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Public land leasehold tenure approaches – a way towards an efficient and effective land use management

公共土地租赁管业权途径 - 一条切实可行的土地租赁使用管理方法

中国经济快速增长同时伴随着不断恶化的环境问题和土地使用问题。由于难以抑制的城市化趋势以及城市的盲目开发扩张而导致越来越多的可用耕地流失。城市土地更多的被视为投机对象。土地分配冲突层出不穷。贫困的民工及其家属只能生活在城市边缘的贫民区。但是，这样快速的变化以及其所引起的一系列相关问题也同时提供了一个巨大的机遇：即可以尝试不同的土地使用制度设计方案。实践过程中还可以从西方国家犯过的错误中吸取经验教训。其中一个值得专注的处理土地使用问题的方案便是租赁。其前提条件是土地为公共财产或国有财产。在这一点上，根据中国现行财产权制度，中国比西方国家具备更好的初始条件。

西方国家的经验表明，土地产权和土地租赁权对土地使用计划和土地管理有很多影响。尽管私人土地使用确实比公共土地使用更有效，但土地私有权对于土地价值和土地租赁不是必要的条件。

有效租赁权既与特殊所有权具有相似性，同时也避免了特殊所有权的不足之处。一个适当的公共财产租赁制度（比如可以与拍卖制度相结合的公共财产租赁制度）可以完全摒除土地租赁。因此，土地的经济价值包括土地租金就转移到了公共领域或国家手中。纯粹的土地租赁对于私人而言不具备任何价值，所以投机行为也就失去了意义。

合理的土地使用的必要前提是要有一个全面的计划，它涵盖了生态、经济和社会三者之间的需求和谐。这样的计划是必要的，以延缓城市化趋势、避免城市盲目开发扩张和对可耕地的破坏。西方国家的经验表明，即便是好的土地使用计划也会被私人所阻碍，因为他们期待增加并占有更多的土地租赁权(寻租)。但是公共财产租赁制度导致的结果是使土地使用计划变得中立且客观：私人进行土地租赁和占有土地价值也就没有可能。在这种情况下，行贿地方政府的行为亦毫无意义。

西方工业国家经历了土地使用的负面影响，例如投机买卖、囤积土地、城市化、城市盲目扩张、土地未充分利用、工业占用土地和对农业土地的破坏。完全的财产权会加速上述趋势的恶化。所以需要众多的法律法规制度以削弱私人财产所有权。然而这些法律法规制度的效果微乎其微。我们指出一个运转良好的租赁体系是如何给私人施加经济压力，促使他们去做计划权力机构希望他们做的事 - 而不需要象当今西方国家那样，依靠使用法律法规制度来维持：在一个健全合理的土地租赁体系中，私人有动机使用土地，但同时又能服从土地使用计划。他们不会囤积土地或投机买卖等。因为私人在经济利益的驱使下而服从土地使用计划，由此进一步削减土地使用权也就不必要了。

另外，在一个运转良好的租赁体系中，私人可以获得土地，而不必承担其购置成本。尤其是在大城市，无需资本而获得土地是一个重要的缓解措施。根据社会目标，租赁体系也可以和租赁所得的再分配制度相结合。通过将租赁所得进行平等再分配，即每个人都可以平均使用土地，结果使得低收入家庭能够负担得起舒适的公寓，而不必住在市郊的贫民区。好的土地使用政策会提高土地租金和租期。经济增长同样会引起更高的土地需求。贫困的人会因此遭受利益损失。但是在一个再分配体系里，租赁所得再分配的规模不断增长。因此，即便在权力机构计划失误的情况下，民工也不会遭受损失。

尽管有西方主流经济学的种种提议，我们呼吁中国政府不要盲从西方的蓝图，而是应该发扬现行的土地使用权体系。

Abstract

The People´s Republic of China faces a rapid economic growth. Consequences are environmental and land use problems. More and more fertile land is lost due to hardly controllable urbanization tendencies, accompanied by urban sprawl. In the cities land is more and more object to speculation. Distribution conflicts are coming up. Poor migrant workers and their families are banned into the slums at the margin of the cities. But the rapid change with all the connected problems also opens a big chance: Alternative institutional designs of land use might be tested. There is the possibility to learn from mistakes that western countries have made. An interesting alternative approach to deal with land use problems is leasehold. A precondition is common property or state property on land. Referring to this, with the existing property rights system China has better starting conditions than western countries.

Western states made the experience that rights due to the value of land and due to the rent of land have a lot of disturbing impacts as well on land use planning as on land use management. Although private use of land is certainly more efficient than public land use, exclusive private rights due to the value of land or the land rent are not necessary.

Valid leasehold rights may have similar characteristics as specified property rights – at the same time they avoid the disadvantages of specified property. An appropriate common property leasehold regime (that is combined e.g. with an auction system) might skim off the ground rent completely. Hence, with the land rent also the economic value of land is transferred into the hand of the public or the state. Bare of ground rent, land is worthless for privates; speculation does not make sense anymore.

A necessary precondition for proper land use is a sound plan, which contains compromises between ecological, economic and social requirements. Such plans are necessary to avoid suburbanization, urban sprawl tendencies and the destruction of scarce, fertile farm land. Experiences of western countries show that even good land use plans are thwarted by privates, hoping to increase and bag the ground rent (“rent seeking”). But as consequence of a common property leasehold regime, land use planning becomes neutral and objective: No private bagging of ground rent and land value is possible. Attempts as corrupting local authorities are useless insofar.

Western industrialized states suffer from undesirable developments in land use such as speculation, hoarding of sites, suburbanization, urban sprawl, underused sites, brownfields and destruction of agricultural land. Complete ownership titles are strong supporters of these trends. Therefore, brushwood of public law regulations is needed to dilute the owners´ property rights – nevertheless, the effects of these regulations are meager. We show how a proper working leasehold tenure system gives economic pressure to the privates to do what the planning authorities want them to do – without using monsters of public law regulations, as western states have nowadays: In a sound leasehold tenure system, private users have an incentive to use the sites in compliance with the land use plans. They will not hoard, not speculate and so on. Because the privates get economic incentives to comply with the plans, further dilution of rights to use the land is not necessary.

In addition, in a proper working leasehold system the privates get access to land without acquisition costs. Access to land without capital is an important ease, especially in big cities. In respect to social targets, the leasehold system can also be combined with a redistribution regime of the leasehold payments. By redistributing the payments to the people in equal shares, the average land use is free for everyone and as a result also low income families are able to afford comfortable flats instead of living in slums in the suburbs of the cities. Good land use policy will cause higher land rents and leases. The same holds for higher demand for land due to economic growth. Especially poor people might suffer from this. But in a redistribution system, also the volume of redistributed payments increases due to scarcity. Hence, e.g. poor migrant workers don´t lose due to the shortage made by the authorities´ plan.

In opposition to the proposals of western main stream economists, we appeal to the Chinese authorities not to follow the western blueprint, but to promote the actual system of granted land use rights.

1. The current situation in China

The People´s Republic of China faces a rapid economic growth. Consequences of this growth are environmental and land use problems. Only some examples: Fertile land is lost due to hardly controllable urbanization tendencies, accompanied by urban sprawl. The cities´ growth is regardless to the needs of water supply. In the cities land is more and more object of speculation. The restructuring of cities causes social problems. Poor migrant workers and their families are banned into the slums at the margin of the cities. In countryside, farmers don´t have reliable rights to use the land.

But the rapid change with all the connected problems also opens a big chance: Alternative institutional designs of land use might be advanced and developed. China has the possibility to cut its´ own path, learning from mistakes that western countries made. In contrast to China, the possibilities for efficient change management in western countries are limited, because institutions are strongly consolidated. An interesting alternative approach to deal with land use problems is a proper leasehold tenure system. A precondition is common property or – even better - state property on land. Referring to this, China has much better starting conditions than western countries: After 1978, China has adopted a land use rights tenure system similar to the land leasehold tenure system in western countries. Under China´s Land Administration Law, which was firstly drafted in 1986 and amended in 1998, basically the state owns all urban land, while farmer collectives own all rural land. The land ownership and land use rights may be separated, and the state remains the land ownership and local government may transfer the land use rights on behalf of the state.

