impact of piracy on movie revenues were inconclusive, although the direction of the most of the point estimates was negative. A single positive impact of piracy was found with regards to the effect of file sharing on the demand for DVDs, although this did not translate to an increase in overall industry revenues. Effects on the cinema industry were most negative in the short term, but some newer studies have found that increased broadband internet connections have actually increased the overall cinema audiences, although this is likely due to the substitution towards viewing more expensive films. The longer-term effect of digital distribution methods on the cinema industry is yet to be seen.

Further research related to infringements is very much needed. There is still much to learn about the exact way in which infringers are abusing copyright material on the internet. We have seen earlier that the problem of music piracy is very widespread, however there are many other forms of copyright material on the internet and we cannot assume that the same patterns of behaviour are evident for each. Different types of material may require different methods of

protection depending on the attitude of the legal consumer and the nature of the infringers. To protect against classic piracy it is highly effective to sue the companies producing the imitations, however suing fans of a band for downloading their music is quite obviously not an effective way of encouraging them to continue supporting the band through legal means. Pricing competition between legal and illegal methods of accessing copyright material is another issue which may affect the level of infringements but we have only considered a very basic model in this essay consisting of two types of consumers. Digital technology has outpaced legal regulation and a debate is needed to decide a suitable level of copyright protection which reflects the interests of rights holders and the costs on consumers of being unable to access copyright material. Finally, study is needed into the way in which the costs and benefits of infringements weigh against each other. In this essay we are presuming a near zero marginal cost for the reproduction of copyright material, however this is not true if we consider the time and effort taken to download the material or the costs involved with setting up an illegal file sharing network. An understanding of these types of issues in the behaviour of infringers will be crucial for future policy decisions.

Sanna Ibrahim Merie[390*]: Examining the Features and Characteristics of Electronic International Sales Contracts: A Comprehensive Analysis

Abstract

This article explores the significance and evolution of sales contracts, particularly at the international level, in the context of technological advancements and the emergence of electronic commerce (e-commerce). Sales contracts form the basis of economic relations, impacting individuals and societies worldwide. With the shift towards electronic means of contracting, the landscape of legal transactions has been redefined, presenting both opportunities and challenges. The article delves into defining international sales contracts and electronic contracts, emphasizing their commonalities and unique characteristics. It explores the impact of e-commerce on international trade, discussing the challenges posed by legal and technical disparities among countries. Key concepts such as electronic documents, electronic signatures, and the legal frameworks governing electronic commerce are examined in depth.
Also efforts towards international regulation of e-commerce, including initiatives by organizations like UNCITRAL will be dicussed. These endeavors aim to establish unified legal rules to facilitate cross-border transactions and address legal complexities inherent in global e-commerce.

Keywords: sales contracts, electronic commerce, international trade, uncitral

Introduction

The sales contract is one of the most widespread and widely traded contracts, as any person concludes a large number of sales contracts on a daily basis, which gives these contracts a significant impact on the lives of individuals and in the economic relations between societies. On the legal level, it can be said that the sales contract is the legal means for establishing obligations and transactions, whether At the internal or international level.

If the sales contract has great importance at the internal level, its role increases at the international level, as it is the backbone of trade, which may be internal or international, between two or more countries.

Technological development has greatly contributed to changing the form of relationships and legal transactions between individuals. Contracts are no longer limited to the traditional form when they are concluded, but rather they are concluded by technological means such as an electronic sales contract, especially in the commercial field, whether inside or outside the country.

The Internet has achieved the actual existence of electronic commerce, and in view of the eternal interaction between law and reality, it has had its effect in various branches of law,

[390]PhD student, University of Miskolc, Deák Ferenc Doctoral School, Institute of European and International Law.

causing many unprecedented problems with regard to settling disputes resulting from various contracts concluded in this field, due to the absence of a special law or legislation regulating such contracts considering that the conflict of laws rules are insufficient to confront the legislative vacuum and the difficulties of applying their spatial controls to contracts that originally take place in an intangible space. The issue of legislating a law on electronic commerce contracts in all their fields remains among the priorities or imperatives that must be undertaken.

There were many international efforts to regulate this new situation. Previous efforts, after World War II, in the field of international trade with the increasing development of economic activities and their inclusion of all sectors, whether service or commercial, trade relations between countries flourished, and there became a large number of contracts concluded between countries of the world. The problems of international trade became more complicated, and the international community found itself, represented by commercial bodies and international organizations, facing an urgent need for a unified law to regulate these matters. Contracts the road was difficult due to the difference in internal laws in each country in dealing with international trade contracts. The international community directed its effort to reach a unified law that governs trade relations between different countries despite the differences in their economic and legal systems, either by unifying the rules of attribution or by unifying the rules, but after the emergence of electronic commerce and the complexity of its problems, the need for Modern legislation arised.

There are economic activities that take place between commercial suppliers and consumers, and are regulated by special legal provisions and certain e-commerce agreements. There are also economic activities that take place between commercial entities and are regulated by some international agreements and laws, in addition to commercial activities between countries regulated by the World Trade Organization. There are some activities that are excluded from the scope of international trade.

I. Definition of international sales contract

The new French Civil Code of 2016 is defined in Article 1101 of it as (a contract is an agreement of wills between two or more persons aiming to create, transfer, or terminate obligations).

The new French Civil Code also defined the contract of sale in Article 1582 as: a contract under which one party commits to delivering something in exchange for the other party's commitment to pay the price.

An international contract is defined as: a non-internal contract that regulates the relations of individuals at the international level. It derives its international character from the nature of the relationship it governs and usually takes the form of general conditions or a model contract[391].

The task of defining the international sales contract was the focus of attention of legal scholars who tried to find many definitions for it, including:

Sale is a contract whereby the seller undertakes to transfer ownership of the item sold to the buyer in exchange for the price that the buyer is obligated to pay, and one of its elements is a foreigner[392].

In reality, it means the sale of any tangible thing for a price on an international scale, or it is the sale related to material movables on which international trade is based[393].

An electronic contract: It is an agreement that is concluded and can be negotiated and implemented completely electronically via the Internet. Also, the parties to the electronic contract often interact with each other within a digital environment, without meeting in person.

In other words, we can define an electronic contract as an ordinary contract that acquires an electronic character as a result of its conclusion via the Internet or an electronic means. It is the completion of various transactions through the use of electronic means, which are represented by an electrical, magnetic, electromagnetic, optical, or optical means. Or digital, or any means suitable for exchanging information between parties to an electronic contract[394].

By analyzing the previous definitions of the traditional international and internal sales contract and the electronic international and internal sales contract, we find that the focus of the sales contract, whether internal or international, is a commitment to transfer ownership in exchange for the price.

As for the contracting parties, we always see that they may be private or public persons under national law, and they may be international bodies such as international organizations and multinational companies.

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[391] Abdul- Aziz Ahmad, Wafaa Falhoot, 2013-2014: international contracts, Damascus university publications, Damascus, P.22.

[392] Bilal Saadi, 2020: contract for the international sale of goods, Mohammad kheder university, Algeria, P.6.

