A FINANCE APPROACH TO UNDERSTANDING PATTERNS OF LAND TENURE

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ABSTRACT: Economists and economic historians have generally understood different forms of land tenure as arrangements for the supply of labor. This paper suggests a different interpretation—that land-tenure arrangements be understood rather as arrangements for the supply of financing. The cost and availability of financing depend on the arrangements available to ensure the providers of the financing a fair return on their investment. The paper argues that the different forms of land tenure may best be understood in the context of such arrangements—as alternative ways of providing the family farm with the external financing that it requires. The discussion focuses on land-tenure arrangements in pre-industrial Europe, but the conclusions hold quite generally.

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Economists and economic historians have generally understood different forms of land tenure as arrangements for the supply of labor. They have interpreted them either in Marxist terms of power and class struggle between landowners and peasants or, more recently, in terms of a principal-agent problem with the landlord-employer as principal and the tenant-employee as agent.[1] I will suggest a different interpretation—that land-tenure arrangements be understood rather as arrangements for the supply of financing. Since my interest in the subject stems from my work on pre-industrial agriculture, the discussion will focus on land-tenure arrangements in Europe between the twelfth and eighteenth centuries. However, I believe that the conclusions hold quite generally.

The farmer, even when he did not own the land, was not an employee but rather the owner of an economic enterprise. He was an owner because he managed the enterprise—often employing hired labor himself—and because he received the residual income from the enterprise once all other payments had been made. The sole proprietorship or family firm was the typical form of economic enterprise in the pre-industrial economy—in industry and commerce as well as in agriculture. This was so because the incentive advantage of having the decision-maker bear fully the consequences of his own decisions generally outweighed any potential economies of scale that might have favored a larger or more complex form of organization.

Economic enterprises mostly finance themselves out of their own internal funds—the profits they themselves generate.[2] Sometimes, however, their need for funds is such that they are forced to turn to external sources of financing. The cost and the availability of external financing depend on the arrangements that can be found to ensure the providers of the financing with a fair return on their investment. I shall argue that the different forms of land tenure may best be understood in the context of such arrangements—as alternative ways of providing the family farm with the external financing that it required.

External financing, its difficulties, and the ways of addressing them are the subject matter of corporate finance. As its name suggests, this discipline concerns itself with the financing of the modern corporation. However its principles apply more generally and, as

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[1]See Dasgupta, Knight et al. (1999) for a recent survey.

[2]Mayer (1990)

we shall see, its insights can be quite helpful in understanding the financing of pre-industrial agriculture.

Financing medieval agriculture

Beginning in the twelfth century, and as a consequence of expanding trade and widening markets, European agriculture underwent a profound transformation. Access to markets created a strong incentive for the more efficient use of resources, and this induced a transition from manorial agriculture to an agriculture of family farms.[3] The family farm emerged as the most efficient form of organization because of the overwhelming incentive advantages of owner-management.[4]

Compared to contemporary enterprises in commerce and industry, enterprises in agriculture employed much larger amounts of fixed capital—especially, but not exclusively, land. In some cases, family farmers were able to finance the fixed capital they needed themselves. Most, however, required some form of external financing.

The external financing of fixed capital is usually long-term to match the income stream from the asset in question. Long-term financing is particularly subject to default, so it is normally secured—typically with the asset being financed. There are two ways to do this—the secured loan and the lease. With a secured loan, the asset is collateral for the loan: it belongs to the borrower but becomes the property of the lender in case of default. In contrast, with a lease the asset is and remains the property of the lender/lessor, who provides it to the borrower/lessee together with the financing in a single package. Both secured loans and leases were common in pre-industrial European agriculture.

The principal form of secured loan was initially the mortgage. However, by the end of the twelfth century, legal and religious problems led to its displacement by the *rente* or *census*. With this instrument, an investor handed over a capital sum in exchange for the promise of an annuity, either for life or perpetual and heritable. Because the *rente* was considered a sale rather than a loan, it did not run afoul of the prohibition against usury. Moreover, as a sale, it was easier in case of default to seize the land posted as collateral.[5]

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[3]See Kohn (2001) for details.

[4]Hayami and Otsuka (1993) "This problem of incentives is considered a key to understanding the dominance of small-scale family farms in agriculture." p 5.

