Unlock the lock-in! Balance of rights in relation to betterment and compensation in Poland

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Abstract

Many Polish cities are faced with a dilemma: to enact their local land-use plans and be exposed to the immediate financial consequences of their adoption, or to protect their budgets against these costs and give up control of the development of the cities. There are very broad compensation rights for value decline due to planning regulations and for areas designated in plans for public roads. At the same time, current planning system policies and instruments in Poland largely neglect how the costs of providing urban infrastructure and services are socialized and how the benefits of development processes are privatized. The use of value capture instruments is very limited. This paper discusses the distribution of rights and liabilities in relation to the two main sides of the property-values effect caused by land-use planning regulations and public works in Poland, in the background of the new planning system and property-rights approach adopted in the country. The article presents the current situation, initially explores a possible ways forward based on varied international experiences, discusses the institutional design of land markets, and indicates the need for planning by law and property rights.

Key words

Betterment and compensation; delineation of property rights; planning system; Poland

Introduction

The issues of public fairness and private productivity that Henry George identified in “Progress and Poverty” more than a century ago are still critical today, and have much to add to the ongoing debate over land policy and taxation issues (Lincoln, 1997). Doebele (1997) argues that the former socialist countries provide ideal laboratories for testing Georgist ideas of the state’s right to participate in the increases in land value that occur from industrialization and rapid urban expansion. Henry George was observing the phenomena of rapidly rising land values and land speculation in the nineteenth century Gold Rush in San Francisco. The same phenomena of rapidly rising land values, land speculation and the active manipulation of land markets by both private and public interest occurs after a collapse of communist government in major cities of the former Soviet Union and Eastern Europe. The debate surrounding these problems raises the same moral, intellectual, and economic consideration that was first laid out in “Progress and Poverty” (Doebele, 1997).

Does the right of property include the right to the added value—specifically created by land-use planning decisions—or should the landowners share some of the increased value of their land with the public? To what extent do governments have the right to reap some of the increments in value? Continuing from the other side of the property-values effect, do governments have an obligation to always compensate private landowners for any value decline due to land-use planning regulations? Does compensation necessarily include the increase in land value due to earlier land-use regulation decisions? As presented in the recent
This article discusses the distribution of rights and liabilities in relation to the two main sides of the property-values effect caused by land-use planning regulation and public works: the upward effects, leading to increases in property values; and the downward effects, causing reductions in current or future values, based on Poland’s example. Poland is an interesting case to look at because of the profound changes in the policy environment in which the land and property market operate. Since the unprecedented transformation of the political system twenty-six years ago, Poland has been reforming its spatial planning system, but the reforms have not yet achieved positive results (Beim & Modrzewski, 2011; Izdebski et al., 2007; Jędraszko, 2005; Havel, 2009, 2014; Havel & Załęczna, 2009). In the academic literature, there is an absence of a strong linkage between the two sides of the property-values effect (Alterman, 2010). The recent comparative views on the topic of the relationship between regulation and property values concerns usually either the upward side of the property-values effect (Muñonez Gielen, 2010; Alterman, 2012; Smolka, 2013) or the downward side of the property-values effect (Alterman, 2010). This paper will contribute to the existing literature by addressing the elements of this discussion together, trying to capture the overall balance of rights, and in addition connect this to the wider system of spatial planning and property rights approach in a country that established the new planning system from scratch. The recent book by Li Tian (2014) examines the issues of betterment and compensation in China. Poland has adopted the radical reform approach to the transition from command to market economy (Jasiecki, 2013, p.139-154). In order to understand the institutional design of land markets, it would be valuable to add to the discussion of how and to what extent the government in Poland has captured the surplus value and assigned the compensation rights—and how has it materialised in the functioning of land market in a country that has adopted a different approach to transition.

This paper is structured as follows. After clarification of the terminology, the first section briefly presents the betterment and compensation from the perspective of property rights. It introduces the debate about property rights and its implications for policies about land-value changes. The following section presents the classifications of approaches to value capture and systemizes the discussion about compensation rights. It also includes examples of policy applications in different countries. This part of the paper will constitute the analytical framework and the reference point for the following discussion about the situation in Poland. The concluding part discusses the balance of rights as the key issue at the heart of the institutional design problem of land markets, and the need for planning by law and property rights.

**Terminology**

The two-directional property-values effect caused by land-use regulation and public works was coined by the British, as “betterment and compensation” or “betterment and worsement,” whereas the closest term in American English is “windfalls and wipeouts” or “takings and givings” (Alterman, 2010). The terms used are highly varied around the world and are often confusing. Following Alterman (2012), for clarity of further discussion, this paper will use the term *betterment* to denote only the policy instruments for capturing value.

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1 The major academic work that looks at both sides of this issue comparatively is the seminal book by Hagman and Misczynski from 1978 (it surveyed five English-speaking countries—the United States, Canada, Australia, New Zealand, and England).
arising directly from land-use regulation or public works, and the term compensation rights will apply in relation to policy responses to the downward effect, causing reductions in values. The term value capture will be used to cover any type of policy or legal instrument whose purpose is to tap any form of unearned increment, regardless of the cause of the value rise (Alterman, 2012).

Debates about property rights and the importance for policies about land-value changes

The legislative responses to both sides of the property-values effect caused by land-use regulation and public works contribute to the definition of the balance between public and private rights in land (a balance between property rights and the public interest). It delineates the property rights defining the scope of possible interferences with private property. Justification for studying the balance of rights can be found in the recent developments of the property rights paradigm within the new institutional economics. The corollary formulation of the Coase theorem formulated by Professor Lawrence Wai-Chung Lai states that “in the real world of positive transaction costs, the choice of rights and liabilities (i.e., law, governance, institutions, contractual arrangements, coordination, the assignment of rights and liabilities, etc.) would affect the outcome and efficiency of resources” (Lai, 2007). Distribution of the rewards and costs in relation to the property-values effect for example, specifies who may benefit or who may be harmed and, therefore, to whom the financial benefits in urban land development belong.

