Human Organization, Vol. 64, No. 1, 2005

0018-7259/05/010028-12$1.70/1

Some Rationales for Sharecropping: Empirical Evidence from Mexico

Jean-Philippe Colin

These past decades, agrarian contracts such as sharecropping have re-emerged as a major focus of interest. Economists typically conceptualize these contracts as an agency relationship (in the economic sense) between large and labor-constrained landlords and landless tenants. From a methodological perspective, while acknowledging the theoretical insights of economists, this article, based on comparative case studies carried out in Mexico, suggests that understanding contractual practices depends on a comprehensive and theoretically-grounded ethnographic approach. Explaining contractual practices, actors' decision criteria are investigated rather than postulated or econometrically inferred. A detailed comparative case-study approach highlights the local diversity in contractual practices and contractual configurations. From a theoretical perspective, the paper suggests drawing upon different theoretical insights, as a single theoretical model cannot exhaust empirical diversity. The share contract emerges as a 'polyfunctional' institutional arrangement, with a large palette of possible raison d'être.

Key words: sharecropping, agrarian contract, land tenancy, Mexico

Introduction

Interest in agrarian institutions has been rising over these past decades, as an academic field of research as well as a public policy concern in developing countries (Bardhan 1989, Hayami and Otsuka 1993, de Janvry et al. 2001, Deininger and Feder 2001, World Bank 2003). Along this trend, agrarian contracts, and sharecropping more specifically, come out as a major focus of interest. Beyond their diversity, contemporary economic models of agrarian contracts share some common features (for recent reviews, see Otsuka, Chuma, and Hayami, 1992, and Dasgupta, Knight, and Love 1999):

a) While retaining the postulate of maximizing agents, these models go beyond the orthodox neoclassical approach, as they apprehend the economic rationale of contractual practices in the light of market imperfections, asymmetric information, or actors' attitude towards risk. The rationale of contractual arrangements is seen as grounded in the comparative efficiency of resource allocation under the different arrangements (share versus fixed-lease versus labor contracts).

b) Agrarian contracts are conceptualized as pure contractual arrangements, i.e., as systems of rights and duties negotiated by the actors who define, on the basis of a calculative rationality, the rules that will organize their interaction. Contractual relationships are therefore understood as rules of the games which are freely debated and determined by economic agents.

c) The paradigmatic approach of tenancy contracts is developed through bi-dimensional land/labor models, conceptualizing relationships between large and labor-constrained landlords leasing out land to landless tenants, in the context of a manual and/or draft animal labor-based farming system. The tenant-landowner relationship is conceptualized as an agency relation, in the economic sense of the expression: the contract is established between a 'principal' and an 'agent' who provides the principal with some services, through a system of remuneration designed by the principal in such a way that the agent has incentive to behave in the principal's interest. The agent is supposed to maximize his utility function through the determination of his effort. The principal maximizes his utility by manipulating the terms of the contract, his only constraint being to provide the agent with his reservation utility (i.e., the level of utility he could gain in an alternative activity, if he does not accept the contract).

Under this general framework, two broad approaches can be distinguished. The usual 'standard' agency approach of sharecropping, grounded in a substantive conception of rationality, conceptualizes this institutional arrangement as an implicit labor relationship, whose rationale comes from a trade-off between the tenant's incentive and his aversion to risk (a fixed rent corresponds to the higher labor incentive as the tenant keeps all his marginal product, but does not permit risk sharing; a labor contract transfers all the risk to the landowner, but does not provide incentives to the laborer) (Stiglitz 1974). The other broad approach corresponds to transaction cost

Jean-Philippe Colin, socio-economist, is director of research with the Institut de Recherche pour le Développement (IRD), associated with the UMR MOÏSA. *This study was realized under a collaborative research program between IRD and the Colegio de Postgraduados en Ciencias Agrícolas (Mexico). Special thanks to Emmanuelle Bouquet, Michael Carter, Robert Hunt, Hermilio Navarro, and three anonymous reviewers for helpful comments. The views expressed here remain the author's sole responsibility.* *UMR MOÏSA, 2 Place Viala, 34060 Montpellier Cedex 2, France. colin@ensam.inra.fr.*

models of sharecropping, which do not emphasize risk and consider the role of different sources of transaction costs. The type of transaction costs taken into account in these models nevertheless remain induced by moral hazard problems (transaction costs coming from non-opportunistic behavior—such as search or negotiation costs—are rarely considered). Opportunistic behavior is not limited to the tenant's work effort but it can include as well soil over-exploitation, cheating with regard to the sharing of the product, in the case of share contracts, etc. It can also originate on the side of the landowner, when he contributes to the production process by providing capital, or technical or marketing expertise. The choice between contract types is then explained by the relative weight of these agency risks, depending on the contracts and the situations (types of crops, of soils, of marketing systems, etc.), with sharecropping arising as the result of a trade-off between these risks. The transaction cost approach does not postulate actors' substantive rationality and refers to bounded rationality. However, it mobilizes it to explain the incompleteness of the contracts (seen as opening the way to opportunistic behavior) rather than restrictions on the actors' calculation ability or the fact that economic behavior might be guided by cognitive processes (categorization, conceptual framework for encoding and interpreting the information) (North 1990:37, Lindenberg 1998:720).

d) Contemporary economic research on agrarian contracts combines a relative theoretical heterodoxy (especially acknowledging market imperfections and asymmetric information) with the orthodox disciplinary methodology : (i) the objective is to produce general and decontextualized theories ('the' theory of sharecropping…); (ii) the research is grounded in a hypothetico-deductive, *ex ante*, and *in abstracto* modelization; (iii) the search for the rationale of contractual practices is based on behavioral models which are postulated; (iv) 'empirical research' refers to the econometrical test of theoretical models through data sets already available in data bases, or through large-scale standard questionnaire surveys, with a delegation of data collection to enumerators and without a strong anchorage of the researcher in the empirical situations.

While acknowledging the theoretical insights produced by the economic literature on agrarian contracts, the objective of this paper is to suggest that to better understand contractual practices, first, a comprehensive (in a Weberian sense) and theoretically-grounded ethnographic approach offers a productive perspective by introducing, in the explanation of contractual practices, actors' decision criteria as investigated and not as postulated or econometrically inferred. In other words, explaining contractual choices in the actors' perspective, including how they perceived their situation and their available options, should provide interesting insights. This research orientation does not question the conceptualization of the actors as rational decision-makers, as long as 'rational choice' does not refer to actors maximizing on the basis of accurate cognitive models, but rather to the fact that, when facing different options, actors tend to choose the one likely to have (in their perception) the best outcome. Second, in terms of theoretical framework, one gains in mobilizing different theoretical insights, as a single theoretical model cannot exhaust empirical diversity. Third, a detailed comparative case-study approach highlights the local diversity in contractual practices that tends—by nature—to disappear from theoretical models or econometric research[1].