[5]See Kohn (1999) for more details.

Rentes were used initially to finance the consumption of the landed classes and as an instrument of municipal finance. However, especially from the fifteenth century, they were used increasingly to finance investment in agriculture. They were widely employed for this purpose in the Low Countries, in Northern France, in Germany, and in Spain.[6]

The introduction of the lease was part of the restructuring of feudal agriculture into an agriculture of family farms. While a farmer leasing his land and a peasant holding his land under feudal tenure are both called 'tenants', the two situations were entirely different. Under feudal tenure, land was held in perpetuity, and was heritable subject to a quit-rent. In exchange, the tenant was obliged to provide labor and other servitudes as well as rent. In contrast, a lease had a limited term, it was a purely commercial contract, and it required the payment of a rent only. The limited-term lease first appeared in the twelfth century, and it was quite common in most parts of Western Europe by the thirteenth.

There were two types of lease. There were leases that called for a fixed rent (*bail à ferme* or *fitti*) and there were those that called for a share of the harvest (*bail à part de fruits* or, according to the size of the share, *métayage* or *mezzadria*). Initially, both fixed-rent and share leases were to be found wherever the limited-term lease appeared, but in most regions one or the other eventually came to predominate. The fixed-rent lease was the more common form in Northern France, the Low Countries, Western Germany, and the Po Valley. The share lease predominated in Western and Southern France and in Tuscany.[7]

There were, then, three methods of providing external financing to the family farm—the secured loan (annuity), the fixed-rent lease, and the share lease. While all three methods saw use, one method rather than another would predominate in any particular time or place. To understand why, we need to understand the relative costs and benefits of the different forms of financing. The literature of corporate finance offers us some insights.

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[6]Tracy (1985)

[7]Ganshof and Verhulst (1966)

Insights from corporate finance

Two parts of that literature are of particular relevance—the part that examines the decision to lease or buy and the part that explores the relative merits of debt and equity financing.

Lease or buy?

In considering the decision to lease or buy, let us begin by comparing a fixed-rent lease with a purchase financed with a secured loan.[8] Both are forms of debt, since each requires a series of fixed payments set in advance. What is characteristic of debt financing in general is that there is no upside: the best that can happen is that the debt is paid as promised. So the focus of lenders is naturally on the downside. What is the probability of default? What is its likely cost?

The cost of default is not only the unpaid debt, but also significant bother (transactions costs). First of all, what is to be done? Should the lender enforce the terms of the contract by forcing liquidation or seizing collateral? Or is it better to allow the borrower some slack in the hope of ultimately recovering more. If enforcement is the course chosen, there are the costs of gaining possession of assets and of liquidating them.

Comparing a lease and a secured loan, if the maturity of each is the same as the life of the asset being financed, then the only difference between them is in the nature of the security. In the case of the lease, because the asset belongs to the creditor rather than to the debtor, the cost of repossession is lower. Moreover, if the asset in question is in general demand and can easily be transferred to another lessee, the cost of default can be made quite low.[9]

So leasing will be preferred when the probability of default is relatively high. Firms that are more likely to suffer financial distress and those that are highly leveraged are the ones most likely to lease. In deciding whether to grant a lease, the lessor will focus on the

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[8]Smith and Wakeman (1985), Krishnan and Moyer (1994)

[9]While leasing is rare for assets that are highly firm-specific, specificity of the asset can actually benefit secured lending. See Mann (1997).

The ability to switch the asset relatively easily from one lessee to another converts the risk of default from ‘principal risk’ to ‘replacement risk’.

ability of the asset to generate the cash flow needed to service the lease payments rather than on the credit history, assets, or capital of the potential lessee.[10]

In contrast, with a secured loan, the cost of default is relatively high even though it is secured. The lender will consequently look for potential borrowers that are less likely to default—those with a good credit history and adequate capital. In addition, the lender will usually demand 'overcollateralization' of the loan, requiring the borrower to finance a significant fraction of the asset out of his own funds.

If the life of the asset is longer than the maturity of the loan or lease, then there is an additional difference between the two forms of financing. When a loan matures, the residual value of the asset belongs to the borrower. When a lease matures, the residual value belongs to the lender/lessor. This difference has several implications.

