ULTRAHAZARDOUS ACTIVITY LIABILITY IN PPP MODELS: EFFICIENT ALLOCATION OF RISK

(Kamu-Özel İşbirliklerinde Tehlike Sorumluluğu: Riskin Etkin Dağılımı)

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ÖZET

Kamu hizmetlerinin sunumu için özel sektör şirketi ile kamu otoritesi arasında işbirliği sağlamak amacıyla yapılan sözleşme veya sözleşmeler bütünü olan Kamu-Özel İşbirliği (KÖİ) modelleri, faaliyetten doğabilecek riskleri daha iyi yüklenebilecek olan özel sektöre aktardığı için kamu otoritesinin sorumluluk türlerini değiştirmekte ve bulandırmaktadır. Önemli ölçüde tehlikelilik arz eden faaliyetlerde hangi KÖİ modelinin kullanılacağı hususu, özellikle yeni Türk Borçlar Kanununun kabulü ile beraber yeni bir norm olan 'Tehlike Sorumluluğu'nun düzenlenmesiyle bir sorunsal oluşturmaktadır. Yeni norm sorumlu tarafın belirlenmesi ve normun aslında nasıl bir sorumluluk türü düzenlediği gibi pek çok açıklanması gereken boşluk içermesi nedeniyle, KÖİ gibi büyük finansal kurumların belirlenemeyen/saptanamayan riskler altına girmesine sebep olmaktadır. Bu tür riskleri özel sektör şirketinin mi yoksa kamu otoritesinin mi yüklenmesi gerektiği sorunsalı henüz çözümlenmemiştir. Bu makalede ele alınan soru şudur: KÖİ modelleri/sözleşmelerinde, önemli ölçüde tehlike arz eden bir faaliyetten kaynaklanan sorumluluk riski sözleşmesel taraflar, yani kamu otoritesi ve özel sektör şirketi, arasında etkinliği sağlamak için nasıl tahsis edilmelidir?

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ABSTRACT

The development of Public-Private Partnership (PPP) models -which is an arrangement/set of contract that is concluded between the private sector company and the administrative authority in order to provide public services- shift the risks to private sector, which is much more capable of bearing the risk of such activity, changes and blurs the types of responsibility of the public authorities. Which type of PPP models should be used in ultrahazardous activities is a problematic issue, since the acceptance of the new Turkish Code of Obligations a new rule have been established for ultrahazardous activity liability. The new rule has many gap holes, such as who should be responsible and which type of liability is it actually regulating, causing big financial institutes like PPP models to take under undetermined risks. Whether the private sector company or the administrative authority should undertake these risks is an issue that has yet to be determined. The question addressed in this paper is the following: how to allocate the risk of ultrahazardous activity liability between transaction parties (namely the administrative authority and the private sector company) in PPP models/contracts to favor efficiency?

Keywords: Public-Private Partnership, ultrahazardous activity liability, liability of administrative authorities, economic analysis, efficiency

INTRODUCTION

In the 20th century, the scope of public services has been drastically evolved into a broader concept. Since the scope has been widen, it is needed to find solutions so as to provide public services at an efficient level with a nominal quality. The delegation of public services has been the main solution that has been found. In Turkey, many legal provisions accepted to provide delegation of public services since the 1980's. After the Constitutional Amendment in 1999 with the Law numbered 4446, it has been possible for the administrative authorities to delegate the public services with contracts, which have a private law nature. As the nature of contract changes, the responsibilities and liabilities of the contracting parties altered as well as the applicable law and the competence of the courts. These changes have caused public and private law to intertwine; causing mixed models to provide public services. One of the models that administrative authorities use to deliver public services is Public-Private-Partnership (PPP) model, which has a private law nature. Thus there are many problems that have to be addressed. The main

question addressed in this paper is the following: how to allocate the risk of ultrahazardous activity liability between transaction parties (namely the contracting public entity and the private sector company [1]) in PPP models/contracts to favor efficiency?

Tort law can be one of the simplest yet one of the most complicated areas of the law system. It is an area that has a normative character, which enables people to have an opinion without legal education one has to go through to understand most legal matters. However, the language of tort law is misleading in most cases[2]. The cases, which may only require just reading the Code, can be regarded as easy, whereas cases that need interpretation of the Code can be seen as more complex. One of these complex matters that require more then reading the Code is regarding the ultrahazardous activity liability especially when a PPP model is used.

When it comes to public services and liability of administrative authorities, there is a question of balancing the utilities. Public services are delivered to people without any discrimination; in order to increase the social welfare, public services needed to be delivered in a certain quality with minimum expense. This perspective brings the concept of tendering the right to provide public services when the efficiency increases. If and when any damages occurs while the administration or the tenderer provide public services, these damages needed to be compensated as a consequence of rule of law and social state, which would increase the efficiency of social welfare.

The ultrahazardous activity liability article brings a vague regulation and thus a problem of legal uncertainty, which would affect the efficiency of the

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[1] It is rightfully pointed out that the term 'private sector' does not necessarily mean companies that aim to profit as there are many non-governmental organizations which are private legal entities. ÇAL, Sedat, "İdare Hukukunda Metalaş(tır)ma Serüveni: 1980'lerden Bugüne Kamu Hizmetinde Başkalaşım ve İdare Hukukunun Bu Dönemeçteki Kimlik Sorunsalına Bakışlar", **Türkiye'nin Hukuk Sisteminde Yapısal Dönüşüm**, (Ed. A.M. Özdemir/ M. Ketizmen)., İmge Yayınları, Ankara, 2014, (pp.111-150) http://www.hukukfakultesi.hacettepe.edu.tr/cv/KamuHizmetiveMetalastirma.pdf (Access date: 31.10.2016), p.13-14.
Thus, in this paper the term private sector is used to point private sector company.

[2] EPSTEIN, Richard A, **The Theory of Strict Liability: Toward a Reformation of Tort Law**, CATO Institute, San Francisco, 1980, p. 3.

PPP contract and its contracting parties as well as the potential injured. This paper aims to reveal the possible problems that all the involved parties of the PPP can face and find solutions that can overcome the above mentioned problems.

I. Liability of Administrative Authorities

Any person who is claiming that their personal rights have been directly affected by the administrative acts or actions can bring a full remedy action in administrative courts for compensation. In order administrative courts to rule for compensation, it is necessary that the damage arises by the act or action of administrative authority and there is a reason for the liability. As every damage caused by the actions of administration needs to be compensated and fault which cannot be related to the public service is classified as a tort which is not within the scope of judicial remedies of administrative law, those damages can be suit before the civil courts.

There are mainly two types of liability in administrative law that will commence a full remedy action, which, are fault (service-fault liability) liability and strict liability (liability without fault).

a. Fault Liability in Administrative Law

Service-fault (*öffentlicher Dienst Verschulden*, *Faute de service*) liability in administrative law emanates from delay (*late-feasance*), defect (*mal-feasance*) or failure (*non-feasance*) in the establishment or operation of the public service.

Fault in administrative law has a different nature than it has in private law since it has been objectified[3]. As administrative authorities act through public officials, when fault liability is in question, it is actually the personnel who is acting negligently. For this reason, to rule for compensation, judges need to search for an objective element, which is a fault in the establishment or operation of the public service, not a subjective element namely intent, negligence or fault of the tortfeasor/personnel.

Even though generally any fault in the public service requires compensation of the damage, in some circumstances administrative judges will search for the exceed of simple fault (*faute légère*) towards serious negligence (*faute lourde*). The degree of intensity of fault is decided, taken

[3] GÖZÜBÜYÜK, A. Şeref / TAN, Turgut, **İdare Hukuku Cilt 1 (Cilt 1)**, Turhan Kitabevi, Ankara, 2016, p. 727, 734; ÇAĞLAYAN, Ramazan, **Tarihsel, Teorik ve Pratik Yönleriyle İdarenin Kusursuz Sorumluluğu**, Asil Yayın Dağıtım, Ankara, 2007, p. 136-138.

into consideration the factors of place, time and circumstances of the action. Today serious negligence is required in three areas; police activity, taxation and control[4].

In case of privatization of public services, since the nature of the service provided does not change, public authorities as the main owner of the service are responsible for the harm suffered by the third parties[5]. Thus the requirement of serious negligence is especially important in the case of PPP as in this model the administration tender the public service to a private sector company. Council of State held public authorities liable for the damages suffered by the 3rd parties, even though the contractors or the concessionaries causes the damage since the public authority in question is the ultimate owner of the work or facility[6]. Thus, once the public service transferred to the private sector, as the entity in charge of delivery of the public service the private sector company becomes the principal liable for the damages that will be caused and the administrative authority will be responsible for the control of the entity in order to keep the quality at a certain level. As a result of having a control responsibility, administrative authority will be liable for the damage if there is a serious negligence in control that leads or affects the damage.

b. Strict Liability in Administrative Law

Liability without fault (*vershuldensunabhängige Haftung, Responsabilité sans faute*) is developed later than the acceptance of service-fault liability as a consequence of rule of law and social state principles. The reason for the acceptance of strict liability is the cases when it is impossible to compensate the damage caused by the administrative act or action via service-fault liability. As a result it is said that strict liability has a

[4] DURAN, Lütfi, **Türkiye İdaresinin Sorumluluğu**, Ortadoğu Amme İdaresi Enstitüsü, Ankara, 1974, p. 34-37; ATAY, Ender Ethem/ ODABAŞI, Hasan, **Teori ve Yargı Kararları Işığında İdarenin Sorumluluğu ve Tazminat Davaları**, Seçkin Yayınevi, Ankara, 2010, p. 122-130; ARMAĞAN, Tuncay, **İdarenin Sorumluluğu ve Tam Yargı Davaları**, Seçkin Yayınevi, Ankara, 1997, p. 52-54.

[5] YASİN, Melikşah, **Uygulama ve Yargı Kararları Işığında Özelleştirmenin Hukuki Rejimi**, 2.Baskı, Betaş, İstanbul, 2007, p. 140-141, 208.

[6] Council of State, 12th Chamber, E.1965/3686- K.1966/2826; Council of State, 10th Chamber, E. 1995/7597- K. 1997/27; Council of State 10th Chamber, E.1994/2806- K. 1995/4243; Council of State 8th Chamber, E.1985/211- K.1987/313. It is also argued that in order public authorities to be obliged to compensate the damages of the 3rd parties, it is needed to link the damage to the activity that is held by the public authority or in the name of public authority. It is argued that if the public service is provided by a private entity, the public authority cannot be held liable for the damages of the 3rd parties unless the concessionaires' insolvency. ARMAĞAN, **1997**, p. 195.

subordinate/secondary nature, which means that the administrative judge will first use the service-fault liability principle in order to compensate the damage in question, and the strict liability principle can only be used if the damage cannot be fully compensated via fault liability[7].

There are three principles of liability without fault in Turkish Administrative Law; principle of equality in public burdens, principle of ultrahazardous activity (risk principle) and social risk principle.

Public services are conducted for the interest of the society, if one or a group of person suffers damages while administrative authority is delivering the public service then their damages needs to be compensated according to principle of equality in public burdens. In order to use this principle, damaged person/people need to bear exceptional burdens. The activities of public authorities or vehicles that are used in order to deliver public services may bear a risk themselves; if these vehicles or activities cause any damages then the damages are compensated via ultrahazardous activity liability (risk) principle. The social risk principle refers to acts of anarchy and terror; in these circumstances the administrative authorities can be held responsible for not being able to prevent the damage and entailed to compensate the damages.

c. Tortious Liability of Administrative Authorities

Unlawful acts of administrative authorities are the acts, which does not have a legal fundament, or acts that have a legal fundament but have a serious unlawfulness on the realization. Those acts lose their ‘administrative’ property and thus classified as tort. When a tortious act of administration is in question, then injured will sue the administrative authority in civil courts[8].