The empirical findings come from a set of studies conducted in Mexico between 1990 and 1998[2]. The four research sites were located in the Sierra Madre Oriental (6 villages located in Veracruz and Puebla States, fieldwork in 1990-92), Oaxaca (community of San Lucas Quiavini, fieldwork in 1993), Tlaxcala (*ejido* La Soledad, fieldwork in 1993-94 and 1997-98), and Tamaulipas (*ejidos* Miguel Hidalgo and Felipe Angeles, in Graciano Sánchez, fieldwork in 1995-96)[3]. The data were collected through long stays in the villages (several months in each locality) and combined formal questionnaires with informal day-to-day interaction with villagers. This type of immersive and intensive-micro research methodology was seen as essential for two reasons. (i) Actors' practices and rationales could not be captured any other way. One must explore concrete specific situations and practices, in all their diversity and complexity, without reducing beforehand the range of potential explanatory variables. (ii) Such a research method seems inescapable in order to collect reliable data, even if it is at the cost of a weaker coverage of quantitative variables. The land issue in Mexico remains a politically and socially delicate one. Simply arriving in the villages and administering a one-shot questionnaire survey would have produced results (villagers are usually friendly and do not want to disappoint the researcher)—but quite unreliable ones (villagers are usually quite suspicious too). Although these research orientations exclude any statistical representativeness, they provide meaningful insights regarding the rationale of contractual practices. On their ground, one cannot venture to generalize but generalizations can be challenged.

This article proceeds, first, by presenting the research setting. It then describes the different contractual configurations that could be brought to the fore, as well as the diversity in the types of contracts. The last section discusses the diversity of the functions of these contracts, in the perspective of the actors.

Research setting

Without pretending to exhaust or represent the extraordinary diversity of the Mexican *campo*, the research aimed at offering insights on the form and role of tenancy in four different agro-ecological and socio-economical contexts.[4]

a) San Lucas Quiavini is a Zapotec community located in the Tlacolula Valley, in the state of Oaxaca. The community, which existed before the arrival of the Spaniards in Mexico, has always been able to control its land, in colonial times as well as between the Independence and the Revolution. Following the agrarian reform, some villagers received an *ejido* in the plain[5], but the dominant land tenure remains an individual appropriation of arable land under a communal status[6]. Land endowments are limited, with an average of 3.5 ha, and a maximum of 13 ha. The agricultural production is based on the *milpa*, a mixed cropping system of prehispanic origins composed of corn (the main component of the association), beans

and squash, which covers 90 percent of the cultivated area in the village. The *milpa* is cultivated with local varieties, most often without any chemical fertilization, and a little manure when the farmer owns some animals. Plowing is sometimes done with a tractor, but all other cultivation operations are carried out with manual labor or an ox team. Soils are thin, of low potential, and the rainfall constraint is strong in the context of a rainfall agricultural production (only 3 percent of the acreage owned by the interviewed farmers was irrigated). The yields are variable and low (300 kg/ha of corn on average in 1992, exceeding only exceptionally 800 kg/ha). Such marginal agro-ecological conditions obviously reduce the incentive to create a structural surplus for the market. *Milpa* production is therefore oriented towards human as well as animal (corn stalks and leaves—*zacate*) on-farm consumption. Monetary production costs are financed through off-farm activities, including remittances from migration to the United States. *A medias* contract (one half) among *comuneros* is the share contract used in the village. Sharecropping in or out is most often combined with direct cultivation.

b) The region located in the Sierra Madre Oriental, between the Cofre de Perote and the Pico de Orizaba volcanos (Veracruz and Puebla states), has been for decades a major location of traditional color-varieties potato production. As potatoes covered 70 percent of the land area cultivated in 1990, the research focused on this specific crop. Even in these 'traditional' conditions, the production requires an intensive use of inputs: potato seeds (2 tons/ha), labor (particularly for planting and harvesting), and the systematic use of fertilizers and agrochemicals (Table 1).

The financial constraint is sharpened by very strong credit constraints. Furthermore the producers face potato market instability, with intra-annual as well as inter-annual price fluctuations. The production intensity does constitute a constraint, but less intense than one might think, because (i) the basic skills required by this traditional production belong to the realm of common knowledge; this 'rustic' production does not require optimal techniques, and the quality requirements of the market are lower than those regarding improved white varieties; (ii) monetary costs up to the harvest can be reduced approximately by half by using part of the previous harvest as seeds, by using family labor and by owning the animals (due to the slopes, the producers use ox teams rather than tractors); (iii) the cultivated acreage can be adjusted to the available resources (a quarter or half-hectare plot is common)—in other words, all costs can be considered as variable. Land endowments do not reveal a strongly skewed distribution: average landholding is 7.6 ha, with a mode between 4 and 5 ha and a maximum of 65 ha. These land endowments do not seem negligible for a crop such as potato, but they can become a constraint if the farmer wants to practice fallow or crop rotations in order to avoid or deal with nematode infestation. Of the acreage owned by the sampled farmers, 48 percent is under the *ejido* status and 52 percent individually appropriated under the communal status or privately owned; the land status however has no impact on tenancy practices. Tenancy contracting rely mainly on share arrangements, especially *a medias* contracts under a wide diversity of contractual terms.

c) The *ejido* La Soledad (Tlaxcala State) was founded in 1938 when a group of former hacienda laborers was granted wooded highland. The *ejidatarios* reaped the benefits of wood selling in order to acquire land, which they distributed equally among them not as ejido land, but with a private property status. Nowadays, the usual individual arable land acreage is 7 ha with a minimum of 2 ha and a maximum of 100 ha; thus, from an initial equal land endowment, a differentiation process has led to an intra-community disparity. This differentiation in land ownership parallels a differentiation in equipment, the larger landowners[7] also being those better endowed

Table 1. Variable Production Costs and Net Expected Gains per Hectare Under Direct Cultivation (1994 Pesos) (Exchange Rate: 0.33 US$ for one peso)

