

Land lease contracts: properties and the value of bundles of property rights

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Abstract

Contracts are mechanisms for carrying out transactions. Leasing land is a voluntary transaction in which property rights – such as user and income rights – are transferred from landowners to tenants. The bundle of property rights transferred within a lease transaction varies with the type of contractual arrangement. Analysis shows that for the landowner the value of the bundle of property rights to land is determined by the type of lease contract. Landowners prefer lease contracts with as little regulation as possible. Lease regulation can be characterized as a ‘handbook’ for concluding lease contracts. However, reducing regulation requires a shift in co-ordination mechanisms from that of the handbook to that of the ‘invisible hand’ (prices) and ‘handshake’ (e.g., mutual adjustment). Making use of the handshake and price as co-ordination mechanisms implies that the importance of trust and reputation will increase for both tenant and landowner. In 2007, the Dutch government introduced two new types of formal lease that rely less on handbook co-ordination. Whether a more liberalized lease system will lead to a change in the area leased not only depends on landowners but also on tenants, because contracts are two-sided mechanisms.

Additional keywords: contractual relationships, co-ordination mechanisms, landowner, lease policy, lease regulation, liberalization, tenant

Introduction

Today, land-leasing policy in the Netherlands is still under discussion. An important starting point for the beginning of this discussion was the 2000 report of the Lease Policy Commission (Commissie Pachtbeleid; Anon., 2000), entitled *Ruimte voor Pacht* (Scope for Leasing). This report evaluated the current policy and suggested policy amendments. The Commission concluded that maintaining the current levels of protection of the tenant would lead to the marginalization of leasing. The Commission therefore proposed to drastically liberalize the lease policy. After a discussion lasting

some seven years, the Lease Regulation of September 2007 adopted a more liberalized lease, although the changes were not drastic.

During the lease policy debates, the legal aspects of changing the rules dominated the discussion. Little attention was given to institutional economic aspects, such as the type of contracts between landowner and tenant, and the economic impact of these contractual relationships. Leasing of land requires landowners to agree to a contract with tenants. Such contracts have a number of characteristics, such as a voluntary exchange, co-ordination and motivation mechanisms, implicit or explicit agreements, and a degree of flexibility. Lease contracts transfer parts of the bundle of property rights – such as the user and income rights – from the landowner to the tenant in exchange for a benefit, primarily a lease rent. As well as being a transaction mechanism, a lease contract is a two-sided exchange between landowner and tenant, often for a specific period.

An important difference between land lease and land ownership is the incomplete *power of control* over the bundle of property rights. The lease contract defines the transfer of property rights: what is transferred to the tenant and what is left for the landowner. So an intriguing question is: what is the relationship between the properties of lease contracts and the values of the different contractual arrangements for the landowner?

The purpose of this paper is twofold: (1) to analyse the properties of lease contracts including the bundle of property rights; and (2) to determine – theoretically and empirically – the value of the bundle of property rights of different types of lease contracts from the viewpoint of the landowner.

This paper proceeds as follows. The following chapter gives an overview of the area of leased land and briefly describes the types of lease contract used in the Netherlands. Next, the properties of the lease contracts are analysed, with emphasis on the co-ordination mechanisms used in lease contracts and property rights. In the chapter thereafter, the values of the bundle of property rights for different contractual arrangements are determined based on a survey among landowners and land agents. The final chapter concludes.

Land lease contracts in the Netherlands

The total area of leased land in the Netherlands has sharply declined in the course of time. It reached its maximum in 1948 with 57% of the total area of agricultural land being leased. This peak was largely the result of the granting of land in the Wieringermeerpolder and the Noordoostpolder – two polders reclaimed from the former Zuider Zee – to tenant-farmers. Between 1950 and 2005, the area of rented land gradually decreased to about 27% of the total agricultural area. Tables 1 and 2 provide an overview of the developments that took place during the period 1950–2005. In the period 1995–2005, the percentage of regularly leased land was still decreasing (Table 2). Even with two new types of lease – the one cultivation-cycle lease and the single-term lease – both introduced through the Lease Law of 1995, the total area of leasing decreased after 1999. The hereditary lease – which is not included in Table 2 – decreased from about 4% in 1995 to 2% of the total agricultural area in 2005 (Anon., 2007) and does not fall under the Lease Regulation. There are several types

Table 1. Distribution (%) of land use (1950–2005).

	1950	1959	1970	1979	1983	1985	1990	1995	2005
Ownership	44.1	47.6	51.9	59.9	61.4	63.0	67.5	70.3	73.3
Lease ¹	55.9	52.4	48.1	40.1	38.6	37.0	32.5	29.7	26.2

¹ Excluding hereditary lease and grey lease.