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[7] Council of State 10th Chamber, E.1995/4000- K.1996/7542; Council of State 10th Chamber, E.1990/3737- K.1991/3762; Council of State 10th Chamber., E. 1995/53- K. 1996/1913. Council of Europe Committee of Ministers, **Recommendation no. R (84) 15**. GÖZÜBÜYÜK/TAN, **Cilt 1, 2016**, p. 750.; ÇAĞLAYAN, **2007**, p. 152; ÇITAK, Halim Alperen, **İdarenin Kusursuz Sorumluluğu Bağlamında Sosyal Risk İlkesi**, Adalet Yayınevi, Ankara, 2014, p. 32. It is also accepted that strict liability and fault liability cannot be argued in the same time. Council of State 10th Chamber, E.1995/53- K.1996/1913.

[8] GÖZÜBÜYÜK, A. Şeref / TAN, Turgut, **İdare Hukuku Cilt 2 (Cilt 2)**, Turhan Kitabevi, Ankara, 2016, p.171-181.; DARANDELİ, Vahap, **Yargıtay, Danıştay ve Uyuşmazlık Mahkemesi İçtihatları Işığında Adli Yargı Yerlerinde Görülen İdari Uyuşmazlıklar ve Davalar**, Yetkin Yayınları, Ankara, 2004, p.133.

II. PPP

a. General Remarks

Public Private Partnership is an agreement between public and private sector in order to provide public services[9] that are traditionally provided by the state; it is a relatively new phenomenon that combines the public and private sector[10] on the point of efficiency with a bilateral contract. At the one side of this contract there is the public sector, namely central administration who prefers to spend less money and correspondingly decreases the public expenditure on the historically accepted public services but who also wants to deliver these services in a more modern and qualified way; and on the other side, there is the private sector who is trying to expend to new areas in order to increase their profit[11]. As private sector specializes in the good governance of financial risks and time; and the public sector specialize on planning in macro scale[12], a more efficient way to provide public service can be achieved via PPP projects.

PPP in a broad sense, is all the contracts that provide the right of concession; it express the cooperation of the public sector and the private sector to provide and to finance the public services as the contracting parties, by signing a contract on the property, governance and the finance of the public initiative. It is said that the elements that normally characterize PPP are: the long duration of the contract, the method of funding the project, the important role of the economic operator and the distribution of risks between the public

[9] PPP does not only include the provision of the public service itself, but it also includes the services attached to the public service and the infrastructure that is needed so as to provide the public service. Thus the term public service must be understood in a broad sense.

[10] Pursuant to the BOT law and concessions, the project company has to be a Turkish joint stock corporation which has a juridical personality separated from the persons and legal entities who own, control, manage and operate; thus, shareholders cannot be held personally liable for company debts. No other private legal entities such as limited liability partnerships, trusts, joint ventures realize projects within the framework of BOT law; however, related public entities may also be shareholders in the project company. DANIŞMAN, H. Tolga/ SEVİM ÇİFTÇİ, Itır/ GEDİK, Hakkı etc., "Country Reports: Turkey", **International Project Finance and PPPs: A Legal Guide to Key Growth Markets**, (Ed. J. Delmon/ V. Rigby Delmon), Kluver Law International, Alphen aan den Rijn, 2013, (pp. Turkey 1-78), p. 17-18.

[11] SARISU, Ayhan, **Kamu-Özel İşbirlikleri**, Yaklaşım Yayınları, Ankara, 2009, p. 170-179; GÜRKAN, Mehmet Fatih, **Kamu Özel Ortaklığı**, Adalet Yayınevi, Ankara, 2014, p. 30-34.

[12] KARAHANOĞULLARI, Yiğit, "Kamu-Özel Ortaklığı Modelinin Mali Değerlendirmesi", **AÜSBF Dergisi**, Year: 2012, Volume: 67, Number: 2, (pp. 95-125), p. 98.

partner and the private partner[13]. A cooperation agreement is characterized as a PPP through the share of the investments, risks and revenue between the contracting parties. In PPP models, funds of the public sector and the private sector are combined in order to execute the infrastructure project[14]. Even though PPP is presented as a new model, it is actually an appearance of the classical methods to provide public services and infrastructure[15] such as concession and BOT[16].

PPP is a contested concept as it has been used in order to point different incentives of public entities to enter into contractual relation with the private sector to provide public services and thus, different meanings are attached to the PPP phenomenon[17].

The European Commission has identified four principal roles for the private sector in PPP schemes, which are also the incentives of the public authority to enter into the PPP relation. These are;

- to provide additional capital;
- to provide alternative management and implementation skills;
- to provide value added to the consumer and the public at large;
- to provide better identification of needs and optimal use of resources[18].

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[13] Commission of the European Communities, **Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions**, 2006, p. 3.

[14] AKTAN, Coşkun Can/ DİLEYİCİ, Dilek, "Altyapı Reformu: Altyapı Hizmetlerinin Sunumu ve Finansmanında Yeni Trendler- Alternatif Yöntemler" (Altyapı Reformu), **Altyapı Ekonomisi: Altyapı Hizmetlerinde Serbestleşme ve Özelleştirme**, (Ed. C.C. Aktan /D. Dileyici/İ.Y. Vural), Seçkin Yayınevi, Ankara, 2005, (pp. 43-63), p. 57.

[15] In the narrow sense, infrastructure is defined as financial resources that are required so as to invest such as transport, communications, energy and water. In a broader sense infrastructure is a social fixed capital that contains financial resources, educational and health institutions, and the knowledge and skills in those areas. AKTAN, Coşkun Can/ DİLEYİCİ, Dilek, "Genel Olarak Altyapı" (Altyapı), **Altyapı Ekonomisi: Altyapı Hizmetlerinde Serbestleşme ve Özelleştirme**, (Ed. C.C. Aktan/ D. Dileyici/ İ.Y. Vural), Seçkin Yayınevi, Ankara, 2005, (pp.11-20), p. 11.

[16] TAN, Turgut, **Ekonomik Kamu Hukuku Dersleri**, 2. Bası, Turhan Kitabevi, Ankara, 2015, p. 425.

[17] UZUN, A. Meral/ YAVİLİOĞLU, Cengiz, "Bir Özelleştirme Yöntemi Olarak Kamu-Özel Sektör İşbirlikleri (PPP)", **Dünyada ve Türkiye'de Özelleştirme Uygulamaları Teorik ve Tarihsel Bir Perspektif**, (Ed. C. Yavilioğlu/ G. Delice/O. Özsoy), Özelleştirme İdaresi Başkanlığı Yayını, Ankara, 2010, (pp. 68-104), p.68-70; TAN, **2015**, p. 425-429.

[**18**] Commission of the European Communities, **Guidelines for Successful Public – Private Partnerships,** 2003, p. 4.

PPPs are a relatively new area that private sector can invest in order to maximize their profit. Private sector companies aim to achieve a return on their investment in generating sufficient future cash flows to cover initial capital costs and finance charges through investing in PPP projects, so that they provide enough profit to invest in future projects and pay shareholder dividends[19].

In some countries PPP is defined to cover contractual arrangements, which are to be subject to a particular type of public procurement process that is distinct from the general procurement process used for goods and services. PPP may be defined narrowly to cover complex infrastructure projects, which involve substantial private sector investment, and to make a distinction from delegation of public services in the form of 'concessions' and 'affermages'; whereas in other countries the definition has been limited to typical BOT projects[20].

PPP does not have a legal definition in Turkey. There is a draft legislation, which has been prepared by the Turkish Prime Ministry State Planning Organization that today is acting as the Ministry of Development. According to article 3 of this draft, '*PPP is the set of models that are covered in the Draft through which certain investment and services are performed by the public and private sector by sharing costs, risks and revenues'*.

PPP is a flexible organization and finance model of a contractual relation that relies on the principles of risk, cost and efficiency[21]. They are arrangements between public and private entities for the delivery of infrastructure services and are seen as a way of raising additional funds for infrastructure investments but more importantly as a means to extend or leverage better budget funding through efficiency gains[22]. Pursuant to the common understanding of the concession concept, the private party entrusted with the duty to provide public services does so by providing the capital and

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[19] LOOSEMORE, Martin, "Risk Allocation in the Private Provision of Public Infrastructure", **International Journal of Project Management**, Year: 2007, Number: 25, (pp.66-76), p. 67.

[20] DELMON, Jeffrey/ RIGBY DELMON, Victoria, "Introduction to PPPs", **International Project Finance and PPPs: A Legal Guide to Key Growth Markets**, (Ed. J. Delmon/V. Rigby Delmon), Kluver Law International, Alphen aan den Rijn, 2013, (pp.1-23), p. 4.

[21] KARASU, Koray, "Kamu Özel Ortaklığı: Sözleşme Sisteminin Genelleşmesi", **Kamu Yönetimi: Yapı-İşleyiş-Reform**, (Ed. B. Övgün), KAYAUM Yayınları, Ankara, 2009, (pp.79-91), p. 80.

[22] DELMON, Jeffrey, **Private Sector Investment in Infrastructure**, 2nd ed., Kluwer Law International, Alphen aan den Rijn, 2009, p. 7.

the personnel, and by undertaking the commercial risks and losses in return for profits. User fees provide remuneration for the concessionaire. Thus, the general principle is that the public entity does not provide any subsidies, guarantees or similar support[23].

b. PPP Models

Despite the lack of legal definition, certain PPP models, namely Build-Operate-Transfer (BOT), Build-Operate (BO) and Transfer of Operating Rights (TOR) and Long Term Leasing have been used in Turkey since the 1980's. Today, there are many provisions in different legislations that cover these types of PPP; BOT is currently legislated in laws no. 3996[24], no. 3465[25] and no. 3096[26]; BO in law 4283[27], and TOR and Long Term Leasing is regulated in laws no. 4046[28], 5335[29], 3465 and 3096.

If and when the draft legislation on PPP is enacted this unorganized structure will cease as the draft law regulates the BOT, BO, TOR, Design-Build-Operate-Transfer, Design-Build-Operate, Built-Own-Lease-Transfer, and Institutional PPP. Also the Draft Law accepts the works such as

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[23] DANIŞMAN/SEVİM ÇİFTÇİ etc, **2013**, p. 30. However, in Turkey, many guarantees are granted to the project companies, yet these guarantees are not within the scope of this paper as the efficient allocation of ultrahazardous activity liability is in question.

[24] R.G. (Official Gazette): 13/6/1994, 3996 numbered Bazı Yatırım ve Hizmetlerin Yap-İşlet Devret Modeli Çerçevesinde Yaptırılması Hakkında Kanun (Build-Operate Transfer Act).

[25] R.G. (Official Gazette): 02.06.1988, 3465 numbered Karayolları Genel Müdürlüğü Dışındaki Kuruluşların Erişme Kontrollü Karayolu (Otoyol) Yapımı, Bakımı ve İşletilmesi ile Görevlendirilmesi Hakkında Kanun (Law on Assignment of Institutions other than General Directorate of State Highways for Highway (with tolls) Construction, Maintenance and Operation).

[26] R.G. (Official Gazette): 19.12.1984, 3096 numbered Türkiye Elektrik Kurumu Dışındaki Kuruluşların Elektrik Üretimi, İletimi, Dağıtımı ve Ticareti ile Görevlendirilmesi Hakkında Kanun (Law on Assignment of Institutions other than Turkish Electricity Administration for Electricity Production, Transmission, Distribution and Trade).

[27] R.G. (Official Gazette): 19.07.1997, 4283 numbered Yap-İşlet Modeli ile Elektrik Enerjisi Üretim Tesislerinin Kurulması ve İşletilmesi ile Enerji Satışının Düzenlenmesi Hakkında Kanun (Law on Establishment of Electricity Production Facilities with Build-Operate Model and their Operation and Regulation of Electricity Sales).

[28] R.G. (Official Gazette): 27.11.1994, 4046 numbered Özelleştirme Uygulamaları Hakkında Kanun (Law on Arrangements For The Implementation Of Privatization).