The property rights debate has straightforward implications for policies about land-value changes, taking from it the arguments to discuss the appropriate degrees of land-use regulations, which the government can impose for public needs (Alterman, 2012). However, various property rights theories (e.g. the utilitarian property theories, the libertarian theories of property, the Hegelian property theory, the Kantian property theory, etc.) approach the concept of property rights differently (for the survey of the leading theories of private property in Western legal thought, see Alexander and Peñalver, 2014). The lenses of the property theories do not always provide an a priori position concerning the state’s redistributive policies or regulatory takings (e.g. utilitarian property theory) leaving a great deal of room for interpretation. The debate concerning the conflicting concepts of property rights and of the public in relation to land resources is mostly influenced by the libertarian property theory. It continues between proponents of the classical liberal conception of private property rights with their roots in Locke’s and Bentham’s thinking, and the proponents of the opposite view rooted in the teachings of Rousseau and other philosophers (Alterman, 2012). For contemporary Lockean libertarians (unlike Locke2), private property rights must be powerful enough to constrain the state—even when the state acts with the consent of the majority (Alexander and Peñalver, 2014, p.35-56). Like the Private Property Rights movement in the US, they criticize government land-use regulation and taxation, seeing governmental laws, programs, rules and regulations as inefficient, ineffective, and even un-American (Jacobs, 2009). Arguments by twentieth-century Lockeans often justify the efficiency of market forces, arguing that unfettered or only mildly regulated landownership

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2 Locke is better known for his „labor theory of property rights“, but his theory of consent supports the following perspective: “Every man, by consenting with others to make one body politic under one government, puts himself under an obligation to everyone of that society, to submit to the determination of the majority, and to be concluded by it” (Locke, cited in Alexander and Peñalver, 2012, p.43). He appeared to view as legitimate the public’s right to create, re-create, take away, and regulate property as it best served public purposes: “For it would be a direct contradiction for any one to enter into society with others for the securing and regulating of property, and yet to suppose his land, whose property is to be regulated by laws of society, should be exempt from the jurisdiction of that government to which he himself, and the property of the land, is subject” (Locke, cited in Jacobs, 2009, p.55). However, as Alexander and Peñalver (2012, p.56) argue, instead of a theory of limited private property rights in the service of an argument for majoritarian government, twentieth-century Lockeans have offered us a theory of a limited majoritarian government in the service of private property rights.
would utilize land more efficiently (Lefcoe, 1981; Fischel, 1995; Yandle, 1995; Ellickson, 2000). This conservative conception of property rights is challenged by “the social-obligations theory” (Dagan, 2007; Alexander, 2006, 2009). This view seeks to place various socially derived obligations on private property. This discussion is a multi-century issue. For example, the history of how and why the particular legal and social configuration of private property rights emerged in the United States and tensions about this configuration teaches us that the appropriate balance of private property rights and public activity is never fixed or settled; it is continually renegotiated as a function of changing social, economic, and technological conditions (Jacobs, 2009).

Categorization of value capture instruments and the scope of compensation rights

In an international context, the most seminal comparative research in the field of property values versus planning regulations nexus was provided recently by Professor Rachelle Alterman (2010, 2012). The categorization presented in Alterman’s research will be adopted as an analytical framework to further explore the policies, laws and practices in relation to the property values effect in Poland. In relation to value capture, Alterman distinguishes among three sets of policy instruments:³ macro, direct, and indirect instruments:

- Macro value capture instruments are embedded in broader land policies, motivated by some broader rationale and ideology: nationalization of all land, substitution of private property by long-term public leaseholds, public land banking, land readjustment, etc.

- Direct value capture instruments seek to capture all or some of the value rise in real property under the explicit rationale that the value increase belongs to the community and should therefore be given back. Direct value capture may be divided into two subtypes:
  - Capture of the unearned increment: where the value rise is not linked to a specific government decision but rather to general economic development;
  - Capture of betterment: where the value rise is directly caused by a specific government decision related to physical development. The betterment may be further subdivided into two subtypes:
    - a) Betterment arising from public infrastructure works: the value rise is due to positive externalities from a government decision to approve or execute public infrastructure, parks, or other services;
    - b) Betterment arising from land-use regulation: the value rise is due to a land-use planning or development-control decision.

- Indirect value capture instruments have the motivating rationale of internalization (mitigation) of the costs of the development impacts, to cover the costs of the public infrastructure and facilities directly or indirectly needed to support the newly developed areas (Adopted from Alterman, 2012).

Compensation right will refer to what the municipality is required to grant to the landowners for the decreases in land value caused by land-use planning regulations. The interest is therefore in the right for compensation of injurious land-use planning regulations, not in the right for compensation of land taken through eminent domain (expropriation or compulsory purchase). The right to claim compensation when a government decision related

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³ This article will not refer directly to property taxes. They are not included in the classification of Alterman (2012), but for example considered as a form of value capture in the research of Smolka (2013). There is question - whether they should be recognized as an instrument of value capture? The property tax can captures some land value since the tax rate can apply to both buildings and land and there are claims that when an additional charge is added to the regular property tax we can speak about double taxation. However, the focus in this article will be on betterment policies. As the property tax is not usually associated with any particular public intervention, therefore, it will be not included in the classification.
to planning causes a reduction in property values can be analyzed taking into consideration the scope of influence on property value:

- **Major takings**—refers to situations where regulation extinguishes all, or nearly all of the property’s value;
- **Partial takings due to direct injuries**—referring to laws that entitle landowners to compensation when property values suffer only a small or moderate decline and are caused by regulatory decisions that apply to the same plot of land that suffers the depreciation;
- **Partial takings due to indirect injuries**—referring to laws that entitle landowners to compensation when property values suffer only a small or moderate decline which are caused by regulatory decisions that apply to other plots of land in the vicinity or arise from anticipated or actual negative externalities that cause depreciation in value (Adopted from Alterman, 2010).

This article will also pay attention to the amount of compensation payable. It is considered essential for understanding the operation of the land market to not only discuss if and when the landowner has the right to claim the compensation, but also how much can be obtained and how it is influenced by the land value formation during the planning process. The amount of compensation usually reflects the difference between the market value of the land ‘before and after’ the injurious regulations. In some countries, the amount of compensation might also include the special value that assumes the land has some attributes that have a financial value to the owner. However, depending on land use regulatory instruments, land value can increase differently with different stages of planning processes (Dranfeld and Voss, p.160). Therefore, while discussing the scope of compensation rights—especially in Poland—as it will be explained later, the attention should be paid to the valuation process and the land value formation process.