[393] Hassiba Bakakria, 2013: International commercial contracts, Abulrahman Mira University, Algeria, P.27.

[394]https://www.sahalfirm.com/blog/%D9%85%D8%A7%D9%87%D9%88%D8%A7%D9%84%D8%B9%D9%82%D8%AF%D8%A7%D9%84%D8%A7%D9%84%D9%83%D8%AA%D8%B1%D9%88%D9%86%D9%8A (20-05-2024)

II. Definition of e commerce

E-commerce is defined as the activities related to the exchange of goods and services that are practiced using the Internet. It can be said that it is a type of buying and selling operations between consumers and producers and between companies with each other using information and communication technology. It is therefore a commercial process tool between partners and merchants using advanced technology that ensures increased efficiency and effectiveness of performance[395].

The European Directive was issued on May 20, 1997, defining electronic commerce in Article 99 of it as a distance sales contract using one or more technical means of remote communication with the aim of completing the contract.

E-commerce customers can make purchases from their computers as well as other touchpoints, including smartphones, smartwatches and digital assistants, such as Amazon's Echo devices. E-commerce is thriving in both business-to-consumer (B2C) and business-to-business (B2B) sectors. In the business-to-consumer e-commerce model, a retailer or other business sells directly to end customers. In business-to-business (B2B) e-commerce, one company sells to another. In both sectors, the goal of most companies is to enable customers to buy anything they want, anytime, from anywhere, using any digital device.

III. Common Characteristics of Electronic International Sales Contracts and traditional contracts

The electronic international sales contract shares the following characteristics with the traditional international sales contract:

a- Both are contracts that are binding on both sides, as they arrange obligations for both the seller and the buyer, as the seller is obligated to transfer the buyer's ownership of the item sold, and the buyer is obligated to pay a cash price for that, so each contracting party is a creditor and a debtor at the same time[396].

b- Both are a contract of compensation. Each party is committed to the other party with certain obligations, and these obligations correspond to each other[397]

[395]Samira almir, 2018:international Commercial contract. In: journal of law and political science, issue7, p171-185.

[396]Abdul razzak Alsanhouri: Alwaseet to explain civil law 4, Dar ehyaa al turath al arabi, Beirout, P.21.

[397]Ramadan Abo-Alsoud, 2000: Explanation of the contracts named in the sales and barter contracts, Dar almatbouat aljameya, Egypt P.13.

c- Both are consensual contracts, the electronic international sales contract, just as the traditional international sales contract is made by mutual consent of its parties, and the offer is coupled with acceptance. It is not subject to any formal procedures, and with regard to its stability, it is proven by all methods of proof[398].

d- Both of them enjoy the advantage of the power of will, as the contract is drawn up to be the only law to which the contracting parties are subject, and it is independent of the law of any country, so the contractual bond is subject to the will of the parties without any provisions. The parties have the right to choose the law that governs their contract. They also have the right to choose to apply model rules, commercial customs, or Choose to apply the law of a specific country.[399]

e- In both of them, the ability of the parties appears due to dividing the contract into more than one legal system, so the parties choose more than one law to govern the different parts of the contract. It is possible to choose a specific law to govern one aspect of the contract and choose another law to govern disputes related to the other side of the contract, so that each part of the contract is concerned By a certain law[400].

IV. Characteristics of the electronic international trade contract

a. Firstly, it is one of the contracts that are concluded at a distance. The traditional contract between a present person requires the presence of two parties to be concluded in order to agree on the details, but the electronic contract does not include a contract council in the traditional sense, so it is concluded without the physical presence of the two parties at the moment of coupling the offer with acceptance, as it is done through modern means of communication such as the Internet and others.

b. Secondly, it is a contract that is dominated by a commercial and international character. The electronic contract is characterized by a global character because it puts the majority of countries in the world in a state of permanent and continuous communication that brings together the contracting parties. It is also characterized by a commercial character because all commercial transactions take place between a merchant and a consumer using modern means of communication.

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[398] Houssam aldeen Abdulghani Alsaghir, 2001: Interpretation of the United Nations Convention on Contracts for the International Sale of Goods, Dar alnahda alarabia, Egypt, P19.

[399] Ibtisam Sultani, 2018: The legal system of the contract for the international sale of goods, Umbuagi University, Algeria, P.23.

[400] Abdulamhdi Nasser, Elham Fahem Nghaish Hasan, 2017: Segmentation of international contract, IAlquadisia University, Iraq. p.3.

c. Thirdly, it is a contract of adhesion, as modern French jurisprudence considers that some electronic contracts are applications of adhesion contracts because they appear in the form of model contracts on the seller's website, as these model contracts include the details of the contract and address similar and binding conditions to the public, and they are also not subject to discussion and amendment[401].

d. Fourth, in terms of loyalty, electronic payment methods in electronic contracting have replaced regular money. With the development of technology and the increase in dealing with the electronic commerce method, these methods have emerged as a modern innovative method for making payments in such a transaction.

e. Fifth, In terms of proof of paper support, it embodies the existence of the material for the traditional contract, and writing is not considered complete evidence of breaking the fast unless it is signed by manual signature. As for the electronic contract, it is proven through the electronic document and the electronic signature. The electronic document crystallizes the rights of the two parties to the contract and is the reference for determining what the parties agreed upon and determining their legal obligations. The electronic signature is what gives the document authenticity.

f. Sixth, In terms of implementation, the electronic contract is distinguished from the traditional contract because it is concluded and implemented via the Internet without the need for any external physical presence. Thanks to the Internet, some products can be delivered electronically, such as products for computer programs or audio recordings. We also see this in the field of services, where airline reservation cards can be delivered. Electronic hotel reservation invoices.

g. Seventh, the electronic contract is characterized by being a contract associated with the right to withdraw. It is established, according to the general rules and in accordance with the binding forces of the contract, that none of the parties to the contract can withdraw from it. Whenever the offer is coupled with acceptance, the contract is concluded, but here the buyer has the right to withdraw due to his inability to inspect the commodity[402].

[401] Amani Rahim Ahmad, 2006: Mutual agreement in electronic contracts via the Internet, dar wael for Distribution and publishing, Egypt, p82.

[402] Ban Seif aldin Mahmoud, 2020: Electronic contract and means of verification, Journal of university of Babylon for humanities, issue 7 vol 27, p1-19.

V. Conclusion of an electronic contract

In order for an electronic contract to be concluded, the following elements must meet[403]:

To offer: A specific offer by one party to another to perform some service or pay for some good.

Acceptance: Acceptance by the other party by agreeing to the terms of the offer.

Promise: A promise to perform the action that has been accepted, such as payment for certain goods.

Consideration: something of value that one party gives to the other party in exchange for goods or services.

Eligibility: It is the extent to which the signatories understand the dimensions of the conditions agreed upon or not.

Legality: The issue of the contract itself is legal.