Sources: Agricultural Economics Research Institute (LEI) & Statistics Netherlands (CBS).

Table 2. Distribution (%) of land leased under different types of contract.

Year	Total area leased ¹	Regular lease	One cultivation-cycle lease	Single-term lease
1997	29.0	22.7	1.6	4.4
1998	29.3	21.7	1.8	5.4
1999	29.9	21.5	1.8	6.1
2003	26.7	21.0	1.6	3.9
2005	26.2	20.5	1.8	3.8

¹ Excluding hereditary lease and grey lease.

Sources: Agricultural Economics Research Institute (LEI) & Statistics Netherlands (CBS).

of hereditary lease and the yearly rent is often higher than the rent of a regular lease contract. The duration of a hereditary lease is at least 26 years.

Prior to the adaptation of the legal Lease Rules in 2007, the last important modification of the tenure system in the Netherlands was made in 1995. As shown in Table 2, since the modification of the Lease Law in 1995 there are three main formal types of leasing farmland in the Netherlands:

1. *Regular lease contracts*. These contracts have a term of 12 years for farmsteads and 6 years for plots of land. Important characteristics of these contracts are: price control by lease rent-standards, continuation rights for the tenant, and priority rights for the tenants for the sale and purchase of land. In the period 1997–2005 the area of regular lease contracts declined from 23% to about 21% of the total agricultural area (Table 2). In 2005, the area under regular lease was about 394,000 ha.
2. *One cultivation-cycle lease*. These contracts for a plot of land have a term of one or two years, with no price control, no continuation rights, and no priority rights for the tenants. In the period 1997–2005 the area of one cultivation-cycle lease contracts was, on average, about 2% of the total agricultural area (Table 2). In 2005, the area under one cultivation-cycle lease was about 35,000 ha.
3. *Single-term lease*. These contracts for plots of land have a minimum duration of one and a maximum of 12 years, with no price control, no continuation rights, and no priority rights for the tenants. It is a once-only contract; parties are only allowed to conclude such a contract for a certain plot of land once. In the period 1997–2005, the

area under single-lease contracts was on average about 4.5% of the total agricultural area (Table 2). In 2005, the single-term lease was about 73,000 ha.

These three types of lease contract were regulated through the 1995 Lease Law, which implies that regular lease contracts and single-term lease contracts have to be approved by the Land Tenure Board (Grondkamer). The Land Tenure Board checks whether the contracts are in accordance with the Dutch lease regulation. For one cultivation-cycle leases, only registration by the Land Tenure Board is required.

The 2007 Lease Regulation introduced two new types of liberalized formal lease contracts that replaced the single-term lease: (1) a contract of 6 years or shorter, and (2) a contract longer than 6 years. Both types imply no continuation and priority right for the tenant, but compulsory approval by the Land Tenure Board. The lease for more than 6 years also includes price control to lease rent-standards by the Land Tenure Board. Regular leases and one cultivation-cycle leases were hardly affected by the adaptation of legal Lease Rules in 2007.

In addition to formal lease contracts, there are also grey-lease contracts, which are not registered or approved by the Land Tenure Board. They can be used as an alternative to formal lease contracts. The total area under grey-lease contract has increased from about 150,000 ha (= 8% of the total agricultural area in the Netherlands) in 1997/98 to about 190,000 ha, or almost 10% of the total agricultural area in 2005 (Berkhout & Van Bruchem, 2007). Very few data are available on this type of contract. Grey-lease contracts are concluded with a specific objective (e.g., sale-contracts of manure, cultivation-cycle contracts, sub-leasing). The content and form of this type of lease contribute significantly to flexible land use. Research on grey-lease contracting also indicates a certain continuity in the relationship between tenant and landowner (Slangen *et al.*, 2003), indicating that the identity of the parties is important.

Properties of lease contracts

Lease contracts are governance structures for carrying out lease transactions. Examples of such structures are markets, firms, contracts, and clubs (see also FitzRoy *et al.*, 1998). Lease contracts can be described on the basis of the following properties: (1) voluntary exchange; (2) containing (a) co-ordination and (b) motivation mechanisms; (3) they can be explicit or implicit; (4) they are incomplete; and (5) property rights are transferred from landowners to tenants. These properties will be described in the following.

Voluntary exchange

Concluding a lease contract is a voluntary exchange, implying that it is only accepted if the expected result of the agreement is individually and mutually advantageous to both parties (Milgrom & Roberts, 1992).