		Costs per Hectare						Net Result per Hectare		
Site	Productions	Total Cost	Inputs		Bullocks/ Tractor		Manual Labor		Good Yield/Price	'Expected' Yield/Price	Low Yield/Price
Miguel Hidalgo	soybean-safflower	1,500	360	(24%)	1,020	(68%)	120	(8%)	1,240	360	- 250
Felipe Angeles	soybean-corn	2,170	495	(23%)	1,515	(70%)	160	(7%)		1,330	
La Soledad	corn	1,340	95	(7%)	620	(46%)	625	(47%)		625	
La Soledad	barley	1,690	860	(51%)	670	(40%)	160	(9%)		1,065	
La Soledad	pea	3,460	225	(7%)	560	(16%)	2,675	(77%)	3,630		- 1,100
S. L. Quiavini	*milpa*	1,585	30	(2%)	900	(57%)	655	(41%)	- 320		- 480
Sierra Madre	potato ('colored' varieties)	4,180	1,975	(47%)	980	(23%)	1,225	(29%)	4,700	1,700	- 500
La Soledad	potato (white varieties)	9,340	5,985	(64%)	2,125	(23%)	1,230	(13%)	15,860		5,360

Basis: monetary evaluation for all factors; the figures do not include implicit land rent and interest rates. The evaluation of the net result per hectare is based on a 'normal' situation as perceived by the actors: 'expected' yields correspond to the result based on what people consider as the usual yield in the local situation, cross-checked with sample production data; when yield or price variations are an issue in tenancy practices, the figures in the table correspond to good and poor prices or yields (see Colin 2003 for details).

in motorized equipment, some even owning combine harvesters. Agricultural production is based on rainfed cultivation, but production conditions are considered to be good. Techniques combine manual labor, animal labor and motorized labor (for plowing and barley harvesting). The main crops are barley (produced for the regional brewery industry), corn (mainly used for on-farm consumption) and potato (as a cash crop). The latter was introduced in the village in the nineties by tenants coming from other regions, through fixed-rent and share contracts. These tenants form a heterogeneous group, from very large potato growers owning hundreds of hectares in other regions ('*rancheros*'), to small potato brokers and engineers employed in the agro-industry ('small entrepreneurs'). Unlike the Sierra case, potato is not a traditional production in this area, and *Alpha* and *Yema* varieties introduced in the village require better control and a more intensive production system, with better quality control—and, in return, higher income expectations (Table 1). The arrival of these 'outsider-tenants' paralleled with a change in the farming system created new conditions for contractual practices, in a context of increasing heterogeneity in the contractual arena.

d) Graciano Sánchez is located in Tamaulipas, within the large irrigation scheme (*distrito de riego*) of Las Animas. It is a pioneer village set up in the seventies, following the government expropriation of local private landowners ('*rancheros*') to build the irrigation infrastructure and allocate land to *ejidos*. However, the *ranchos* kept large tracts of agricultural land within the area. The local situation is therefore marked by the coexistence of *ejidos* and *ranchos*. According to the agrarian policy of that time, the *ejidos* were created as collective entities and benefited from strong public support: access to the irrigation infrastructure, medium-term equipment credit and seasonal input credit and extension service. The farming system, based on the production of soybean in the spring-summer cycle, and corn or safflower (depending on the soil characteristics) in fall-winter, was of a Green-Revolution type: use of improved seeds, chemical fertilization, agrochemical treatments, and irrigation. All the work, with the main exception of irrigation tasks, was carried out with tractors. This organization broke down within a few years after a succession of negative results. Facing a structural indebtedness of the *ejidos*, the banks decided to stop funding them and seized the *ejidos*' tractors. With the loss of credit and equipment, the 'organizational cement' of the collective *ejido* disappeared; the *ejidatarios* then considered that they were free to partition their land. The disappearance of the collective organization and the (informal) individualization of land opened the way to a differentiation of productive and tenancy practices, in a context of the *ejidos'* lack of equipment and a degradation of agricultural production profitability. The Graciano Sánchez situation was explored through the study of two *ejidos*, strongly differentiated in terms of soil quality: Felipe Angeles (fertile fluvisol soils) and Miguel Hidalgo (poor vertisol soils). Otherwise, the *ejidos* were quite similar in terms of land endowment (10 ha per *ejidatario*), access to irrigation (all plots irrigated), and the *ejidatarios*' previous activities (mostly farm workers). Following the land individualization, a differentiation has occurred within the *ejidos* between on the one hand, some *ejidatarios* who lease out all their land and work as wage laborers or tractor drivers in the *ranchos*, or have a micro business, and on the other hand, *ejidatarios* who have sufficient skills and have been able to organize themselves into small groups to buy tractors (in Felipe Angeles), or to launch cattle breeding (in Miguel Hidalgo). These *ejidatarios* therefore directly use the land they own (the pastured land, in Miguel Hidalgo) and even lease in land from other *ejidatarios*. At the same time, the *rancheros* entered with a leading role in the land lease market as the major source of demand. In a context of diminishing profitability of cereals and oil-seeds, the *rancheros*' weight in this market comes from their capacity, compared to the *ejidatarios*, to adopt the production of other crops requiring a strong financing capacity as well as technical and marketing skills, especially onion for export to the United States.

Tenancy configurations

By tenancy configuration, I refer to a descriptive concept that renders explicit (in a static or dynamic perspective) the combination between: (i) the actors' resource endowments (land, labor, equipment, financing capacity, technical and managerial know-how, etc.), and the heterogeneity in these endowments in the local 'contractual arena'; (ii) the local diversity in the cropping pattern and the techno-economic characteristics of each crop; (iii) the characteristics of the market environment for inputs and outputs; (iv) the characterization of the relationships between the actors, sketched as a labor relationship, the landowner being the employer; a 'land income relationship', between a 'passive' landowner and a tenant who handles all the production process; or a partnership, both actors contributing to the production process. The argument is that the relative importance of fixed lease versus share lease as well as the functions and terms of share contracts might differ greatly in accordance with the tenancy configuration.

In the Mexican context, the standard tenancy configuration as depicted in the literature—large landowners leasing out to landless tenants as an alternative to contracting wage labor—corresponds quite well to the situation during the hacienda era (Colin 2003). However, several factors have since then converged to make the land tenancy contracts far more complex. First and paramount is the agrarian reform, which produced a large redistribution of land endowment and introduced more heterogeneity in the group of economic agents bearing rights to the land. Second, one has to consider the changes in the farming systems, at least in some areas, with the development of irrigation schemes and the introduction of new inputs such as mechanization, hybrid seeds, fertilizers and agrochemicals. These changes increased heterogeneity in the farming systems, with consequences for land practices. (i) The techno-economic characteristics of crops may tend to restrict the production of some crops (under direct cultivation or leasing in) to well-endowed farmers (creating therefore a type of 'exclusion pressure'), in terms of technical and marketing know-how, organizational ability, equipment and financial capacity through self-financing or access to credit. Other cropping systems remain grounded in the land and labor factors and are therefore easier to carry out through direct cultivation, even for poorly endowed farmers. (ii) When agricultural production ceases to be based only on land and

Table 2. Average Acreage (ha) Owned and Tenancy Practices

Sites	Leasing in	Leasing out
San Lucas Quiavini	2.3	5.0
La Soledad	17.5*	5.8
Sierra Madre	7.4	5.7
Graciano Sánchez	10.0*	10.0

* Excluding rancheros.

labor, agrarian contracts may cease to be organized around the bi-dimensional land/labor relationship: the techno-economical change in the farming systems produces heterogeneity in the potential rationales for contracting. As a consequence of the interplay of these factors, one has to shift from simple land/labor tenancy models to multi-dimensional models of agrarian contracts, in order to deal with a broad range of tenancy configurations.