**Learning from varied international experiences**

The policy instruments that relate to macro value capture vary from country to country and over time, e.g. land readjustment is popular in Japan, South Korea, Germany and Valencia/Spain; leasing systems on public lands that capture value through regular contract adjustments can be found in Hong Kong, the Netherlands, especially Rotterdam, also Brasil; public land development is popular in the Netherlands, Finland, and Sweden (Smolka, 2013). There are also new tools in Latin America such as the ‘Consortia for Urban Operations’ that allows special treatment for recognized stakeholders (owners, residents, users, and private investors) to redevelop large areas and also to capture and redistribute the increase in land value or ‘charges for building rights’ which are based on the separation of building rights from land ownership rights, and allow the public to recover the land value increment that result from development rights over and above an established baseline (Smolka, 2013).

From direct value capture instruments infrastructure-based betterment levies are historically the earliest form of betterment capture (Alterman, 2012). According to Smolka (2013), fees imposed on landowners benefiting from some type of public investment (roads, bridges, and the like) can be documented as early as the Roman Empire and can be found in Portugal and Spain in the 1500s; their application in Latin America has been traced back to

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4 Many sections of Brazil’s coastal land, as in Copacabana Beach in Rio de Janeiro, are publicly owned and leased to private users (Smolka, 2013).

5 The prefixed number of building rights may also be auctioned at public auction on the stock exchange, in the form of Certificates of Additional Potential Construction Bonds (CEPACs). This was introduced in 1995 in the city of São Paulo (Smolka, 2013).
1607 in Mexico. England used valorisation around the year 1650 to build canals along the Lea and Thames Rivers, and in 1801 the House of Lords authorized a betterment levy for urban development purposes (Smolka, 2013). When the British enacted the first national town planning act in 1909, they embedded within it a 50% infrastructure-based betterment levy. The 1947 Act introduced the new system, in which the benefits introduced by the planning system or any other activities of government referred as betterment were taxed directly. This tax was abolished in 1953, but returned in 1967 when a levy of betterment at 40% was introduced. Subsequently, the tax was changed in 1976 to 80%, and then finally abolished in 1986, when the system of planning gain (classified further as indirect value capture instrument) was introduced (Ratcliffe et al., 2004). Betterment contribution is also not only the oldest, but it’s more than likely the most consistently-used value capture instrument with cases, since the early nineteenth century in countries such as Argentina, Brazil, and Colombia (Smolka, 2013). In the context of advanced-economy countries, from the sample of fourteen jurisdictions, Alterman (2012) found that there are only three countries with significant experience in direct betterment capture instruments: the United Kingdom in the past, and Israel and Poland currently. As it will be discussed later, Poland is making little use of this instrument in practice.

The idea of value capture has also been transformed into a plethora of indirect value capture instruments called the ‘developer obligations.’ The terms used include: ‘exactions’ and ‘impact fees’ in the US, ‘development charges’ in Canada, ‘planning gain’ and ‘planning obligations’ in the UK, ‘participation’ in France, ‘cost allocation’ or ‘cost recovery’ in the Netherlands, and ‘urbanistic obligations’ in Spain and several Latin American countries (Alterman, 2012). Developer obligations usually contain payments in cash or contributions in kind to internalize (mitigate) the costs of the development impacts. There is also an enormous variance in the use of the indirect value capture instrument among and within these countries. For example, in Spain, municipalities can capture part of the value increase in urban extension areas by requiring landowners to cede between 5 and 15 percent of the serviced building plots to the municipality. In addition, landowners must provide the land needed for infrastructure, pay the related costs for service provision, and pay the overhead costs and a profit margin (Muñoz Gielen, 2010). The Circular Guidance on Planning Gain of 1983 in England provides the following definition of planning gain:

_Planing gain is a term which has come to be applied whenever in connection with a grant of planning permission, a local planning authority seeks to impose on a developer an obligation to carry out works not included in the development for which permission has been sought or to make payment or confer some extraneous right or benefit in return for permitting development to take place._

Section 106 of the Town and Country Planning Act of 1990 allowed a developer to put forward in his application for planning permission, a package of what he proposed to build,

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6 The sample countries were Australia, Austria, Canada, Finland, France, Germany, Greece, Israel, the Netherlands, Poland, Sweden, the United Kingdom, and the United States (plus Oregon)
7 Payments in cash to the local authority might contain e.g. contributions to educational and healthcare facilities, for public transport, for affordable housing, for training and recruitment programmes, for town centre improvements, for library facilities, for social and community facilities and payments of compensations, etc. Contributions in kind might include the obligation for the developer to transfer land free and to undertake a broad range of investments: provision of services, building of public buildings, social/affordable housing, bus or railway stations, provision of infrastructure above ground (roads, surfacing materials, furniture, lighting, etc.) and below ground (sewerage, drainage, cables, pipelines, etc.), decontamination of soil, construction of play areas, demolishing of buildings and constructions, management and maintenance of public open space after its delivery, etc. (Smolka, 2013).
plus details of what he was prepared to offer by way of planning gain to cover works which
he considered would commend his development to the local authority. The 2004 Planning and
Compulsory Purchase Act states that “the granting of planning permissions is made
conditional on the signing of a ‘Planning Agreement’ that secures the planning obligations.”
Capturing value increase in practice took place through the negotiation of planning
obligations and conditions. Currently, there is a clear trend of English local authorities to
increase the certainty about the future contributions, such as Bristol’s 2005 SPD4 document
establishing standard contributions of the following sorts: affordable housing,\(^8\) educational
and recreational facilities,\(^9\) landscape schemes, travel plan initiatives, park and ride facilities,
highway infrastructure works, site specific measures, economic contribution from new
development, areas of public realm, public art, community forest initiative and library
facilities. In the Netherlands the voluntary cooperation was the principle of participation in
the costs of development for many years. In 2008 the development contribution was also
defined via public law.\(^10\) The interesting question is, how far can the contributions from
landowners and developers go? Some countries’ legislation limits the amount to be recovered
to the lowest value of either the project cost or the prescribed land value increment. For
example, in Finland, the maximum of 60 % of the plot value increase caused by the local
detailed plan can be collected as developer obligations (Havel, 2009). It’s not always that the
developers’ obligations might include the provision of affordable/social housing, e.g. in
Norway (Nordahl, 2014).\(^11\) The English experience is interesting with regard to when it is
considered legitimate to ask for the developers’ obligations. In England, the Circular 05/2005
(Annex B.5) states that Planning Obligations must be: 1) relevant to planning, 2) necessary
to make the proposed development acceptable in planning terms, 3) directly related to the
proposed development, 4) fairly and reasonably related in scale and kind to the proposed
development, and 5) reasonable in all other aspects. However, several important judgments in
the 1980s and 1990s have considered it acceptable to lay down obligations that are not
necessary to make the proposed development acceptable in planning terms (prerequisite 2),
and obligations that are not directly related to the development in question (prerequisite 3), as
long as pre- requisites 1, 4 and 5 are satisfied (Muñoz Gielen, 2010). The indirect value
capture instruments are not without criticism as it exposes the tensions that exist between the
planning system and the property development industry and concerns the fundamental
question of who should pay for the wider environmental impact of a development proposal—
the developer/landowner (because is taking profits) or the local authority? Healey et al. (1993)
stated that: “For some, planning gain was a legitimate contribution from developers to
community development but it has been viewed by others as both an unconstitutional tax and
a form of negotiated bribery corrupting the planning system.”