The text below refers on urban land as well as on rural land. It will give some general ideas that might serve as helpful suggestions for the current discussion about changing the land property rights system in China. Some remarks refer on the article of *Tiening Cui* in this book.

1.1. Property Rights, land rent and land value: Basic Assertion

Economists often group property rights (as developed under Roman law) as follows:

- the right to transfer the right to others, either by inheritance, gift, or sale, and to receive the selling price (alienation, "ius abutendi");
- the right to appropriate the return of the asset ("usus fructus"), including earning income or rent of it;
- the right to change its form, substance and location ("abusus"), which includes many decision-making rights such as management (to modify and transfer a resource, e.g. by planting trees, enlarging a canal etc.), exclusion (to determine who else may use the resource);
- the right to use the asset ("usus"), which can include rights of access (to enter the resource domain) and withdrawal (to remove something, e.g. to extract kindling).[1]

The first two types of rights are related to return and value, the last two rights to the control and use of the asset.

Exclusive rights, due to	**Value and rent**	**Control and use**
Asset (stock)	Right to sell the asset and to participate from its value ("alienation", latin: "**ius abutendi**")	Right to control and to change the asset according to the needs (latin: "**abusus**")
Utility (flow)	Right to appropriate the return of the asset (latin: "**usus fructus**")	Right to use the asset (latin: "**usus**")

Table 1: Property rights elements (in an economic interpretation)

[1] M. Di Gregorio / K. Hagedorn / M. Kirk / B. Korf / N. McCarthy / R. Meinzen-Dick / B. Swallow, Property Rights (2004): Collective Action and Poverty: The Role of Institutions for Poverty Reduction, Paper prepared fort he Tenth Biennial Conference oft he International Association fort he Study of Common Property (IASCP), Oaxaca Mexico, 9-13 / August, p. 7.- http://dlc.dlib.indiana.edu/archive/00001549/00/DiGregorio_Property_040702_Paper443.pdf

These property rights might be bundled or separated. They might either be allocated to the privates or to the community / state. In this regard we have to distinguish:

- A complete private ownership title is generally interpreted as holding all four sets of rights.[2] Though this complete title is the normal case in western states, the ownership titles especially for land are weakened also in western states in order to respect the interests of the public (e.g. rights of ways, requirements for planning and building permission etc.);
- In contrast to a complete title, an ideal public leasehold system may be characterized by unbundling the property rights in a prudential way (as we have to discuss below).

What is the connection between the property rights framework and land use policy? Good land use policy has to be a policy for sustainability.[3] Referring to land use, sustainability means

- to make "good" land use plans and to look for compliance to the plans (effectiveness of land use policy);
- to maximize the utility of the land over the time for the whole society (efficiency);
- to provide access to the land for every citizen (social aspect).

Referring to this, our assertion is:

- On the one hand, in a good land use system the rights to control and use the land ("usus" and, to a certain degree, also "abusus"; see the right column in the table above) should be in private hands. Particularly strong private rights to use the land ("usus") are essential. Privates are generally better managers than the state. The local management of resources

[2] S. Pejovich (1990): The economics of property rights: Towards a theory of comparative systems. Dordrecht: Kluwer Academic Publishers.- R. Cooter / T. Ulen. Law and economics. 2 ed. New York (Addison-Wesley Educational Publishers) 1997.

[3] World Commission on Environment and Development (1987): Our Common Future, Oxford / New York, S. XV.

is superior to a central management (see also *Tiening Cui´*s comments in this book referring to the need of a local resource management and strong use-rights).

- On the other hand, land use policy will be presumably handicapped, if the rights due to the value and the rent (left column in the table above) are completely in private hands. Particularly the right to appropriate the return of the asset (latin: "usus fructus") proves as being a problem, if it is in private hands. Considering "ius abutendi", as well the right to transfer this "usus fructus" is a disturbing factor in land use policy. Analyzing the problems of privatization of these rights (due to value and rent) as the most important disturbing factor is a key for proper land use policy. Even if – despite a complete privatization of these rights (in the left column) – an effective and efficient land use policy could be practiced, the social impacts would be inacceptable. We want to emphasize that this statement only holds for non renewable resources such as land, but not for normal, easily reproducible and substitutable assets (e.g. machines, cars, furniture).

This leads to the subsequent design as a precondition for a good land use policy:

Exclusive rights, due to	**Value and rent**	**Control and use**
Asset (stock)	"**ius abutendi**": Predominantly public, partially private (transferring "usus"-rights)	"**abusus**": As few as possible public (for giving restrictions to the use), as much as possible private (allowing private entrepreneurship)
Utility (flow)	"**usus fructus**": Public!	"**usus**": Strong private rights!

Table 2: Property rights target design

Whereas full specification and privatization of property rights on land (due to value and return) causes problems for a proper land use policy, a properly designed leasehold tenure system is able to harmonize the potential conflict fields of goals of efficiency (economics), effectiveness (planning, ecological aspects) and distribution (access to the land). Public leasehold tenure systems can be made with rural, agricultural land as well as with urban land (settlement). We want to discuss how a proper leasehold tenure system for land has to be

shaped to reach the sustainability goals. Basically, we are emphatically in opposite to Property Rights theorists such as *Demsetz*[4], who considers complete specification and privatization of property rights as a precondition for efficiency.

To make our findings comprehensive, we have to give first a certain theoretical understanding about land rent and land value. Subsequently we will discuss the design and the effects of a proper leasehold tenure system.

1.2. Theory of value (I): Land rent, land value and good land use policy - some theoretical backgrounds

The land rent is considered to be an extra profit, due to differences to the favorable location (*J. H. v. Thünen*[5]), the quality of land (*David Ricardo*[6]) or due to differences in the intensity of cultivation or use. These sights, originally created for agriculture land, can be applied for any kind of land by making some modifications. For a rented urban site, the different yield approach might be illustrated as follows (the numbers are fictive, but related to the German real estate market):

[4] H. Demsetz (1967): Towards a theory of property rights, in: American Economic Review, 57 /1967, S. 347-359.

[5] J. H. v. Thünen (1926): Der isolirte Staat in Beziehung auf Landwirthschaft und Nationalökonomie, oder Untersuchungen über den Einfluß, den die Getreidepreise, der Reichtum des Bodens und die Abgaben auf den Ackerbau ausüben, Hamburg (Perthes).

[6] D. Ricardo (1817): On the Priciples of Political Economy and Taxation, third edition, London (John Murray).

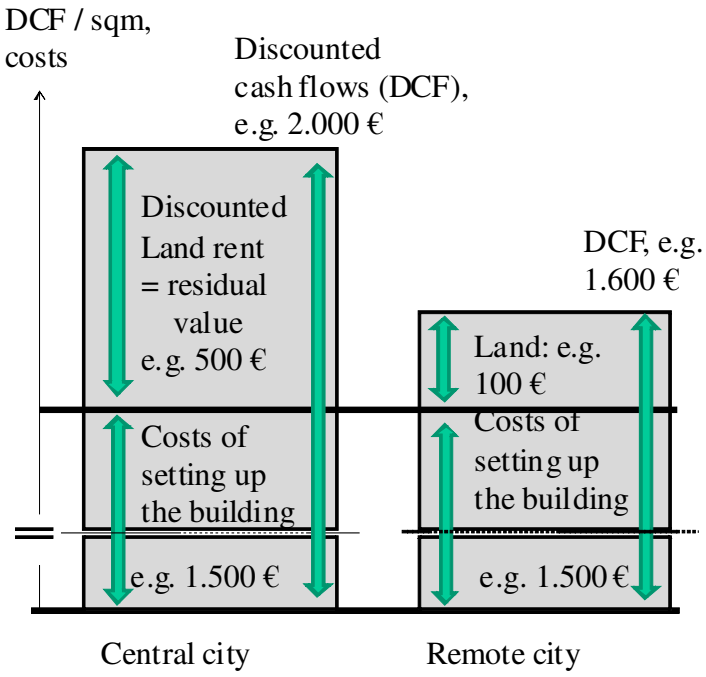

Figure 1: Explanation of the land value as discounted differences of yields

The value of land is explained above as the excess of the discounted cash flows (future current revenues minus current costs of operation) over the (discounted) costs of setting up building upstanding (residual value approach). [7] In the figure above, the same kind of commercial property building (more or less the same production costs) is set up on two different sites: The left is a site in the center of a big city (e.g. Berlin or Beijing), the right is a site in a remote town. The costs for setting up a building with a certain quality standard are nearly the same in the big city and in the remote town; in the example one square meter costs 1.500 €. On the other hand, the demand (and consequently the discounted revenues, the bid rents of the users etc.) differs from location to location.[8] In the big city, the discounted cash flows are 2.000 € / sqm, in the remote city only 1.600 € / sqm. The difference is the willingness to pay for the discounted land rent: This is 500 € / sqm (2.000 € - 1.500 €) in the big city and 100 € (1.600 € - 1.500 €) in the remote town. Therefore, from a simplified point of view (later we will complete the theory), the value of land "V" may be calculated as the net present value "NPV" of the residual cash flow of the site:

[7] Furthermore, special yields also can be achieved by taxation (e.g. higher depreciation rates for certain types of buildings) or market characteristics (monopolistic markets).