In none of the sites did we find the standard tenancy configuration. First, with the exception of a few cases, producers who lease in also own land. Indeed, leasing in as well as leasing out is most often congruent with owner cultivation (except in Graciano Sánchez, where numerous *ejidatarios* lease out all their land). Second, there may be no difference at all in land endowments between those leasing in and those leasing out (as in Graciano Sánchez regarding leases between *ejidatarios*), or the differences are limited (San Lucas, Sierra Madre oriental) (Table 2). Third, when there is a difference, those leasing in are the ones who often are better endowed in land. Regarding manual labor, we recorded the presence in every site of widows or elderly people who did not benefit from family labor, and therefore leased out due to a shortage of labor—but these are by no means large landowners. Another type of structural lessors found in every site, but numerous only in Graciano Sánchez, corresponds to landowners engaged dominantly in off-farm activities.

The key factors differentiating the contractual arenas in the contexts studied, in terms of actors' endowments, lie therefore in other dimensions than just land and labor endowments. Three elements appear to be largely discriminating. (i) The availability of equipment: those who lease in own tractors (even combine harvesters) in La Soledad and Graciano Sánchez, or ox teams, in San Lucas; those who lease out most often do not. There are two main types of

Table 3. Importance of Land Lease and Types of Contracts (Percent Acreage)

			Contracts Regarding the Main Productions				
	% Land Lease		Fixed Rent	'Procampo deal'	Half Share	1/3 or1/4	% Net Result
San Lucas Quiavini (*milpa*)	20%	*Milpa*	-	-	100%	-	-
La Soledad	24%	Barley	86%	-	10%	4%	-
		corn	21%	-	44%	35%	-
		potato	49.5%	-	23%	27.5%	-
Sierra Madre (potato)	40%	Potato	10%	-	65%	25%	-
Miguel Hidalgo							
agricultural land	81%	vegetable cropping	100%	-	-	-	-
		soybean-safflower	-	-	-	12%	88%
pasture	26%	pasture	100%	-	-	-	-
Felipe Angeles	47%	vegetable cropping	100%	-	-	-	-
		soybean-corn	55.5%	5.5%	-	33.5%	5.5%

'Procampo deal': following the introduction of the Procampo program in Graciano Sánchez, in 1993-94, a new arrangement developed for cereal and oil-seed production (crops which gave access to the subsidy), where the tenant had access to the land but left the subsidy to the landholder.

exceptions however: in La Soledad, when outsider-tenants engage in *a medias* (half-and-half) arrangements with (often the wealthiest) *ejidatarios* who are then in charge of all manual labor and mechanized tasks; and in the Sierra case, where the availability of equipment does not discriminate between actors leasing in and leasing out, because getting access to equipment is not a major stake in the contractual relationship (Table 1). (ii) Financing capacities: landowners leasing out find themselves under a financing rather than a labor constraint, which prevents them from paying mechanized services when they do not own the equipment, in the farming systems in which mechanized equipment play a crucial role (Graciano Sánchez, La Soledad, San Lucas), or to buy inputs (potato production in the Sierra Madre). An exception corresponds to the case of wealthy *ejidatarios* from La Soledad who lease out under share contracts in order to get access to potato seeds, to tenants' technical expertise and to an insertion in marketing networks (cf. infra). It is therefore not a surprise if the tenants are often in a better financial position than their landlords—it is indeed a condition for matching the landlords's needs. But tenants can find themselves under financing constraints as well, as the analysis of contractual choices will show. (iii) Technical, marketing and organizational skills: the incidence on tenancy practices of asymmetric distribution of these skill endowments logically arises in the case where such skills play a determining role: in Graciano Sánchez among *ejidatarios* ('technicalized' cereal and oleaginous production, intensive cattle breeding), and between *ejidatarios* and *rancheros* (onion); in La Soledad among *ejidatarios* (barley production), and between *ejidatarios* and *rancheros* (potato).

What appears is the heterogeneity among landowners and much more among tenants, and the many different types of couples of actors in the contractual arena. This creates three specific broad tenancy configurations. (i) In the 'rentier/entrepreneur' configuration, technical and marketing skills, equipment and financing capacity play a central role in the production process; the 'exclusion pressure' regarding direct cultivation is therefore high. Because of a differentiated distribution in production factors other than land, and of credit market imperfection, well-endowed actors lease in from constrained landowners, in a type of reverse tenancy situation. 'Reverse tenancy' usually designates a situation where large landowners lease in from small landowners. Here, such a situation is not excluded, but the focus is rather on differentiation regarding other factors than land. Graciano Sánchez offers a good illustration of such a tenancy configuration, when *rancheros* or groups of *ejidatarios* lease in land from 'passive' *ejidatarios*. (ii) In the 'business partnership' configurations, both the tenant and the landowner are producers who face constraints and pool complementary resources. These configurations are rooted in complementary factor endowments, and in production processes in which factors other than (undifferentiated) land and (unskilled) labor play a central role. In the 'co-management business partnership configuration', production is organized in a close interaction between the two partners working in a day-to-day interaction; this is quite well illustrated by the *a medias* contract for potato production in the Sierra Madre Oriental. In the 'delegation business partnership configuration,' some tasks are delegated from one actor to the other without a day-to-day interaction. This configuration can be illustrated with the *a medias* contract for potato production between outsiders-tenants and *ejidatarios*-landowners in La Soledad. (iii) The 'subsistence' configuration, with San Lucas as a typical case, is characterized by a low profitability of agricultural production and a self-provisioning strategy, which translate into production for on-farm consumption and no structural market-oriented surplus production. There is therefore no incentive for increasing the acreage cultivated beyond self-sufficiency, especially through land leasing. As the production process is mainly based on ox team labor, the tenancy relationship is grounded in the land/ox team adjustment.