VI. Means of proving electronic contracts

Success in the field of electronic commerce requires the development of existing legislation, the texts of which were formulated on the basis of the use of papers in writing contracts, in addition to the necessity of signing these contracts by the contractors. Therefore, legal controls must be put in place so that we can create the appropriate climate for the growth of international electronic commerce and remove the legal difficulties that it faces as long as Electronic transactions mainly depend on means of communication and computers, so countries were interested in developing a legal regulation for these transactions, but the United Nations Committee for Electronic Commerce Law adopted an Austral draft model law on electronic commerce in 1996 - we will talk about it later in this research - and recommended that countries take this into account when developing legislation. The national organization uses alternatives to paper forms of communication with digital alternatives to store information, and since the contract is based on exchanging data electronically on non-paper supports inside or outside communication devices, in addition to signing them with an electronic signature, we will now look into the concept of, firstly, electronic documents, and secondly, electronic signatures.

a- Electronic documents mean this is a specific type of support, whether it is paper or otherwise. The document is everything that is based on and relied upon. After proof was

[403] Samira almir, 2018:international Commercial contract. In: journal of law and political science,issue7, p171-185.

limited only to the paper document, the data and documents became electronic records, and thus the idea of the editor is no longer limited to its concept of the prevailing traditional law, but rather Also, regarding the electronic editor alike, this requires the jurist to change his view of the editor in its traditional sense, and it is noted that this change will not only be legal but also psychological[404].

In order for an electronic document to be provable, it must be written, as writing is the primary means of proof for any contract. Writing here is electronic and can store data and retrieve it again. It is required that this writing be recorded on an electronic medium that allows it to be preserved so that it can be referred to in times of need, because the value of writing is in It must be stable and not damaged. If it breaks, it loses its value in preserving rights. The electronic document must also be able to be kept just like a regular written document.

b- The electronic signature was defined by uncitral in 1996 as a set of numbers representing a signature on a specific message. This signature is achieved through mathematical procedures associated with a digital key for the sender and by pressing these private numbers for users of the information network. This signature has several forms, including the digital signature, the signature with the electronic pen, and the electronic fingerprint. Or write the email in the name of the sender or transfer the signature with a scanner.

The draft model law for electronic commerce through the uncitral was concerned with addressing the issue of the electronic signature and the extent of its freedom of proof in the international commercial field. This law required the use of the electronic signature in commercial transactions according to the text of its first article.

While Article 6 of this law stipulates that in order for an electronic signature to be authentic, it must have the following qualities:

- First, the signature creation data must be linked to the site and not to anyone else.
- Secondly, the signature creation data must be subject to the control of the signatory at the time of signing and not to anyone else
- Thirdly, there is the possibility of discovering any change in the electronic signature that occurs after the signature occurs
- Fourth, there must be the possibility of discovering any change made in the sent information to which the electronic signature relates, especially if the change in the information occurred after the signature occurred.

[404] Mohammad Hussam Lutfi, 2009: legal frame for international commerce, Egypt.

The European approach will inspire the direction of regulating evidence for the electronic signature from the draft unified law for electronic commerce. The European approach defines the electronic signature in Article 2 of it as the signature occurring in a digital form that is integrated, attached, or logically linked to other electronic data used as a means of authentication. The electronic signature must be subject to the following condition:

- First, the electronic signature must be linked to the personality of the signatory alone.
- Secondly, it allows the identity of the site alone to be identified
- Thirdly, it must have found means that enable the site to keep it under its exclusive control.
- Fourth, the signature must be linked to the data it uploads to in a way that allows it to detect every modification made to it.

It also stipulates in its third article that member states are obligated to issue laws that permit the establishment of private bodies under state control whose mission is to issue certificates confirming that electronic signatures meet the conditions required to grant confidence in the electronic signature so that it does not become subject to change or alteration.

VII. Challenges facing e-commerce[405]

First, the difference in international legislation. International e-commerce may face challenges as a result of the difference in legislation between the participating countries, and this causes difficulty in following the different legal systems.

Secondly, electronic crimes. International electronic commerce faces challenges from electronic crimes such as data breaches and electronic fraud. This requires legal measures and international cooperation to combat these crimes.

Third, problems related to intellectual property. One of the most prominent problems facing international e-commerce is cases of forgery, imitation, and violation of intellectual property rights, where individuals and illegal entities sell counterfeit and counterfeit products without permission from the trademark owner, in addition to violating copyright and trademark rights.

Fourth, technical problems: There are technical challenges facing the electronic direction, including the difficulty of tracking and monitoring violations on the Internet. It is difficult

[405] https://www.3awn.online/2023/06/e-commerce.html (06-05-2024).

to identify illegal sources and pursue them, and this enhances the phenomenon of digital piracy and violation of intellectual property rights on the Internet.

Fifth, Technological Challenges Technology has developed at a tremendous speed and new challenges have emerged to protect intellectual property rights, such as tampering with digital data and the ability to replicate and distribute products easily.

VIII. Legal compatibility between countries participating in international electronic commerce and the challenges it faces

Legal compatibility in international e-commerce refers to the existence of a common legal framework and legislation between participating countries. In order to achieve this, countries must develop laws and legislation that regulate international e-commerce transactions and protect the rights and interests of the participating parties.

Legal compatibility may face many challenges due to differences in legislation between countries and the complexities of problems related to intellectual property protection and consumer protection in e-commerce. But consensus can be achieved by signing international agreements.

The challenges of legal compatibility between countries in international e-commerce are diverse and include several legal and technical aspects, and among these challenges are[406]

Variation in national legislation: Legislation and laws related to electronic commerce may differ between countries, which makes the process of legal compatibility and its application on an international scale difficult, and the procedures required to create electronic contracts and document electronic transactions may differ in each country.

Intellectual Property Protection: Countries may have difficulty achieving consensus regarding the protection of intellectual property rights in e-commerce. There may be differences in the extent of protection of intellectual property rights and in the procedures used to preserve those rights between countries.

Privacy and security: Ensuring privacy and security in electronic commerce is a major challenge that countries may face in implementing appropriate policies and taking the necessary measures to protect personal information and electronic transactions from hacking, data theft, and manipulation.

Technical compatibility: International e-commerce requires the use of advanced technology and common standards and protocols. Reaching technical compatibility

[406] https://www.3awn.online/2023/06/e-commerce.html (06-05-2024).

between countries may be difficult due to differences in the technologies used and the standards adopted.

Dispute resolution: Legal disputes may arise in international e-commerce between participating parties, and there must be an effective mechanism to resolve these disputes in fair and effective ways.

To address these challenges, countries must work to exchange information and cooperate to develop and adopt unified laws and procedures regarding international e-commerce. Communication must also be strengthened between international institutions and the private sector to achieve the necessary legal consensus to enhance trust and facilitate cross-border e-commerce.

IX. International regulation of electronic commerce

a- international Chamber of Commerce (ICC) The International Chamber of Commerce is a specialized international organization that aims to establish unified legal rules in the fields of commercial work through what are known as the Chamber's bulletins. It focuses on unifying the rules related to legal activities existing across borders and between countries. It has another sector of activity and work, which is carrying out international commercial dispute resolution activities. Through arbitration, the organization's arbitration chamber or court includes 63 countries in its membership, and the chamber also includes in its membership more than 7,000 members from companies and organizations from more than 130 countries.