[8] W. Alonso (1970): Location and Land Use: Towards a general theory of land rent, Cambridge / Mass.

$V = NPV = DCF - I_0$;

"DCF" is the discounted cash flow and "I_0" are the costs for setting up a building.

Because the difference between DCF (2.000 € / sqm and accordingly 1.600 € / sqm) and I_0 (1.500 € / sqm in both cases) is higher in the big city, the (residual) value of land is also higher than in the remote town (500 € / sqm and accordingly 100 € / sqm). The formula above might be modified as follows:

$$V \cdot i = R$$

and

$$V = \frac{R}{i}$$

This formula shows the value of land as the sustainable land rent "R" discounted by the (long term) interest rate "i", using the formula of an endless rent (the useful life of land is endless).[9] Let´s assume according to German data that "i" is ca. 5 %. The land rent

- in the big city would be 500 € / sqm x 5 % p.a. = 25 € / sqm p.a. and
- in the remote town it would be 100 € / sqm x 5 % = 5 € / sqm p.a.

The formula holds for such land that is covered with a new building. Below we will show that this formula has to be extended in order to get a more proper idea about the value of other kind of land (especially of undeveloped land).

The considerations above lead to two conclusions:

a. Already from this simplified version above we can derive a definition about what good land use policy should be: Good land use policy means to maximize the sustainable land rent.[10] This has two different aspects:

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[9] If R is rising e.g. because of inflation or rising income, this dynamic can be shown by lowering "i" by a growth rate "g". Hence, $V = \frac{R}{i - g}$. In our example below we don´t discuss the issue of risk premium as a surcharge on the interest rate.

- To maximize the sustainable *land rent potential*. This is a task for the land use planning. "Sustainable" means that land use planning has not only to take the short sight. Maximizing the land rent potential also means optimizing the utility of land use and the value of the land. Land use planning has to make compromises between different stakeholders and different aspects (social, ecological, economical, cultural needs). Such a plan is especially necessary to avoid suburbanization, urban sprawl tendencies and the destruction of scarce, fertile farm land. Land use planning means to manage a multidimensional system that cannot be expressed and control only in monetary terms – it is much more than only an economic task. Furthermore, land use planning should leave as much freedom as possible for privates in order to encourage private entrepreneurship. On the other hand, planning has to set restrictions, where externalities might occur (see the "abusus"-right in table 2). Hence, land use planning is acting always in conflict fields; a precondition for a good land use planning is the protection from private influence.

- Unlike land use planning, land use management (in a narrower sense) operates mainly in the economic dimension: It has to make sure that the sustainable *land rent potential* (created by the land use planning) *is exhausted as far as possible*. The value, created by the planning, has to be realized by exploiting the rent as far as possible according to the planners´ decisions.

[10] M. Pfannschmidt (1990): Vergessener Faktor Boden – Marktgerechte Bodenbewertung und Raumordnung, Lütjenburg, S. 35.

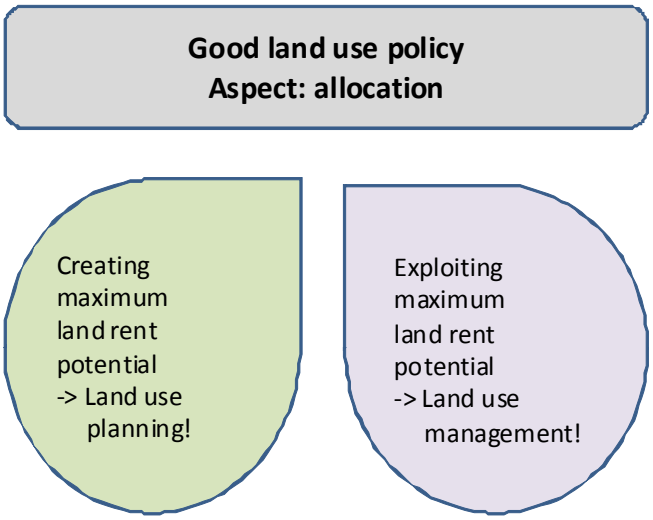

Figure 2: Criteria for good land use policy

b. In a working market economy costs and benefits should be allocated to those who caused them. For instance, if one person has the costs, another person takes the benefits, externalities occur, and the result is market failure. However, changes of the land rent are mostly caused by the public: E.g. a new highway (set up with public money), that connects a remote area "lowers" the distance to the next big city and therefore increases the rent due to the location; a new (public) development plan allows a more intensive use of a site and therefore a higher yield etc. In a complete private property regime, the benefits (higher land rents and higher value of the land) are taken by privates, whereas the activities are done and paid by the public / state. Therefore, a complete private property regime must lead to market failures; it is anything but efficient. A complete private property regime also must have impacts on the planning system.

1.3. Why do private property rights due to value and rent cause negative impacts on land use planning ?

Often, maximizing the value of the property of the commonwealth is not the same as maximizing the sum of the values of the individual properties. In a private ownership system, some private owners may have interests that contradict those of the community. Experiences of western countries show that even good land use plans are thwarted by privates. Some of them simply want to live on big, comfortable sites, others hope to increase and bag the land rent ("rent seeking") and the value of their sites. The first motive (a consumers´ motive) costs the society a lot of money (infrastructure costs etc. depend highly on the density of settlement[11]) and also causes external costs.[12] The second intention (an investors´ motive) is strongly related to land speculation, which has to be named as one of the central drivers for the rededication of farm land to settlement areas. For example: In Germany, very often farmers try to influence the authorities to change the dedication of farmland to settlement areas. The land rent and the value of settlement areas are roughly 10 to 20 times as high as those for farmland.[13] As a consequence, overnight farmers may get millionaires, if their lobbying is successful. But a new development area means often a less efficient use of the old cores of the cities; people go out to the cheaper developing areas, the cores of the cities are losing attractiveness and begin "to rot". The loss of the community is often higher than the increase in value of the lobbyists´ land.

For the rural areas of China, *Tiening Cui* prefers village committees acting as administrators and representatives of the central state. This arrangement is sensitive due to the better information and understanding of the local specifics. But even such a design could lead to speculation, if the members of such village committees might abuse their power and violate the interests of the farmers. If the right for privates to participate from the value and the rent is kept up, this problem will sustain even if the formal property is shifted from the collectives to the central government.

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[11] Cf. Bundesamt für Bauwesen und Raumordnung (Federal Office for Building and Regional Planning) / Bundesministerium für Verkehr, Bau und Stadtentwicklung (Federal Ministry for Transport, Building and Urban Affairs) (Ed.) (2006): Infrastrukturkostenrechnung in der Regionalplanung, H. 43 / Bonn.

[12] Among other impacts, biodiversity is reduced and fertile land is destroyed.

[13] In recent times a change of the relative prices happened due to the risen prices of agricultural products.