In the light of such an heterogeneity in tenancy configurations, one expects that there would be multiple rationales for sharecropping. Taking into account the diversity in the terms of share contracts leads to the same view.

Sharecropping as a Polymorphic Institutional Arrangement

Disaggregated data show the variable importance of tenancy in the same location, for different crops (Table 3).[8] With the exception of San Lucas, different contractual arrangements are used in the same site.

Beyond generic denominations (*a medias*, *al tercio*—one third), sharecropping arrangements show a high polymorphism (sometimes in the same place and for the same crop) not only in the way the product is shared, but also in the way the tenant and the landholder contribute to the production (Table 4).

Two broad types of share contracts can be distinguished. In some of these contracts, the tenant handles all the production process and bears all the costs up to the harvest; the only contribution of the landowner apart from land is his contribution to the cost of harvesting and transportation, in the same proportion as his share of the product: *al tercio* (one third) contract in Graciano Sánchez, in La Soledad (corn), in the Sierra Madre oriental (potato), *al cuarto* (one fourth) in the Sierra Madre (potato). More exceptionally, the sharing can intervene after the deduction of all production costs, such as with the 'Percentage of the net result' contract in Graciano Sánchez. In all these cases, the share contract bears the nature of a 'land income arrangement', where the landowner's share of the product corresponds to the counterpart of the tenant's access to land. In other sharecropping arrangements, the landowner contributes in some way to the production process, before the harvest; the arrangement leans then more towards a partnership. These are mostly *a medias* (one half) contracts: in San Lucas (*milpa* production), in La Soledad (corn, pea, potato), in the Sierra Madre (potato); the *al tercio* contract for potato production in La Soledad corresponds also to this type of sharecropping arrangement, with the landowner participating in the production. The diversity in sharecropping contract

Table 4. Share Contracts Terms

	Contract	Contribution: Landowner	Contribution: Tenant	Cost-Sharing	Product Share
Graciano Sánchez (corn, safflower)	'% net result'[1]	land	in charge of all production process; pre-finances all costs	all production costs	1/4 landlord 3/4 tenant
Graciano Sánchez (soy, corn, safflower)	'% harvest'[2]	land	in charge of all production process; bears all costs up to the harvest	harvesting and transportation (shared 1/4 - 3/4)	1/4 landlord 3/4 tenant
Sierra Madre (potato)	*al cuarto*	*land*	in charge of all production process; bears all costs up to the harvest	harvesting and transportation (shared 1/4 - 3/4)	1/4 landlord 3/4 tenant
La Soledad (corn)	*al tercio*	land	in charge of all production process; bears all costs up to the harvest	harvesting and transportation (shared 1/3 - 2/3)	1/3 landlord 2/3 tenant
Sierra Madre (potato)	*al tercio*	land	in charge of all production process; bears all costs up to the harvest	harvesting and transportation (shared 1/3 - 2/3)	1/3 landlord 2/3 tenant
La Soledad (potato)	*al tercio*	land + labor + all mechanized work	potato seeds + fertilizer + agrochemicals	harvesting and transportation (shared 1/3 - 2/3)	1/3 landlord 2/3 tenant
San Lucas Quiavini (*milpa*)	*a medias*	land + seeds	all manual and animal labor up to the harvest	harvesting and transportation; if used, tractor and fertilizer costs	1/2
La Soledad (pea, corn, barley)	*a medias*	land + plowing	seeds, fertilizer, agrochemicals, labor up to the harvest	harvesting and transportation	1/2
La Soledad (potato, usual case[3])	*a medias*	land + labor + mechanized work	seeds	harvesting and transportation; fertilizer and agrochemical costs	1/2
Sierra Madre (potato, usual case[3])	*a medias*	land + plowing[3] + manual and animal labor (or fertilizer)	seeds + fertilizer (or manual and animal labor)	harvesting and transportation; agrochemical costs	1/2

[1] '*Porcentaje de la utilidad*'
[2] '*Porcentaje de la cosecha*'
[3] The precise terms of *a medias* contracts for potato production are much more diverse (20 different configurations recorded in the Sierra).

terms shows the need to ground the analysis of contractual practices on more precise categories than just the generic concept of sharecropping, by distinguishing not only the way the product is shared, but also the ways in which the two actors contribute to the arrangement. It also shows the need to go beyond the generic local terminology, all the more since a single denomination can cover different contractual terms.

Regarding the way costs and products are shared in the sharecropping arrangements, the general rule distinguishes cases where the landowner does not contribute to the production up to the harvest and receives one third or one fourth of the product, and the cases where he participates in the production and receives one half of the product. This general principle needs however to be adjusted in order to integrate land scarcity (implicit valorization of land), the importance and structure of production costs, as well as the weight of harvest and transportation costs in the total cost. The very explicit logic underlying *a medias* arrangements is a search for equilibrium in the contribution of the partners ("*Hay que salir parejos*", "we have to make a fair deal"). Table 5 shows that the contribution of the landowner to production costs up to the harvest (excluding land valorization) is quite variable, from 0 (*al tercio* in Graciano Sánchez) to 40 percent (*a medias* contract for potato production in the Sierra), but that a global adjustment is revealed between the actors' cost and product shares once land valorization and the landowner's contribution to harvest costs are taken into consideration. In the one third and one fourth contracts, landowner contribution can be estimated between 20 and 30 percent of the cost; in *a medias* contracts, this contribution varies around 45 to 60 percent.

Sharecropping as a Polyfunctional Institutional Arrangement

From the point of view of actors leasing out, two main cases can be distinguished. Some landowners are not in a logic of agricultural production, they develop off-farm activities and lease out all their land, favoring cash leases; this type of landowners has been encountered as a non-marginal group only in Graciano Sánchez. In the dominant case, landowners are in a productive logic; they use their land under owner cultivation as far as their available resources allow them. They lease out the remaining area, usually looking for a sharecropping arrangement. The type of sharecropping arrangement sought (as long as local diversity exists in the types of sharecropping contracts) is then a function of remaining resources that could contribute to the production process: from *a medias* to *al tercio/cuarto* contracts, i.e., from an involvement in the production and a better share of the product, to a participation limited to the harvest, but with a lesser share of the product. They favor fixed leases only if they have urgent cash needs, or if they plan to invest that cash inflow in production costs for another plot under direct cultivation.