In the field of electronic commerce, the Chamber played a leading and pioneering role in the aforementioned Organization for Economic Cooperation and Development conference, by providing guidelines, models of laws and research studies that had the largest role in deepening the research issues at the conference and the largest role in formulating its results and recommendations. The e-commerce guide issued by the Chamber is one of the most important comprehensive guides that provides effective assistance in the field of legislative and regulatory activities necessary for e-commerce. This guide has been strengthened by the issuance of many more specialized guides that complement it, such as the guide on advertising activities on the Internet[407].

[407] http://modernelectronicmarketing.blogspot.com/p/blog-page_9098.html (07-05-2024).

b- UNCITRAL is the United Nations International Trade Law Committee, and its membership includes the majority of the world's countries representing the various major legal systems. Its main purpose is to achieve harmony and harmonization between the legal rules governing electronic commerce and to achieve the unity of the rules used nationally in dealing with global trade issues. UNCITRAL has achieved many achievements. In this field, the most prominent of which is the conclusion of a number of international agreements, the most famous of which is the Vienna Convention on International Sales of 1980, the agreements on international commercial arbitration, and others.

The first international agreement on electronic commerce is the UNCITRAL Model Law on Electronic Commerce (1996). It aims to enable the conduct of commerce using electronic means and facilitate those commercial activities by providing national legislators with an internationally accepted set of rules aimed at overcoming legal obstacles and enhancing the ability to predict legal developments in the field of e-commerce. The purpose of trade law specifically is to overcome obstacles arising from legal provisions that may not be contractually diverse by treating paper and electronic information equally. In addition, it is the first legislative text to adopt the basic principles of non-discrimination, technological neutrality, and functional parity, which many see as the foundations of modern e-commerce law. The principle of non-discrimination ensures that the legal effect, validity or enforceability of any document shall not be denied merely because it is in electronic form. The principle of technological neutrality requires the adoption of neutral provisions regarding the technology used. In light of rapid technological progress, neutral rules aim to accommodate future developments without undertaking additional legislative work. The principle of functional equivalence sets standards according to which electronic communications can be considered equivalent to paper communications. In particular, the principle sets out the specific requirements that electronic communications must meet in order to achieve the same purposes and functions as certain concepts of a traditional paper system – such as "written", "original", "signed" and "recorded" documents.

UNCITRAL has prepared a set of legislative texts to enable and facilitate the use of electronic means in conducting commercial activities, and these texts have been adopted in more than 100 countries. The most widely enacted of these provisions is the UNCITRAL Model Law on Electronic Commerce (E-Commerce Law) (1996), which establishes rules ensuring equal treatment between electronic and paper-based information, and legal recognition of electronic transactions and operations, based on the basic principles of non-

discrimination against the use of electronic means. Functional parity and technological neutrality As for the positives of this law, they can be summarized as follows[408]:

First: The United Nations draft law on electronic commerce may be taken into account as one of the examples of international cooperation in developing a common international legal framework, with the aim of working to regulate electronic commerce in a way that helps countries adopt this law and be guided by it in developing national laws related to electronic commerce and allows countries to be informed. On the international vision that must be proportionate to the interests of countries.

Second: The United Nations Model Law sets specific rules regarding electronic commerce and electronic signature, as this project aims to prove the authenticity of documents used in electronic commerce transactions from an international legal perspective, which helps in working to give a clear opportunity to realize the importance of these documents in the absence of legislation. National and regional requirements in the process of legalizing electronic commerce.

It is noted that from the text of the draft United Nations law, it applies to any type of information in the form of a data message used in the context of commercial activities, and the draft clarified that what is meant by activities is broadly interpreted to include issues arising from all relationships of a commercial nature, whether contractual or not. The relationships of a commercial nature mentioned in the law include, for example, the commercial transaction for the supply of goods, goods and services, commercial representation, granting licenses, etc..

Whatever the case, we see that the UNCITRAL law is an important step towards international cooperation between countries in establishing an international agreement (street agreement) that is one of the sources of international law and working to establish international legislation that regulates electronic commerce. The UNCITRAL committee came to draft the electronic commerce law. Based on the realization of its importance, as it differs from others in its need for global unified rules, it is recognized as a pioneer in this field, in order to unify the legal rules that regulate electronic commerce.

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[408]https://uomosul.edu.iq/regionalstudiescenter/%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85-%D8%A7%D9%84%D8%AF%D9%88%D9%84%D9%8A-%D9%84%D9%84%D8%AA%D8%AC%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A7%D9%84%D9%83%D8%AA%D8%B1%D9%88%D9%86%D9%8A%D8%A9%D8%AF/#:~:text=%D8%A3%D9%88%D9%84%D8%A7%3A%20%D8%A5%D9%86%20%D9%85%D8%B4%D8%B1%D9%88%D8%B9%20%D9%82%D8%A7%D9%86%D9%88%D9%86%20%D8%A7%D9%84%D8%A3%D9%85%D9%85,%D9%84%D8%A7%D8%B7%D9%84%D8%A7%D8%B9%20%D8%A7%D9%84%D8%AF%D9%88%D9%84%20%D8%B9%D9%84%D9%89%20%D8%A7%D9%84%D8%B1%D8%A4%D9%8A%D8%A9%20%D8%A7%D9%84%D8%AF%D9%88%D9%84%D9%8A%D8%A9 (15-05-2024).

The United Nations Convention on the Use of Electronic Communications in International Contracts (New York, 2005) builds on previous UNCITRAL texts to constitute the first treaty ensuring legal certainty for electronic contracting in international trade. The UNCITRAL Model Law on Electronic Transferable Records (2017) applies the same principles to enable and facilitate the use of electronic forms of transferable documents and instruments, such as bills of lading, bills of lading, cheques, promissory notes and warehouse receipts[409]

In 2019, UNCITRAL agreed to publish observations on key issues related to cloud computing contracts, and in 2022 it adopted the UNCITRAL Model Law on the Cross-Border Use, Trust and Recognition of Identity Management, Trust and Recognition Services, which provides the first globally agreed uniform legal framework for the identification of natural and legal persons. over the Internet, as well as to provide guarantees on the quality of data in electronic forms, including across borders.In line with the Commission's central and coordinating role within the United Nations system in addressing legal issues related to the digital economy, UNCITRAL continues its efforts to legally enable emerging technologies and their commercial applications, including in relation to its other areas of work such as dispute settlement, security interests, insolvency and international transport of goods. In 2022, UNCITRAL agreed to publish a classification of legal issues related to the digital economy, which records the exploratory work undertaken by the UNCITRAL secretariat on the topics of artificial intelligence, data, electronic platforms, digital assets and decentralized systems, and aims to guide proposals for future legislative work on electronic commerce (digital commerce).) and in other fields of work[410].