But how could these malpractices be avoided (that include lobbying and sometimes corruption activities)? Simply stronger laws are not enough. The experiences in western states show that often lobbying is acting in a grey area between legality and illegality; in most instances nobody is interested in prosecuting the parties concerned, and even if, there is not enough proof for such kind of activities. More promising is the change of the incentive structure: In case, the land rent is always skimmed off completely by the authorities, privates will not have any incentive to impact land use planning, e.g. by lobbying or corruption: If the land rent goes completely to the public, also the value of the land for the privates is always equal to zero – no difference, if it is farmland or settlement area. In contrast, if the "usus fructus"-right is left to privates, if privates are allowed to take the rent and participate of the value, an incentive for lobbying and corruption activities also will be perpetuated – this holds even if the land titles officially belong to the state.

1.4. Theory of value (II): Why do private property rights due to value and rent cause negative impacts on land use management?

Above we explained preliminarily the value of the land as the discounted land rent. This formula holds especially for land covered with new buildings. Although this may explain a lot, it is not the whole truth. For instance, it cannot explain the characteristics of the value of land covered with elder buildings and of undeveloped land. It also cannot explain completely the value of land that is object to speculation. Finally it cannot explain that even land without any actual economic use (not as farmland, not for settlement or transport purposes, not as resource retention area, German: "Unland") has a value that is higher than zero. Obviously despite the fact that the net present value approach gives a certain understanding of how prices of land emerge, it has serious shortcomings. It does not take into account special characteristics particularly of unimproved land: Land can be considered as a (real) option.[14] Let´s use urban land as an example: After buying the land, the owner has the possibility, but not the obligation to do what the planners want him to do (e.g., according to the plans, to erect a building). For instance, the owner of a firm, also having the property at a bordering site to

[14] Cf. A.S. Holland / S.H. Ott / T.J. Riddiough (2000): The Role of Uncertainty in Investment: An Examination of Competing Investment Models Using Commercial Real Estate Data. Real Estate Economics 28, 33-64.- Cf. http://www.realoptions.org/abstracts_2002.html.

his factory, has the option to extend his production activities on the new site, maybe with a new storehouse. With a complete title, he has the individual option, but not the obligation to use the site as the planners want the site be used. He will only comply with the land use plans, if the expected cash flows of the investment (e.g. building) are high enough. Otherwise, if the situation is insecure or does not suit his individual expectations, he will postpone his investment. The site is blocked during his waiting for the right moment to take the chance. Doing so, he might give damage to the community, because, in fact, due to this "blockade", the supply of land is running short and the scarcity of land increases. However, for an individual investor the acquisition of unimproved land is the key (low initial investment) for a modular investment strategy (capital intensive follow-up investment). The flexibility to wait for the suiting moment, to extend etc. in an insecure world has a value and can be modelled as a call-option. Hence, in contrast to the opinion of *Ricardo's* disciples, the value of unoccupied land cannot be explained only from the discounted land rent ("passive capital value"), as we did above. According to the real option perspective, the present value (discussed above) perspective has to be completed by the value of the investments´ flexibility "F":

$$V = NPV + F(t,\sigma,i,d) = (DCF - I_0) + F(t,\sigma,i,d) = R/_i + F(t,\sigma,i,d)$$

In the real option approach "F" is a function of the duration "t", the volatility "σ", the interest rate "i" and the "dividend" "d". The longer the duration, the longer lasts the chance, the possibility that the option will be "in the money". Hence, the higher the value of "F" will be. A complete private ownership title is an endless option. Therefore, the value of "F" is relatively high. Investment in land is a classical strategy to cope with insecurity: The owner of the option benefits of the chances, on the other hand he can avoid the losses (by default of the follow-up investment). Because of this "asymmetric structure", volatility means only a chance to him. Thus, the higher the insecurity, the "amplitudes" of returns "σ", the higher the value of "F" will be.[15] As mentioned above, investment in land is a key for a profitable follow-up investment (foremost a building). As long as the follow-up investment is not done, the money can be invested in other assets. Therefore, the higher the interest rate, the higher "F". A special parameter is the so called "dividend". The higher the dividend, the lower is "F". It works in the opposite direction as the other parameters mentioned above. Considering a financial option, the holder of the option right does not have the rights on the asset itself (e.g.

[15] But, we will show that – despite the "hoarding behavior" spends individual security – it causes insecurity for the public (difficult access to land).

company). If a dividend is paid, the payment flows to the owner of the company, not to the owner of the option. Therefore, the asset and the option right lose value. Dividend payments mean opportunity costs for keeping up the option (e.g. not buying the share). The idea might be transferred to the real option approach. Impacts such as competition to a site, e.g. from new developing areas, might be modeled as "dividend".[16]
According to *Copeland / Antikarov*, the net present value calculation is only a special case of dynamic investment calculation with F = 0 – in practise, F = 0 hardly ever happens.[17] Hence, the real option approach with $F \geq 0$ is the general approach.

The formula above shows that (in a simple interpretation) the value of a project is the value of the "added possibilities", the value of the flexibility to postpone the project ("F") plus the value of striking the option, this means the discounted cash flows of the project (if it is executed; "DCF" or "R / i"). In conjunction ("R / i + F") the term is called "extended net present value"[18]. For simplification let´s continue with our urban-land-example above and let´s assume that the value of "F" is half of the net present value. Considering the big city, the net present value of one square meter of land is 500 € and the flexibility advantage has a value of 250 € / sqm. But in fact, the investor never can realize the net present value "NPV" of a project and the value of flexibility "F" of postponing the project at the same time: If the investor sets up a building on unimproved land, he strikes the option. This means, he loses the value of the flexibility: "F" gets negative. This means, in our case, the investor has additional costs of 250 € / sqm. Therefore the investor will only make the follow-up investment if the discounted cash flows are high enough to give him (besides a market conform rate of return) also a compensation for the loss of flexibility:

$$DCF - [I_0 + F(t, \sigma, i, d)] \geq 0 ;$$

Therefore, a high compensation for "F" is an additional hurdle for a profitable investment in real estate (see below).

Also the selling of an unimproved site can be considered as the selling of an option. The seller gives up future chances. Hence, he will only do so if he gets a compensation for the loss of the

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[16] Cf. D. Löhr (2006): Flächenhaushaltspolitik via Grundsteuerreform – gibt es einen Königsweg? – Ein Versuch, Working Paper No. 3 des Zentrums für Bodenschutz und Flächenhaushaltspolitik am Umwelt-Campus Birkenfeld (ZBF-UCB), May, pp. 20.- http://www.zbf.umwelt-campus.de.

[17] T. Copeland / V. Antikarov (2001): Real options – A Practioner´s Guide, New York / London (Texere), S. 73.

[18] Cf. M. Kilka (1995): Realoptionen – Optionspreistheoretische Ansätze bei Investitionsentscheidungen unter Unsicherheit. Frankfurt a.M., p. 34.- Cf. also http://www.**realoptions**.org/papers2002/BellalahNPVFin3r.pdf.

flexibility advantage (here: 250 € / sqm for a big city site). Very often this compensation requirement – that is added to the net present value – results in a price that is considered by the buyers as "not realistic", and "too high", judged by *Ricardo´s* theory and the isolated net present value calculation. Indeed, these prices often are anything but absurd, if the value of the flexibility advantage is considered in addition to the present value of the rent. However, inefficiencies will result if this mark-up cannot be paid anymore. Figure 3 shows the calculation by a potential investor who wants to buy a piece of land from an owner unwilling to sell and who has been "hoarding" the land. The sales price is 750 € / sqm; it is composed of the compensation for the waiving of the discounted ground rent (500 € / sqm, "NPV" or "passive capital value") and the option or flexibility value ("F", here: an additional 250 € / sqm). The investor on the other hand deducts from the discounted net earnings or cash flows the investment cost for the building (1.500 € / sqm). The residual (500 € / sqm) constitutes the ability to pay for the real property.