With a loan, the borrower gains the use of the asset, just as he does with a lease of the same maturity. However, he receives in addition at the end of the loan the residual value of the asset. Since he must pay for this additional value over the life of the loan, his payments will be higher than they would be for an equivalent lease.[11] The lower payments on a leases effectively reduce leverage, reinforcing its suitability for less credit-worthy borrowers.

If the useful life of an asset is significantly longer than the period over which a particular firm expects to employ it, and if the costs of transferring ownership are large, then leasing makes it easier to gain use of the asset and to dispose of it afterwards.[12] The greater flexibility can be important, for example, when the amount of the asset a firm wishes to employ changes relatively frequently. A relatively short lease also provides the lessor with flexibility, making it easier to change the terms of the lease as market conditions change or to terminate a relationship with an unsatisfactory lessee.

A lease has one important disadvantage compared to secured lending when the useful life of the asset exceeds the maturity of the financing-a potentially serious moral hazard problem. Because the residual value of the asset does not accrue to him, as it does with a

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[10]International Finance Corporation (1996)

[11]The lower payments are the main reason why automobile leasing has become so popular in recent years.

[12]Smith and Wakeman (1985).

secured loan, the lessor has an incentive to plunder the residual value to his own benefit. Since the benefits of maintenance accrue largely to someone else, the lessee will tend to under-invest in maintenance. If it is possible to increase the current income from the asset at the expense of its residual value, the lessee will have an incentive to do so.[13] Mechanisms to deal with this problem, which I will call 'asset-stripping', may include detailed contractual constraints on the lessee, requiring the lessor rather than the lessee to be responsible for maintenance, and reputational constraints on the lessee when there is considerable repeat business.

Debt versus equity

Debt financing works best when there is little chance of default: whatever the security and the safeguards, default is costly. When the cost of default makes debt financing problematic, equity financing can be a solution.[14] With equity financing, the provider of financing receives a share of the residual income or profits of the enterprise rather than a set payment fixed in advance as with debt. There are two reasons why this arrangement may be preferable when the risk of default on debt would be significant. First, equity offers the provider of financing an upside to balance his downside risk: if the enterprise does well, he shares in the good fortune. Second, because of its built-in flexibility, equity avoids the dilemmas and the costs of default. The payment to the provider of the financing, rather than being fixed in advance, varies automatically according to the success of the enterprise.

Naturally, these benefits do not come without a cost. The built-in flexibility creates incentive problems. Because the recipient of equity financing has to share the residual income of the enterprise, he may slack. He may also increase the 'costs' of the enterprise to benefit himself at the expense of profits. There may be a serious problem, too, in measuring the profits that are to be shared.

To mitigate these incentive problems, the provider of equity financing generally obtains a degree of control over the ongoing management of the enterprise, something a

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[13]"The more sensitive the value of the asset to use and maintenance decisions, the higher the probability that the asset will be purchased rather than leased." Smith and Wakeman (1985)

[14]For example, the U.S. equity market emerged in the late nineteenth century as a response to the repeated defaults on railroad debt. See Baskin (1988)

provider of debt financing does not have. The combination of a claim to residual income and control over management makes the provider of equity financing a part owner of the enterprise.

Of course, exercising control is itself costly and it is unlikely to be entirely effective. Since the provider of equity financing must be compensated both for the cost of exercising control and for the consequences of its ineffectiveness, equity financing is typically expensive relative to debt. Consequently, enterprises generally seek equity financing only when debt financing is either very expensive or unavailable.

In comparing an equity (share) lease with a debt (fixed-payment) lease, the same advantages and disadvantages apply. In addition, the equity lease may offer an advantage with respect to the problem of asset-stripping. The degree of control over current management that goes along with equity financing provides the lessor with better means to defend his interests. Moreover, if asset-stripping takes the form of excessive current output at the expense of residual value, equity financing may mitigate the problem. If such 'over-production' requires greater effort on the part of the lessee, then the effort-reducing effect of equity may partly correct the distortion induced by the lease. Of course, boosting current output at the expense of residual value may involve *different* effort rather than *more* effort, and in this case equity financing will have no mitigating effect. But even here there is a silver lining: because the lessor receives a share of current profit, there is at least some compensation for the loss of residual value.