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8 The affordable housing contribution applies to residential developments of twenty-five or more dwellings, or of one hectare or more in size.
The developer is required to provide a percentage of the total number of units on-site, according to the local affordable housing policy (30% in 2007), or to exceptionally pay a sum for the off-site provision of affordable housing (Bristol’s 2005 SPD4 document).

9 Educational facilities: this applies to residential developments of forty or more dwellings if they generate additional pupil numbers in excess of the capacity of local schools. The developer is usually required to pay a sum for the provision of off-site facilities, or exceptionally to provide on-site these facilities. Per additional pupil in excess of the local capacity, the developer has to pay a sum: £ 9,136 per school in a Nursery or Primary School, and £ 14,346 per school placed in a Secondary School (Bristol’s 2005 SPD4 document).

10 The new Land Development Act introduced the possibility of imposing on the landowners a contribution without the need for the municipality itself making the costs, and without the need for a Development Agreement, and gave more details about the sorts of costs that can be imposed to the landowners.

11 E.g. social housing is paid to a large extent by the developers in England and Valencia/Spain, while in the Netherlands almost only by municipalities and housing associations. In the Netherlands, the contributions to off-site public infrastructure are also very rare (Muñoz Gielen, 2010).
In relation to compensation rights there are also no universally consensual or dominant approaches. Alterman (2010) presented comparative international research containing the fourteen jurisdictions (thirteen countries plus Oregon) concerning the right to claim compensation when a government decision related to planning, zoning, or development control causes a reduction in property values. The countries were grouped into three clusters, representing the breadth of compensation rights that each country’s laws grant in cases where regulatory decisions cause a decline in property values: Cluster 1—minimal compensation rights - Canada, the UK, Australia, France, and Greece; Cluster 2—moderate or ambiguous compensation rights—Finland, Austria, and the United States including the special case of Oregon; Cluster 3—Extensive compensation rights; Poland, Germany, Sweden, Israel, and the Netherlands. The findings by comparative analysis presents that the laws of all the countries included in the research project address major taking in some way, showing a much greater consensus among the set of countries regarding this type of regulatory takings, than on partial takings (direct or indirect). The regulatory-takings laws of many countries distinguish between two types of major takings based on the permitted land use after the rezoning: a private-type or a public-type use. However, the definition of what constitutes public use differs among the countries. It might include only roads and similar infrastructure or in other cases, more amenities and public buildings. The difference lies also in the manner of zoning for a future public use (e.g. is a legally-binding plan or a policy plan enough), and the remedies (does the landowner have the right to oblige government to take the title to the property or the right to claim compensation while keeping title). In the second type of major taking, private land remains in private use—however it is designated for open space, agriculture only, or other conservation goals. As Alterman (2010) explained: “When such a designation does not take away any pre-existing development rights, in most countries—with a few exceptions—this would not be regarded as a regulatory taking. But when existing development rights are downzoned, the issue of whether there is a taking comes up in most countries.” The comparative analysis shows that the large differences in the laws of regulatory takings among the thirteen countries can be only partially attributed to different degrees of constitutional protection of property (see Alterman, 2010).

Value capture and compensation in Poland

The following part first presents law and policies adopted in Poland to deal with the downward and upwards effects of land-use planning regulations on land values. Then it discusses the practical implementation of regulations and the degree of linkage among them taking into consideration the development of the new planning system and approach to property rights in Poland.

The legislative responses in relation to value capture

The legislative responses in relation to value capture contain two main mechanisms in Poland: betterment charges (opłaty adiaceńskie)12 and planning fees (renta planistyczna). In relation to categorisation made by Alterman (2012), both belong to the direct value capture instruments. The policy instruments that relate to macro value capture, such as the leasing of public land—are not operational due to the fact that there is no ad-valorem property taxation system in Poland. This makes it impossible to capture land value increase through regular tax adjustments. The other policy instruments that relate to macro value capture, such as public land development, or urban land readjustment are not in use. ‘Opłaty adiaceńskie’ relates not

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12 For the description of the historic evolution which the betterment levies have undergone in Poland over the past century, see Gdesz (2011)
only to the betterment arising from public infrastructure works, but also the betterment arising from the geodetic subdivision of plots of land, and the betterment arising from the consolidation and subdivision of plots of land (geodezyn podział nieruchomości oraz scalenie i podział nieruchomości). ‘Renta planistyczna’ relates specifically to betterment arising from land use planning regulations. Both are paid to the municipality (the local self-government). Betterment charges are regulated by the Act on Real Estate Management of 21 August 1997 (hereinafter referred to as AREM 1997). Betterment charges in relation to public infrastructure works are levied after the creation of conditions for the connection of property to individual devices of the technical infrastructure or conditions for the use of built roads (art.145.1 AREM 1997). The construction of technical infrastructure is understood as the building of roads and underground, on ground or above ground pipes or infrastructural equipment for water, sewage, heating, electrical, gas and telecommunications (art.143.2 AREM 1997). The betterment charges depend on the increase in property value caused by the construction of technical infrastructure facilities and shall not be higher than 50% of the value difference between the value of the property before and after the technical infrastructure facilities are built (art.146.2 AREM 1997). The increase in property value requires each parcel appraisal and is determined by the registered property assessor (art.146.1a AREM). The planning fee (renta planistyczna) is regulated by the Land Use Planning and Development Act of 2003 (hereinafter referred to as LPA 2003). If in connection to the enactment of a local plan, the value of the property has increased, and the owner or perpetual user sells the property, municipality gets a one-time fee, which cannot be higher than 30% of the value of the difference between the value of the property before and after the enactment of the plan (the percentage is determined in the plan). However, the fee might be charged only in cases when the owner sells the property within five years from the date when the local plan or its revision came into force (art. 36.4 LPA).