Co-ordination mechanisms

Each lease contract contains co-ordination mechanisms. The relationship between

contracts and co-ordination mechanisms deserves further attention. First, there is no one-to-one relation between the two, because certain contracts – including lease contracts – can make use of a mix of different co-ordination mechanisms (cf. Hennart, 1993). Secondly, co-ordination is a central issue in a governance structure. The contract has to specify what needs to be co-ordinated and how the co-ordination is achieved in governance structures such as spot markets, firms and contracts.

Figure 1 gives an overview of four groups of co-ordination mechanisms. Co-ordination can take place by one of the four groups or by a combination of them. On the left side we have the ‘invisible hand’ group. The co-ordination mechanism here is the price. The price is the co-ordination mechanism for the governance structure ‘spot market’. In land lease contracts, purchase and delivery (or *quid* and *quo*) do not take place at the same moment. This means that the price, like in *pure spot markets*, cannot be the sole co-ordination mechanism for lease contracts.

At the bottom of Figure 1 we have the so-called ‘handbook’ group. The ‘handbook’ – as a co-ordination mechanism – is often used for the governance structure ‘contracts’. For detailed contracts the emphasis is on the handbook. Contracts often also contain a price as a co-ordination mechanism. In that case the co-ordination mechanism of contracts consists of a combination of ‘handbook’ and ‘invisible hand’. In general, the type of contract determines which co-ordination mechanism will prevail and what role the price will play in the relationship between the two parties.

For regular land lease contracts, the co-ordination mechanism consists of rules, directives and safeguards based on the Lease Regulation. This means that the co-ordination mechanism for regular lease contracts emphasizes the ‘handbook’, given by lease regulation. Important characteristics of these contracts include: a fixed duration (12 years for farmstead and 6 years for plots of land), price control by lease-price

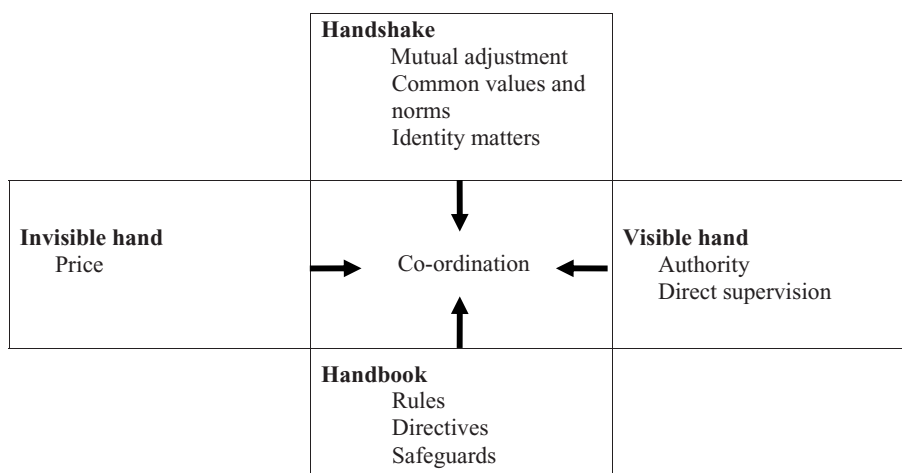


Figure 1. Co-ordination mechanisms (adapted after Borgen & Hegrenes, 2005)

standards, continuation and priority right for the tenants. Because of price control by regional lease-price standards – tested by the Land Tenure Board – the price plays a minor role as a co-ordination mechanism. The modest role of the price as a co-ordination mechanism also holds for the liberalized lease contracts lasting more than six years, because of the price control to lease-rent standards by the Land Tenure Board. However, as continuation and priority rights for the tenants are lacking, there is less emphasis on the handbook compared with regular leases.

The single-term lease and the one cultivation-cycle lease have no price control and no continuation or priority rights for the tenant. Both make use of a mix of the handbook (but less intensively than the regular lease contracts) and the price as a co-ordination mechanism, because there is no price control. Based on an analysis of contracts registered by the Land Tenure Board it was concluded that the lease price is higher for single-term lease contracts than for regular lease contracts (Slangen *et al.*, 2003). No data were available for one cultivation-cycle lease. For the liberalized lease of six years or shorter, we may expect the same mix of co-ordination mechanisms as for the single-term lease.

At the right side of Figure 1, we have the ‘visible hand’ group based on hierarchy, which means that the positions in a firm are ranked: higher order levels command lower levels. In this case the co-ordination will be carried out by authority or direct supervision. The ‘visible hand’ group of co-ordination mechanisms is not relevant for contracts in general, and lease contracts in particular. After all, landowners have their own business and are not vertically integrated with the tenant–farmer. Both parties – the landowner and tenant–farmer – retain their separate external identity.