The Electronic Communications Agreement aims to facilitate the use of electronic communications in international trade by ensuring that contracts concluded and other communications exchanged electronically are as valid and enforceable as traditional paper contracts and communications. Some formal requirements contained in widely adopted international trade law treaties, such as the Convention on the Recognition and Enforcement of Foreign Arbitral Awards ("New York Convention") and the United Nations Convention on Contracts for the International Sale of Goods ("CISG") that we referred to in our previous research, may pose obstacles. Prevents the widespread use of electronic

[409] https://uncitral.un.org/ar/texts/ecommerce (08-05-2024)
[410] https://uncitral.un.org/ar/texts/ecommerce (08-05-2024)

communications. The Electronic Communications Agreement is an enabling treaty whose effect is to overcome those official obstacles by achieving parity between the electronic and written forms of communications. In addition, this agreement achieves additional purposes by making the use of electronic communications in international trade easier. Therefore, the intent of the Convention is to promote the harmonization of rules relating to electronic commerce and promote uniformity in the enactment of UNCITRAL model laws at the national level regarding electronic commerce, as well as to update and complement some provisions of those model laws in the light of recent practices. Finally, the Convention may provide countries that have not yet adopted provisions on electronic commerce with modern, uniform and well-crafted legislation. The Electronic Communications Convention builds on instruments previously developed by the Commission, in particular the UNCITRAL Model Law on Electronic Commerce and the UNCITRAL Model Law on Electronic Signatures. Many believe that these instruments have standard legislative texts that define the three basic principles of e-commerce legislation included in the agreement, namely non-discrimination, technological neutrality, and functional equality[411].

c- **the Council of Europe** The distinctive role played by the European Union and the Council of Europe in formulating unified rules for European countries appears mainly in the field of trade and economic legislation. This role is distinguished by the fact that it is exercised based on extensive studies by distinguished experts. All countries, individually and within Europe's regional activity, have launched strategies and plans regarding trade. Electronic commerce is a prelude to the issuance of appropriate legal legislation. European countries stem from the need for many previous legislations on electronic commerce to cover issues related to information security and flow, privacy protection, and the use of computers and networks. The majority of European countries have enacted private data protection laws, and laws regulating the transfer of information internally and across Boundaries and rules of conflict of jurisdiction in the field of technical activities, rules for protecting intellectual property in a high-tech environment, and rules for regulating electronic payment across networks. Perhaps European countries intersect with the unified legal model for electronic commerce established by UNCITRAL, and the European experience represents a distinctive model for study in terms of benefiting from in-depth studies that It precedes and accompanies the adoption of any law.

[411] https://uncitral.un.org/ar/texts/ecommerce/conventions/electronic_communications (08-05-2024)

The European experience is characterized by the development of indicative legislative evidence by European Union bodies that address the challenges that appear in the European reality and seeks to unify the solutions and measures taken by European countries.[412]

IX.Conclusion

E-commerce represents a transformative advancement in the exchange of goods and services, leveraging the Internet to facilitate transactions between consumers, producers, and businesses globally. It enhances efficiency and effectiveness in commercial processes, thriving in both B2C and B2B sectors. Defined by activities occurring through digital devices like computers, smartphones, and smart assistants, e-commerce is governed by directives such as the European Directive of 1997, which classifies it as a distance sales contract. Both electronic and traditional international sales contracts share binding, compensatory, and consensual nature, governed by the autonomy of the parties involved and multiple legal systems. Electronic international trade contracts, however, are unique in being concluded without the physical presence of parties, characterized by global reach and standardized adhesion contracts with modern electronic payment methods. They are implemented entirely online, allowing for digital delivery of products and services, and provide buyers the right to withdraw due to the inability to inspect goods physically.

Concluding an electronic contract requires a clear offer, acceptance, promise, consideration, eligibility, and legality. Yet, e-commerce faces significant challenges such as disparities in international legislation, electronic crimes, intellectual property issues, technical problems, and the rapid evolution of technology posing new threats to IP protection. Legal compatibility among countries engaged in international e-commerce is essential yet difficult due to these variations, highlighting the need for unified laws and frameworks to protect participants' rights and interests.

Organizations like the International Chamber of Commerce (ICC) and UNCITRAL play crucial roles in this endeavour, providing guidelines, model laws, and working towards harmonizing legal rules. Their efforts are vital in addressing the complex legal, technical, and security challenges, ensuring sustainable growth and fostering trust among global participants. Through international cooperation and legal development, e-commerce can continue to evolve, offering unprecedented convenience and opportunities in the digital age.

[412] http://modernelectronicmarketing.blogspot.com/p/blog-page_9098.html (20-05-2024)

Zahra Delshad: Iran's Sustainable Environmental Policies and Climate Change Initiatives

Abstract:

Environmental rights are an emerging issue, and undoubtedly, environmental protection is a global necessity and benefit. It outlines a path that extends from collaboration in environmental protection to collaboration in other areas related to international peace and security. The right to a healthy environment is considered one of the fundamental rights of individuals, and its preservation is a collective responsibility. These rights necessitate the formulation and public identification, as they are not exclusive and have evolved alongside the progress of the international community, enriching the content diversity of these generations. Iran's Constitution contains principles directly and indirectly related to environmental protection, for example, Article 50. Governments are urged to prevent environmental destruction through the conclusion of bilateral, multilateral, or universal treaties at the international level. One of the fundamental human rights is the right to a healthy environment, and governments are encouraged to bring about its realization by entering into international agreements. These principles entail unilateral commitments for the benefit of humanity, not subject to dominance by any particular authority. This study covers fundamental principles of environmental law, including sustainability, prevention, and accountability, with a focus on the evolving role of various actors in environmental governance. The article delves into Iran's domestic environmental laws, emphasizing constitutional and programmatic commitments to environmental preservation and pollution prevention. The conclusion underscores the importance of enforcing existing environmental laws, fostering public awareness, and addressing challenges in implementation. Despite a comprehensive regulatory framework, the article recognizes the need for enhanced enforcement, public engagement, and sustained commitment to sustainable development.

Keywords: Environmental rights, Sustainable development, Environmental law, Pollution prevention,

I. Introduction

In today's world, humans, due to remarkable technological advancements and development, seemingly take pride in and celebrate all aspects of this progress. However, these advancements come with challenges and serious issues. Among them, what has reached a newer and more serious dimension and has been realistically addressed poses a threat to the health and life of humans and other living beings on the inhabited planet. These threats have arisen due to the gradual destruction of the environment. Because technology, under human control, has gradually become uncontrollable and alienated humans from themselves and their environment. This situation leads to instability and failure in the path of development, initiating a downward trend[413].

[413] Mulder, K. (Ed.). (2017). Sustainable development for engineers: A handbook and resource guide. Routledge.

We are compelled to preserve our environment, natural resources, and God-given wealth wisely in order to sustain human development, well-being, and progress. These actions are essential to save and sustain all elements of life and maintain a rational balance between the constituents of the environment, including humans and nature. This is the only sensible choice for humanity to achieve sustainable development and resilience against destruction and annihilation.

I.1. History and Background of Environmental Law

One of the early environmental laws is often considered to be the National Environmental Policy Act (NEPA) of 1969 in the United States. NEPA established the Council on Environmental Quality (CEQ) and required federal agencies to consider the environmental impact of their proposed actions. This marked a significant shift toward recognizing the importance of environmental considerations in decision-making processes[414].In the following years, a wave of environmental legislation emerged globally, responding to increasing concerns about pollution, habitat destruction, and resource depletion. The 1970s saw the establishment of the U.S. Environmental Protection Agency (EPA) and the celebration of the first Earth Day in 1970, both contributing to the environmental movement[415].