From the tenants' point of view, three main perspectives can be distinguished. (i) Any contract other than a fixed lease is ruled out in the case of intensive vegetable cropping by *rancheros* (onion in Graciano Sánchez, potato in La Soledad). Three rationales intervene here: (a) with a fixed lease, the tenant gets the full return on his expertise and investments; (b) a share arrangement would require the capacity of the landowner to contribute in some extent to the production process, and there is little that smallholder lessors offer. (ii) In the case of *ejidatarios*, groups of *ejidatarios* or small entrepreneurs running "technicalized" farming systems (cereal and oleaginous in Graciano Sánchez, barley in La Soledad), or medium-intensity colored potato production in the Sierra, the preference also goes indisputably to fixed lease (except under some conditions which will be further developed), but share contracts may be looked for due to cash or other constraints. The type of sharecropping arrangement then sought is, here again, a function of the available resources, but with the expected inversion when compared to ('active') landowners' preferences: from *al tercio* or *al cuarto* contracts if they can carry out the production without a contribution by the landowner, to *a medias* in the opposite case. (iii) In the case of tenants in marginal ecological conditions such as San Lucas, fixed leases are excluded.

Table 5. Landowner's Contribution to Costs

	Production Costs Up to the Harvest	Production Cost Including Harvest	Total Cost Including Land Valorization	Product Share
Sierra Madre, potato	0%	10%	19%	1/4 or 1/3
Felipe Angeles soybean/corn	0%	8%	22%	1/4 or 1/3
La Soledad, potato	18%	22%	30%	1/4 or 1/3
La Soledad, potato	28%	40%	46%	1/2
Sierra Madre, potato	40%	43%	48%	1/2
San Lucas Quiavini, *milpa*	5%	30%	51%	1/2
La Soledad, barley	24%	29%	53%	1/2
La Soledad, pea	28%	47%	56%	1/2
La Soledad, corn	32%	39%	60%	1/2

The case of the 'Percentage of the net result' contract in Graciano Sánchez was excluded here, as this type of contract remains marginal. In San Lucas Quiavini, the implicit land rent is based on the only fixed lease we knew of at the time of the fieldwork.

Through the different case studies, sharecropping thus appears as a device aiming at offsetting financing constraints (i.e., access to credit), or managing risk, or offsetting (other than credit) market imperfections. The function of sharecropping as an incentive device also appears, but not as crucially as predicted by most theoretical models.

a) Offsetting financing constraints[9]. Sharecropping arrangements may offset financial constraints first, because the rent is paid *ex post* (after the harvest), i.e., on credit. Sharecropping is then an alternative to a fixed lease, with the typical case of *al tercio* contract in Graciano Sánchez for soybean-corn production. *Al tercio* and *al cuarto* contracts for potato production in the Sierra Madre come under a similar rationale when they result from a tenant cash constraint, which excludes a fixed rent[10]. In all these cases, the tenants would have preferred to lease under a fixed rent, but financial constraints impeded paying *ex ante* (i.e., before the sowing) a cash rent. As a matter of fact, these tenants do actually rent under fixed leases when they can, as shown by an examination of past and present individual contractual practices. Second, when both actors contribute to the production process, sharecropping permits factor complementarity and therefore saves on cash expenses—each actor brings his own factors (i.e., not bought on the market) in exchange for his partner's factors and therefore does not have to buy them. The typical case here is the *a medias* contract in the Sierra Madre, as a mean to flexibly manage factors according to their availability. In the most common arrangement, the landowner provides the land, the tenant provides the seeds (a part of the production from the previous agricultural campaign, kept for this purpose) and the financial resources of both actors are pooled to buy fertilizers and agro-chemicals. With such an arrangement, the tenant avoids the payment of the land rent and the landowner economizes the purchase of the seeds.

   The financial constraint can be rooted in the lack of a credit system (other than usury credit)—a negative relationship between access to credit and the acreage under sharecropping has indeed been perceived in all sites. The financial constraint can also be rooted in the actor's rejection of an indebtedness that could lead to the loss of the assets used as collateral (an attitude also found in the different sites). It can lastly come from the impossibility of financing the production with a credit, when this production is highly uncertain and just not profitable in a market perspective (San Lucas).

b) Managing uncertainty. Economic theory envisioning sharecropping as a pure risk management device (an approach that is no longer favored in the literature) focused on the risk sharing effect of a rent proportional to the production. One does find elements among these case studies to sustain this interpretation. The *a medias* arrangement in San Lucas provides the best illustration where this function centrally determines tenancy practices, in a marginal agro-ecological environment. In the case of pea production in La Soledad (lottery-type of cultivation, due to highly volatile market prices), tenants look for *a medias* contracts not only to avoid risking a cash lease (what an *al tercio* contract would allow), but also to reduce the costs engaged in production (economizing the land preparation). A striking risk-coverage device is the "Percentage of the net result" contract in the *ejido* Miguel Hidalgo, in Graciano Sánchez: there, because of soil conditions, cereal and oleaginous production in the rainy season (but not vegetable cropping during the dry season) is quite risky and of low economic interest (Table 1). Tenants other than *rancheros* producing vegetable crops accept to lease in a plot only if they protect themselves against such a risk, not only with a proportional rent, but also by sharing the net result, after the deduction of all production costs.

   The way risk intervenes in contractual practices also depends on the type of investment considered. Often, the actors show a dual attitude towards risk, with an aversion regarding the risk of losing cash investments (out-of-the-pocket expenses) paralleled with a risk neutral/taking attitude regarding investing owned factors in the production process. In the Sierra Madre Oriental, some potato producers—especially among the smallest—tried to reduce the risk on cash expenses by finding tenants who would provide all or most of the inputs that have to be bought on the market, themselves providing owned factors. In San Lucas, cash cost minimization is a "structural" behavioral feature. Financing constraints and risk aversion regarding cash investments have the same effects on tenancy practices, through a cash-expenses minimization strategy. However, access to credit would eliminate the financing constraint but would not necessarily change actors' attitude toward cash investment—this attitude being much more linked to general wealth considerations. The fact that the risk of losing a cash expense is much more taken into account than the risk of losing the investment of owned factors (such as domestic labor, or work realized with one's own equipment, or seeds coming from a previous harvest) concretely signifies that opportunity costs and out-of-the-pocket costs are implicitly managed on different decision-making registers. This perception of monetary costs, more or less noticeable depending on the situations, has therefore a direct implication on contractual choices. These choices are not just determined by the available resources, they are also determined by the form of these resources (cash funds versus owned factors), the strategy of monetary cost minimization guiding contractual choices in a number of cases.