An exception to this could be sharecropping. Sharecropping is prevalent in low-income countries such as developing countries. However, sharecropping is also a common lease form in some developed countries such as the USA and New Zealand. In the USA about 25% of all agricultural enterprises use some form of sharecropping (see also Allen & Lueck, 2002). This form of land tenancy is known for its many versions: from sharing the yields to sharing costs of inputs and combinations of it. In Western Europe, the fixed monetary leases are dominant and sharecropping is almost unknown. In fact, in the Netherlands, sharecropping is legally prohibited and practically eliminated. The Lease Regulation prescribes a fixed monetary lease price. So for formal lease contracts in the Netherlands, a lease price that depends on sharecropping results is not possible (see also Slangen *et al.*, 2003). An extensive analysis of sharecropping in the USA is given in this volume in the paper of Huffman & Fukunaga (2008).

At the top of Figure 1 we have the ‘handshake’ as a co-ordination mechanism. Important elements of the ‘handshake’ are common values and norms, mutual adjustment, and the identity of the persons involved. Common values and norms (based on repeated interaction promoting solidarity, consensus and trust) and codes of conduct can serve as a co-ordination mechanism concerning groups of people. *Mutual adjustment* refers to the co-ordination achieved by informal horizontal communication.

In practice, as explained before, grey-lease contracts also involve continuity in the relationship between tenant and landowner. It means that the identity of contracting parties matters. The ‘handshake’, supplemented with the price, is often used as a co-ordination mechanism for such types of lease contracts. So the co-ordination

mechanism for grey lease is a mix of the ‘handshake’ and the ‘invisible hand’. Grey-lease contracts can be verbal or written, the content is free and officially unknown, which is an important difference with the regular, the single-term and the one cultivation-cycle lease. The fewer prerequisites by regulation for liberalized lease with a duration of 6 years or shorter (see previous chapter) and no price control implies a mix of ‘handshake’, price and – to a lesser extent – ‘handbook’ as co-ordination mechanisms. For the liberalized lease longer than 6 years, the price control by the Land Tenure Board is still compulsory. This means more emphasis on the ‘handbook’ for this type of contract than for a liberalized lease with a duration of 6 years or less.

Motivation mechanisms

Another property of contracts is that they contain motivation mechanisms (Milgrom & Roberts, 1992). The motivation mechanisms for regular, single-term, one cultivation-cycle and grey lease are not the same. Motivation can be driven by external factors, such as lease regulation and financial incentives, and by internal ones, like the pressure or feelings to do one’s work well, trustworthiness and having or building-up a good reputation. However, there can be a trade-off between internal and external motivation, such that too much emphasis on external motivation can drive out internal motivation (Le Grand, 2003).

Explicit and implicit contracts

An important property of lease contracts is that the set of agreements in a contract can be explicit or implicit. An explicit contract is a written document about the agreement. This especially applies to the regular lease. The lease contracts for the single-term lease, the liberalized lease with a duration of 6 years or less, and the one cultivation-cycle lease are less explicit. They have no price control, no continuation and no priority rights for the tenants, but the contracts for the single-term lease and the liberalized lease with a duration of 6 years or less have to be approved by the Land Tenure Board. One cultivation-cycle lease contracts have only to be registered. The liberalized lease of more than 6 years holds a position between regular lease contracts and other formal ones.

Grey-lease contracts often have the character of an implicit contract: no formal record of the terms and conditions agreed upon by the parties. Such contracts are enforceable by the *reputation mechanism* (see also Milgrom & Roberts, 1992). For this type of contract it is important that parties are able to develop and maintain a desired *reputation*. A party with a short-term horizon is less willing to invest in a reputation than a party with a longer-term horizon. Similarly, investing in a reputation is more attractive at the beginning of an activity (such as leasing) than at the end. As indicated before, the identity of contracting partners matters and therefore contract parties have to build up reputation.

Incompleteness

Lease contracts are incomplete. In brief, this means that events could take place that

were not foreseen in the contract. For example, the introduction of production rights for milk, sugar, manure or ammonia, and the introduction of income rights (single farm payment) were not taken into account by lease contracts that date from long before these rights were introduced. In the current lease system, the Agricultural Land Tribunal safeguards formal lease contracts. Legal principles also limit potential consequences of incomplete contracts such as opportunistic behaviour of tenant and landowner, and hold-up problems (Slangen & Oskam, 2003). Such problems arise from investments in buildings (barns and sheds), drainage and soil improvement that were not taken into account in the lease contract (Slangen *et al.*, 2003). Hold-up implies that important specific investments in land and buildings are not carried out. If a tenant has a contract without the possibility for renewal or continuation of the contract, or without compensation for the investments, he will not invest. The lease regulation for regular lease contracts contains safeguards for such investments. However, single-term lease contracts and one cultivation-cycle lease contracts offer less protection for specific investments.