Let us now apply these ideas to understanding the pattern of financing of preindustrial agriculture. We begin with secured lending.

Lease or buy in preindustrial agriculture

Secured lending, mostly in the form of *rentes*, seems to have been used principally to finance improvements to land rather than for the purchase of land by family farmers. This may have been because of the significant overcollateralization that would have been required for such a loan. Since land is a very long-lived asset, its value is high relative to the current income that it generates. Consequently, financing the purchase of land would involve very high leverage with a correspondingly high risk of default unless there was significant overcollateralization. Family farmers who did not already own land may have

lacked the equity capital for such a loan, or they may have preferred to lease land and put their equity into working capital.[15]

There is evidence of the use of secured lending to finance agricultural development and improvements in Flanders and Brabant from the thirteenth century, in Sicily from the fourteenth, and in France, Germany and Spain from the fifteenth.[16] Land developers, either reclaiming land or restructuring it into family farms, financed their projects by borrowing from urban investors against the future rents the new farms would generate. Individual farmers used well-developed local credit markets to finance improvements to their land such as drainage, buildings, or plantings of vines or fruit trees.

The market for *rentes* or *censos*, seems to have been particularly extensive in Spain: "…there is no reason to doubt Valle de la Cerda's statement in 1618 that there were in Spain over a hundred million ducats lent in *ducados a censos*."[17] The sixteenth century transformation of Southern Spain from a producer of wheat to a producer of wine and olive oil was largely financed in this way. The borrowers in this case seem to have been substantial landowners rather than family farmers. The lenders were mainly urban investors.

Debt versus equity in the leasing of land

As we have seen, the predominant form of land lease varied from region to region. In some, most leases were for fixed rent; in others, most were for a share of output. Historians have noted some regularities. The share lease was associated with certain kinds of lessee—those with relatively little capital.[18] It was associated with certain kinds of crop—vines, olives, and fruit trees.[19] And it was associated with a certain kind of

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[15]In the United States in 1997, 79% of commercially farmed land was leased by the farmer rather than owned.

[16]On Flanders, see Thoen (1993) and Nicholas (1971); on Brabant, Germany, France and Spain Van der Wee (1993); on Sicily, Epstein (1998). The rente does not seem to have spread to Italy or to England.

[17]Braudel (1972) p 425

[18]See, for example, Duby (1968), Galassi (1992), Hoffman (1984), Epstein (1994), Carmona and Simpson (1999), and Ackerberg and Botticini (2000)

[19]See, for example, on Tuscany (Ackerberg and Botticini (2000) and Ackerberg and Botticini (2000)), on Germany (Toch (1986)), on Catalonia (Carmona and Simpson (1999)), and on France (Hoffman (1984)).

landlord—absentee urban landowners.[20] The insights of corporate finance can shed some light on these associations.

Leverage

While a fixed-rent lease reduced the likelihood and the cost of default compared to purchasing land with a secured loan, default remained an issue. Default was most probable when the farmer was highly leveraged—that is, when his capital was small relative to his contractual obligations. Then, any significant drop in income could leave him unable to pay his creditors.

To some extent, fixed-rent leases were designed to accommodate this possibility—especially if the cause of default was outside the control of the tenant. Landlords would, for example, assume the risks of damage due to invading armies or natural disasters.[21] However, when default was the result of a bad harvest, the landlord faced the familiar dilemma of how to proceed. This was especially true when it was hard to differentiate between bad luck and bad farming.[22] When the probability of default was high and it was difficult to attribute the cause, a fixed-rent lease was not a good solution.

Consequently, fixed-rent leases were generally offered only to tenants who had adequate capital of their own that would enable them to pay their rent even if the harvest was a poor one. On the whole, farmers in the North of Europe were wealthier, and this may explain the predominance of the fixed-rent lease there.[23] However, there were regions in the South too where prosperous farmers leased land for a fixed rent. For example, fixed rents seem to have been common from the fifteenth century in the vicinity

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[20]See, for example, Toch (1986),Jones (1966), Jones (1968), Galassi (1992).

[21]Nicholas (1971). Basu (1992) notes that in developing countries today, leases often allow for reduced rent if the weather fails or if the harvest is sufficiently poor.