[29] R.G. (Official Gazette): 27.04.2005, 5335 numbered Bazı Kanun ve Kanun Hakkında Kararnamelerde Değişiklik Yapılmasına Dair Kanun- Devlet Hava Meydanları İşletmesi Genel Müdürlüğü (DHMİ)'nün İşletiminde Bulunan Hava Alanlarının Kiralama ve/veya İşletme Hakkının Verilmesi Hakkında (Law authorising the State Airports Authority to totally or partially transfer its airports to the private sector through long term leasing or transfer of operation rights methods).

completion, renovation, development, research, restoration, maintenance, repair, etc. are within the scope of "build" so it widens the PPP models according to the needs of administration.

Built-Operate-Transfer model is the PPP model in which the private sector company (concessionaire) is awarded a franchise to finance, build, own, operate the facility, collect user fees for the contractually specified period and transfer the facility to the public entity without any harm or debit and fully operable at the end of the specified period.

Built-Operate model is the PPP model in which the concessionaire is awarded a franchise to finance, build, own and operate a facility in perpetuity under a franchise, subject to regulatory constraints on pricing and quality of operation.

Built-Own-Lease-Transfer model is the PPP model in which the concessionaire is awarded a franchise to finance, build and own the facility; in this model the concessionaire lease the facility partially or completely to the administrative authority. The ownership of the facility will be returned to the administrative authority if it has been agreed on. In Built-Lease and Built-Own-Lease-Transfer PPP models, administrative authorities are renter of the establishment as air right is granted to the project company, which gives the ownership of the facility[30].

Transfer of Operational Rights model is the PPP model in which the concessionaire is granted of a right of operation of organizations as a whole or of their goods and services production units in their assets for consideration for a designated period of time, with retention of ownership rights.

Institutional PPP is the PPP model in which there is a co-operation between public and private parties involving the establishment of a mixed capital entity, which performs public contracts or concessions. Institutional PPP can be set in two ways; via founding a new company, the capital of which is held jointly by the contracting entity and the private partner or by the participation of a private partner in an existing publicly owned company which has obtained public contracts or concessions 'in-house' in the past[31].

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[30] KARAHANOĞULLARI, Onur, "Kamu Hizmetleri Piyasa İlişkisinde Dördüncü Tip: Eksik İmtiyaz (Kamu- Özel Ortaklığı)", **AÜSBF Dergisi**, Year: 2011, Volume: 66, Number: 3, (pp.177-215), p. 188.

[31] Commission of the European Communities, **Commission interpretative communication on the application of Community law on Public Procurement and Concessions to institutionalised PPP (IPPP)**, 2008, p. 5.

c. Risks and Liability in PPP Models[32]

Even though there is no universal solution regarding risks allocation for every single project[33], there is a general agreement on how different risks should be allocated[34]. To allocate the risks properly first these risks need to be identified and categorized.

The risks that can be seen in a PPP projects can be categorized as fallows; construction and completion risks, sponsor risk, operating risk, commercial risk, technology risk, environmental risks, financial risk, regulatory risk, political risk, legal risks and force majeure risk[35].

One of the risk allocation model categorize risks as site risk, which is associated with tenure, access, site suitability; design, construction and commissioning risk, which is the risk of delay, not meeting the requirements for infrastructure and that the cost of design and construction is more than

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[32] Project companies are obliged to take out policies of insurance for the investment and operation periods, such as construction risk insurance, liability insurance, casualty insurance, transportation insurance, and insurance against civil liability. However, all kinds of insurances are left out of the scope of this paper so as to determine the efficiency in PPP projects without any extrinsic effects that multiply the parties concerned.

[33] For detailed risk allocation information in concession agreements, construction contracts, operation and maintenance agreements, offtake purchase agreements and input supply agreements see DELMON, **2009**, p. 251-376.

[34] JAKUTYTE, Jurgita, **Analysing Public Private Partnership**, Unpublished Master Thesis, Aarhus University Department of Business Administration Business and Social Sciences, 2012, p. 23. http://pure.au.dk/portal-asb-student/files/48150942/MSc_thesis_Jurgita_Jakutyte.pdf (Access date: 31.10.2016)

[35] United Nations ESCAP, **A Guidebook on Public-Private Partnership in Infrastructure**, UNESCAP, Bangkok, 2011, p.34-35. Different categorization is suggested and accepted; OECD categorizes risks as political risks, legal risks and commercial risks. Another categorization distribute risks in three level as macro, meso and micro. BING, Li/ AKINTOYE, A. /EDWARDS, P.J. etc, "The allocation of risk in PPP/PFI construction projects in the UK", **International Journal of Project Management**, Year: 2005, Volume: 23, Issue: 1, pp. 25-35; Grimsey and Lewis divide risks into nine categories which are technical, construction, operating revenue, financial, force majeure, regulatory/political, environmental and project default risks, JAKUTYTE, **2012**, p. 23-24; Efraim Sadka categorizes the risks as endogenous and exogenous risks. SADKA, Efraim, "Public-Private Partnerships: A Public Economics Perspective", **IMF Working Paper WP/06/77**, 2006, p.7; Another categorization is made as site risk, design, construction and commissioning risk, operating and maintenance risk, financial risk, uptake/patronage risk, force majeure risk and legislative risk. EVANS, Joanne/ BOWMAN, Diana, "Getting the Contract Right", **The Challenge of Public-Private Partnerships**, (Ed. G. Hodge/C. Greve), Edward Elgar Publishing, Cheltenham, 2005, (pp.62-80), p. 67. Risks in PPP projects are categorized into three as business risk, financial risk and political risk. SAVAS, E. S, **Privatization and Public-Private Partnerships**, Seven Bridges Publishers, New York, 2000, p. 252.

budgeted; operating and maintenance risk, which includes the risk of cost exceeding the expected value or the service is more difficult than anticipated; financial risk, which refers to the increase in interest rates, inflation and taxes; uptake/patronage risk, which includes the risks to do with the market, competition and usage of the infrastructure; force majeure risk that means the contractually specified events which cause material loss or damage to the asset or otherwise prevent the performance of the contract; legislative risk that includes the uncertainty of laws and change in law, which will cause increase in costs of constructing or operating the PPP project or prevent the performance of the project[36].

A detailed risk allocation model is categorizes the risks and their content as fallows; political risks (government corruption, government intervention, nationalization/expropriation, public credit, poor public decision-making process), economic risks (interest rate fluctuation, foreign exchange fluctuation, inflation, financing risk), legal risks (legislation change, imperfect law and supervision system, change in tax regulation), social risks (political/public opposition), natural risks (force majeure, unforeseen weather/geotechnical conditions, environment risk), construction risks (completion risk, material/labor non-availability, unproven engineering techniques), operation risks (project/operation changes, operation cost overrun, price change, expense payment risk), market risks (market competition, change in market demand), relationship risks (third-party delay/violation, organization and coordination risk, inability of concessionaire), other risks (land acquisition, delay in project approvals and permits, conflicting or imperfect contract, lack of supporting infrastructure, residual risk, inadequate competition for tender).[37]

The main benefit of transferring the risk from public sector to private sector is the generation of the incentive to supply cost effective and higher quality services on time; however, if the public sector seeks to transfer risks which the private sector cannot manage, optimum transfer of risk will not be achieved and value for money will reduce as private sector will seek to charge a premium for accepting such risks[38]. Thus the allocation of risks in the PPP contract needs economic analysis in order to increase efficiency.

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[36] EVANS/BOWMAN, **2005**, p. 67.

[37] CHAN, A./ YEUNG, J./YU, C. etc. "Empirical Study of Risk Assessment and Allocation of Public-Private Partnership Projects in China", **Journal of Management in Engineering**, Year: 2011, Number: 27 Issue: 3, (pp. 136–148), p. 140.

[38] PEKGÜÇLÜ KARABULUT, Güzin, **Türk Özel Hukukunda Yap-İşlet-Devret (YİD) Sözleşmesi**, Banka ve Ticaret Hukuku Araştırma Enstitüsü, Ankara, 2007, p. 35; CORNER,

Value for money looks at the benefit of the project procured through PPP for the government, and therefore looks at a broad spectrum of 'value', including whole-of-line costs, quality and fitness for the purpose of the good or service to meet the user's requirements and externalities such as economic growth, environmental impact, mobilization of finance, social impact and sector governance[39]. As the investment period is short and the operation period is long in the PPP projects, technical assessment (cost-benefit analysis) depend heavily on assumptions[40].

If and when a public service is provided by the private sector, public authorities can implement an intensive control, which has an endogenous nature as it can be seen in every component of the activity[41]. In PPP projects, administrative authorities can regulate, supervise and control the project company so as to secure the sustainability, price and quality of the public service[42]. The liability of the administrative authority emanates as a result of the lack in control, which differs in quantity according to the activity in question, in order to maintain public health and security[43]. If and when an administrative authority is held liable as the content controller of an activity accepted as public service, then the liability should be argued before the administrative courts not in civil courts[44].

Contractual parties are liable for the damages caused by the risk they bear according to the contract signed. Thus the equality on bearing the risks, as all risks have economic costs, generates the efficiency and the effectiveness of the PPP project. Tortious liability is not categorized in any of the above-mentioned models. Tort liability normally rests with the tortfeasor if and when there is a norm that has put the burden of compensating the damage of the victim; however in the PPP model, which embraces ultrahazardous activity,

David, "The United Kingdom Private Finance Initiative: The Challenge of Allocating Risk", **The Challenge of Public-Private Partnerships**, (Ed. G. Hodge/ C. Greve), Edward Elgar Publishing, Cheltenham, 2005, (pp. 44-61), p.52.

39 DELMON, **2009**, p. 13-14.

40 KARAHANOĞULLARI, **2012**, p. 97.

41 ULUSOY, Ali, **Kamu Hizmeti İncelemeleri**, Ülke Kitapları, İstanbul, 2004, p. 15-16, 31. The advantage of using PPP models such as BOT rather than the classical public procurement is that in those models administrative authority can interfere to the delivery of the public service. TAN, Turgut, "Sağlık Hizmeti İhale Yoluyla Satın Alınabilir Mi? (Kamu Hizmetinin Özelleştirilmesi Konusunda Bir Örnek Olay)", **İÜHFM, Prof.Dr. İl Han Özay'a Armağan**, Year: 2011, Volume: LXIX, Number: 1-2, (pp. 287-296), p. 295-296.

42 EMEK, Uğur, "Karşılaştırmalı Perspektiften Kamu Özel İşbirlikleri: Avrupa Topluluğu ve Türkiye", **Rekabet Dergisi**, Year: 2009, Volume: 10, Number: 1, (pp.7-53), p. 33.

43 ÇAL, **2014**, p. 46, 53-54, 56.

44 ÇAL, **2014**, p. 44.

the question is how to identify the tortfeasor. As tortious liability cannot be categorized as operational risk or *force majeure* risk, it will not be possible to share the risk and thus increase efficiency with the PPP contract. For that reason, there needs to be a certain legal rule concerning the strict liability in PPP projects[45].

PPP models generally point both the public works and public services. Public works are defined as all kinds of practice and works of building, revision, rehabilitation and operation on public property[46]; they can both be activities that change the structure of the immovable and that renovate the existing immovable[47]. It is said that public work is a broad category of infrastructure[48] projects that include the construction of buildings, bridges and roads by or in the name of public entity[49].

Damages occurred as a result of public works are considered in two groups; permanent damages such as obstruction of the view, contamination, and noise are compensated according to the principle of equality in public burdens; on the other hand, accidental damages are compensated according to risk principle[50]. The compensation of the damages related to the public works also differs according to the personality of injured party; whether s/he is a participant, a user (usager) or 3rd party (tiers)[51]. The damages of the participants and 3rd parties are compensated according to strict liability rules and the damages of the users are compensated according to fault liability[52].