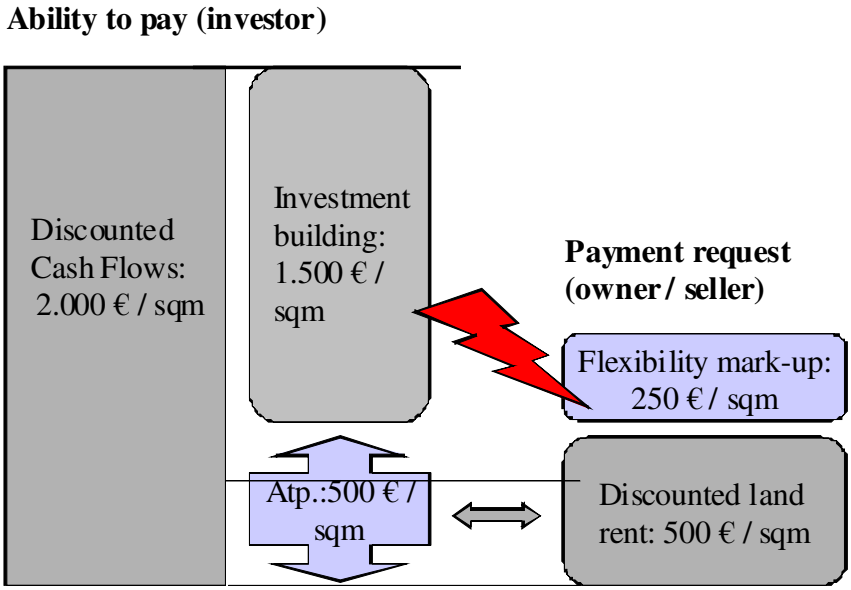

Figure 3: Calculation of an investor and inefficiencies in the real estate market

If the investor, however, can only afford the ground rent, but not the mark-up, there is no exchange. Hence, the compensation requirements work like a wedge in the transactions of land. If the required price cannot be paid, the owners prefer to "hoard" the site and do not sell.

An objection against this real option approach in view of the real estate market has been the market's inability to adjust to option price theory, because it is not known to the actors. *Sotelo* refutes this criticism by, appropriately, stating that economic laws do not depend on the knowledge of the individual actors. It is not even necessary that anybody knows the economical principles.[19]

The estimate by the Bavarian Ministry for Regional Development and Environment Issues, according to which up to 36 % of inner town brownfields and potential conurbanization areas in the municipalities are still unused[20], can give an impression as to how many "exchange gains" are not exploited and how far the market is from an optimum. These numbers refute the statement of the alleged "efficiency" of complete private ownership titles.

If no exchange happens on the market, the "hoarded" sites reduce the effective supply for sites. As a consequence, abnormal effects emerge. Generally, if the demand rises in a market economy, the price of commodities will also rise. Considering a "normal commodities´ market", the extra profits give feedback to the suppliers to increase the supply. As a result of the supply efforts, finally prices and profits go back to the "normal level". However, the real estate market works quite different: Because the total supply of land is not elastic, the supply of land cannot be increased due to a higher demand. Only the land rent and the price of land are rising. But – quite different to other kinds of commodities and services - a rising price often gives incentive to the speculators not to supply more land on the market. Instead of this the owners often hold back the supply (they "hoard" the sites) and wait for a further increase of the prices. In option pricing language: "NPV" is rising due to higher scarcity, and "F" is rising due to the higher price volatility "σ". As a result of this sellers´ market characteristics, the supply runs even shorter and as a result the price increases even more – a positive feedback loop! Hence, real estate is a preferred object to speculation: Whereas in Germany the consumer price index rose from 100 to 112 from 1997 to 2005, the price index for unimproved sites nearly doubled (from 100 to 193) at the same time.[21]

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[19] R. Sotelo (1995): Die WertV ist tot, es lebe die WertV – ein finanzierungstheoretischer Vergleich deutscher und angelsächsischer Wertermittlungsmethoden, in: Grundstücksmarkt und Grundstückswert 6 (2), pp. 91-96.

[20] Bavarian Interior Ministry and the Bavarian Ministry for Regional Development and Environment Issues, (Bayerisches Staatsministerium des Innern / Bayerisches Staatsministerium für Landesentwicklung und Umweltfragen) (2003): Press release, 07/29.- http://www.bayern.de/stmlu 2003.

[21] Federal Statistical Office (2007): Statistical Yearbook 2007 for the Federal Republic of Germany, Wiesbaden, p. 512 and p. 505, own calculations.

The consequence: Because the value of land is comparatively lower in the periphery of the big cities or in rural areas, there is current evasion to suburbia and urban sprawl - with manifold negative economic, social and ecological consequences. Hence, the reverse of the blocked sites is a higher pressure "outwards" to develop new sites: More and more agriculture land gets lost in favour for settlement areas. The annual rededication of agricultural land in Germany is nearly as much as 2/3 of the surface of the Bodensee, the biggest inland lake of Switzerland, Austria and Germany and is much more connected to the economic growth than to the demographic development.[22] Thus, speculation, empty and hoarded sites, and as a consequence urban sprawl and suburbanization are a severe problem of land use especially in developed economies. Hence, the complete title-regime is not a good blueprint for the development of the Chinese property rights regime.

Nevertheless, also emerging markets are object to speculation. In China especially Shanghai is affected. But, due to the different system of property rights, speculation has different manifestations – compared with western countries. "Bu po bu li", the slogan of Mao Tse Dong, meanwhile debauched into the motto of the land speculators of nowadays´ Shanghai.[23] The displacement of the citizens concerned causes severe problems (for solutions see below, chapter 3.4.). With further economic development similar problems will also affect other Chinese cities, if the system will not be changed. But, if the system is changed according to the western blueprint, China will face the problems described above of hoarding and inefficient use of sites.

Speculation in China affects also agricultural sites, though agricultural areas are protected highly in China.[24] Hence, there is a certain pressure on the planning authorities in the provinces to rededicate the farm land.

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[22] Cf. D. Löhr (2004): Umgestaltung der Grundsteuer im Rahmen einer effizienten Flächenhaushaltspolitik, in: Zeitschrift für Umweltpolitik und Umweltrecht (Journal of Environmental Law and Policy) 4, pp.587-588.

[23] C. Bommarius (2005): „Bu po bu li!", Berliner Zeitung, 12/08.

[24] The land use plans of the provinces have to be authorized by the central government. The plans have to provide information about rededication plans of agricultural sites. The provinces also have to look for compensation, either in new farm land or in a compensation payment (in a recultivation fund).

2. How can a leasehold tenure system support land use policy?

Land use policy can only work properly without disturbance by such property rights due to the value and the rent of the land. These property rights (particularly the "usus-fructus"-right in table 1) have to be transferred as far as possible into the hands of the community (see table 2). If the privates have no chance any more to take the rent and make use of the flexibility advantage, the disturbances described above will come to an end. Subsequently we want to show how a leasehold tenure system might be used to arrange the transfer of these rights to the state.

2.1. Characteristics of leasehold tenure systems

In the P.R. China basically two types of land use rights might be acquired. Besides the "allocated land use rights" (a kind of tenancy according to the "old" law, that is mainly used by governmental owned enterprises) privates get "granted land use rights" (according to "new law"). These granted land use rights have many things in common with the German leasehold tenure rights ("Erbbaurecht").

In the usual Chinese leasehold tenure system, the leasehold tenure rights are limited e.g. by 40 (e.g. hotels), 50 (industrial use) or 70 years (dwelling); the duration of the contract is according to the presumable economic life of the upstanding building.

In Germany, contracts are made up to 99 years. Especially the Roman Catholic Church (as a non-governmental actor) uses this instrument extensively. But also, for instances, the city of Wolfsburg (headquarter of VW) is erected on leasehold, and in the city of Kaiserslautern leasehold is quite common.[25]

During the leasehold and according to the land use plans, the leaseholder has the right to erect a building (or to use it as a farmland). In the Chinese system, the holder of the right is even obliged to set up a building within a certain range of time – therewith speculation in urban sites shall be avoided. In Germany, also such restrictions might be used ("Baugebote"). But the effect of such commands is limited: It does not affect things such as speculation with

[25] Regarding possibilities to use leasehold for municipalities see http://www.initiative-erbbaurecht.de/

farmland (purpose: rededication to settlement area or concentration in the hand of big investment trusts, as it happens nowadays in eastern Germany[26]), it does not stimulate the efficient use of buildings, and it does not prevent negative impacts on planning – aspects we will discuss below. Particularly in complete ownership title-regimes (such as in Germany), the application of this instrument is also connected with political and legal trouble.