[22]In early fifteenth century Tuscany there was a form of 'mixed contract' that allowed for the automatic conversion of fixed rents into shares in the event of a bad harvest. (Galassi (2000)). This obviously created a moral hazard problem, granting the tenant a 'put option' on his enterprise. Compared to a straightforward share lease, this arrangement deprived the lessor of the potential upside.

[23]"While the 'farmer' of the northern lands lived in affluence, most of the métayers of the Midi seemed to be wretched individuals settling on the lords' lands empty-handed and expecting immediate help in the shape of an advance of seed, provision of tools and even sometimes of food for their families during the first year." Duby (1968) p 327.

of Milan where well-capitalized rural entrepreneurs engaged in intensive mixed agriculture.[24] They also seem to have been common in Sicily during the fifteenth century under similar circumstances.[25]

Where the rural population was relatively poor, often as a result of heavy taxation, the share lease predominated.[26] Not all share tenants, however, were poor: some owned substantial landed property of their own.[27] Nonetheless, such tenants may have been poor candidates for a fixed-rent lease because their wealth was small relative to their obligations—that is, they were *highly leveraged*.

An indication that share tenants were, in fact, more highly leveraged than fixed-rent tenants is the difference between the two in the source of financing of non-land capital. Fixed-rent tenants generally financed their working capital either out of their own funds or by borrowing in the open market.[28] They often also financed themselves investment in non-land fixed capital such as livestock and buildings.[29] In contrast, it was usually the landlord who financed the non-land fixed capital of share tenants.[30] Landlords often financed working capital too. They might even offer a cash or grain advance to support

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[24]Epstein (1998)

[25]Epstein (1991)

[26]On the role of taxation, see Epstein (1994) on Tuscany and Hoffman (1984) on France. For another example of the connection between poor tenants and sharecropping see Carmona and Simpson (1999).

[27]Galassi (2000). Share leases are not always associated with poverty. The share lease predominates in the modern U.S. Midwest, and the farmers concerned are by no means poor: see Allen and Lueck (1992).

[28]For example, the farmers around Milan and in Sicily financed themselves the wages of their hired workers (Epstein (1998), Epstein (1991))

[29]When the life of such assets exceeded the term of the lease, and if the lease was not renewed, the landlord was required to compensate them for their investment (de Vries and van der Woude (1997) Ch 5; Laven (1966) Ch. 1; Clay (1984)).

[30]Ganshof and Verhulst (1966), Jones (1968) "…the problem was not that credit was unavailable, but that it was largely unavailable to (poor) *sharecroppers*, who therefore had to resort to credit from their landlord." Epstein (1994) p 116 (italics in original)

the tenant and his family until harvest time.[31] In some cases, lending by the landlord was secured by the tenant's share of the output.[32]

The degree to which leverage increased the risk of default depended on the variability of farm income. For some crops, such variability was particularly great. This could be a consequence both of variability in output and of volatility in market prices. Fluctuations in the output of wine of 60% were common and wine prices were notoriously volatile.[33] This may have been one reason why viticulture was associated with share leases.[34] But wheat harvests were no less variable and wheat prices, too, were volatile. However, wheat does not seem to have had any particular association with sharecropping.

Asset-stripping

Another reason that has been offered for the association of viticulture with sharecropping is the problem of asset-stripping. We have seen that if a lease is short relative to the life of the asset, the lessee has an incentive to increase current income at the expense of residual value.

Limited-term leases, when they were first introduced in the late twelfth century, were of relatively long duration—10, 20, or even 30 years. Over time, however, the typical duration seems to have fallen to something like five to seven years.[35] The reason for the shortening of duration may have been the greater ease of adjusting the rent.[36] Shorter leases also made it easier for landlords to rid themselves of bad tenants.[37] Leases,

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[31]Toch (1986)

[32]Epstein (1998) "the combined burden of debt and rent could also cause tenants to throw up their holdings, abscond, or default on their obligations."p225

[33]Galassi (2000) and Toch (1986) have argued this.