Transfer of property rights

The last property is that lease contracts can be characterized as a bundle of property rights that is partly transferred from landowner to tenant. The bundle of property rights consists of: the rights (1) to use the land, (2) to acquire income from the land, (3) to change the form and substance of the land, (4) to exclude others, and (5) to transfer the land to others through markets or to their heirs (see also Furuboth & Richter, 2005). Especially the income and transfer rights are often emphasized as marking the economic meaning of ownership. As explained earlier, in the Netherlands we have different types of land tenure contracts, comprising different bundles of property rights. The bundle of rights that is transferred within a lease transaction varies with the contractual arrangement. The contract specifies the allocation of the property rights to land between the landowner and the tenant. The bundle of property rights can be described in terms of (1) control, (2) division, (3) protection, (4) duration, (5) enforceability, (6) flexibility, and (7) transferability.

Control rights over property rights

In general, control rights are rights to make decisions concerning use, returns or transfer of an asset. In terms of property rights to land, control rights indicate up to what level a person has the right to make decisions about the bundle of property rights to land and about land-related property rights. Control rights consist of (1) specific control rights and (2) residual control rights. The specific control rights are the rights specified by the lease contract or lease regulation. Residual control rights are the rights to make decisions on the assets' use, returns, and transfer that are not explicitly controlled by law or assigned by a contract (see also Hendrikse, 2003).

The residual income from land that remains after all obligations are met (residual income) is often captured by those who have the residual control rights. There are different types of residual incomes from land and land-related production or income rights:

- the residual income in the short term arising from current land use;
- the long-term residual income which arises through the increase in the value of the land;
- the value (plus increase) of the production rights and the income rights (such as the single farm payment (SFP)).

The introduction of production rights for milk, sugar, manure and ammonia has led to new property rights. The production quotas connected with these rights are transferable and represent a value. Concerning the milk quota, the tenant is obliged to return the milk quota in full to the landowner at the end of the lease contract. In this case the tenant has a right to a fifty–fifty compensation. For sugar, manure and ammonia, the rules are similar. In the Netherlands, the discussion about the ownership of the SFP lasted more than a year and a half. On 25 September 2007, the Agricultural Land Tribunal decided that the rights on these SFPs – after terminating the lease agreement – belong to the landowner. The latter has to compensate the tenant on a fifty–fifty basis. This rule is in compliance with the milk regulation in the Netherlands.

The person entitled to residual income varies. The short-term residual income goes to the tenant-farmer who generates marketable products, the long-term residual income arising from the increased value of the land goes to the landowner, and at least 50% of the long-term residual income of production rights for milk and income rights of SFP also goes to the landowner. These three types of residual income are strong incentives for tenants to become the landowner, certainly if they can buy the land at the leased value (Slangen *et al.*, 2003). As to formal contracts, the Agricultural Land Tribunal is used for solving disputes concerning capturing residual incomes.

Division of property rights

Within the bundle of property rights associated with land, certain property rights can be distinguished, e.g., user rights. The property rights that a tenant–farmer obtains consist mainly of the short-term income right and the user rights. However, his right to transfer (e.g., sub-leasing) and the right to exclude others, are much more restricted than those of an owner.

Certain rights can also be distinguished based on the degree of excludability, i.e. the extent to which others can be excluded from use. Lack of excludability leads to incompleteness of property rights. Two or more individuals together could own the property rights to an asset. The incomplete divisibility of the property rights means that some attributes cannot be specified in excludable rights for individual property-right holders. This means that farmers have to share, for example, the property rights to nature and landscape with citizens. They can hardly exclude people from enjoying nature and landscape even on their own land.

Protection of the rights

Property rights created by the government can function as a policy instrument for achieving certain goals, such as lease contracts (based on the Lease Regulation), production rights for milk, sugar and manure, and income rights (e.g., SFP). Important questions are: who gets these rights and who will get effective protection from the government? The allocation of the property rights also indicates who must pay whom in order to have access to the interests that are derived from these rights. Important

aspects are: to what extent are the rights respected, can they be enforced, and are individuals compensated for a loss of a right? All these questions determine the content of the bundle of property rights.