c) Offsetting 'market imperfections'. Beyond resolving financing constraints induced by the lack of credit, a sharecropping arrangement can, in the perspective of both the lessor and the lessee, help overcome constraints regarding access to factors—market imperfections, in economists' terms. (i) Access to ox team services: in San Lucas, someone lacking oxen runs the high risk of not finding at the appropriate time someone to lease the ox team services. The solution is to lease out land to a sharecropper who owns an ox team. (ii) Market for—or public provision of—extension services: sharecropping can be a learning device, by meeting the need for technical capacity building, when there is no extension support. This is illustrated with La Soledad *ejidatarios* willing to adopt potato cropping: leasing out land to a potato grower under a share arrangement is a way to gain access to the tenant's expertise. (iii) Seed market: the producers from La Soledad who wish to adopt potato cultivation face the lack of a local market for seeds; the potato producers from the Sierra also face this constraint when they want to introduce new varieties. Leasing out to a sharecropper who brings the seeds solves the problem. (iv) Forage market: in San Lucas, some ox team owners explain that they sharecrop in less for corn production than for *zacate* production, used as forage, due to the risk of not finding *zacate* on the market at a certain time of the year. (v) Product market: one of

the advantages found by the *ejidatarios* of La Soledad in leasing out land under a sharecropping arrangement is, as neophyte potato growers, to benefit from the tenants' insertion in the marketing network. (vi) Insurance market: the fact that sharecropping contracts have a risk management function for some actors is evidently related to the absence of an insurance market.

d) The incentive/monitoring issue. The incentive/monitoring issue regarding the tenant work effort is the key component of most economic theories of sharecropping. This factor indeed has an impact on contractual practices, but not as overwhelming an impact as would be expected. In San Lucas, the monitoring issue was particularly raised by landowners who were women, elderly people or were mainly involved in off-farm activities, i.e., who were in the worst condition to effectively monitor wage labor. In La Soledad, when an "outsider-tenant"—i.e., a non-resident tenant—leases in land to produce potato, he can do so under a fixed-lease arrangement and install an 'agent' (an employee) in the village, to take care of day-to-day crop management, to contract and monitor wage labor and to contract mechanized services if he does not bring in his own equipment. Indeed, that is what the large entrepreneurs do. Regarding small entrepreneur-tenants, such a solution would require financial and human resources they lack; leasing in with a share arrangement, with the local-resident landowner taking care of all these tasks, is thus their only solution. One can interpret it in an agency perspective: in order to give incentives to the agent so that he will manage the production as best as he can, he has to be turned into a residual claimant through a share contract; but at the same time, this solution saves on non-agency types of transaction costs (e.g., for a non-resident producer, contracting mechanized services) and on monetary costs (no cash rent, production costs sharing). More hypothetically—this would be the strongest impact of the risk of opportunistic behavior on contractual practices in the contexts we studied—the risk of moral hazard might rule out the emergence of a contractual arrangement in which a fixed rent could be paid *ex post* and would explain the frequent use of sharecropping with one third or one fourth shares as an alternative to fixed rents, for cash-constrained tenants. Three hypotheses can explain the non-emergence of such an arrangement: (i) the risk induced by the *ex post* fixed payment: the tenant might not be able to pay the rent after a poor campaign (Shetty 1988), or could try to delay or reduce the payment; (ii) landholders' preference/need for immediate cash; (iii) the difficulty to conceive and make acceptable a radically new institutional arrangement. Empirical data do not favor any of these hypotheses. What matters here is the fact that in the actors' perspective, a fixed-rent arrangement with an *ex post* payment just does not belong to their 'frame of reference', to the range of possible coordination devices that they envision.

To sum up, designing the contract in such a way to reduce the risk of moral hazard is not the major determinant of contractual practices in the cases studied. This issue intervenes rather through the systematic participation (or at least control) of both actors in harvesting and marketing in all share contracts, and also regarding the choice of the partner, through an *ex ante* screening process (you do not to enter in a contractual relationship with someone you do not trust). Consequently, monitoring and enforcement were not seen by the farmers as a problematic issue and very few conflicts were reported[11].

Conclusion

The findings presented in this paper illustrate the diversity of tenancy practices within the same country, within communities and sometimes for the same crop: a diversity regarding the way the production and the production costs are shared, regarding the types of production concerned, and regarding the types of actors involved. They allow us to discuss the grand economic theories of share contracts from a comprehensive empirical perspective.

The 'standard' agency approach of sharecropping conceptualizes this institutional arrangement as an implicit labor relationship whose rationale comes from a trade-off between the tenant's incentive and his risk aversion. This model clearly does not correspond to the cases where the contract constitutes, in the tenants' perspective, a device aiming to pay the land rent on credit, without any participation by the landowners to the production process (*al tercio* and *al cuarto* contracts). The choice of this type of contract does not come then from the tenants' risk aversion, but from the financing constraint they face regarding the *ex ante* payment of a fixed rent. Moreover, the postulate of a landowner-principal able to define the contractual arrangement under the sole constraint of ensuring the tenant-agent an income equivalent to the one he would gain on the labor market does not correspond to the actors' relationships in these situations where the tenant is in a better economic situation than the landowner or even in reverse tenancy situations (rentier/entrepreneur configuration). In the case of partnership configurations, the key role attributed to the tenant's risk aversion to explain contractual choices in the standard principal-agent model is also refuted: the *a medias* contracts fundamentally find their rationale in financing constraints and market imperfections—or (to state it in another way to avoid to suggest that the sole "natural" coordination device is the market) in constraints regarding access to land, labor, inputs, equipments, knowledge or experience. Moreover, the actors perceive these resource-pooling arrangements as grounded in the convergence of interdependent interests, as a fair and equitable relationship with a sharing in half of the product and a search for an equilibrium in the partners' contributions.

Transaction cost models of sharecropping tend not to emphasize risk and conceptualize contractual choice as guided by a trade-off between different transaction costs induced by actors' opportunism. These Mexican cases give support to the idea of a non-systematic structuring role of risk in contractual choices. However, the previous analysis showed the limited weight of the monitoring/enforcement issue in contractual choices. Transaction costs do intervene in some cases, but they are not necessarily induced by opportunistic behavior (such as access to an ox team for rent in San Lucas, to seeds for *Alpha* potato in La Soledad or to forage in San Lucas and Miguel Hidalgo).

Sharecropping appears rather as a 'polyfunctional' institutional arrangement, with a large palette of possible *raison d'être*, depending on the actors' goals: offsetting financing constraints (i.e., imperfect credit market and wealth constraints) by reducing cash costs (rent on credit, pooling of owned factors in exchange of inputs that would otherwise have to be purchased) and by pooling available cash (industrial input cost-sharing); but also offsetting seed, ox team rental or product markets imperfections; offsetting search and monitoring costs regarding contracting wage labor or leasing equipments, when one of the actors does not reside locally or cannot carry out these tasks; spreading production or market risks; acting as a learning device; or, at last, acting as an incentive device.