International efforts to address environmental challenges gained momentum with the United Nations Conference on the Human Environment held in Stockholm in 1972. The conference resulted in the Stockholm Declaration, emphasizing the right to a healthy environment and the responsibility to protect it[416]. The 1980s and 1990s witnessed the development of international environmental agreements, such as the Montreal Protocol on Substances that Deplete the Ozone Layer and the Rio Declaration on Environment and Development. These agreements aimed to tackle specific environmental issues on a global scale[417].

In recent decades, the focus has expanded to address climate change, biodiversity loss, and sustainable development. Agreements like the Kyoto Protocol and the Paris Agreement have aimed to combat climate change by reducing greenhouse gas emissions[418].

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[414] Lindstrom, M., & West, B. (2022). The United States National Environmental Policy Act: History, Process, and Politics. Routledge Handbook of Environmental Impact Assessment, 302-317.

[415] Silveira, S. J. (2000). The American environmental movement: Surviving through diversity. BC Envtl. Aff. L. Rev., 28, 497.

[416] Brown, A. (2014). Vying for Relevancy in Stockholm: American Environmental Nongovernmental Organizations and the 1972 UN Conference on the Human Environment.

[417] El-Kholy, O. (2012). The world environment 1972–1992: Two decades of challenge. Springer Science & Business Media.

[418] Pickering, J., McGee, J. S., Stephens, T., & Karlsson-Vinkhuyzen, S. I. (2018). The impact of the US retreat from the Paris Agreement: Kyoto revisited?. Climate policy, 18(7), 818-827.

I.2 Definition and Scope of Environmental Law

In general, the environment consists of a connected set of factors and conditions on which the life and sustainability of living organisms depend. According to this definition, environmental law addresses rules and discussions regarding the relationship between humans and environmental factors. In other words, environmental law is a set of rules that regulates human-environment relationships. These laws aim to discipline and control human behaviors and actions that may lead to detrimental effects, destruction, and pollution of the environment and natural resources[419].

In defining the scope of environmental law, international bodies consider a designated area for the environment based on the term "biosphere" introduced by UNESCO in the Human and Biosphere Program in 1988. This term refers to a region or zone of the Earth considered as the human living environment or that part of the world where, according to current human knowledge, all life exists[420].

With this explanation, it is clear that environmental law has a broad scope based on competencies and authorities with a wide range, covering the legal oversight of environmental relationships. This legal field relies on principles and foundations centered on the preservation and protection of the environment and natural resources, regulating human behaviors and actions in interaction with the environment. Legal oversight in this area includes the establishment of standards, regulations, international treaties, and other legal tools employed for environmental protection. The purpose of this oversight is to ensure that human actions contribute to preserving the balance and sustainability of the environment while reducing their negative impact.

II. Principles of Environmental Law

Environmental law is a multifaceted legal domain that revolves around the regulation and protection of the environment. This field of law is grounded in a set of guiding principles that form the bedrock for shaping policies, statutes, and regulations aimed at preserving and sustaining the natural world. The Principles of Environmental Law encompass a diverse range of concepts and doctrines that address the intricate relationship between human activities and the environment.

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[419] Ison, R. (2018). Governing the human–environment relationship: systemic practice. Current Opinion in Environmental Sustainability, 33, 114-123.

[420] Reed, M. G., & Price, M. F. (2019). Introducing UNESCO biosphere reserves. UNESCO biosphere reserves: Supporting biocultural diversity, sustainability and society, 1-11.

II.1 Principle of Sustainable Development

This principle emphasizes the need to meet the current generation's needs without compromising the ability of future generations to meet their own needs. It advocates for a balanced and responsible approach to development that considers economic, social, and environmental factors, aiming for long-term sustainability[421].

II.2 Principle of Prevention and Precaution

The principle of prevention and precaution asserts that measures should be taken to prevent, reduce, or control environmental damage. It suggests anticipating potential harm to the environment and human health and taking preventive action even in the absence of scientific certainty. This precautionary approach is crucial in addressing emerging environmental risks[422].

II.3 Principle of Polluter Pays

According to the polluter pays principle, those responsible for causing pollution or environmental damage should bear the costs associated with the cleanup, remediation, and restoration efforts. This principle encourages accountability and serves as an economic instrument to internalize the environmental costs of activities, promoting responsible behavior and discouraging pollution[423].

II.4 Rights of Future Generations

The rights of future generations refer to ensuring the rights of the future generations of humans and other living beings. This concept involves guaranteeing the rights of the coming generations in terms of governance and ethics, ensuring the preservation of the environment, and improving the quality of life for future generations. It, in a way, imposes governmental and ethical requirements in the decision-making processes and current actions to safeguard the rights and well-being of future generations and the environment. This concept underscores the

[421] Schrijver, N. J., & Weiss, F. (Eds.). (2004). International law and sustainable development: principles and practice (Vol. 51). Brill.
[422] Trouwborst, A. (2009). Prevention, Precaution, Logic and Law-The Relationship between the Precautionary Principle and the Preventative Principle in International Law and Associated Questions. Erasmus L. Rev., 2, 105.
[423] Bleeker, A. (2009). Does the polluter pay? The polluter-pays principle in the case law of the European Court of Justice. European Energy and environmental law review, 18(6).

responsibility of the present generation to make decisions that positively impact the future and prevent harm to the environment for the well-being of the generations to come[424].

II.5 Main Actors in Environmental Law

In the past, international law recognized only states as the main actors in international relations and international affairs, considering these states as subjects and beneficiaries of international law. With the emergence and credibility of international organizations and later the establishment and development of environmental international law and ecological communities, this traditional concept and perception underwent a transformation[425].

In fact, environmental legal regulations initially appeared in governments due to the pressure from public opinion, intellectuals, and experts, and then manifested in international forums. Therefore, the role and importance of stakeholders and other actors in international environmental law have gradually been acknowledged and accepted. In advanced countries, the pressure on decision-makers and policymakers to preserve the environment has started from the people and local communities. Nowadays, in most countries, in addition to governments, people are recognized as the main actors and decision-makers in environmental law. Thus, various social groups have entered the field of environmental protection and natural resources as the main actors (as highlighted in Agenda 21). Among these, women and youth, non-governmental organizations, local authorities, and experts and scientists can be considered the most important stakeholders and actors.

III. Domestic Environmental Law in Iran

Environmental protection in our country, similar to its situation and history worldwide, does not have a long history. However, in terms of the approach to environmental issues and the formulation of environmental laws and regulations, it has been ahead of many third-world countries and the Western Asia region. The first environmental protection regulations in Iran were formulated and approved following the establishment of the Environmental Protection Organization, around the early 1950s, simultaneous with the Stockholm Conference. Since

[424] Herstein, O. J. (2008). The identity and (legal) rights of future generations. Geo. Wash. L. Rev., 77, 1173.
[425] Slaughter, A. M. (1995). International law in a world of liberal states. European journal of international law, 6(3), 503-538.

then, relatively significant developments have occurred in the field of the environment in the country, some of which will be briefly mentioned[426].