After the leasehold term the leasehold rights go back to the owner of the land (here: state). The leasehold contract might be combined with a privilege of the actual leaseholder to elongate the leasehold contract (German: "Vorpachtrecht"). Also the keeper of a granted land use right may elongate the leasehold contract. The Chinese Land Bureaus have order only to refuse prolongation in exceptional cases. By elongating the contract, the keeper of the right has to pay anew a purchase price for the elongation of the granted land use right. Concerning this matter, the Chinese granted land use rights show a proper model design.

If the contract runs out before the life time of the upstanding building is over, in Germany the leaseholder has to be compensated for the lost value of his building by market value (an assessment of the building has to be made). According to the Chinese law, leaseholders get no or only little compensation. This rule has negative impact on the quality of the leasehold tenure right. It is important to take the market value of the building as a yardstick for the compensation – otherwise leasehold rights are considered as being minor to complete titles; also insecurity for the investors will be produced and in the end the building is not well maintained any more.

[26] S. Fründt (2008): Höfe der Zukunft – Die Planwirtschaft der Milchbauern ist vorbei, in: Die WeltOnline, 06/09.- http://www.welt.de/wirtschaft/article2081884/Die_Planwirtschaft_der_Milchbauern_ist_vorbei.html.

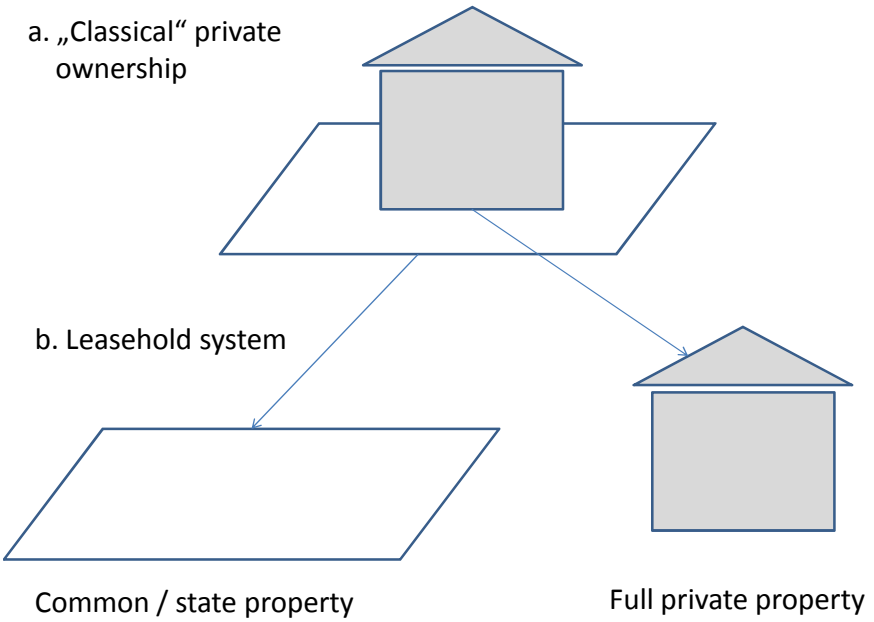

Figure 4: Leasehold tenure vs. full private property

In Germany, the leasehold tenure rights might be sold, used as loan securitiy[27] etc. – insofar they may have the same functions as a full property right. Hence, solicitors characterize leasehold tenure rights as being “equal to property” (“eigentumsgleiche Rechte”).

Though valid leasehold rights may have similar characteristics as specified, complete ownership titles, they avoid the disadvantages of specified property (see below). Indeed, particularly with strong private use-rights and suitable compensation rules a proper leasehold tenure system may even contribute to strengthen the legal certainty of the users and suit the public needs as well.

The leasehold payments in Germany are currently paid in annual or monthly rates. They are calculated in 4 to 6 % of the market value of the site (this corresponds to the interest rate for riskless long term governmental bonds in a situation without abnormal inflation rates). The leasehold payments are adapted from time to time (normally every five years).

[27] In case of security the creditors are only interested in the value of the upstanding building, not in the value of the leasehold tenure right itself.

The Chinese design is – as like as in the Hongkong lease tenure system – based on the rent being paid in advance. The price is negotiable, but contains a compensation for the antecessor, external development costs, taxes, fees and a price for the site itself.

Different from China, despite its advantages the German leasehold tenure system has not been advanced in the last decades. This concerns especially the way of the current adjusting the leasehold payments. The main reason for the lack of interest of improving the design is the big standing of complete ownership titles in Germany.

2.2. Skimming off the land rent completely

A properly designed leasehold tenure system should be able to skim off approximately the whole land rent (this means for the remaining rent: $R \rightarrow 0$). Therewith it also reduces the value of flexibility ($F \rightarrow 0$), because the leasehold payments work like a "dividend" in a finance option (see ch. 2.4. above). Last but not least, the termination of the leasehold tenure right gives also pressure on the value of "F". Therefore, if $R \rightarrow 0$ and $F \rightarrow 0$, the value of the site "V" also approximates to zero (the whole value is transferred into the hand of the state). The consequences are inter alia no speculation, no hoarding, a more efficient use of the sites etc. (see more below, in the subsequent chapter). But, a proper working of the leasehold system requires a proper design:

- The leasehold rights should be issued as far as possible by public auction (with competitive bids). The privates know best about their willingness to pay for the use of the site – better than the authorities. Though, an auction is not always practicable, especially regarding small sites. Thus, in order to lease such sites, authorities should try to asses a leasehold payment that is in line with the land rent (see more below).

- In the Chinese design the leasehold payments rent are paid in advance. Especially considering long terminations of the leasehold right, the big disadvantage of a prepayment is the deviation of real market conditions and forecasts. Hence, if the payments are lower than the land rent, the property rights due to value and rent may be valorised again. If no current adaption of the leasehold payments is stipulated in the system, the relevant site may become object of speculation again. Another disadvantage of the payments in advance is the capital, the investors have to raise. The price for paying the leasehold

tenure right in advance might be not far away from the price of full property, especially considering long terminations of the right. If, in contrast, current leasehold payments are required that are in line with the land rent and therefore skim it completely off, the property rights due to value and rent are without value. Hence, an investor gets the access to land for free – he has to pay no acquisition costs. This is a relief for privates as well as for enterprises, because the solvency and the credit line are not as much stressed as with a payment of the whole sum in advance.

- Naturally the difficulty is to bring the current leasehold payments in line with the land rent in order to skim it off completely during the whole time of the leasehold contract. If the land rent is not skimmed off completely over the time of the contract, land may have still a private economic value also in a leasehold tenure system and may still be object of abuse. If the transfer of leasehold rights between privates is allowed[28], it may serve as a link for a proper assessment of the payments: As told above, leasehold payments that are in line with the land rent are necessary to skim off the whole land rent. As a result the value of the leasehold tenure right is zero. Therefore, if privates transfer the right for nothing, the leasehold payment is set corresponding to the land rent. If privates sell the right for positive values, the leasehold payments are obviously too low; they do not skim off the whole rent. The adaption of the current payment should be approximately the value of the right times the long term (riskless) interest rate.[29] In order to get the required data, the transfers of the leasehold tenure rights must be registered and analyzed. For this purpose, a network of land registry offices is necessary, on local as well as on province level. It should be checked whether the existing Land Bureaus in China are able to do this job properly. An important task of these offices should be to assess the sites according to their economic potential in order to set up a detailed classification of value zones. Germany has made good experiences with assessment committees ("Gutachterausschüsse") on local, county and state (province) level and thus created a sound data basis.

- When the leasehold contract runs out, the site has to be given back to the state. The compensation for an upstanding building should be done according to the market value. Giving back the right should also be possible before the end of the contract, if the user is

[28] Chinese central government wants to allow the transfer of rights in rural areas now.

[29] This is a rough recommendation. Indeed, also an adaption according to the duration, possibly the inflation etc. has to be made.

not able to generate the rent (for whatever reasons) any more and / or cannot sell the right to another private person.