[34]This has been suggested, for example, by

[35]Jones (1968), Ganshof and Verhulst (1966)

[36]It is sometimes suggested that the frequent inflations of the period were why frequent adjustment was needed (e.g., Ganshof and Verhulst (1966)). However, payment of rents in kind was a more appropriate response to this particular problem: both fixed-rent leases and annuities (for which the problem was even more acute) were frequently paid in this way (Epstein (1994), Nicholas (1971)). Short leases were more useful as a way of adjusting to changing *real* prices.

[37]Ganshof and Verhulst (1966), Galassi (2000)

although short, were typically renewed repeatedly with the same tenants, sometimes for decades or even generations. [38]

Shortening the duration of the lease potentially exacerbated the asset-stripping problem. However, the customary renewal of the lease mitigated it, as did the threat of non-renewal. Reputational considerations constrained both tenants and landlords.[39] Moreover, leases-fixed-rent and share alike—typically provided the landlord with safeguards. A lease is not only a financial contract: it is also an agreement that specifies the rights and responsibilities of the two parties with respect to the use of the asset.[40] Leases often specified permissible crops—excluding those that would exhaust the land as well as changes (such as conversion to arable) that would lower long-term productivity.[41] Leases also specified the responsibilities of the tenant with respect to maintenance of non-land fixed capital. In some cases, it was the landlord who provided the maintenance.[42] To ensure compliance with the terms of the lease, the contract included penalty clauses and tenants were sometimes required to provide security in the form of collateral or third-party guarantees.[43]

It has been suggested that an important reason for the adoption of the share lease was the superior protection it provided against asset-stripping, and that this explains its association with vineyards and orchards, which were particularly susceptible to this problem.[44] As we saw earlier, the superiority of the share lease (equity financing) in this respect comes from the greater right of intervention that it provides the landlord, compared to fixed rent (debt financing). It also comes, to some extent, from a closer alignment of interests between lessor and lessee. There are grounds, however, for doubting that this is the main reason for the connection between the share lease and viticulture.

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[38]de Vries and van der Woude (1997) Ch 5

[39]Carmona and Simpson (1999)

[40]Smith and Wakeman (1985), Krishnan and Moyer (1994)

[41]Nicholas (1971); de Vries and van der Woude (1997) Ch 5

[42]Nicholas (1971); Jones (1968)

[43]Ganshof and Verhulst (1966)

[44]Galassi (1992); Galassi (2000)

First, it is not clear to what extent landlords exercised the enhanced right of intervention that a share lease offered them. The landlords in question were typically urban investors, for whom direct intervention would have been costly and not particularly effective. In the modern American Midwest, where share leases are also common in the leasing of land by absentee landlords, landlords do little or no monitoring.[45] Second, the share lease was the preferred form of lease in commercial viticulture in Catalonia from the late seventeenth century. There, however, the vines were planted and owned by the *tenant* and the leases were essentially perpetual, so the issue of asset-stripping did not arise.[46] Third, share leases were especially common, not only in the leasing of vineyards, but also in the leasing of livestock.[47] In this case, too, because the duration of the lease is the same as the life of the asset, there is no asset-stripping problem.

The difficulty of measuring output

As we saw earlier, one of the problems of equity financing is in measuring the profits that are to be shared with the provider of the financing. With a share lease, the tenant has an incentive to underreport the size and quality of output and, when dividing it, to keep the best for himself. Consequently, the share lease is better suited to crops that are more easily measured. Ease of measurement seems to be an important factor in explaining the use of fixed-rent versus share leases in the modern U.S. Midwest.[48] The share lease is common for land under wheat: wheat is sold at local elevators where quality and quantity are measured independently. The fixed-rent lease is more common for land under hay crops: the quality of hay is hard to assess and hay is usually sold by the farmer privately to individual buyers.

The problem of measuring output was no less important in preindustrial times if the many contemporary complaints about 'thieving sharecroppers' are to be believed.[49] It is notable that share leases were associated not only with the production of wine, but also

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[45]Allen and Lueck (1992)

[46]Carmona and Simpson (1999)

[47]Jones (1968); Toch (1986)

[48]Allen and Lueck (1992)

[49]Galassi (2000)

with the cultivation of olives and mulberry trees and the raising of livestock.[50] For these, as with wine, the output was sold commercially, making measurement easier. In the cultivation of grain, on the other hand, much was, or could be, consumed by the farmer and his family or sold quietly on the side.