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[45] However there is a view of unforeseeable or events that occur without the control of the individuals are regarded as force majeure even though they are not external. Accordingly if this view is adopted then, when the risk occurs this could be regarded as force majeure since it happened without the control of the individual. Contracting parties through negotiation, which would make allocating the hazard risk much more convenient, can allocate this risk. HARİRİ, Mehdi, "Force Majeure: A Comparative Approach to Different Legal Systems", **World Applied Programming**, Year: 2013, Volume: 3, Number: 6, (pp. 247-251), p. 251.

[46] ARMAĞAN, **1997**, p. 103.

[47] KIRATLI, Metin, "İdarenin Bayındırlık Hizmetleri", **AÜSBF Dergisi**, Year: 1972, Volume: 27, Number: 4, (pp.53-81), p. 55.

[48] In the narrow sense, infrastructure is defined as financial resources that are required, as to invest such as transport, communications, energy and water. In a broader sense infrastructure is a social fixed capital that contains financial resources, educational and health institutions, and the knowledge and skills in these areas. AKTAN/DİLEYİCİ, **Altyapı**, **2005**, p. 11.

[49] ATAY/ODABAŞI, **2010**, p. 154.

[50] ÇAĞLAYAN, Ramazan, **İdare Hukuku Dersleri**, 2. Baskı, Adalet Yayınevi, Ankara, 2014, p. 723; KIRATLI, **1972**, p. 72.

[51] ATAY/ODABAŞI, **2010**, p. 157.

[52] GÖZÜBÜYÜK/TAN, **Cilt I**, **2016**, p. 769-770.

The position of the injured, whether s/he is a user or 3rd party, has no significance in the case of compensation of the damage occurred as a result of ultrahazardous activity or dangerous materials according to the strict liability principle[53] since if the public work has an ultrahazardous nature, the liability of the public authorities shift to the strict liability as a result of the risk principle, thus the distinction of the injured as users and 3rd parties has no significance[54].

Apart from the need for technical improvements in regulations to foster better PPPs, two noteworthy shortcomings are the inconsistent, disorganized state of current regulations governing PPP models, and the lack of governmental institution responsible for promoting and guiding PPPs and guiding public entities through this complex public service procurement method[55]. When the public work is delegated to a private sector company, the system of liability become blurred since the liability of the administrative authorities shift back to the fault liability as a consequence of their position as controller and the private sector company becomes the liable party according to strict liability rules. However, as a result of the insufficiency of legal rules, administrative authorities can be held liable according to the principles accepted in private law.

There are many provisions regulating liability in PPP law. According to Regulation on Establishment of Electricity Production Facilities with Build-Operate Model and their Operation and Regulation of Electricity Sales[56] article 5/h, with regard to contracted work, the production company is the sole responsible for the damages caused to its own employees and to the 3rd parties. According to Resolution on the Application Procedures and Principles of the Built-Operate-Transfer Act numbered 3996[57] article 31/1, the authorized company is liable for any damages caused to the 3rd parties during the investment operation period whether or not the company has any fault. According to Law on Assignment of Institutions other than General Directorate of State Highways for Highway (with tolls) Construction, Maintenance and Operation numbered 3465[58] article 9/2 and its Application Regulation[59] article 79, during the investment and operation period of

[53] DURAN, **1974**, p. 54.
[54] DURAN, **1974**, p. 63; ARMAĞAN, **1997**, p. 107.
[55] DANIŞMAN/SEVİM ÇİFTÇİ/GEDİK etc., **2013**, p. 8.
[56] R.G. (Official Gazette): 29.08.1997.
[57] R.G. (Official Gazette): 11.06.2011.
[58] R.G. (Official Gazette): 02.06.1988.
[59] R.G. (Official Gazette): 14.04.1993.

highways and its facilities, the authorized company is liable for all legal, criminal and financial responsibilities. According to Law on the Construction of Facilities, Renovation of Existing Facilities and Purchasing Service by the Ministry of Health by Public Private Partnership Model numbered 6428[60] article 4/2 and its Application Regulation[61] article 66/2, contractor is liable for all the damages caused to third parties during the contract period. These are not substantive law norms, they are only competence norms. Thus, it is needed to look at the Turkish Code of Obligations in order to find the substantive law norms to compensate the damages occurred.

III. Ultrahazardous Activity Liability

a. General Remarks

Liability law as a general sense can be divided into extra-contractual liability and contractual liability. Extra-contractual liability (tort law in the widest sense) can be divided into two main pillars: fault liability (tort liability) and liability without fault. Liability without fault can be divided into two sub-divisions: liability that causes full compensation of damages (strict liability and fault liability with a shift of burden of proof –also known as liability of due care [*Kausalhaftung*]-) and affordable price offset (*Ausgleichung*). Ultrahazardous activity liability is a form of extra-contractual liability, under strict liability within liability without fault[62]. The theory of strict liability (*vershuldensunabhängige Haftung, responsabilité sans faute*) is that the defendant of the tortious act should be held responsible of the harm caused whether or not the person was negligent or not and has taken all necessary care[63]. Strict liability is a type of responsibility as well as a general principle such as fault liability[64]. Strict liability, as a general principle is in need of a liability reason (*chef de responsabilité, Zurechnung Grund*), which are the main ideologies the legislator has taken into consideration while drafting the

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60 R.G. (Official Gazette): 09.03.2013.

61 R.G. (Official Gazette): 09.05.2014.

62 TANDOĞAN, Halûk, **Kusura Dayanmayan Sözleşme Dışı Sorumluluk Hukuku**, Turhan Kitabevi, Ankara, 1981, p. 1-7; TANDOĞAN, Halûk, **Türk Mes'uliyet Hukuku**, Ajans Türk Matbaası, Ankara, 1961, p. 90-94.

63 EPSTEIN, **1980**, p. 5; DAM, Cees Van, **European Tort Law**, Oxford University Press, Oxford, 2009, p. 255; TANDOĞAN, **1981**, p. 1-7.

64 Both of them are general principles that take part in tort law. Though the main principle is fault liability since is takes in to consideration the defendants free will, strict liability as a form of risk principle is also one of the basic principles that deviate from the main principle of fault liability.

provisions[65]. One of the main reasons for liability is risk (dangerousness, hazard)[66]. This principle has many reflections in the Turkish legal system such as, liability for motorized vehicles[67], products liability[68] and ultrahazardous activity liability[69]. Ultrahazardous activity can be defined as an activity that is so inherently dangerous that a person or legal entity performing such activity can/will be held liable for damages to other persons, even if they have taken every reasonable step to prevent the damages caused[70].

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[65] Means of liability that have been mentioned in Turkish doctrine that cause liability without fault are: principle of causation, principle of interest, principle of risk, principle of equity, principle of dominance, principle of unlawfulness, principle of due diligence violations, principle of abnormality, principle of distributive justice, principle of social law state. One or more of these principles are the means of liability in strict liability. In Turkish Code of Obligations the legislator has mentioned three of these principles: principal of equity, principal of due diligence violations and principle of risk. However legislator mentioning only these three principles does not mean that he has not taken into consideration other means of liability while forming the norms. For more detailed information about the means of strict liability in Turkish law see, SANLI, Kerem Cem, “Kusursuz Sorumluluk Kurallarının Değerlendirilmesi”, **Türk Borçlar Kanunu Sempozyumu**, (Ed. M. M. İnceoğlu), XII Levha, İstanbul, 2012, (pp.61-85), p. 62-63; TANDOĞAN, **1981**, p. 1-7; TANDOĞAN, **1961**, p. 90-94; YÜCEL, Özge, **Türk Borçlar Kanununa Göre Genel Tehlike Sorumluluğu**, Seçkin Yayınları, Ankara, 2014, p. 39-51; SARAÇ, Senem, **Türk Borçlar Kanunu’nda Tehlike Sorumluluğu**, XII Levha, İstanbul, 2013, p.19-22; ÇEKİN, Mesut Serdar, **6098 Sayılı Türk Borçlar Kanunu Madde 71 Çerçevesinde Tehlike Sorumluluğu**, XII Levha, İstanbul, 2016, p. 21-40.

[66] When we take a look at the risk principle, it can be easily noticed that this principle is a narrower interpretation of the principle of causation. It is based upon the notion that, as a result of the threat a person or a legal entity pose a danger to the persons constituting the third parties that may occur, the person/legal entity should be responsible because of the risk the activity itself inherently poses. Hazard is seen as the primary basis of the responsibility. YÜCEL, **2014**, p. 47.

[67] R.G. (Official Gazette): 13/10/1983**,** 2918 numbered Karayolları Trafik Kanunu (Highway Traffic Act).

[68] R.G. (Official Gazette): 7/11/2013, 6502 numbered Tüketicinin Korunması Hakkındaki Kanun (Consumer Protection Act).

[69] R.G. (Official Gazette): 4/12/2011, 6098 numbered Türk Borçlar Kanunu (Turkish Code of Obligations [TCO]), Article 71.

[70] Though probably the legislator had in mind making a *lex generalis* norm for ultrahazardous activity liability, however the result was a general/open norm with all the wholes in the legislated norm that will be detailed in the *elements of liability*. Open/general norms are not norms that can be seen as ‘*lex generalis*’ these norms actually are, where the normative elements that constitute the essential content, is vague of meaning and in order to elaborate the meaning, which can only be done by using social, economical and even technological assessments., GÜRZUMAR, Osman Berat, **Zorunlu Unsur Doktrinine Dayalı Sözleşme Yapma Yükümlülüğü: Hakim Durumun Rakiple Anlaşma Yapmaktan Kaçınmak Suretiyle Kötüye Kullanılması**, Seçkin Yayınları, Ankara, 2006, p. 33. The reasons why

There are four elements that construct ultrahazardous activity liability which are, activity, damage, causation and unlawfulness. Each one of these elements has a particular importance and a special interpretation with regard to ultrahazardous activity liability. These issues will be elaborated in the *elements of liability*.

b. Elements of Liability

The main liability norm for ultrahazardous activity liability can be roughly translated as: "*When a significantly dangerous legal entity's*[71] *activity has caused damage, the owner of the legal entity and the operators are held jointly responsible…*"[72]

As it has been stated before that the elements of ultrahazardous activity liability are, activity, damage, causation and unlawfulness. Even though these elements are also used in other types of strict liabilities an even in fault liability; they have a special importance in ultrahazardous activity liability. The specialty of each element will be discussed respectively.

Though the dangerousness is inherent within the scope of the materials[73] used, the Turkish Code of Obligations (TCO) has taken into account an

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we state this type of liability as ultrahazardous activity liability are, for one, the Turkish Code of Obligation in Article 71 is for activities that can cause an hazard that can be seen as important (ultra hazard); second, in common law the courts terminologically use ultrahazardous activity liability for abnormally dangerous activities. See *Langan v. Valicopters, Inc., 567 P.2d 218.*

[71] Legal entity is used here as both business and enterprise both in a broader sense. Why we use legal entity terminologically will be elaborated later.

[72] "*…When the nature or the materials, tools or elements used in the legal entity are taken into consideration, if they are considered to be cause harm frequently and severely even though all care has been provided from the experts, then this enterprise/legal entity/business will be considered as significantly dangerous. Especially, if there is a special ultrahazardous activity liability norm in other acts for similarly dangerous activities, then that enterprise/legal entity/business will be considered as dangerous.*
Special responsibility provisions foreseen for the case of a specific threat are reserved.
Even though the enterprise/legal entity/business whose activities are allowed by law has a significant threat, the victim may want an affordable price to offset the damage caused by the activities of this enterprise/legal entity/business". For the original language please see 6098 numbered Türk Borçlar Kanunu (Turkish Code of Obligations [TCO]), Article 71.