The legislative responses in relation to compensation rights

After the demise of the communist regime in Poland, the right to compensation for planning injuries was re-enacted in provisions of the Act on Spatial Development of July 1994 (Gdesz, 2010). Currently, the right to compensation for injurious planning regulations is regulated by the Land Use Planning and Development Act (LPA 2003). LPA 2003 makes a clear separation between two distinct types of direct planning injuries—major and partial takings by regulating these in two different clauses. The first type is known as “planning expropriation,” and occurs when the regulation of property use significantly restricts the property owner (Gdesz, 2010). According to article 36(1) of the LPA 2003, if the use of property in the previous manner has become impossible, or is limited in an essential manner, such as the result of a revision in the land-use plan or the issuance of a developmental permission, the landowner may demand: compensation for actual damage; or the purchase of the interest in the land (or its part) by the municipality. The second type is known as “minor planning injuries,” and occurs when planning regulations do not significantly limit the use of land but nevertheless diminish its value. According to article 36(3) of the LPA 2003, if the value of the property decreased as the result of a revision in the land-use plan and the property is sold, the landowner may demand the compensation. The law makes it easier to claim

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13 In case of consolidation and subdivision of the property the rate of 50% of the value of the difference between the value of the property before and after the process is applicable (art.107.1 AREM 1997). In case of betterment arising from the subdivision of plots of land the rate of 30% of the value difference can be charged (art. 98a.1 AREM 1997).

14 Perpetual usufruct is a right established on land owned by the State or self-governing institutions and represents a long-term interest in land. It was introduced in Poland by the decree of 1952.

15 Under article 36 of LPA 1994, the local authorities were obliged either to (1) buy plots that were significantly affected by local master plans, or (2) replace those plots with other plots within six months from the date on which a relevant request was submitted, or to award compensation for the real losses caused by the introduction of the plan. Regulations contained in article 68 of LPA 1994 limit the scope of compensation claims to injuries caused by local plans approved after January 1, 1995.
compensation for a major taking than for a partial one placing an additional precondition that claimants must meet, which is not required in the case of major takings. Claimants must be able to demonstrate that they have transferred the property and that its sale price was less than what it would have been obtained under the former plan or permit (Gdesz, 2010). Polish law on indirect injuries is inconsistent and this right still is dormant because few landowners are aware of it (Gdesz, 2010).

The essential and complementary provisions concerning the right to compensation (containing also the rules for valuation) are included in the Act on Real Estate Management (art.37.11 LPA 2003). After the local plan is adopted, the properties must be divided according to the new plan. According to AREM 1997, the landowner must transfer to the local authority's ownership of those parcels that have been separated for public streets and roads (including local, country, regional and country roads), and in return should receive compensation in cash or in the form of land (art. 98.1, art. 131 AREM 1997). The amount of compensation can be agreed upon between the owner and the competent authority. If such arrangements do not happen, compensation is paid according to the rules and procedure governing the expropriation process (art.98.3 AREM 1997). The amount of compensation relates then to the market value of real estate. In determining the market value, the property assessor is taking into account the type, location, usage, purpose, condition of the property, the current real estate prices and also the future destiny of the property in the local plan or other planning documents (art.134.1-2, art.154.1-2 AREM 1997). The value of the property for the purposes of compensation is determined by the actual way in which it has been used, if the purpose of regulatory taking does not increase its value. If the future use of property, after subdivision or adoption of the local plan, increases its value, the value of the property for the purposes of compensation is determined by an alternative method of use resulting from this future use (art.134.3-4 AREM 1997).

**Parallel operation of betterment instruments and compensation rights**

Parallel operation of the right to compensation and betterment charges may cause the situation of counter-claims between the landowner and the local authority. The same property owner might be entitled to the compensation and obligated to pay a betterment levy. This situation arises particularly in the case of the division of property for the purpose of separation of parcels for public streets and roads (Kubalski, 2012). The value of the property increases due to the connection to public roads and the landowner is obligated to pay the betterment levy. At the same time, the landowner must transfer to the local authority's ownership of those parcels that have been separated for public roads and receive compensation. In settlement of the betterment levy, the landowner may transfer to the municipality the right to a plot of land separated for public roads (art.98a.4 AREM). In this case, it can be done without quota determining the amount of the betterment fee and compensation (Kubalski, 2012).

**Practical implementation of regulations and links with planning system and the nature of property rights**

**Little use of the value capture instruments—largely a non-operational planning fee and limited use of betterment levy**

The practice of the past several years shows that a planning fee in general does not fulfil the basic purpose for which it has been established. The planning fee might be charged only in cases when the owner sells the property within five years from the date when the local plan or its revision came into force. Such legislation results in the situation that many owners of property make land available to investors based on preliminary agreements or leases, waiting to the end of five-year period, to finally sell or dispose of property (Gdesz, 2012). As
Alterman (2012) argues: ‘The Polish legislators repeated the mistakes of the British Town and Country Planning Act of 1932 by adopting the occasion of sale of the property as the only tax collection point and by stipulating a maximum number of five years beyond which the authority to tax would expire’. Polish legislature also anchored the planning fee in the approval of local land-use plans, even though such plans still cover only a small portion the country’s area. The inability to determine charges for a planning fee in the case of the issue of development permit—so-called ‘decision on conditions of site development’—is another weakness of regulation, as about half of all development decisions are granted by means of this ad hoc development permit. In this situation, the planning fee exists largely only on paper.