Under the design described above, the rights due to value and rent are transferred as far as possible into the hand of the state.

2.3. Consequences for land use policy

What are the consequences, if the property rights due to value and rent are transferred to the community as far as possible?

a. Transfer of experiences from land value taxes

A leasehold tenure system has similar effects as its´ "little sister", a land value tax. This tax (also called site value tax) is an ad valorem tax where only the value of land itself is taxed. This ignores buildings, improvements and personal property. A land value tax skims off the land rent only partially, whereas a good working leasehold system should be able to skim it off completely. Hence, a leasehold tenure regime works more intensively than a land value tax does. The advantages of a land value tax have often been described and also proved in some cases.[30] Hence, we can get some impression about the impacts a proper leasehold tenure system could have. The statements below are derived out of such experiences and descriptions.

b. Consequences for land use planning

If the land rent is skimmed off completely and the flexibility advantage is devaluated by the current leasehold payments, the economic value of property rights due to value and the rent of land are zero; nobody would be willing to pay for the property rights due to value and rent.

For land use planning purposes, leasehold is useful because under these conditions land use planning becomes neutral and objective: No private bagging of ground rent and land value is

[30] Cf. D. Löhr (2008): Flächenhaushaltspolitische Varianten einer Grundsteuerreform, Wirtschaftsdienst 2, pp. 121.

possible any more. Attempts as lobbying and corrupting local authorities are useless insofar. Considering the land use plan development, the plans are not derogated by private interests any more. Western industrialized states made the painful experience that it is often difficult e.g. to organize a restructuring of townships in order to valorize the cities. Owners have strong property rights and often impede or block the plans, if they do not correspond completely with their individual interests.

Though respecting the rights of the private users, a leasehold system gives a lot of possibilities to the authorities for active intervention. Authorities may plan better, particularly a good after use of sites ("circular economy of sites"[31]) when the term of lease is finished. For instance, no hoarding of sites has to be expected, because the hoarding of unused land is expensive. Instead, the supply of sites will increase, if the leasehold payment is in line with the land rent. Hence, the organizing of after use of sites is easier than today.

But, generally, the remaining property rights in the hand of the privates (table 1: mainly "usus", to a certain degree also "abusus") should be at least as strong as complete ownership titles.[32] Otherwise the system would not be accepted by the people. Public law should "dilute" both leasehold tenure rights and complete titles basically in equal intensity.

Regarding the land use plan execution, the users of the land have an incentive to do what the planners want them to do. They have to pay currently the land rent to the public. If they don´t use the land according to the plans or use the land in an inefficient way, they cannot earn the rent they have to pay and will suffer a loss. Consequently, if – in a wide sense – the deviation of real land use to land use plans are interpreted as "external costs", these externalities are immediately internalized. Hence, the land users get a current pressure to use the land as well efficient (generating the possible land rent) as effective (according to the land use plans).

c. Consequences for land use management

The major toehold of the leasehold tenure approach is land use management.

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[31] Cf. Bundesamt für Bauwesen und Raumordnung (Federal Office for Building and Regional Planning) / Bundesministerium für Verkehr, Bau und Stadtentwicklung (Federal Ministry for Transport, Building and Urban Affairs) (Ed.) (2006): Perspektive Flächenkreislaufwirtschaft Kreislaufwirtschaft in der städtischen/stadtregionalen Flächennutzung - Fläche im Kreis, Band 1: Theoretische Grundlagen und Planspielkonzeption, Bonn, September.

[32] Seminar für Freiheitliche Ordnung e.V. (ed.) (1992): Folder „Argumente für das Erbbaurecht als Instrument der kommunalen Bodenpolitik", available at the postal adress: Badstr. 35, D-73087 Bad Boll.

- For land use management purposes, speculation does not make sense any more, if the whole rent is (nearly) completely skimmed off. The economic value of the property rights of value and rent of land for the privates will always be zero. Hence, the supply of land will not be shortened by speculators, and the price of real estate will not be increased by them. If the user is urged to earn the rent, he currently has to look for an efficient use of the site. *Dieterich* describes the experiences made in Denmark with the tax on the value on land.[33] Similar experiences are reported from Australia by *Lusht.*[34]

- Nobody will claim more land than he really needs. Therefore leasehold is a proper tool to reduce the consumption of land, suburbanization and urban sprawl.

- Underused or unused sites cost money. Thus, empty sites and underused houses could be avoided. In a proper working leasehold tenure system, the user would give the land back to the state or would try to transfer the right, if he wouldn´t be able or willing to generate the land rent any more.

- Keeping recyclable brownfields unimproved also cost money. Hence, also the pressure on a revitalization of brownfields is rising. Even more than in consequence of a tax on the value on land, hoarding of sites is a thing of the past. [35]

- A proper leasehold tenure system gives pressure to holders to offer sites at the market. Generally, this pressure provides a high supply of sites. Thus, especially enterprises have no need any more to hoard "reserve sites". This option only costs money ("dividend"), whereas also the market currently covers the needs for available sites.

- The owners of the buildings will have a current incentive to keep them maintained, otherwise they cannot earn the maximum land rent out of them. Experiences made with the tax on the value on land in Denmark also show the stimulating effect of maintenance

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[33] H. Dieterich (2004): Reform der Grundsteuer, in: H. Dieterich / D. Löhr / S. Tomerius (Eds.): Jahrbuch für Bodenpolitik 2004, Berlin (VWF), p. 57. These experiences hold only before the tax freeze in Denmark in 2001. Cf. E. Erlandsen / J. Lundsgaard / F. Huefner (2006): The Danish Housing Market: Less Subsidy and More Flexibility – Economics Department Working Paper No. 513, p. 6. http.//www.oecd.org/eco/working_papers

[34] Lusht, cit. in R. Josten (2000): Die Bodenwertsteuer – Eine praxisorientierte Untersuchung zur Reform der Grundsteuer, Stuttgart (Kohlhammer), pp. 93.

[35] K.-M. Groth / P. v. Feldmann / C. Streck (2004): Möglichkeiten der Baulandmobilisierung durch Einführung einer bodenwertorientierten Grundsteuer – Research project on behalf oft he Federal Ministry for Transport, Building and Urban Affairs, update oft he final report 2000, Berlin, p. 43.

on the construction industry, although the consumption of land is reduced.[36] Because no acquisition costs for land are necessary any more, money can be easier invested to increase the quality of the buildings upstanding.

- Another important side effect is that investors become more independent from credit restrictions, because access to land is for free now. Nowadays, credit restrictions may affect severely enterprises as well as privates. If the debt-equity-ratio is too high, banks do not hand out credits any more. Also liquidity matters. In big cities, sometimes more than 50 percent of the price of real estate is paid only for the land. In Shanghai, also allocated land use rights were given sometimes to privates by exception, because they were not able to raise enough capital to pay the granted land use rights. If an investor buys a complete title or a granted land use right (as it is designed today), he has to take debts on this, to repay the loan and to pay the interests (with a risk premium added up). In a proper working leasehold system, the user only has to pay the current leasehold fee – corresponding with the interest rate without any risk premium (if the user fails, the site goes back to the state). For privates as well as for companies this is a big financial relief: No amortization, no risk premium and no credit restriction. Access to land without savings is especially a chance for young entrepreneurs – with good ideas, but low capital endowment. Hence, also economic innovation is supported by a proper land use system.

- The more efficient land use and also the easier access to land in the cities centers will lower the pressure to rededicate agricultural land in the suburbs for settlement purposes. Pressure on suburbanization and urban sprawl is taken away.

This leasehold tenure system could basically (with some modifications) also used for farmland.

d. The social aspects

In the leasehold tenure system promoted here, the rights due to land rent and value of land (left column in table 1) are dominantly in the hand of the public. This is just, because the land rent and value of the land are a consequence of

- the population growth;

[36] K.-M. Groth / P. v. Feldmann / C. Streck (2004), ibid., p. 44.