[73] Ultrahazardous activity liability is mainly for technical risks that are inherent to the materials used for the dangerous activity. ÇEKİN, **2016**, p.177-178, 198; YÜCEL, **2014**, p.118-119. That is why in German Law it is referred to as Gefährdungshaftung instead of Gefahrenhaftung or Gefahrtragung. KRAUSE, Monika, **Schmerzensgeld und Gefährdungshaftung im österreichischen, deutschen und schweizerischen Recht**, unveröffentlicht jur. Dissertation Universität Graz, 1994, p. 8-9; ÇEKİN, **2016**, s.153. Also

activity that can cause damage, not an act[74]. Another important divergence from other strict liability rules in ultrahazardous activity is, TCO has not only limited the act with activity but also it has limited the activity to the activities of a "*dangerous legal entity*"; making the object of the norm "dangerous business", and the subject of the norm dangerous business owners and operators of such dangerous legal entity. Since the TCO has based its focus upon dangerous legal entity's activity, it should not be seen as limited as the commercial business/enterprise that has been regulated by the Turkish Commercial Code. The scope of dangerous business should also cover artisan enterprises as well as the state-owned enterprises carrying out an economic activity. Accordingly, the definition of the business should be all kinds of economic units carrying out an economic activity[75]. In terms of responsibility of dangerous activities, the legislator attaches an intrinsic characteristic to this institution. Thus, the activities being carried out should be considered as dangerous[76]. The concept of danger in the broadest sense is a risk of loss[77]. There are two criteria that determine the risk: (1) objective factor[78] which is the probability[79] and the scale of loss[80] and (2) subjective factor which is even if all due care has been given from the experts there still is a probability of risk[81]. By some authors, 'all due care' is a very broad expression, and must be brought down to the level of 'reasonable care'.

TCO Art. 71 paragraph 2 refers to materials used while the activity continues, suggesting that the legislator considers ultrahazardous activity liability is mainly for technical risk that could occur.

[74] This limits the liability to rule to the activities rather then the vast scope of an "act". This is a divergence from the Swiss Widmer/Wessner draft law on extra-contractual liability and prescription. In the draft law the legislator has written act instead of activity causing the norm to have a broader application then the TCO.

[75] Instead of using economic units we prefer to use legal entity since it is a better suiting legal term. SARAÇ, **2013**, p. 29-35; YÜCEL, **2014**, p.116- 122.

[76] The most important matter is that the damage that has been occurred should be considered the characteristic risk of the dangerous legal entity. ÇEKİN, **2016**, p. 220.

[77] YÜCEL, **2014**, p.123.

[78] It is based on objective criteria other than subjective views of people. An objective criterion has two main aspects: one being the quality, the second being the quantity of the loss. Quality of the loss refers to how big the damage is (the scale of the damage). The quantity refers the frequency of the occurrence of such damage. See SARAÇ, **2013**, p.36; YÜCEL, **2014**, p. 131; SANLI, **2012**, p.74.

[79] Because of the characteristic nature of the risk compared to other hazards, occurs more frequently.

[80] Because of the characteristic nature of the risk, the emergence of such risk would cause heavy losses.

[81] ÇEKİN, **2016**, p. 161-167. For some authors, 'all due care' is a very broad expression, and must be brought down to the level of 'reasonable care'. See SANLI, **2012**, p.75.

The second element that has a significant importance for ultrahazardous activity liability is damage. When TCO 71 is analyzed, it can clearly be seen that there is not a constraint on damages. Accordingly, any possible damage caused by a company, which is inherently dangerous, shall be compensated with ultrahazardous activity liability. However, some authors suggest that the solution in the Widmer / Wessner Draft should be applied here: only losses that have risen from the occurrence of "typical risk" should be compensated[82].

Another important element is causation. Causation has a special importance in strict liability. Since ultrahazardous activity liability is a type of strict liability, the limitation of the liability rule has much more importance than other types of liabilities[83]. The only limitation for the liability rule in ultrahazardous activity liability is limitation provided by causation. Although the main principle accepted in Turkish law for causation is appropriate causation theory, this theory is not always suitable for the ultrahazardous activity liability in all circumstances[84]. Indeed, the development of technology and science, there can be results that were never experience or cannot be predictable before. In the case of ultrahazardous activity liability, it is difficult to use the subjective element of appropriate causal theory described as experience. To have normative criteria for linking danger and damage within the danger area is called 'danger causation'[85]. In danger causation, since the

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82 SARAÇ, **2013**, p.56.

83 In fault liability and in due care liability; faulty itself can be used as a limitation for the liability rule. However, ultrahazardous activity liability is deprived from such limitation.

84 ERİŞGİN, Nuri, "Tehlike Bağı", **AÜHFD**, Year: 2000, Volume: 49, Number: 1-4, (pp. 137-154), p. 141.

85 The type of causation that is taken into consideration in ultrahazardous activity Liability is controversial. Some scholars suggest that appropriate causation theory should be applied where as some scholars suggest the characteristic risk theory should be applied and some suggest that a mixture of both is best way of establishing causation as well as limiting liability. However, we find that, the danger causation should be used while *establishing* causation for it provides all the benefits of other theories while excluding their disadvantages. ERİŞGİN, **2000**, p. 144; SCHÜNEMANN, Wolfgang B., "*Kausalität in der Gefährdungshaftung*", **NJW**, Year: 1981, Volume: 51, (pp. 2796-2797), p.2796. https://beck-online.beck.de/default.aspx?vpath=bibdata%2Fzeits%2FNJW%2F1981%2Fcont%2FNJW.19812796.1.htm (Access date: 31.10.2016).; ÇEKİN, **2016**, p.219; KILIÇOĞLU, Ahmet M., **Borçlar Hukuku Genel Hükümler**, Genişletilmiş 19. Baskı, Turhan Kitabevi, Ankara, 2015, p. 301; TANDOĞAN, Haluk, "Hukuka Aykırılık Bağı", **BATİDER**, Year: 1979, Volume:X, No:1, p.1-22; EREN, Fikret, "Hukuka Aykırılık Bağı veya Normun Koruma Amacı Teorisi", **Prof. Dr. Mahmut Koloğlu'na Armağan**, Ankara, 1975, No: 367, (pp.461-491), p.461; EREN, Fikret, **Sorumluluk Hukuku Açısından Uygun İlliyet Bağı Teorisi**, Ankara Üniversitesi Yayınları, No: 361, Ankara, 1975, p. 111; ATAMER, Yeşim,

link between the dangerous space created by the danger itself and the causation is taken into consideration, subjective factors such as proper conviction and experience are left out to have more normative assessment criteria[86].

Finally the last element is, unlawfulness. Hazard is one of the most controversial issues in terms of being a reason for responsibility. Most of the controversy can be gathered under the discussion that, whether or not the damage that has occurred was contrary to the law or in accordance with the law[87]. Rapidly improving technology and as a part of freedom of enterprise the rule of law sees ultrahazardous activity as a necessity. This necessity has not been denied by any rule of law. Because of this, an ultrahazardous enterprise and its activity are in accordance with the rule of law. For this reason, the characteristic (=nature) of ultrahazardous activity liability is debatable.

The writers that focus on the legality of the activity characterize ultrahazardous activity liability as an offset (*Ausgleichung*) for damages. However, the prevailing argument suggests that, the main problem with ultrahazardous activity liability is not whether or not the activity itself is legal but rather the damage that has been caused can be seen legal (or within the scope of rule of law). According to this argument, the damages caused by an ultrahazardous activity cannot be aided by an offset but by full compensation of damages (*Schadensersatz*). This debate is more on the legal theory part of the regulation, which is not in the scope of this paper. However, the outcome of the debate affects the norm that has to be used when damage occurs by an ultrahazardous activity liability. Since the TCO Art. 71 provides two sets of norms, one being a full compensation of damages and the other being an affordable price of offset, for damages that occur by an ultrahazardous activity, the character of ultrahazardous activity liability and the scope of each rule must be determined. According to our opinion, ultrahazardous activity liability is a type of liability that the tortfeaser must fully compensate the damages (*Schadensersatz*). The reasons behind our opinion are, first of all, the

Haksız Fiilden Doğan Sorumluluğun *Sınırlandırılması*- Özellikle Uygun Nedensellik Bağı ve Normun Koruma Amacı Kuramları, Beta Yayınevi, İstanbul, 1996, p.70; DEUTSCH, Erwin, "Zurechnung und Haftung im Deliktsrecht", **Zurechnung und Haftung im zivilen Deliktsrecht Festschrift für Richard M. Honig**, (Ed. E. Barth), Göttingen, 1970, (pp. 33-52), p.33.; DEUTSCH, Erwin, **Allgemeines Haftungrecht**, 2. Auflage, Köln, 1996, p.99.

[86] ERİŞGİN, **2000**, p. 145.

[87] ULUSAN, İlhan, **Medeni Hukukta Fedakarlığın Denkleştirilmesi İlkesi ve Uygulama Alanı**, 2.Bası, Vedat Kitapçılık, İstanbul, 2012, s. 365.

offset can only asked if a lawful act causes a lawful damage. What should be understood by lawful damage is that, after the lawful act has occurred, there are two outcomes, one being the outcome that is within the rule of law, that is desired by the law, second being the damage that has been caused to the other party to reach the desired outcome[88]. However, with ultrahazardous activity liability when the characteristic risk occurs there is only one outcome, which is the damage that should be compensated[89]. Another reason for us to agree to the prevailing opinion is, during the activity that causes an affordable price offset the actor, is aware of the damages he/she is doing. Moreover, the actor is purposely and willingly causing the damage[90]. However, in ultrahazardous activity liability, though the tortfeasor is aware of the damages that could occur if the characteristic risk happens, the damage itself is not willingly or purposely done[91].

However, though ultrahazardous activity liability is a form of strict liability that causes the tortfeasor to full compensation of damages (TCO Art 71 paragraph one), in the fourth paragraph of TCO Art. 71 it is written, "*the victim may want an affordable price to offset the damage caused by the activities of this enterprise/legal entity/business*". The scope of the remedy in paragraph one and paragraph four must be determined[92]. In the literature there

[88] The best example for an affordable price offset is the TCO Art. 63. "State of necessity" (*Notstand*). In the state of necessity, for example, a climber who is need of a shelter because of an avalanche, in order to preserve his life he could break the door of a nearby cottage. When the climber breaks the door (lawful act), there are two outcomes, the first outcome is violation of the property right of the owner of the cottage and the second is, the preservation of the right live. The lawmaker holds one of the outcomes above the other; in this scenario the right to live is held above property right. For this reason, even though there is a violation of the property right, the damage is considered lawful. ULUSAN, **2012**, s. 367.

[89] In ultrahazardous activity liability, for example, when the characteristic risk occurs in a liquefied petroleum gas company there aren't any benefits, or an outcome that could be considered as a higher right. There are only the damages that the third parties have faced. ULUSAN, **2012**, s. 365.

[90] The example we have given for the affordable price offset was the "state of necessity" with the climber who was trying to save his/her life during an avalanche by breaking and entering a nearby cottage. Using the same example, the climber knows and is aware of the fact that he/she is breaking and entering some else's cottage. Moreover, the climber is purposely and willing doing the act that will cause the damage.

[91] The example we have given for the ultrahazardous activity liability was the liquefied petroleum gas company. When the characteristic risk occurs such as the explosion of the company, the company's owner is aware of the fact that such risk could occur, however is willing to take precautions to avoid such risk from occurring. So, the damage itself is not wanted and not given willingly or purposely.

[92] There are basic two main vies on what paragraph four is regulating: one being that it is regulation an affordable offset of damages and second being that it is regulating something

has been many opinions for solving the contradiction between the two paragraphs. Firstly, some scholars have suggested that, the first paragraph is for "unlawful" enterprises[93]. However, this has been vigorously criticized because of the fact that, the lawfulness or the unlawfulness of an enterprise cannot determine the type of liability it would be subject to if and when the characteristic risk occurs. Moreover, Turkish High Court of Appeal in a decision about base station has ruled that, management of the facility in accordance with the regulations does not eliminate the fact that the damage caused by such facility should be compensated[94].