In relation to a betterment levy, even though local governments have insufficient finances, or chronically under-financed municipal budgets, they made little use of the instruments that have been created especially for improving this situation. Since 2002, the Supreme Chamber of Control carried out a survey to evaluate the processes of determining and collecting betterment charges. The control revealed that municipalities were reluctant to levy and collect betterment charges, in cases where they financed costly technical infrastructure facilities (NIK 2003, 2007). There are several operational difficulties for the implementation of this instrument (see Gdesz, 2011). Much depends on the cost of the appraisal—the cost of preparing the individual opinions concerning the property value increase is in many cases a significant part of the fee. The normative approach to define the fee as a levy on the increase in value of the property poses several challenges. Apparently, linking value rise to the execution of public works is not easy. The legislator connects an increase in value of the property with an abstract legal event, like the approval of the geodetic division of property or the enactment of the local plan. Within two to three years of work on the local plan or infrastructure all transactions in the area already anticipate the future increase in value making difficulties of proving the causal relationship to the public works.

Enormous amounts for compensations

Poland was classified among the countries with extensive compensation rights (Alterman, 2010). Indeed, the costs of compensations are enormous. The compensation usually concerns major taking and compensation for parcels separated for public roads. Compensation claims especially in relation to public roads has become a significant financial burden on local government. In 2013, the city of Poznań and the Association of Polish Cities, in cooperation with the Society of Polish Town Planners Branch in Poznan organized the Conference on "Financial implications of spatial planning—the consequences for development" (further cited as Conference 2013). During the conference, Ryszard Grobelny—Mayor of the city of Poznań, emphasised that in the case of the city of Poznan, the problem of compensation rights concerns hundreds of millions or possibly even exceeding the already one billion of PLN. The valuation principle resulting from the Polish law supports the view that the compensation should include the increase in land value due to earlier land-use regulation decisions. According to Grobelny, it causes the problem by supporting the philosophy that each land has a value, according to how it could be built, and planning takes this value. This statement can be explained as follows: The most comprehensive planning document at the municipal level (elaborated for the whole area of the municipality) is the Study on Conditions and Directions of Development (further the Study). Almost all municipalities in Poland possess such a document. Unfortunately, the content of those documents might be doubtful. In particular, because those documents designated a very large

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16 At the end of 2004, local plans covered 17.2% of the country, in 2010—26.4% and a year later—27.2%, in 2012 this rate reached 27.9% (Śleszyński, 2014)
area of municipalities for housing—approximately 13% of areas in Polish municipalities are designated for build-up purposes (Śleszyński, 2014). Even with lower rates of population density, this means the possibility of settlement is about 200 million inhabitants (Śleszyński, 2014). Poland has currently 38.5 million inhabitants (CSO 2015). It may cause a consequent deepening of the already excessive urban sprawl, as well as the generation of the cost of urban infrastructure (Śleszyński, 2014). It also influences the valuation processes for compensation purposes. There is an abundance of land designated already for build-up purposes in the Study and the amount of compensation very often relates to land designed for build-up purposes. In addition, in 2003 the new Land Use Planning and Development Act (LPA 2003) annulled all local plans passed before 1995. It wound up in one day all of the plans adopted before 1995 in all municipalities throughout the whole country. A spatial planning process began in Poland almost right from the beginning. This was a very significant decision, because the new rules of the 1994 and 2003 Acts, in practice generated huge costs—municipalities adopting a new plan are obligated to pay compensation to landowners for a decrease in land value due to planning decisions. The areas reserved in old plans for public functions were released, and their value increased dramatically. Those developers, who bought the land before, could preempt the increase and just wait for the compensation from the local authority for reassignment of public functions again.

Insufficient revenues from value capture instruments in relation to expenses on the compensation rights

Revenue in relation to value capture instruments (both betterment charges and planning fees) remains insufficient in relation to expenses that municipalities have to bear in connection with the costs of urbanization and compensation. Significant conclusions arise from the comparison of income from planning fees and compensations obligations based on data from the city of Gdańsk (Wiesław Bielawski, deputy Mayor of the city of Gdańsk, Conference 2013). Gdańsk has 501 existing local plans, which include approximately 16.7 thousand ha, which represents approx. 62.9% of the total area of the city. Six hundred twenty-five hectares of land (owned by legal and natural persons and perpetual users) are intended for a public purpose in the local plans and should be acquired by the city. For this purpose, it is necessary to pay 1.5 billion PLN; the Gdansk budget is approximately 3 billion PLN (Conference 2013).

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>art. 36.1-2 LPA 2003 Compensation for planning expropriation-major takings</td>
<td>art. 36.3 LPA 2003 Compensation for minor planning injuries - partial takings</td>
</tr>
<tr>
<td>art. 98 AREM 1997 Compensation for land – public roads and streets</td>
<td>art. 36.4 LPA 2003 Planning fee</td>
</tr>
</tbody>
</table>

17 In years 2004-2012 in connection to the art.36.1-2 LPA 2003, the city of Gdańsk paid the compensation in the amount of 27.6 million PLN (145 applications submitted, 68 issued refused, 46 cases are in the course of the proceedings). Under art. 36.3 (16 applications, 7 refusals)—Gdańsk paid 4 million PLN, in connection to art. 98 AREM—84.5 million PLN for the acquired land. The city had calculated and received in connection to art. 36.4 LPA 2003—13.03 million PLN of planning fee (initiated proceedings in 387 cases, 198 decisions determining the amount of the planning fee, 145 decision executing the fee, the rest is in progress) (Conference 2013).
Table 1. The financial implications of the adoption of local plans in the city of Gdańsk in the years 2004-2013. Author’s presentation. Source of data: Conference 2013 http://www.zmp.poznan.pl/aktualnosc-937-konferencja_skutki_finansowe_planowania.html

<table>
<thead>
<tr>
<th>Year</th>
<th>Costs (mln PLN)</th>
<th>Revenues (mln PLN)</th>
<th>Net (mln PLN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>881 000</td>
<td>371 000</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>10, 6 mln</td>
<td>199 000</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>5, 6 mln</td>
<td>169 000</td>
<td></td>
</tr>
</tbody>
</table>

Only since 2012 have statistical surveys in Poland included data on projected and realized financial effects of the adoption of the local plans in the country. The data indicates relatively stable and distinctive negative financial results of the adoption of the local plans. Revenues do not outweigh the expenditures. Among the observed regularities are very low revenues from the planning fees (Śleszyński, 2014). At the end of 2012, projected costs associated with the adoption of local plans amounted to 66.8 billion PLN, and 9.9 billion PLN (data from 1,276 municipalities—about half of their number in the country) was actually paid. The difference stems from insufficient funds available to the municipalities. According to the same data, projected revenues for 1,035 municipalities were calculated at 34.7 billion PLN, and realized revenues for 1,130 municipalities—6.5 billion PLN. In some cities it has been shown that the financial consequences of local plans are forecasted to many billions of zlotys (e.g. in Warszawa, Szczecin, Poznań). The data shows that this negative balance can be a serious financial problem for a large part of municipalities and could threaten destabilization of public finances (Śleszyński, 2014). Particularly important is the component of the compensation for land designated for municipal roads. In 2012, for 932 municipalities (about 30% of all municipalities in the country) the cost of the acquisition of land for municipal roads was estimated at 9 billion PLN. Proportionally, for the whole country it could be at the level of 30 billion PLN. Alternative research suggests even the cost of 130 billion (Olbrysz & Kozieński, 2011 cited in Śleszyński, 2014). In addition, in connection with the oversupply of land for construction purposes in relation to real investment needs, the area around the new roads (for which land has to be acquired by the local authority) will not be built (Śleszyński, 2014).