The role of urban investors

Let us turn now to the association of share leases with absentee urban landlords.[51] To understand this, it is important to realize that the commercialization of medieval agriculture was largely an urban phenomenon. It happened first in regions with good access to urban markets—those that neighbored cities and those with good transportation links to them, usually by water. And commercialization was often driven by urban entrepreneurs and investors, who bought up land and reorganized agricultural production.

Partly, the urban purchase of land was simply the exploitation of a significant economic opportunity. Agriculture was by far the most important sector in the economy, accounting for perhaps 80% of output and producing industrial raw materials and fuel as well as food. At the same time, in its manorial form, agriculture was highly inefficient. The potential profits from raising productivity were huge.[52] But there was another reason for the urban population to invest in land: it was an attractive asset. For a merchant seeking to diversify out of commerce or to provide for his retirement or for his family should he die, land was the best available choice. Compared to investments in commerce, it was safe and easy to manage. Investment in financial assets was often risky, and few such assets were available.[53] The importance of real estate as an asset is suggested by the Florentine *catasto* (tax assessment of wealth) of 1427. It found that the citizens of Florence, a financial center, held over half their wealth in real estate, compared to about a third in movable and commercial capital and a sixth in municipal debt (the principal

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[50]Hoffman (1984)

[51]The following is based on Kohn (2001).

[52]"On many properties innovation of farm practice, the arrangement of holdings and the forms of peasant tenure, was the work not of landlords but of enterprising middlemen on the make." Jones (1966) p 418

[53]One financial asset that was attractive and that competed with land itself in the portfolios of urban investors was the *rente* secured by land.

financial asset available to them).[54] So, urban investors all over Europe, from the twelfth century, bought land. And, even when they did so principally as an investment, they could rarely resist seeking ways to increase their income from it. This meant reorganizing production.

Reorganizing production to raise productivity involved two fundamental changes in feudal arrangements. The first was a change in the terms of employment of labor. Land proved to be most productive when farmed, not by serfs, but by independent contractors-that is, by family farmers. The second change was the creation of units of land of a size suitable for a family farm. This was the size that would support a farmer—a specialized agricultural producer—at a level of income that would meet his opportunity cost: in regions close to cities, that meant the urban wage. When urban wages rose, the size of the farm had to grow. Urban investors created units of the right size either through consolidation of small holdings or the breaking up of large ones.[55]

As we have seen, family farmers generally required external financing of their fixed capital. Urban landowners and investors met this need with a number of financial innovations and adaptations. It was urban landowners who first introduced the limited-term lease. It was largely urban investors who purchased the *rentes* used to finance agricultural investment. And it was urban landowners who pioneered the use of share leases.

The share lease was, in fact, an adaptation of an existing equity contract well known to townsmen—the venture partnership or *commenda*. The *commenda* had been used to finance seaborne commerce since the twelfth century. Under this arrangement, one partner (the *stans*) financed the venture and the other (the *tractator*) traveled with the

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[54]The catasto did not count a citizen's primary residence and furnishings since these were exempt from tax, so the proportion of real estate and movables was certainly higher than the numbers suggest. Neither did it count coin or bullion, presumably because these were easy to conceal, and these certainly made up a significant fraction of people's wealth.

[55]Kislev and Peterson (1982) explain the increasing size and mechanization of U.S. farms in the twentieth century as a consequence of the need to meet the opportunity cost of the farmer's labor as urban incomes rise. de Vries and van der Woude (1997) and Allen (1998) apply the same idea to preindustrial agriculture, arguing that the restructuring of land use was necessary to provide farmers with an income that would match high urban wages.

goods and traded them. The two then divided the profits.[56] The share lease was an adaptation of this contract to agriculture, with the urban landlord as *stans* and the farmer as *tractator*.

The complete story

Putting all these elements together, we have a possible explanation for the association of share leases with (a) farmers who possessed relatively little capital (b) the cultivation of vines and other commercial crops and (c) absentee urban landlords.

The reorganization of agriculture required the consolidation of land holdings into relatively large units—units large enough to meet the opportunity cost of the family farmer. The share lease made it possible for farmers with relatively little capital to take control of farms of this size without the impossibly high leverage that would have been implied by a fixed-rent lease.[57] Hence the association of the share lease with relatively poor tenants. The share lease was feasible, however, only if output could be measured at reasonable cost and with some reliability. Hence the association with commercial crops. It was urban investors who led the way in the reorganization of feudal agriculture into family farms. Hence the association with urban landlords.