Some scholars who do not agree with the enterprise being "lawfully in business" would change the liability rule opinion suggest that, though "lawfully in business" does not change the liability rule it would be considered as a special basis for deduction from the overall compensation[95]. Another view suggests that, there is a legal gap between the application of paragraph one and paragraph four[96]. A view on the relationship of paragraph one and four is that, paragraph one is for damages that occurred of typical or characteristic risk whereas paragraph four is for the normal damages occur during the activity of the dangerous legal entity[97]. Professor Hatemi and Reisoğlu suggest

other than affordable offset of damages. KORKUSUZ, Refik, "Hukukumuzda Tehlike Sorumluluğu Uygulaması ve Yeni Borçlar Kanunu Tasarısı'ndaki Düzenlemesi", **Sorumluluk ve Tazminat Hukuku Sempozyumu (28-29 Mayıs 2009)**, Gazi Üniversitesi Hukuk Fakültesi, Ankara, 2009, (pp.147-209), p. 204; KOÇHİSARLIOĞLU, Cengiz/ERİŞGİN, Özlem, "Yeni Türk Borçlar Kanunu Tasarısı'nda Haksız Fiiller", **Rona Serozan'a Armağan**, XII Levha, İstanbul, 2010, (pp.1243-1271), p. 1265.; ULUSAN, **2012**, p.366., ATAMER, Yeşim, "Revize Edilmiş Türk Borçlar Kanunu Tasarısı'na İlişkin Değerlendirme ve Teklifler", **HPD**, Year: 2006, p. 22. (pp.8-37)

93 Some writers also suggest that paragraph one of TCO Art. 71 is for enterprises that are lawfully in business. SANLI, **2012**, p.80; AKKAYAN YILDIRIM, Ayça, "6098 Sayılı Türk Borçlar Kanunu Düzenlemeleri Çerçevesinde Kusursuz Sorumluluğun Özel Bir Türü Olarak Tehlike Sorumluluğu", **İÜHFM**, Year: 2012, Volume: I.XX, Number: 1, (pp. 203-220), p.208; YILMAZ, Süleyman, "Türk Borçlar Kanunu Tasarı'nda Sebep Sorumluluklarına İlişkin Yeni Hükümler", **AÜHFD**, Year: 2010, Volume: 59, Number: 3, (pp. 551-578), p.573. Also some scholars suggest that, paragraph four of TCO Art 71 is for enterprise which have the proper license and permits making them lawfully in business. KILIÇOĞLU, **2015**, p. 355.

94 High Court in Civil Matters (Yargıtay) 4th Chamber, E. 2003/16434, K. 2004/971.

95 OĞUZMAN**,** Kemal/ÖZ, Turgut, **Borçlar Hukuku Genel Hükümler Cilt 2**, 12.Baskı, Vedat Kitapçılık, İstanbul, 2016, p. 194.

96 YÜCEL, **2014**, p.191; SARAÇ, **2013**, p.75.

97 AYDOĞDU, Murat, **Sivil Amaçlı Nükleer Santral İşletenin ve Nükleer Madde Taşıyanın Hukukî Sorumluluğu**, Adalet Yayınevi, Ankara, 2009, p.300; A similar view to this suggests that, paragraph one is for risks that are not allowed (the typical risks that

that, paragraph one is for ultrahazardous activity liability whereas paragraph four is for a general equity principal[98]. Finally another view in the doctrine is that, paragraph one only shows who is liable from the damages whereas paragraph four shows the type of liability, which is an affordable offset of damages[99]. Our standpoint for the controversial subject is that, this norm should be understood as the norms in 4721 numbered Turkish Civil Code, namely article 730 and article 737. Both of these norms have a similar wording as article 71 of TCO. In the first paragraph they burden the tortfeasor with full compensation of damages, whereas in the last paragraph they suggest that, if there are damages because of excess use or abundance then the tortfeasor is liable for affordable price offset. This solution can be used for ultrahazardous activity liability. Such as, if the typical risk occurs, in a pharmaceutical plantation a chemical reaction causing an explosion then the owner and the operator(s) will be liable for full compensation of damages occurred. Whereas when there is chemical waste because of excess use of chemicals and the damages occur from such chemicals will be compensated differently, by affordable offset of damages.

The importance of the relationship between paragraph one and paragraph four with regard to ultrahazardous activity liability of PPP models is to understand what type of liability the liable body will compensate the damages occurred. According to our view, if the typical rick occurs the liable body will have to pay full compensation of damages. However, damages that occur from the risks that are typical for the activity but not the typical risk itself will be compensated by affordable offset of damages, only damages from excess usage will be compensated as such.

Although it is not *per se* an element of the liability, the people who are or should be responsible of the damage caused by an inherently dangerous enterprise/legal entity/business is equally as important as the elements that construct the liability. The wording of the norm suggests that the owner(s) and the operator(s) of the dangerous enterprise/legal entity/business will be held jointly and severally liable. But the problem lays in what should be understood of the owner of the enterprise/legal entity/business. What the legislator implies with ownership of the business, whether it depends on property rules

cause more damages), and paragraph four is for damages the legislator allowed. See SÜZEK, Sarper, **İş Hukuku**, 9. Baskı, Beta Yayınları, İstanbul, 2013, p.423-424.

98 HATEMİ, Hüseyin/GÖKYAYLA, Emre, **Borçlar Hukuku Genel Bölüm**, Vedat Kitapçılık, İstanbul, 2011, p.142; REİSOĞLU, Safa, **Türk Borçlar Hukuku Genel Hükümler**, 25.Baskı, Beta Yayınları, İstanbul, 2014, p.199.

99 ÇEKİN, **2016**, p.312-314.

is unknown. This has to be decrypted in order to understand whom the victim should sue for compensation of damages. In our opinion ownership of the business is a wider concept that involves the direct dominance (*direktsteuerung*) over the business. With PPP models, which are the main subject of this paper, the administrative authority will grant a real right, which usually is the right of contraction on a land that is owned by the government. In such a case, the government owns the land, the private body has the right to construct on the land and in some cases another private body will operate in the constructed building. Who should be liable when the risk of ultrahazardous activity occurs? Although ownership can be interpreted as whom has the direct dominance over the subject matter operators can be interpreted as both whom has the direct dominance (if the owner and the operator is the same individual or has a real right over the subject matter), or whom has the indirect dominance over the subject matter via lease, which is the case of administrative authorities in Built- Own-Lease-Transfer PPP models. According to the formula that we have suggested, since the right of construction gives the person who owns the right equal to property right on the constructed building[100], and it provides, though limited, dominance over the property but mainly the constructed building; the owner of the right of construction, namely the private company, should be liable for the damages caused by the ultrahazardous activity. The same can be stated for the right of usufruct. If and when the public authority becomes the part of the right to construct by institutional PPP, then it can be seen as the owner. Accordingly, the injured can contact the owner, in the case of PPP where the right to construct on the private body, and the operating body for damages[101]. The relationship between the ownership and the operator will be determined in the internal affairs of subrogation[102].

[100] SİRMEN, A. Lâle, **Eşya Hukuku**, 4. Bası, Yetkin Yayınları, Ankara, 2016, p. 546; GÜRZUMAR, Osman Berat, **Türk Medenî Hukukunda Üst Hakkı Kamu Malı Taşınmazlar Üzerindeki Üst Hakkı ve Yap-İşlet Devret Model Dahil Uygulamadan Sözleşme Örnekleri ile Birlikte**, 2. Baskı, Beta Yayınları, İstanbul, 2001, p. 32; KUNTALP, Erden, "Bağımsız ve Sürekli Sınırlı Aynî Hakların Özellikle Üst Hakkının Taşınmaz Olarak İşlem Görmesi", **Türkiye Barolar Birliği Dergisi**, Year: 1991, Number: 4, (pp. 528-551), p.548.

[101] ANTALYA, Gökhan, **6098 Sayılı Türk Borçlar Kanunu'na göre Borçlar Hukuku Genel Hükümler Cilt I**, 2. Baskı, Beta Yayınları, İstanbul, 2013, p. 656; SARAÇ, **2013**, p. 21; YÜCEL, **2014**, p. 33.

[102] OĞUZMAN/ÖZ, **2012**, p. 188, 290.

IV. Economic Analysis of the Rules Regulating Ultrahazardous Activity Liability and PPP Models

There are three parties benefiting from the PPP project; the contracting parties who are public sector entity and concessionaire (private sector company) and society. The expected benefits of the contracting parties are seen as their incentives signing the PPP contract. Contracting parties maximize their utility with the optimal risk allocation; thus any rule affecting their potential to be exposed to a risk affects the ultimate efficiency of the PPP contract and needed to be analyzed. The society's direct benefit from an efficient PPP contract is to pay the minimum for the qualified public service. However, if and when any damages occur as a result of the PPP project, an indirect benefit of the society emerges which is the efficient compensation of damages. In this part of the paper it is intended to explore the lack of rules regulating the ultrahazardous activity liability in PPP models and its inefficient results. Taking economic analysis as the main tool, solutions to this inefficiency will be discussed.

a. General Remarks- using economical analysis as a tool for finding efficient allocation of risks

In this paper we are aiming to use economic analysis of law as a tool for finding a successful PPP model that would efficiently allocate the risk between the contracting parties, in order to decrease the costs that they would bear. In doing so we are aiming to use, the utility maximizing theorem in order understand the incentives of the parties while getting into a contractual obligation. What is meant by the utility maximization is, that a party's utility received from the last money spent on each commodity is equal across all goods and services; and also the party's incentives to satisfy their needs with minimal cost and maximum income which would maximize their total utility. Another economical term and theory that we are using is the diminishing marginal cost theorem. This theory is used while taking into consideration the due level of care the parties must take in order to be not liable via fault liability and also for analyzing the cost of doing so. What diminishing marginal cost theorem means is, when individuals are making decision to maximize their utility, each activity that they make will gain less utility then the first. Last but not least, we consider the parties engaging in to a contractual relationship and the third party that is the victim of the tortious act to be rational while engaging into these activities; meaning we will be using rational choice theorem while considering their behaviors. What is meant by the rational choice theorem is, individuals will make their decisions in order to maximize their utility.

b. Problems Regarding the Lack of Rules Regulating Ultrahazardous Activity Liability in PPP Models

Problems regarding the ultrahazardous activity liability can be summed up as not having clear set of rules for; under TCO the ultrahazardous activity liability rule lacking the limitation of damages and not clearly stating what it means by ownership; for PPP rules regulating that operational risk will be borne by the private body, and finally third party victims of tort has to choose the party that they can sue for their damages. These issues decrease the expected utility of both the contractual parties as well as the third party victims.

i. Third Party's Efficient Compensation of Damages

After a tortious act has been conducted, the legal system gives the victim a claim for damages, and if and when the victim claims for the damages this will cause a cost not only to the victim but also to the society[103]. These cost are called administrative costs. It is easy to say that these cost affect the plaintiff's choice of suing. If the plaintiff, in the case of ultrahazardous activity the victim-the person who has material and/or moral hazard will sue for the so called damages when the cost of suing is less than the expected benefits of the suit[104]. So if the plaintiff is risk neutral the cost of the suit should be less than the damage * probability of winning the suit[105]. The less the probability of winning the less the incentive to filling a suit will be a fairly easy assumption to be made. The probability of winning a suit can be determined by many factors. But one of the main factor can be listed is the proof of evidence that indeed the defendant caused the damage and for tort law in fact was the damage was caused because the negligence of the defendant. But with ultrahazardous activity liability being a form of strict liability the plaintiff needs not to worry about providing proof of negligence, however, the plaintiff may worry about collecting the damages from the defendant for after the risk had been occurred in ultrahazardous activity liability the enterprise/business/legal entity could be bankrupt. Strict liability by not having one of its elements as fault is plaintiff friendly by increasing the probability of winning the suit. The same can be said for the administrative

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[103] SANLI, Kerem Cem, **Haksız Fiil Hukukunun Ekonomik Analizi: Hukuk ve Ekonomi Öğretisi**, Arıkan Yayıncılık, İstanbul, 2007, p.184.

[104] SHAVELL, Steven, **Foundations of Economic Analysis of Law**, Harvard Publications, Massachusetts, 2004, p. 390.