A dilemma that seriously hindered planning activities, influenced the design of public spaces in cities and resulted in chaos in space

Most municipalities do not have funds to pay the compensation, and in consequences it seriously hindered the planning activities. Polish cities are faced with a dilemma: to prepare local land use plans and to be exposed to the immediate financial consequences of their adoption, or to protect their budget against these costs and at the same time to give up control of the development of the city and agree to chaos in space. In order to avoid excessive financial consequences of the local plan, the cities eliminate or minimize design solutions, which require compensation. It can take a form of limitation of the separation of plots for public roads, resignation of designing public spaces, and the choice of inferior quality design of the area. The easiest way to avoid compensation claims is, in many cases, to suspend the work on local planning. Then development in cities will take place and be based on so-called ‘decision on conditions of site development.’ It is assumed that it will result from the nature of

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18 This data also includes the revenues from the increase from property taxes due to the adoption of the local plans.
property rights that one cannot deny the owner the right to develop his real estate when the intended use of the real estate complies with the conditions set out in the local plan or in the absence of a plan—with a decision on conditions of site development. Decisions on the conditions of site development are based on very broadly interpreted neighborhood principle and does not need to relate to any spatial plans.¹⁹ The number of decisions on land development conditions in comparison with the number of building permits shows that investment activities in areas with no land-use plan has become a norm. Although the number of decisions on land development conditions for several years systematically drops, it still accounts for around half of all investments, especially in residential construction (Śleszyński, 2014). The system of issuing the decisions on conditions of site development was called a pathology and was criticized as the source of many negative phenomena in city development (a total chaos in the area, usually lacking public spaces, basic services, green areas, scheduled infrastructure roads and other technical support) (Jedraszko, 2005; Izdebski et al., 2007). The decision on the conditions of site development allows development in the areas designed in upper-level plans for public spaces, green corridors for the city, etc., and this is what actually happens.

Discussion—the need for reflection on the scope of rights and liabilities in relation to value capture and compensation, the spatial planning system and their connection to property rights

The balance of rights in relation to value capture and compensation is set very much in the favour of private developers and landowners. The definition of planning fees and betterment levies leaves no doubt that the essence of the these instruments is to capture part of the growth of property values caused either by the implementation of local plans, local infrastructure, geodetic division of property, and finally consolidation and division of property. However, the practice of the past several years shows that these mechanisms in general do not fulfil the basic purpose they were to serve. The use of value capture instrument is limited. Poland also didn’t implement the ad valorem property taxation system. In consequence current planning practices in Poland largely neglect how the costs of providing urban infrastructure and services are socialized, and how the benefits of development processes are privatized. Taking into consideration several operation difficulties in the implementation on the ad valorem formula in relation to the betterment fees other instruments might be considered as the most suitable tools for measuring the extent to which the property owners and developers are required to participate in the costs of providing the local public infrastructure. For example, Gdesz (2011) presented alternative ways of calculating the fee, which are directly based on different criteria, such as the length of the plots upfront lane, its space and the type of building. The indirect value capture instruments are also an option, which might be considered. Although the Western European countries seem to be veering in favour of indirect value capture instruments such as the English Section 106 Agreements, they are not without problems either, and more dramatic and direct interventions based on past European experiences, for example, should not be disregarded. At the same time, there are very broad compensation rights for value decline due to planning regulations and for areas designated in plans for public roads. The threats arising from excessive costs as a result of the

¹⁹ Such decisions have been provided for: (1) public interest projects—as decisions defining the location of public interest projects and (2) other (remaining) projects—as decisions concerning land development conditions (art.59.1 LPA). A decision on the conditions of land development may be issued only when all of the following conditions are met: 1) at least one adjacent plot that is accessible from the same public road must be developed in such a way as to enable the requirements to be laid down for the new development with regard to the continuation of: functions, parameters, features and indicators of the development and land use as well as dimensions and architectural form of buildings and facilities, the building (set-back) line and the building density (this is the so-called good neighborhood principle); 2) the land must have access to a public road; 3) the existing or planned land infrastructure must be sufficient for the purposes of the project concerned; 4) no permission is required for a removal of land from agricultural or forestry use, or such permission was issued during the preparation of local plans that have already expired; and 5) the decision is compliant with other specific regulations (e.g. the Act on Environmental Protection, the Act on the Protection of Forests and Agricultural Land, the Act on Historical Monuments Protection) (art.61.1 LPA).
adoption of plans are real and very serious (Śleszyński, 2014). Local authorities resign for financial reasons (but not only for these reasons) for ordering space activities and the cities develop on the basis of chaotic decisions on the condition of site development. Very broad compensation rights influence the planning processes. Half of investments in housing are based on the ad-hoc decision on conditions of site development, which, in addition, do not require payments of planning fees. This article does not make an argument against compensation rights, but in Poland the compensation includes the rise in land value due to earlier planning decisions and as a result of various pathologies it relates in practice to the value of building land. In many countries when the local detailed plan comes into force, the area of a public road included in the plan is transferred to the municipality's ownership without compensation, at least in part (e.g. in Finland) (Havel, 2009, p. 165).\textsuperscript{20} It is rather considered as a part of a ‘developer’s obligations.’ The logic of the distribution of rights and liabilities in the urban development process is set up exactly the other way around in this respect in Poland. In addition, every landowner has the right to develop the real estate when the intended use of the real estate complies with the conditions set out in the local plan or in the absence of a plan— with a decision on conditions of site development. Everybody has the right to obtain the decision on conditions of site development. The right to develop is equated with the right of ownership. After twenty-six years of vigorous urban development, the Polish spatial planning system exceeded the critical point and its negative impact on the overall development processes is already visible to any average citizen. A complicated and inefficient system of law causes difficulties in the planning and execution of urban infrastructure projects and the deterioration of the competitiveness of Polish cites. Without significant improvement in this field, cities become ‘locked’ into a spatial-economic development trajectory encouraging urban sprawl with the deficit of urban infrastructure, thereby losing their capacity to adapt to spatial dynamics in a manner envisaged by the current EU policy documents (e.g. the Europe 2020 Strategy, or the Cities of Tomorrow discussions) (Havel, forthcoming).