The institutional environment, consisting of the informal and formal rules in a society, is important for the protection of the property rights. This environment in which the property rights are embedded is not constant, and neither is the status or the allocation of property rights among people. Property rights may change from one generation to the other. This is shown by the way in which the government recognizes and protects property rights. Weak or insecure property rights, such as a lack of continuation right or no compensation for installed improvements, bring tenant-farmers in a hold-up situation.

Duration

Is the disposal of a bundle of property rights (or part of it) to land restricted to a specific period, and if so what is its duration? The periods for which property rights to farmsteads and plots of land are leased vary greatly. In the Netherlands, the following terms apply to land-use contracts: for hereditary lease the term is 26 years or longer, for a lease of a farmstead the term is 12 years, for a plot of land the term can be longer than 6 years, 6 years or less, for cultivation-lease 1 or 2 years. In general, duration has an inverse effect on the value of the bundle of property rights to the land.

Enforceability of property rights

The value of the bundle of property rights of lease agreements also depends on the compliance with the contractual arrangements and enforcement of the rights. Monitoring, sanctions and conflict-solving are the responsibility of governmental services. The control on compliance with the current lease system (Lease Regulation and lease rent-standards) is carried out by the Land Tenure Board. The Agricultural Land Tribunal functions as a conflict-solving and enforcement mechanism. Enforcement by governmental services also protects the property rights of the landowner and tenant.

Some people consider the legally enforceable principles currently in use too rigid (Anon., 2007), referring to the priority and continuity rights for the tenant and the lease-price testing of certain lease contracts by the Land Tenure Board. However, these legal principles also limit the opportunistic behaviour of tenant and landowner. A weak point of the legal principles as enforcement mechanisms is that they are not suitable for unverifiable information (Bovenberg & Teulings, 1999) since they contain no information-revealing mechanism such as the market mechanism and the reputation mechanism.

Flexibility

Regulation principles reduce the flexibility of lease contract design by landowner and tenant. Flexibility refers to the questions: (1) are there changes in the rules of the game of the lease contract design (regulation); and if so (2) what are the consequences? The single-term and one cultivation-cycle lease increased the flexibility of land-use contracting, e.g., more types of lease contracts are now possible. The introduction of two types of liberalized leases (in September 2007) meant more flexibility. As explained, grey-lease contracts are often concluded with a specific objective, mostly

involving flexibility in land use. Although this type of lease contributes significantly to flexible land use, it does not belong to lease regulation.

Degree of transferability

The bundle of property rights of land is transferable – partly or fully – from one party to another party, e.g., by lease, sale and purchase, inheritance. However, the lease regulation limits transferability of property rights. Examples in the case of regular lease contracts are priority rights and continuation rights for tenants. Priority rights mean that if a landowner wants to sell his land he is obliged to offer it to the tenant first. Continuation rights imply that the tenant has the right to renew his contract. This has consequences for the value of the bundle of property rights to land.

Based on the foregoing we can conclude that one of the most important characteristics of regular lease contracts is the ‘handbook’ as the main co-ordination mechanism and that the price plays a limited role. The ‘handbook’ is mainly determined by the Dutch lease regulation. For regular contracts, lease regulation implies an explicit written contract, a less flexible contract, and the transfer to the tenant of a relatively large part of the property rights for a relatively long period. For single-term contracts, the contract is more flexible (e.g., duration can be chosen from between 1 and 12 years) and land rents are free. Given the area and the growth of grey lease, it can be concluded that lease contracts that are based on the ‘handshake’ as a co-ordination mechanism and supported by the reputation mechanism are better able to fulfil the demands of landowners and tenants. Single-term leases can be positioned between the regular lease and the grey lease, and could be expected to be an alternative for the regular lease. However, the area with formal single-term lease contracts (introduced in 1995) did not grow since 1999. Apparently, single-term lease contracts hardly meet the needs of landowners and tenants.

The valuation of the different contractual arrangements: empirical results

In the previous chapter we concluded that regular and single-term contracts do not meet the needs of landowners and tenants. The preferences of landowners for different contract types can be assessed by valuing their actual contracts. We expect that landowners attach a lower value to land under regular lease contracts than to land under other types of lease contract. To assess the differences in landowners’ valuation between different lease contracts, we carried out a large mail survey among landowners and land agents in autumn 2002 (see also Slangen *et al.*, 2003). This survey was one of the first surveys among landowners and land agents that focused on property rights to land in the Netherlands. The targeted landowners belonged to the Dutch Society of Landowners (Federatie Particulier Grondbezit) of whom 250 randomly selected members received a questionnaire. One hundred and five completed questionnaires were returned – a response of nearly 42%.