- of the economic dynamics (income growth);
- public infrastructure investments;
- planning decisions,

but basically not caused by activities of the land owners. Hence, in this system both costs and benefits of the land are related to the public respectively to the state. However, in a private ownership regime the state has the burden of the improvements and the private owners benefit from the results – basically without any contribution. In a market economy, the latter neither is an efficient design (see ch. 1.2.), nor a just design.

Generally, the promoted leasehold tenure system has social appeal. In Germany, leasehold was introduced in 1919 especially for social reasons (today everybody is allowed to acquire a leasehold right). Particularly German municipalities are using leasehold tenure rights in the last years again more extensively, e.g. to privatize such flats, which are public property. If the buyers (former tenants, living in the flat) have low budget and cannot afford enough money to pay for the land, leasehold is a social way to deal with privatization.[37]

Referring to the leasehold payments, the authorities also have possibilities to control the composition of the leaseholders with limited personal releases: If they want to have more middle or low income families (respectively) small and middle enterprises in the city centers, they may give them special conditions for the leasehold payments. E.g. a startup enterprise has to pay lower payments for a certain range of time. Also low income families could get reductions for the payments, if a mixture of habitants is required. These kind of reliefs basically should be given individual-related.

Last but not least, leasehold by maintaining state property allows to do an effective and efficient land use policy on the one hand and to avoid at the same time the characteristic social problems of other emerging or developing countries in rural areas. In countries as India, Brazil or Indonesia large land holdings are replacing more and more small scale farming – very often small farmers lost their land, with severe social consequences.

[37] F. Ost: Interview about using leasehold by municipalities, in: http://www.initiative-erbbaurecht.de.

2.4. More than simply an "add up": Redistribution of the payments

The social aspect of a leasehold tenure system might be stressed more by adding on a further module: the redistribution concept.[38] This concept is derived out of the ideas of old land reformers such as *Henry George*[39], *Silvio Gesell*[40], *Michael Flürscheim*[41] etc.

Good land use policy leads to increasing land rents and to increasing prices of land. Due to this, in a private property regime the inequality in the society will rise. In the end, especially poor people might suffer from a successful land use policy. The access to land will be hampered due to a good land use policy. Hence, there is a conflict of goals between a good land use policy and the social needs. Without additional elements, the leasehold tenure approach described above is only partially able to ease these conflicts.

The basic idea discussed here is that land as well as the land rent belongs to the public, because nobody created the land. Every citizen has basically the same rights on land and the land rent. Considering the citizens as "shareholder" on the land and the state as "trustee", the rent should be redistributed to the people in equal shares. The result of this redistribution is noteworthy:

a. Everybody has the same "average" possibility for access to land:

- If somebody needs a higher quantity or / and a higher quality of land than the average citizen, he has to pay more leasehold fees to the public. Although he also benefits from redistribution, in the end he pays more than he gets. In fact, the economic result is like paying a rent for his above-average use to those who use land below average. Thus, he has an incentive to save the use of land in order to get a better net payment out of the system.

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[38] Cf. F. Andres (2001): Wieviel Erde braucht der Mensch? In: Fragen der Freiheit, 257 / 1-3, S. 24 ff.

[39] H. George (1866): Progress and Poverty, San Francisco (W.M. Hinton), 2nd ed. 1886.

[40] S. Gesell (1949), Die Natürliche Wirtschaftsordnung durch Freiland und Freigeld, 9th edition, Lauf bei Nürnberg (Rudolf-Zitzmann-Verlag).- In English language cf. The Natural Economic Order, in: http://www.silvio-gesell.de

[41] M. Flürscheim (1890): Der einzige Rettungsweg, Dresden and Leipzig (Pierson).

- If somebody uses as much land (due to quality and quantity) as an average citizen, he pays as much leasehold fees as he gets from redistribution.

- Those who use land below average, pay less leasehold fees than they get back by redistribution. On balance, the members of this group get compensation from those who use “their” share of the common heritage land (the first group above).

There is a current incentive for each group for a more efficient land use, because the net distribution position may be improved this way. Also this effect reduces pressure for suburbanization and urban sprawl, because people don´t have such a high pressure as today to settle in suburbia due to low budget. Thus, the redistribution regime also takes away pressure on setting up further dwellings in suburbia; that way it supports the neutrality of land use planning. The redistribution system may be installed at a small level (parts of a municipality) as well as on big level (province) – it holds for each kind of land.

By redistributing the land rent in equal shares per head, everyone receives the average land rent. In other words: Although the economical incentives to use the land are efficient, in fact the average use of land is free! This aspect is important, because the People´s Republic of China will face a rapid economical development also in the future. But economical development causes scarcity of land; this scarcity will get even worse due to good land use policy. A higher scarcity causes higher ground rent and leases. Without a redistribution system, this will lead to distribution conflicts, because low income citizens will not be able any more to pay for the access to land. However, in the redistribution system, due to the rising scarcity also the volume of redistributed payments will increase. This means, a good land use policy will not have the bad social effects as it has today. Also low income families will be able to afford more comfortable flats instead of living in slums in the suburbs of the cities – despite of rising land rents. The targets of efficiency, distribution justice and effectiveness of land use are harmonized.

Also the restructuring of settlements, the demolition of old dwellings, Hutongs etc. and the reconstruction of new houses could be done without such severe social consequences as today – when the people concerned cannot afford access to another piece of land.

b. Redistribution works as financial equalization scheme between urban and rural areas:

Interesting political options are opened particularly for farmland. In China, ca. 60 % of the population are living in countryside, most under bad conditions. There is high inequality between cities and rural areas. The income of the farmers and the rural land rent is low, in contrast to the land rent in the big cities. However, even though, the support from the rural areas is necessary to keep up the urban way of life, this contribution is not sufficiently compensated. To lower the difference between urban areas and countryside, the authorities could act as follows:

- The rural land rent (low rents from farmland) and the urban land rent payments (high rents from urban sites) could be pooled.
- The pooled land rents could be redistributed to the people in the cities and countryside in equal shares per head.

Within such a redistribution system the habitants of rural areas would get back a good deal more than they paid into the fund. Hence, the system would give the land population a just compensation and at the same time it would raise the standard of living in countryside. This redistribution mechanism would work like a financial equalization scheme in favor of the rural areas. The pressure of migration from countryside into the big cities would decrease. Also interesting side-effects occur: Today very often farmland is redistributed when new children are born. The effect of these current redistributions are weakened use rights and (because of insecurity) inefficient incentive structures. A redistribution system would cause different effects and open new possibilities: If the size of farmers´ families changes due to births, the family would benefit from higher redistribution payments. An additional redistribution of the land in order to feed the bigger family is not necessary any more. Hence, the use rights of the farmers could be strengthened.

3. Result

Despite that the western economic main stream suggests exactly the opposite and although also many Chinese give pressure on the central Government to privatize land, the actual leasehold tenure rights system should be strengthened and advanced. In no case this system should be abolished in order to establish a similar unsuccessful framework of specified

property rights as the western states did. The western blueprint for land use is unqualified insofar.

In a complete title-system (as western states have), all rights mentioned in table 1 are in the hand of the privates. But in fact privates don´t need strong “ius abutendi” und “abusus”-rights, and they don´t need at all “usus fructus”. We described how these rights are currently disturbing land use planning and land use management in western states. Hence, in western societies the land law is highly diluted by public law, to correct the overall aberrations. In fact, the rights owners only have titles on land that are more or less weak.[42]

A proper working leasehold tenure regime makes many of these corrections dispensable, because users have an economic incentive to comply with the plans of the authorities. Hence, by giving particularly strong “usus” and partially also “abusus”-rights to privates, these rights could be made stronger than nowadays, in a compete ownership title-system!

The People´s Republic of China has a unique chance to cut its´ own way, that is better than copying the unsuccessful western blueprint. Concerning land (and other not renewable resources), the actual leasehold tenure system is an excellent precondition for going a new, original Chinese way.

A leasehold tenure system – especially combined with the redistribution regime - brings the ecological, economical and social needs in harmony and supports a sustainable land use policy.

[42] H. Dieterich (2001): Bodenordnung und Bodenpolitik, in: H. W. Jenkis (ed.): Kompendium der Wohnungswirtschaft, 4th ed., Munich / Vienna (Oldenbourg), pp. 516-542.