[105] SHAVELL, Steven/ KAPLOW, Louis, "Economic Analysis of Law", **Handbook of Public Economics Volume 3**, (Ed. A.J. Auerbach / M. Feldstein), 2002, (pp. 1661-1784), p. 1722.

authorities having done a public service that is inherently dangerous, for the damages of doing an inherently dangerous business administrative authorities are deemed to be regulated by strict liability rule[106].

However, though this is the case when an administrative authority has done the service; when it is delegates over to a private body with any of the PPP models than the administrative authorities will only be liable if and when the administrative authority has a fault while supervising and overseeing the dangerous service[107]. So like it has been said before, in the case of dangerous activities executed with the PPP models the private body will be liable with strict liability and the administrative body will be liable with fault liability. So the victim will have to make a choice to sue either one of them for compensation of their damages and the suits fall within the jurisdiction of different courts; service fault liability of the administration can be filed in administrative courts, whereas ultrahazardous activity liability of private body will be filed in civil courts.

On one hand the victim suing and compensating the damages that have occurred from the private body is much more easier, since fault is not an element and thus the probability of winning increases, however if the private body is bankrupt the probability of compensating damages will decrease, whereas on the other hand suing the administrative body is harder with respect to private body since proving negligence on behalf of the administrative body, which would decrease the probability, though the public body would have better funds to compensate the damages the public service has caused. So finding a proper solution for the victim to compensate their damages that would incorporate both the public and the private bodies would be necessary but quite difficult. This issue will be dwelled upon the next part of the paper.

ii. Achieving An Efficient PPP Model

The efficiency of a PPP requires efficiency both in the tender phase and contractual phase. An efficient tender process is important as it is the phase in which the concessionaire (winning bidder) is chosen and if the value for money principle has not been taken into consideration in the tender process, it is not possible to conclude an efficient PPP agreement. If and when the concessionaire is chosen effectively, it is possible to issue an efficient contract

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[106] GÖZÜBÜYÜK/TAN, **Cilt 1**, **2016**, p. 750-767; DURAN, **1974**, p. 51-54; ARMAĞAN, **1997**, p. 113-134; ÇAĞLAYAN, **2007**, p.255-286; ATAY/ODABAŞI, **2010**, p.169-175.

[107] The serious negligence is required in order to hold public authorities responsible for the damage occurred as supervising and overseeing authority the administrative entity does not have access to all the necessary information. ATAY/ODABAŞI, **2010**, p. 129-130.

through the provisions regulating the risk allocation of the contracting parties. However, with regard to PPP models that are inherently dangerousness, the negotiation part of the contract and the incentives of the contracting parties for allocating risk that are caused by this dangerousness is important for preparing an efficient tender document including administrative and technical specifications. With the new TCO formulating a general ultrahazardous action liability norm, the incentives and the risk of the firms that will participate in the tender process have changed, causing the firms and the government to take into consideration the types of PPP models that will fit the risk of such activities and the negotiation process. Though the phases and their order is still intact; during the preparing for tender document the contract that will be sign must be taken into consideration, at least as a draft of what it is expected of parties when such big risk is undertaken. For this reason, the administrative authority that opens the tender for the PPP needs to take into consideration the burden of such dangerous liability and choose the best tender process in order to maximize the efficiency of the PPP contract that will be signed. That's why we must first look into the contracting process to see the incentives of the parties and then find an effective tender method.

1. Efficient Allocation of Risk Between Contracting Parties

In this part, it will be discussed that after the tendering process has been completed the parties should negotiate the terms of the contract. Both of the contracting parties will/may have different incentive that will differ the clauses in the contract with the risk analysis that they will make. This process in our opinion will have two main parameters: the incentives of the contracting parties and the scope of the hazard, which will be discussed respectively.

a. First Parameter: The Incentives of Contracting Parties

PPP mechanism as a whole, though limitedly (taking into consideration the administrative law constrains) depends upon freedom of contract. Freedom of contract enhances the incentives of individuals to discover new products and methods of increasing output and thereby increasing total material welfare of society[108]. Although this may be the main objective, both parties have other incentives that could be equal or less important to support this objective[109].

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[108] SCHÄFER, Hans-Bernd/OTT, Claus, **The Economic Analysis of Law**, Edward Elgar Publishing, London, 2004, p. 273.

[109] In this part of the paper we are considering that the transaction cost are 0 for each party. For a detailed information about allocation of risks with transactions costs see JIN, Xioa-Hua,

The main objective of PPP mechanism is to achieve value for money which is determined via life cycle costs, allocation of risks, time required to implement the project, quality of the service and ability to generate additional revenues[110]. As value for money is the main objective and the incentive of the public authority to choose PPP models as a way of providing public services rather than providing such services themselves; during the negotiations of the contract the allocation of risk becomes much more important. If the risks stay on the public sector than the objectives of the public sector to enter to a PPP relationship will not be fulfilled, on the other hand if the public sector does not bear some of the risks than the maximum efficiency and effectiveness will not be reached.

The main incentives of the contractual parties to enter into a PPP relationship are to increase their utilities. From the concessionaire's point of view, being a firm that's main objective is to maximize their benefit, will want to maximize their gain while expending to other sectors that was not open to private sector before; at the same time the administrative body's incentive will be to minimize public expenditure and initiate private sector investment while using their knowledge and expertise regarding matters that are not always *per se* administrative authority's knowledge.

These incentives of the parties require the negotiation of the contract until the point where both parties will achieve their maximal level of expected utility. Similarly, it has been said that "*a contract from an economic point of view is only valid if it increases the utility of parties*"[111]. Looking at the PPP mechanism while taking into consideration the expected utility maximization, it becomes apparent that the concept of value for money in PPP is this principles coming to life.

b. Second Parameter: The Scope of The Hazard/Dangerousness

It has been known that, with strict liability, the tortfeasor will achieve a due level of care where the probability of the occurrence of the risk will be decreased and thus the probability of compensating damages will also be decreased. If the tortfeasor will take less precaution than the due care level, the probability of such compensation will increase or in the case of taking more precautions more than the due care level if and most likely when the risk

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"Allocating Risks in Public-Private Partnerships using a Transaction Cost Economics Approach: A Case Study", **The Australasian Journal of Construction Economics and Building**, Year: 2009, Volume: 9 Number: 1, pp. 19-26.

[110] Commission of the European Communities, **2003**, p. 55.

[111] SCHÄFER/OTT, **2004**, p. 297.

occurs will have already paid more for precaution without decreasing the probability of the occurrence of risk which has mostly been explained with the diminishing marginal utility theorem[112]. With the PPP mechanisms if we leave all the risk of ultrahazardous activity on the concessionaire, assuming rational choice theorem is valid in this case[113], this body will take into consideration the occurrence of such risk while negotiating the contract, even entering the tendering process in the first place. This may cause less entrants and decrease the competition, thus may decrease the efficiency of such PPP models. Within the scope of freedom of contract we can easily state that allocating such risks that will increase the expected utility of parties[114] is not the case in all situations given that most of the activities that are considered ultrahazardous activity have legal rules hindering such efficient allocation of risk.

Since law can limit the allocation of risk in ultrahazardous activity, there could be alternative ways of achieving a successful allocation of risk that would increase the utility of both contracting parties. Considering that, in ultrahazardous activity liability, the risk is inherent and undividable from the activity itself; the concessionaire will have to take into consideration of the expected value of risk[115].

Moreover, the parties will or should take into consideration of the expected value of risk as a main factor affecting the total benefit of the contract, while choosing a PPP model or forming a legal rule that would provide efficient allocation of risk, the dangerousness and its value (from an economical standing point) should also be used as a parameter. Looking into some scenarios:

If the level of dangerousness is below of a point that is causing the social welfare to be below the optimal level however not hindering the party from engaging into contract; than the risk of ultrahazardous activity will be bearable by the concessionaire, bearing in mind that in order to increase the total social

[112] SANLI, **2007**, p. 172-176.

[113] There is also a view of alternative choice theorem. However in this paper we are considering all the concerned parties are acting according to the rational choice theorem. This theorem also known as the Arrow's theorem says that, when there are alternatives that will affect the choices individuals make, considering them rational will not be efficient, since each alternative will have a reasonable justification. While choosing a successful PPP model rather than classic public procurement the administrative authority will act according to the alternative choice theorem.

[114] Expected Utility =Benefit - (Cost + Harm*Probability)

[115] Expected Value of Risk= Harm*Probability

welfare there should be an opportunity for the concessionaire to have a risk premium, which will be elaborated on *below*. There can be two ways to understand whether or not the level of dangerousness can be considered as low: (1) if the amount of damage is low or (2) if the probability of the occurrence of damage is low.

If the activity itself has a benefit for the society though its level of dangerousness is very high (high enough to decrease the social welfare if and when the risk arises) then the risk should be allocated between the parties since the compensation from one of the contractual parties will unbalance the whole allocation of risks, thus decreases or diminishes the contract's efficiency. In this case, if the liability stays on the private body this will increases the price of the services provided by them via risk premium and expected utility of the PPP contract will be decreased. Accordingly the more risks that fall on the concessionaire, the higher the price of the good or service as the price will include at least the expected value of these risks[116].

These scenarios will bring us to the conclusion of risk premium and compensation cap as well as institutional PPP or Built-Own-Lease-Transfer model for ultrahazardous activities could be the solutions for the inefficiency problem that we face in the PPP model as a result of ultrahazardous activity liability rule in force.

c. Section Conclusion: Institutional PPP vs. Built-Own-Lease-Transfer and/or Compensation Cap vs. Risk Premium

Risk premium is the minimum amount of money that will make a risky activity's expected return to be equal or exceeded the known return on a risk-free asset. So, the expected return on any activity can be calculated as the sum of the risk-free rate and an extra return to compensate for the risk[117]. In the very hazardous activity the risk premium has to be high enough to compensate the damages and leave a reasonable profit for the private body. Since with highly/extremely dangerous activities the private bodies would not want to be under such a risk for a long period of time, this will reflect on the risk premium and thus on the price in a big way, because it will have less of a time period to be reflected upon as well as the price being set by the regulatory body cannot be exceeded. Accordingly, risk premium would not be efficient in highly dangerous activity but could be a solution for the low dangerous

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[116] SCHÄFER/OTT, **2004**, p. 279.

[117] http://web.stanford.edu/~wfsharpe/mia/prb/mia_prb2.htm (Access date: 31.10.2016); http://people.stern.nyu.edu/adamodar/pdfiles/papers/riskprem.pdf (Access date: 01.02.2015).

activities, where the private body will face a lower probability of risk or lower amount of damages.

Compensation cap is a top limit of compensation of damages for if and when the risk occurs[118]. There are mainly two reasons why compensation caps are advantageous; first of all, in ultrahazardous activity liability especially when the tortious activity causes mass damages, the compensation itself is an excessive constraint on the tortfeasor's economic freedom[119]. The second reason for the usage of compensation a cap is, in ultrahazardous activity liability not only does the tortfeasor gain a benefit, the injured also gains a benefit from the activity. So leaving all the damages on the tortfeasor is not regarded fair for the tortfeasor[120].

There could be two types of usage for compensation cap, one being if the damages caused are above the compensation cap then the liability will shift from strict liability to fault liability, and the other can be the individual not being liable at all for damages that are above the set limit for compensation. It can be said that providing a caps for the damages that should be compensated can be the only way to reduce periodically high insurance rates and keep the businesses operating. Though there are both compelling views on other side of the debate concerning whether or not caps should be placed in tort law[121]; the main issue here is: are they efficient? There are many areas that the compensation cap is being used such as: Environmental Liability Law (80 million €)[122], nuclear energy[123], Product Liability Act (80 million €)[124],

[118] DAM, **2009**, p. 299.