This story is specific to a particular historical context and it does not necessarily fit all cases of sharecropping everywhere and at every time. However, one would expect two of its elements to be important in every case. The first is that the capital of the farmer is small relative to the value of the land in question—a fixed-rent lease in such a case involving excessive leverage. The second element is that the crop is relatively easy to measure and divide. These two elements reflect the principal advantage of equity financing and its principal problem

Conclusion

The literature on land tenure has generally viewed it in the context of a choice among three types of contract for the supply of labor—a wage contract, tenancy under a fixed rent, and sharecropping. In choosing among these alternatives, landlords are seen as facing a tradeoff between risk and monitoring costs. For example, one strand of the

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[56]For more on the commenda, see Kohn (1999).

[57]In northern Italy, and Tuscany in particular, mezzadria was associated with the growth of large, consolidated farms known as *poderi.* (Jones (1968), Epstein (1998))

literature sees share-cropping as a way for wealthy, and so less risk-averse, landlords to attract poor, and so more risk-averse, workers by offering them a form of 'insurance' against income risk. Sharecropping offers lower monitoring cost than a wage contract and greater risk-sharing than a fixed rent.

Here, I have suggested a different context for the analysis of land tenure: still a choice among three types of contract, but this time not for the supply of labor but rather for the supply of external financing. The third alternative, to which fixed-rent and share leases are to be compared, is not a wage contract but a secured loan. Risk is important in the choice of contract, but it is not the income risk of the tenant that is the issue. Rather it is the risk of default.

Several authors have preceded me in rejecting the accepted approach and in setting tenure choice in the context of financing. Hoffman, in a study of land tenure in early modern France, cites a contemporary writer on agriculture, de Serres:

> "It was hard to find a reliable tenant who, while paying a fixed rent, would remain solvent, shoulder all the work and absorb 'at his own loss or profit' all the risks of the farm year. Given the difficulties of finding dependable tenants, de Serres recommended sharecropping for most absentee landlords. It would be easier to find a trustworthy share tenant, for he did not 'risk everything in advance,' and he was less likely to go bankrupt."[58]

In his more recent work, Hoffman has continued to stress the importance of credit in the rural economy and the role of sharecropping in mitigating the risk of default.[59] Another author who has set tenure choice in the context of financing is Epstein.[60] In his work on Sicily, he compared share contracts with other methods of financing agricultural production. In his work on Tuscany, he has argued for default risk in the presence of an impoverished peasantry as the explanation for sharecropping.[61] Allen, in his theoretical

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[58]Hoffman (1984) p 312 citing Olivier de Serres, *Le Théâtre de l'agriculture* (Paris, 1600).

[59]Hoffman (1996) pp. 68-9

[60]See Epstein (1991) on Sicily; Epstein (1994) on Tuscany.

[61]Another author who has rejected the standard approach is Reid (e.g., Reid (1987)). In his work on the U.S. South, he has placed less emphasis on financing, arguing that the principal virtue of sharecropping was that it assured the continuing cooperation of landlord and the farmer to assure a successful harvest. It was particularly important when the landlord was more knowledgeable than the tenant and could offer

work on share contracts, has argued that they should be seen as a form of financing and that their principal advantage lies in reducing the probability of default.[62]

I have attempted to develop these ideas a little further, bringing in the third alternative of a secured loan as a counterpoint to the two types of land tenure, and turning to corporate finance to illuminate the choice of alternative methods of financing. I hope that I have strengthened the case for thinking about forms of land tenure not as arrangements for the employment of labor but rather as arrangements for the provision of financing. The tenant-farmer, even if he did not own the land, was the owner of the agricultural *enterprise*. The landlord was not his employer but rather an investor who financed the agricultural enterprise while simultaneously supplying it with its major capital asset—the land.

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technical assistance as well as financing. This argument, too, has its echoes in corporate finance. The virtues that Reid attributes to sharecropping are very much like those of private equity—venture capital, for example. There, too, the provider of equity financing provides more than just funds.

[62]Allen (1985).

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