Land agents fulfil a different role compared with landowners. They are experts

who often work for the landowners, but also as intermediaries between tenants and landowners. One hundred and forty five questionnaires were sent to a randomly selected sample of land agents. Sixty completed questionnaires were returned – a response of nearly 41% (see also Slangen *et al.*, 2003). The structure and content of both questionnaires were similar, the differences were related to the different roles of both groups. The land agents were used as reference group.

Results and discussion of the survey

When considering the behaviour of landowners, it is important to look at the question of why they have land. From their answers (Table 3) it appears – in terms of percentage of respondents – that *maintaining family property* was the most important reason, followed, in terms of percentage of hectares, by *land ownership as an investment*. The category *other reasons* was largest. This is caused by the area of the State Forestry Service and nature conservation organizations, which keep land for wildlife and landscape management, and often are large landowners.

Leasing land is one of the other objectives of land ownership. Within these objectives there is a certain hierarchy. When the objective with the highest hierarchy is achieved, it will be possible to realize the other objectives. The objective with the highest hierarchy is the return on capital/investment or profitability target. If this is

Table 3. Reasons of landowners for owning land (n = 105).

Reason	Respondents	Area
	----- (%) -----	
Maintaining family property	69	10
Investment	36	16
Managing and conserving real estate	7	35
Other	9	43

Note: as it was possible for interviewees to indicate more than one reason, the percentages do not add up to 100.

Table 4. The value of untenanted and tenanted land in the opinion of land agents and landowners.

	Value of tenanted land relative to untenanted land		Value of tenanted land depends on type of lease contract	
	n	Value (%)	n	Value (%)
Land agents	48	52	51	92
Landowners	67	46	90	73

sufficient it is possible to realize the other objectives. A good return makes it possible to realize the other targets of the landowners as well. More than one third of the respondents gave investment as reason for land ownership (Table 3).

Landowners and land agents were asked to value the land under the different land lease contracts. Both groups stated that the value of tenanted land is about 50% of the value of untenanted land (Table 4). The small difference in response between land agents and landowners was not statistically significant. A significant majority of both groups furthermore stated that the value of tenanted land depends on the type of lease contract.

Given the fact that different land-leased contracts have a different bundle of property rights, we may expect – based on the previous chapter – that land with lease contracts without any restrictions concerning lease price, continuation rights or priority rights will have a higher value from the viewpoint of the landowner. Duration can also play a role. A one cultivation-cycle lease has a duration of 1 or 2 years, and the single-term lease a duration ranging from 1 to 12 years. Because of this, we may expect that the one cultivation-cycle lease has a higher value for the landowner than the single-term lease. Given the rules for regular lease, we may expect the landowners to assign the lowest value to regular lease contracts.

Individual landowners and land agents were asked to rank land with different lease contracts from 1 to 5, where 1 indicates the highest and 5 the lowest value. This resulted in five sets of rankings for five different lease contracts. The objective was to determine associations among the rankings by using Kendall's coefficient of concordance W (Siegel, 1956; Churchill, 1999). Kendall's coefficient of concordance expresses the degree of association among variables. For instance, in this case if landowners would have agreed unanimously to the value of the bundle of property rights of a particular lease contract, that contract would always have received the ranking 1 for the highest value and thus the sum of ranks would have been 34 (the number of landowners – Table 5) and

Table 5. Ranking of types of land lease contract according to their value in the opinion of landowners and land agents.

Lease type	Mean rank by:	
	Landowners	Land agents
Regular lease	4.2	4.5
Single-term lease	2.7	2.6
One cultivation-cycle lease	2.3	2.1
Grey lease	2.4	2.0
Hereditary lease	3.5	3.8

<i>Statistics</i>		
Number of observations	34	30
Kendall's W	0.26	0.48
χ^2	34.7	58.1
d.f.	4	4
P -value	0.00	0.00

the mean rank would have been 1. The second-ranked contract would then have a sum of ranks of 68 (mean rank 2), and the bundle with the lowest value would have received a rank of 170 (mean rank 5). If there is little agreement among the rankings of the five contracts, the sum of ranks would have been more or less equal per contract type.

A statistically significant value of W indicates that landowners or land agents are applying essentially the same standard in ranking the five types of contract (Siegel, 1956). The coefficient of concordance is more or less χ^2 -distributed where $\chi^2 = k(n-1)W$ (k is the number of landowners; $n-1$ is the number of degrees of freedom). The null hypothesis is that the rankings are not related, and the alternate hypothesis is that there is some agreement. From the P -value it follows that the null hypothesis can be rejected ($P < 0.01$).