[119] WILL, Michael, **Quellen erhöhter Gefahr:rechtsvergleichende Untersuchungen zur Weiterentwicklung der deutschen Gefährdungshaftung durch richterliche Analogie oder gesetzliche Generalklausel**, C.H. Beck'sche Verlagsbuchhandlung, München, 1980, p. 309-310; LÜHN, Hans, **Empfiehlt dich die Regelung der Gefährdungshaftung in einer Generalklausel?**, unveröffentlicht jur. Dissertation Ludwig-Maximilians-Universität zu München, München, 1971, p.98.

[120] WILL, **1980**, p. 310.

[121] Though caps for compensation has been accepted by Australian and German Law in many areas, in USA compensation caps have caused a stir whether or not they are advantageous or not. http://www.forbes.com/sites/michaelkrauss/2014/04/17/pain-and-suffering-and-the-rule-of-law-why-caps-are-needed (Access date: 31.10.2016); http://www.alllaw.com/articles/nolo/personal-injury/effect-tort-reform.html (Access date: 31.10.2016)

[122] German Law, UmweltHG, Article 15.

[123] Paris Treaty 1964, Revisions, 1982 and 2004. Turkey has not signed the 2004 amendment so the 1982 version is still in force which has the compensation cap of 18 million €, Paris Treat Article 3.

[124] German Law, ProdHaftG. Article 10.

Liability Act (15.000 €)[125] and Federal Mining Act (250.000 €)[126]. These compensation caps could be used as a reference point for putting compensation caps for activities that can cause damages that could be regarded as mass torts. However there could be a downside for providing a compensation cap. If the compensation cap is for definite, meaning for damages above the compensation cap the business will not be responsible at all, then the business even though it was negligent will only be only be responsible for a fragment of the damage they have caused, although they would have been responsible for all the damages they have caused under fault liability. Another problem of the definite compensation cap is, businesses will only take the precautions that will be cost justified and these maybe lower than the due care level, if and only if the due level of care is above the regulations that regulate such activities; since their negligence will not affect the amount of compensation they will pay. So the compensation cap solution should not be the definite compensation cap, it should be regulated in such way that the compensation cap will shift the type of liability, naming shifting the liability from strict liability to fault liability, for providing due level of care. The business, if it has established the due level of care it won't be responsible for the damages above the compensation cap. The top level that would make the total social cost minimized should determine the compensation cap. This model would work conveniently with highly dangerous activities given that the damages above the compensation cap would be regulated under fault liability.

Successful project design requires expert analysis of all the risks that the PPP project bear and the design of contractual arrangements prior to competitive tendering that allocate risk burdens appropriately.[127] As risks that can be faced in PPP models are either borne by the private sector, public authority or shared between the contractual parties; the allocation of these risks directly affects the utilities of the parties and thus the efficiency of the PPP model. Concerning the ultrahazardous activities as if the level of dangerousness is high, the private sector cannot and should not bear the compensation risk alone thus different solutions come into mind since TCO

[125] German Law, HPflG, Article 9-10.

[126] German Law, BBergG, Article 117. For more examples see FEDTKE, Jörg/ MAGNUS, Ulrich, "Germany", **Unification of Tort Law: Strict Liability,** (Ed. B.A. Koch/H. Koziol), Kluwer Law International, London, 2002, (pp.147-176), p. 167-168.

[127] GRIMSEY, Darrin/ LEWIS, Mervyn K, "Evaluating the Risks of Public Private Partnerships for Infrastructure Projects", **International Journal of Project Management**, Year: 2002, Volume: 20, (pp.107-118), p. 111.

leaves the risk of compensation over the private body when there is a classical sense of PPP, thus there is a need for spreading such risk via different models. Through the institutional PPP model and Built-Own-Lease-Transfer method, administrative authority directly enters into the scope of article 71 of TCO as the public entity will either have the joint ownership or be the operator of the dangerous activity.

Institutional PPP is one of the models that can be used as solution for the compensation risk inefficiency. Institutional PPP refers to the co-operation between public and private parties involving the establishment of a mixed capital entity, which performs public contracts or concession. If the public authority chose to establish an institutional PPP in order to provide the public service in question; the contracting parties of the PPP become the shareholders of the entity; thus, the administrative authority will also be liable for the compensation. Even though the administrative authorities generally tend to pass the risks to the private party, an institutional PPP tendered with the right procurement method will maximize the efficiency of the PPP contract.

Built-Own-Lease-Transfer is the other PPP model that the administrative authority entering into the PPP relation will share the risk of compensation together with the private sector. Different from the institutional PPP, as the public authority lease the entity partially or completely from the private sector in order to provide the public service and the private sector operates the commercial areas, the public entity can be the operator of the ultrahazardous activity and if the damage occurs in the public service area in where the public authority is the operator, than the compensation risk is spread between the public entity and private sector company.

2. Improving Efficiency Through Tendering

There are several principles of tender process that should be respected in any procurement process; those principles can be set down as equal treatment, transparency, reliability, fulfillment of needs, competition, and confidentiality and public supervision. Procurement law tries to supply or provide the good or service in tender with reduced costs, effectively managed supply chain, appropriately fulfilled needs and value for money principle. So as to reduce the cost, competition is the key element, especially when the tender concerns the right to provide public services since generally a natural monopoly or legal monopoly is in question.

If an industry is a natural monopoly as there will not be any competition within the industry, the competition in the procurement level becomes more

and more important as proved by the **Demsetz**'s franchise-bidding theorem[128]. Since the firm offering the lowest bid would be awarded the franchise, if there is sufficient competition, price will go down to average cost and the tender will earn normal profit. Once the auction has been concluded, the parties will sign a contract and the franchisee (concessionaire) will be responsible for capital expenditures, operational expenditures, finance of the investment and maintenance and management of the assets. In Turkey, the franchise-bidding model is in use for the PPP projects without taking into consideration whether that industry is a natural monopoly or not. There are many codes regarding the procurement process.

As in PPP models, which intend to involve the private sector in the financing, designing, constructing and operating of the public utilities and/or services, it is not possible to tender the projects through the Law no. 4734 (Public Procurement Law)[129]. It is not possible to implement Law no. 4734 as it applies to the procurements of goods, services or works the costs of which are paid from any public resources, require public expenditure, whereas in PPP using the private sector's finance is aimed.

The law to which the bidding process of PPP, depends according to the model of the PPP selected. The reason of this change is the unorganized structure of the legislations concerning PPP. To illustrate, if the PPP model is Transfer of Operational Rights (TOR) then the tender will be auctioned according to Law no. 4046 (Law on Arrangements for the Implementation of Privatization); if Built-Operate-Transfer or Built-Operate is the chosen PPP model, the tender processes set out in the Law no. 2886[130] (Turkish Tender Law-State Procurement Law) will generally be applicable. It is also possible the law concerning the sector specific PPP regulates the tender process as it is seen in the Law no. 6428[131] (Law on the Construction of Facilities,

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[128] ARDIYOK, Şahin, "Regülasyon Teorisi Işığında Elektrik Piyasası İçin Model Önerisi", **Enerji Hukuku Cilt:1 Elektrik Piyasasında Rekabet ve Regülasyon**, (İ.Y. ASLAN/G. ALTINAY/A. ILICAK etc.), Ekin Yayınevi, Bursa, 2007, (pp.149-281), p. 179.

[129] R.G. (Official Gazette): 22.01.2002, 4734 numbered Kamu İhale Kanunu (Public Procurement Law).

[130] R.G. (Official Gazette): 10.09.1983, 2886 numbered Devlet İhale Kanunu (State Procurement Law).

[131] R.G. (Official Gazette): 09.03.2013, 6428 numbered Sağlık Bakanlığınca Kamu Özel İş Birliği Modeli ile Tesis Yaptırılması, Yenilenmesi ve Hizmet Alınması ile Bazı Kanun ve Kanun Hükmünde Kararnamelerde Değişiklik Yapılması Hakkında Kanun (Law on the Construction of Facilities, Renovation of Existing Facilities and Purchasing Service by the Ministry of Health by Public Private Partnership Model)

Renovation of Existing Facilities and Purchasing Service by the Ministry of Health by Public Private Partnership Model).

There are generally four types of tender that is accepted in Turkish law; open tender procedure, open tender procedure between predetermined bidders, public auction and tender procedure through negotiation. Open tender method is a sealed offer procedure is which the bidders submit their offers in written within a closed envelope; if more than one bidder offers the same price, second proposals are requested from those bidders, and the process is continued until a higher/lower price is proposed. Open tender procedure between predetermined bidders method is also a sealed offer procedure among qualified bidders where only the qualified candidates are invited by the tendering public entity to give bids following a qualification assessment. Public auction is the method in which only bidders having submitted the required temporary bid bond and pre-qualified by the Commission which regard to the conditions of eligibility as announced in the invitation to bidders may participate. Tender through negotiation is the method used when the procurement is of a character requiring a research and development process, and not subject to mass production or due to specific and complex characteristics of the works, goods or services to be procured, it is impossible to define the technical and financial aspects clearly; if and when tender through negotiation used, bidders submit their offers in writing and then negotiate with the tendering public entity in line with the tender specifications in order to be awarded. The new procedure known as “competitive dialogue” in *Acquis Communautaire* is regulated in the Draft PPP Law. The competitive dialogue procedure is launched in cases where the contracting body is objectively unable to define the technical means that would best satisfy its needs and objectives, or in cases where it is objectively unable to define the legal and/or financial form of a project. This new procedure will allow the contracting bodies to open a dialogue with the candidates for the purpose of identifying solutions capable of meeting these needs[132].

Traditional public procurement is primarily driven by the price to be charged for the input provided; thus in those contracts risk allocation is standardized, performance innovations are less important and sources of financing are irrelevant to the procurement process. However as the main goal of PPP projects is to achieve value for money, PPP procurement must be based on an evaluation not only of price but also of risk allocation, operational

[132] Commission of the European Communities, **2006**, p.10.

innovations and sources and cost of financing[133]. This fact becomes even more important when the public service that is out for tender embrace an ultrahazardous activity.

In our opinion, when the procurement is related to a public service that can be classified as ultrahazardous activity, as the cost of the risk substantially affects the realization of the project, either tender through negotiation or competitive dialogue can be the preferential procedure so that the economically advantageous tender is chosen and contracting parties can allocate the risks taking into account the level of dangerousness.

Conclusion

The realization of efficiency and effectiveness in public services may require the participation of the private sector and the PPP phenomenon is one of those cases. While PPP mechanism causes expectation of mutual advantage, this may not always be the case since it is possible that after the signing of the contract both parties may find such a partnership to be disadvantageous. The disadvantages can be caused by the contract being wrongfully made or by the nature of the public service that is undertaken. The second one is mainly the case when it comes to services concerning ultrahazardous activity. The vague regulation of the ultrahazardous activity liability in TCO exposes the parties to an undetermined compensation risk if and when the risk occurs and thus decreases the efficiency of the due level of care (because of the judgment proof problem) and of the PPP models. Since the ownership and the operator of the ultrahazardous activity liability and the damages caused by such liability is vaguely regulated the main idea of efficiency behind the PPP models decreases. Also this vagueness affects the third party compensation of damages as well as the filing of suits. For these reason in order to provide an efficient ultrahazardous activity liability with regard to PPP models: (1) the TCO article 71 should be clarified in respected to how the ownership and operators should be implemented and compensation cap should be made legalized with the shift to fault liability above such compensation cap; (2) since the existing regulations provide two legal system with different applicable rules there is a legal uncertainty to which the third party victim can sue for damages. This uncertainty should be eliminated via TCO or by the PPP Act; (3) when the dangerousness level is lower in comparison to its benefits then the private sector should bear the compensation risk, provided that an opportunity to charge a risk premium is given; (4) with

[133] DELMON/RIGBY DELMON, **2013**, p. Introduction to PPPs-6.

the on going and new PPP projects appropriate PPP models should be taken into consideration, such as when a highly dangerous activity is being done by a PPP model either Institutional PPP or Built-Own-Lease-Transfer model should be used; (5) last but not least with the appropriate tendering process, value for money should be accomplished.

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