III.1 Environment in the Constitution

In the Constitution of the Islamic Republic of Iran, the fiftieth principle is dedicated to environmental protection. This principle is one of the most advanced principles in the constitution, not only compared to other principles but also in comparison to the constitutional laws of other countries worldwide in the field of environmental protection[427].

III.2 Environmental Protection in the Vision Document and General Policies

In the Vision Document of the Islamic Republic of Iran for the year 2025 (covering the next 20 years), which outlines Iran as a more developed country, the desirable characteristics of Iranian society are described as healthy and benefiting from the environment. Thus, environmental protection is considered an ideal goal or vision to achieve a situation where the Iranian society enjoys a desirable environment[428].

The overall policies of the system, which oversees the law of the Fourth Development Plan of the country, have been formulated by the Cabinet and approved by the Expediency Council, with an emphasis from the Supreme Leader. The system's overall policies, consisting of 52 clauses, each addressing specific aspects of the country's affairs and development, have been drafted. In clause 19, environmental protection is mentioned, recognizing the protection of the environment and the revival of natural resources as one of the principles of the country's development[429].

IV. Environmental Policies in Program Laws of Iran

Laws that arise from idealistic goals, visions, and system policies and are formulated within a specific program and mainly for a medium-term period are commonly referred to as "program

[426] Shobeiri, S. M., Meiboudi, H., & Kamali, F. A. (2014). The brief history of environmental education and its changes from 1972 to present in Iran. International Research in Geographical and Environmental Education, 23(3), 228-241.
[427] Aghajani, S. (2020). The Role of NGOs (non-governmental organizations) in participatory prevention of environmental crimes. Revista Eletrônica em Gestão, Educação e Tecnologia Ambiental, e16-e16.
[428] Chaharsooghi, S. K., Rezaei, M., & Alipour, M. (2015). Iran's energy scenarios on a 20-year vision. International journal of environmental science and technology, 12, 3701-3718.
[429] Daftary, F. (1973). Development planning in Iran: a historical survey. Iranian Studies, 6(4), 176-228.

laws." Generally, environmental protection in the country's program laws has experienced significant growth, and its position has continuously improved in the four development plans after the revolution. The environmental issue has transformed from a limited provision with enforcement guarantees in the first plan to around 24 influential articles with relatively wide-ranging impacts in the Fourth Development Plan law. Here are some points:

Article 58: According to Article 58 of the Fourth Development Plan, the government is obliged to bring biodiversity indicators close to global standards by the end of the plan. Considering that global indicators form the basis for sustainable development and the conservation of natural resources and promoting them nationally is essential for preserving national wealth, the significance of this article becomes apparent.

Article 59: This article introduces a new approach to environmental economics. For the first time in the country, estimating the economic values of natural and environmental resources and the costs resulting from pollution and environmental degradation in the development process and calculating them in the country's national accounts has garnered legislative attention.

Article 63: According to this article, the government is obligated to organize a comprehensive plan for preventing pollution and organizing coasts with a priority on the Caspian Sea by the end of the Fourth Plan. This plan includes essential measures such as determining and freeing the maritime zone, establishing integrated coastal management, reviewing environmental and fisheries regulations and standards in policy-making, implementation, and monitoring. According to the provision of the same article, the government must take measures to achieve a retreat of 60 meters from the sea border by the end of the plan[430].

V. Iran's Legal Response to Climate Change

Climate change stands as one of the most pressing global challenges, impacting nations worldwide. In Iran, a country endowed with natural resources yet vulnerable to the effects of climate change, the legal framework plays a crucial role in addressing and mitigating environmental threats. In this study, Iran's legal response to climate change was investigated, focusing on its accession to the United Nations Framework Convention on Climate Change (UNFCCC). Iran, recognizing the severity of climate change and its potential impacts, took a significant step by acceding to the UNFCCC. The Law of Accession of the Islamic Republic of

[430] Iran - Fourth development plan and economic prospects : Overall view (English). Europe, Middle East & North Africa series,no. EMA 3 Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/306061468050960546/Overall-view

Iran to the Climate Change Convention was enacted to formalize Iran's commitment to addressing climate change on the international stage, reflecting the country's dedication to adopting measures that align with global efforts. The law outlines Iran's commitments under the UNFCCC, emphasizing cooperation, information exchange, and collective action to address climate change. It underscores the importance of sustainable development and the integration of climate considerations into national policies. Commitments include implementing policies and measures to mitigate greenhouse gas emissions, recognizing the principle of common but differentiated responsibilities, and addressing vulnerability through effective adaptation measures in sectors such as agriculture, water management, and infrastructure. Additionally, the law mandates regular reporting on Iran's greenhouse gas emissions, mitigation efforts, and adaptation strategies. Transparency is a key element, allowing for the assessment of progress and the sharing of information with the international community[431].

However, challenges persist in translating these commitments into effective policies and actions. Implementation challenges include resource constraints, with the need for adequate financial and technological resources to support mitigation and adaptation initiatives. Integrating climate considerations into various sectors, such as energy, transportation, and agriculture, requires a coordinated approach. Ensuring coherence among different policies and practices remains a challenge. Fostering awareness and public engagement among the general population is an ongoing challenge, as public support is crucial for the success of climate change initiatives.

Iran's significant role as a major oil producer, possessing the world's second-largest reserves, contributes to the energy sector being responsible for 77% of total greenhouse gas (GHG) emissions. The country emits approximately 34 million tons of CO2 annually from gas flaring, a byproduct of its substantial oil production, much of which is exported. Additionally, Iran ranks second globally in terms of gas reserves and stands as the fourth-largest gas producer. In light of these factors, the government's climate change policy places a strong emphasis on mitigating emissions within the energy sector[432].

Lately, the government has been promoting the domestic utilization of gas to free up more oil for export and advance climate mitigation efforts within the country. There has been a rise in the adoption of gas-fired technologies, encompassing gas turbine and combined cycle

[431] Zandi, F., Amanollahi, J., Poorhashemi, S. A., & Panahi, M. (2019). Paris Climate Changes Agreement 2015 Operational Requirements and Legal Restrictions of Joining Iran. Ekoloji Dergisi, (107).
[432] Soltani, A., Rajabi, M. H., Zeinali, E., & Soltani, E. (2013). Energy inputs and greenhouse gases emissions in wheat production in Gorgan, Iran. Energy, 50, 54-61.

technologies. Furthermore, there is an increased focus from the government on the development of renewable energy sources[433].

It is worth noting that Iran benefits from having one of the world's highest amounts of solar insolation. The government sponsored Renewable Energy Organization of Iran (SUNA), part of the Ministry of Energy, has been developing applications for renewable energy. In August 2014, Iran's first major solar park was inaugurated in the city of Malard, with the capacity to produce 514kW of electricity[434].