Table 5 gives the mean rankings of leased land according to their value assigned by landowners and land agents. The one cultivation-cycle lease has the highest value for the landowners, followed by grey lease. For the landowners, single-term lease is the third highest, followed by hereditary lease. The differences between landowners and land agents are small; land agents value grey lease higher than one cultivation-cycle lease. As Table 5 shows, regular lease has the lowest ranking. It is even lower than hereditary lease. However, as has been mentioned before, hereditary lease does not fall under land lease regulation. The value of Kendall's W is lower for the landowners than for the land agents. However as Table 3 shows, the motivation for land ownership is rather diverse, which has consequences for the valuation of contracts. For example, if we only look at landowners who own their land for 'investment', Kendall's W will be substantially higher (about 0.6).

Conclusions

Measured in hectares, the three most important types of land lease contract are regular lease, grey lease and single-term lease. In September 2007, the single-term lease was replaced by two types of liberalized lease: contracts for more than 6 years and contracts for 6 years or less. When land is leased to a tenant-farmer, the landowner transfers part of the bundle of property rights of his land, mostly on a contractual basis. This means that he will lose part of the bundle of property rights for a certain period. The lease contract is the transaction mechanism and the content of the contract defines the transfer of property rights. In other words, the bundle of rights transferred within a lease transaction varies with the type of contract. The type of lease contract determines the value of the bundle of property rights for the land that remains for the landowner.

One of the most important characteristics of regular lease contracts is the 'handbook' as the main co-ordination mechanism (based on the Lease Regulation) and the limited role of prices as a factor of adjustment. The single-term leases also make use of the handbook approach, but less intensively than regular lease contracts, because they have no price control and no continuation or priority rights for the tenants. The absence of price control for single-term lease contracts and its successor – single-term lease contracts shorter than 6 years – increases the role of price as a co-ordination mechanism. For the liberalized lease longer than 6 years, price control still applies.

Grey-lease contracts do not follow the formal lease regulation. The co-ordination

mechanism for grey lease is a mix of the 'handshake' and the price. The motivation to comply with the agreements comes from elements such as financial incentives and trustworthiness. For enforcement and renewing of grey-lease contracts, reputation is very important. Given the current lease regulation, building a good reputation is less important for regular lease transactions.

Lease regulation reduces the flexibility of lease contracts. Especially in regular lease contracts, flexibility is almost non-existent. Single-term lease contracts offer more flexibility. However, this type of lease is less important than grey lease. Apparently, parties prefer grey lease to single-term lease. It is expected that the two versions of liberalized lease will contribute to more flexibility. The lease contracts differ in the content of the bundle of property rights transferred. For the landowner, the value of the contract will be higher if:

- the level of control rights determined by lease regulation and contract is lower;
- the degree of transferability of the bundle of property rights is higher;
- the division of the rights is more to the benefit of the landowner;
- the protection of the rights for the tenants is lower;
- the duration of the contract is shorter;
- the flexibility of contract design is higher;
- more use is made of the price as co-ordination mechanism.

The empirical results confirm that the value of leased land for landowners depends on the type of contract. From the viewpoint of the landowner, the value of the bundle of property rights of single-lease, one cultivation-cycle lease and grey-lease contracts is significantly higher than for regular lease. Grey-lease contracts are valued highest. An intriguing question is why in spite of the high ranking of one cultivation-cycle lease, the area of this type of lease remains so small. One of the reasons could be that one cultivation-cycle lease is used for special crops, such as bulbs, carrot, and seed potato.

These results will have important policy consequences. First, if landowners have more opportunities to lease plots of land with long-term formal lease contracts (liberalized lease), without price control, and no continuation or priority rights for tenants, this is expected to lead to a further decline of the area of regular lease (including farmsteads) in the future. Secondly, it is questionable whether the liberalized lease will be able to stop the decline in the formal leasing area. During the past 10 years, grey-lease contracts were concluded more often than single-term lease and one cultivation-cycle lease.

Apparently, landowners prefer grey-lease contracts to single-term lease contracts. Less regulation requires a shift in co-ordination and motivation mechanisms. Making use of handshake and price as co-ordination mechanisms, but also of trust and reputation building, will become more important for tenants and landowners. Given that the liberalized lease was only introduced in September 2007, we have to be reserved in our conclusions about future developments. However, our findings with respect to the single-term lease and one cultivation-cycle lease, together with the increase in the grey-lease area, indicate that liberalized lease is not expected to maintain or increase the total area of formal leased land.

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