As it is presented in this paper, the balance of rights in relation to the two main sides of the property-values effect caused by land-use planning regulations and public works influences and is linked to the planning processes and morphology of urban development (see also Havel 2009). Therefore, more holistic discussions in regard to the balance between public and private rights in land including also the understanding of the right to develop (should the right to develop be equated with the right of ownership?), betterment and compensation, would be necessary at this point of time. More comparative research would be also needed—we already see in relation to planning fees, for example, that the legislators could have looked more closely at other countries’ experiences in order to avoid repeating mistakes. Balance of rights is in the centre of the complex institutional design problem of land markets. Importantly, Webster (2005) argues that getting the appropriate overall balance of rights is difficult as it turns on the dynamic boundaries between planned government action and spontaneous market forces. Getting the balance of rights is a problem concerning the relationship between state and private property rights, the balance of central and local rights, and the codified and discretionary rights in planning in the public interest. In many advanced economies, land-use law plays an important role in setting this balance between public and private interests in land. It delineates the property rights by creating the boundaries of the bundle of rights over land or an attribute from that bundle and the conditions under which the right can be exercised. Delineation of property rights creates the institutional foundations for the land market and has significant impact on the nature of development process and its

\textsuperscript{20} However, there is limitation to this rule. The area can be transferred without compensation if the area does not exceed 20% of the total land owned by the landowner in the local detailed plan area, or is not larger than the building volume permitted for the land remaining in his/her ownership (Havel, 2009, p.165).
After the demise of the Communist regime, the strong private property ideology that prevailed in Poland resulted in the strong protection of private property. The decision to adopt a betterment levy at that junction in history was not trivial. The process of compliance with the law safeguarding ownership was confirmed by a provision of the Constitution of 1989. The first Act on Spatial Development of 1994 confirmed the right to the value of land and material consequences of changes imposed on property use in a local plan. Further, the Constitution of the Republic of Poland of 2 April 1997, which is in force now, confirmed the protection of ownership which may only be limited by means of a statute and only to extend that it does not violate the substance of such right. Due to past experiences, any change of the established balance between private property rights and public interest will be difficult to implement. However, taking into consideration the discussed operational difficulties within the planning systems, the issues in connection to legal rules about how people may use their property rights over land should be discussed. As history teaches us, the balance of private property rights and public activity is never fixed or settled, it is continually renegotiated as a function of changing social, economic, and technological conditions. After twenty-six years of vigorous development, we are approaching the critical moment to reconsider this relation and the right approach would be to start planning by reconsidering the law and property rights.

In their recent book *Planning by Law and Property Rights Reconsidered*, Thomas Hartmann and Barrie Needham defined planning by law and property rights as ‘the activities of making, implementing and enforcing legal rules about how people may use their property rights over land and buildings’ (Hartmann and Needham, 2012). They distinguished two ways of planning by law and property rights: the first is when a public agency makes plans using public law about how land may be used; the second, more indirect way is when a public agency is creating markets in property rights, purposefully so that the outcome of those markets is a physical environment which the public agency wants to achieve.21 In Western European countries with both ways, “Plans need to remain within the legal boundaries specified by both law and property rights” (Hartmann and Needham, 2012). At the moment of changing the planning law in Poland, in Western European countries the focus and hegemony in planning theory was directed to described as the paradigm of the 1990s the communicative or collaborative planning and the role of values and consensus-building in decision-settings. In addition, a shift from government to governance as one of the major elements of the recent social change redefined the state–society relation, directing attention to multi-level governance.22 These approaches failed to incorporate adequately the peculiar political and property rights nuances that existed in planning practice in countries that were undergoing the process of economic and political transition. In Western European countries planning by law and property rights is taken for granted (Hartmann and Needham, 2012); for

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21 Creating transferable development rights is a well-known example of this, or making it possible for the residents of a neighbourhood to set up a residents’ association which maintains the qualities of that neighbourhood. This kind of spatial planning works by structuring the market of property rights.

22 Multi-level governance assumes the explicit or implicit sharing of policy-making authority, responsibility, development and implementation at different administrative and territorial levels, across an increasing number of actors and levels of government, and from state actors to non-state actors, i.e. i) across different ministries and/or public agencies at central government level (upper horizontally), ii) between different layers of government at local, regional, provincial/state level, national and supranational levels (vertically), and iii) across different actors at subnational level (lower horizontally) (OECD). Understanding this complex network of relationships, the ways in which multiple networks of actors are continuously made and remade to carry forward particular strategies, as well as developing effective management of interdependencies and coordination across these stakeholders, has captured a lot of attention by planning theorists as a critical aspect to enable efficient policy-making and service delivery.
example, the neo-liberalization of planning policy in Western Europe—particularly since the early 1980s—was a process that was always mediated within the well-established system of property rights. In Poland, theory behind planning by law and property rights should be revisited and includes also the discussion on the initial distribution of rights and liabilities in urban land development processes given by the planning and land-use regulations.

References


Muñonez Gielen, D., 2010. Capturing value increase in urban redevelopment. A study of how the economic value increase in urban redevelopment can be used to finance the necessary public infrastructure and other facilities. Doctoral Thesis. Sidestone Press, Leiden

NIK, 2003. Informacja o wynikach kontroli ustalania i egzekwowania przez gminy opłaty adiacenckiej. 2/2003/P02/151/LOL. The Supreme Chamber of Control, Olsztyn, Poland (in Polish).


Nordahl, B.I., 2014. Convergences and discrepancies between the policy of inclusionary housing and Norway's liberal housing and planning policy: An institutional perspective. Journal of Housing and the Built Environment 2014 ;Volum 29. (3) s. 489-506