The transportation sector is estimated to contribute approximately 19.5% of the national CO2 emissions. In efforts to diminish these emissions, the government has undertaken initiatives such as upgrading the public transportation fleet, which includes buses and rail services. Additionally, urban traffic management policies are being promoted, and there is an emphasis on increasing the use of compressed natural gas (CNG) in the transport sector. The Iranian Fuel Conservation Organization (IFCO), a subsidiary of NIOC, is actively promoting the adoption of CNG. The High Council for Environment mandates that a minimum of 20,000 public transport vehicles in Tehran shift from petrol to hybrid forms. Budget Laws in 2003 and 2004 have outlined plans for the development of public transport and the conversion of vehicles to CNG. Furthermore, the Budget Law of 2007 advocates the replacement of phased-out cars with those running on CNG and hybrid fuel. According to the Second National Communication to the UNFCCC, there is a targeted increase from 2.5% in 2007 to 25% in 2025, progressing at a rate of 1.25% per year[435].

Thus, Iran's accession to the Climate Change Convention marks a significant step in the global fight against climate change. The legal framework provides a foundation for addressing the challenges posed by a changing climate. However, effective implementation requires overcoming various obstacles, including resource constraints and the need for integrated, cross-sectoral approaches. By navigating these challenges, Iran has the opportunity to contribute meaningfully to global climate efforts and safeguard its environment for future generations.

VI. Permanent Environmental Laws

Permanent laws and regulations, based on the needs of society and for the purpose of preserving the environment, public interests, national resources, and managing affairs in this

[433] Solaymani, S. (2021). A review on energy and renewable energy policies in Iran. Sustainability, 13(13), 7328.
[434] Najafi, G., Ghobadian, B., Mamat, R., Yusaf, T., & Azmi, W. H. (2015). Solar energy in Iran: Current state and outlook. Renewable and Sustainable Energy Reviews, 49, 931-942.
[435] Chaharsooghi, S. K., Rezaei, M., & Alipour, M. (2015). Iran's energy scenarios on a 20-year vision. International journal of environmental science and technology, 12, 3701-3718.

field, have been enacted and implemented according to circumstances and at different times. These laws remain valid until replaced by another law. Environmental laws and regulations are referable at three levels:

A) National and Executive Agencies Laws

B) Islamic Consultative Assembly Laws

C) Approvals of the Supreme Environmental Council (Regulations, Guidelines, and Standards)

All these laws are formulated with the aim of improving environmental quality, protecting public interests, and preserving the natural wealth of the country. If necessary, they are amended by relevant authorities. Some of the most important environmental laws and regulations include:

VI.1 Environmental Protection and Rehabilitation Law

This law, although enacted in 1974 and amended in 1992, is considered a general law in the field of the environment due to the comprehensive nature of environmental issues and the widespread scope of its provisions. According to this law (Article 3), valuable areas, sensitive and vulnerable ecosystems of the country, such as national natural monuments, national parks, or protected areas, come under special protection management after approval by the Supreme Council of Environmental Protection. These areas constitute ten percent of the country's soil and land according to global standards. Currently, the total area of these areas (quadruple) in Iran constitutes a maximum of seven percent of the country's total area[436].

VI.2 Air Pollution Prevention Law

This law was enacted in 1995. According to this law, sources of air pollution are divided into three categories: motor vehicles, factories and workshops, and commercial, residential, and miscellaneous sources. Some provisions of this law place the movement of motor vehicles on not emitting pollution and not emitting smoke and other pollutants from their exhausts, and relevant authorities are obliged to prevent the movement of such vehicles. Also, the numbering of new cars is subject to having environmental standards. In Article 27 of the same law, creating noise pollution is prohibited and subject to penalties. The executive regulations of this article, namely noise pollution, have been approved by the Cabinet and are mandatory[437].

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[436] Zekavat, S. M. (1997). The state of the environment in Iran. In Challenging Environmental Issues (pp. 49-72). Brill.

[437] Atash, F. (2007). The deterioration of urban environments in developing countries: Mitigating the air pollution crisis in Tehran, Iran. Cities, 24(6), 399-409.

VI.3 Water Pollution Prevention Regulations

The Water Pollution Prevention Regulations were approved by the Council of Ministers of Iran in 1994. These regulations prohibit any action that may lead to pollution of water resources, including surface and underground resources. Currently, control measures to prevent water pollution are taken through the implementation of the provisions of Articles 104 and 134 of the Third Development Plan (which has also been implemented in the Fourth Plan) and also by using Article 688 of the Penal Code. These measures aim to preserve the quality of water resources and prevent pollution[438].

VI.4 Waste Management Law

Pollution caused by waste is one of the important issues in the environmental field, especially in cities and large cities like Tehran. Until 2004, there were no comprehensive regulations in this regard in Iran, and some types of wastes, including hospital or industrial wastes, were managed without oversight and responsible management. With the approval of this law, the possibility of implementing proper management of various types of waste has been provided. According to this law, waste is divided into five categories: urban and household or normal, hospital or medical, industrial, agricultural, and special and hazardous wastes. One of the features of this law is the designation of responsibilities and executive management of wastes, and also some government agencies are responsible for supervising each of the five categories of wastes[439].

VII. Conclusion

Environmental sustainability remains a significant challenge for global communities. However, with broader measures, more treaties, and international collaborations for environmental preservation, sustainable development, and effective natural resource management, significant strides have been taken. For example, the Gothenburg Protocol and the Environmental Action Program are international agreements that address countries' commitments to preserve natural habitats and prevent environmental degradation. Additionally, the Gothenburg Protocol is a crucial global agreement for biodiversity conservation.

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[438] Asadollahfardi, G. (2007). Water pollution legislation in Iran vs England and Wales. WIT Transactions on Ecology and the Environment, 103.

[439] Rupani, P. F., Delarestaghi, R. M., Abbaspour, M., Rupani, M. M., El-Mesery, H. S., & Shao, W. (2019). Current status and future perspectives of solid waste management in Iran: a critical overview of Iranian metropolitan cities. Environmental Science and Pollution Research, 26, 32777-32789.

In general, environmental regulations and laws strive to strike a balance between human needs and environmental preservation, gradually aligning with the concept of sustainable development and preventing negative impacts on the environment.

While achieving an ideal and balanced environmental state or enjoying pristine nature is a challenging task, there is still hope for sustainable development. These interactions and deliberations at the national levels have been effective, and many countries have succeeded in solving environmental problems and preventing pollution and environmental degradation through the formulation, approval, and implementation of environmental laws. Despite a relatively long history of environmental legislation in our country, there are deficiencies and shortcomings in the development and approval of environmental laws and regulations, especially regulations aimed at preventing environmental degradation and the destruction of natural resources.

Although existing regulations in the field of environmental pollution are relatively comprehensive, and realistic policies have been adopted, and the rules in the Fourth Development Plan have the appropriate credibility and comprehensiveness, a crucial and important point in our country's environmental law is not the lack of laws; rather, it is mainly the non-enforcement of existing regulations and laws for various reasons. The lack of belief by some officials in the need to preserve the environment and the vital importance of overcoming obstacles to pollution and environmental degradation, the lack of priority for such issues in some cases, the inadequacy of necessary operational mechanisms and structures, and ultimately the lack of awareness and public participation in environmental protection are challenges that hinder the enforcement of environmental laws and regulations and the development of environmental rights.