Depending on the tenancy configuration, the type of contract and the rationale for sharecropping can differ widely. From a theoretical point of view any monist explanation of contractual practices is rejected; the search for the model of sharecropping is therefore a Grail quest lost in advance. We only need to survey the literature to realize the non-trivial character of this simple result. Unless one locates contractual practices within a broad conception of the tenancy configuration, the explanation of the contractual arrangements will always rely on implicit contextual specificity, which in itself is not problematic. What is much more questionable is for these theories to lead to universalist explanations and/or to intend to orient public policy decision-making.

Notes

[1]Due to the lack of space, the paper will not deal with the 'convention' dimension of the contractual arrangements, which challenges their conceptualization as pure contractual arrangements, and enlightens their cognitive role (Colin 2002). As the investigation concentrated on contractual choice, it did not deal with two interesting issues: the outcome of contractual practices in terms of socio-economic differentiation and stratification, and gender issues. Whereas there is an increasing literature on women's land rights (Agarwal 1994; Deere and León 2003), contractual analysis has not yet integrated gender issues. Taking into account these dimensions would question the unitary approach of the household underlying the economic analysis of agrarian contract.

[2]Even if one finds abundant literature mentioning sharecropping in the haciendas, from the 18th to the beginning of the 20th centuries, and numerous mentions to contractual practices in the context of *ejidos* or *ranchos* (see references in Colin 2003), very few studies focused on sharecropping in contemporary Mexico (Finkler 1978, McFarland Correa 1991).

[3]With a sample size of 72 in Graciano Sánchez, 39 in La Soledad, 55 in San Lucas and 239 in the Sierra Madre Oriental. Research was conducted in close collaboration with Emmanuelle Bouquet in La Soledad, and Christophe Blanchot, Enrique Vásquez and Hermilio Navarro in Graciano Sánchez.

[4]For simplicity, the ethnographic present refers to the time of the fieldwork in each site.

[5]Land redistribution through the Agrarian reform was undertaken under the *ejido* institution. The *ejido* is usually composed of individually-managed parcels and a collective area devoted to grazing and wood collection; the *ejido* could also be collective, without any individual parceling. Up to 1992, *ejido* land could not legally be mortgaged, sold, or leased under any tenancy contract (with some exceptions, regarding widows or disabled people). In 1992, a land legislation reform authorized sales (with restrictions) and tenancy contracts (without restrictions) on *ejido* land.

[6]The communal status (*tierras comunales*, belonging to *comunidades agrarias*) corresponds to indigenous communities which were able to maintain their land rights during the land privatization policy at the end of the 19th century and whose claims to land were later recognized through the *comunidad agraria* by the Agrarian reform. The communal land is often *de facto* operated as though it were a private property system, including exclusion right and the possibility to sale a plot, as in San Lucas (the land market being however restricted to the community's members).

[7]I use the term of landowner for simplicity, even if the *ejidatario*'s right on land does not correspond to a full private property right.

[8]Although dealing with the crucial question of the relationships between the legal framework and local land practices is beyond the scope of this paper, one should note that regarding the sites we studied, the 1992 legal reform only led to the legalization of contractual practices which were already flourishing locally (see Colin 2003 for an analysis).

[9]The role of financing constraints on contractual practices has remained marginal in recent economic literature (see Laffont and Matoussi 1995).

[10]Such a rationale is not at work, of course, when tenants look for a fixed rent but accept landowners' proposal of a share contract, e.g., because of the good quality of the plot.

[11]Except in La Soledad regarding 'outsider'-tenants (see Bouquet and Colin 2003 for an analysis).

References

Agarwal, Bina
1994 A field of one's own. Gender and land rights in South Asia. Cambridge: Cambridge University Press.

Bardhan, Pranab, ed.
1989 The Economic Theory of Agrarian Institutions. Oxford: Clarendon Press.

Bouquet, Emmanuelle, and Jean-Philippe Colin
2003 Dynamiques contractuelles, aléa moral et processus d'apprentissage (La Soledad, Tlaxcala). *In* Figures du métayage. Etude comparée de contrats agraires au Mexique. Jean-Philippe Colin, ed. Pp. 195-238. Paris: Editions de l'IRD.

Colin, Jean-Philippe, ed.
2003 Figures du métayage. Etude comparée de contrats agraires au Mexique. Paris: Editions de l'IRD.

Colin, Jean-Philippe
2002 Contrats agraires ou conventions agraires ? Economie rurale 272:57-73.

Dasgupta, Siddhartha, Thomas Knight, and Alan Love
1999 Evolution of Agricultural Land Leasing Models: A Survey of the Literature. Review of Agricultural Economics 21 (1):148-176.

Deere, Carmen, Diana, and Magdalena León
2003 The Gender Asset Gap: Land in Latin America. World Development 31(6):925-47.

de Janvry, Alain, Gustavo Gordillo, Jean-Philippe Platteau, and Elisabeth Sadoulet, eds.
2001 Access to land, Rural Poverty, and Public Action. Oxford: Oxford University Press.

Deininger, Klaus, and Gershon Feder
2001 Land Institutions and Land Markets. *In* Handbook of Agricultural Economics, vol. 1A. B. Bruce Gardner and Gordon Rausser**,** eds. Pp. 288-331. Amsterdam: Elsevier.

Finkler, Kaja
1978 From Sharecroppers to Entrepreneurs: Peasant Household Production Strategies under the Ejido System of Mexico. Economic Development and Cultural Change 27:103-120.

Hayami, Yujiro, and Keijiro Otsuka
1993 The Economics of Contract Choice. An Agrarian Perspective. Oxford: Clarendon Press.

Laffont, Jean-Jacques, and Mohamed Matoussi
1995 Moral Hazard, Financial Constraints and Sharecropping in El Oulja. Review of Economic Studies 62:381-399.

Linderberg, Siegwart
1998 The Cognitive Turn in Institutional Aanalysis: Beyond NIE and NIS? Journal of Institutional and Theoretical Economics 154:716-727.

McFarland Correa, Phyllis
1991 Changing Patterns of Sharecropping Arrangements in the Municipio of Allende, State of Guanajuato, Mexico. PhD dissertation, State University of New York.

North, Douglass
1990 Institutions, Institutional Change and Economic Performance. Cambridge: Cambridge University Press.

Otsuka, Keijiro, Hiroyuki Chuma, and Yujiro Hayami
1992 Land and Labor Contracts in Agrarian Economies: Theories and Facts. Journal of Economic Literature 30:1965-2018.

Shetty, Sudhir
1988 Limited Liability, Wealth Differences and Tenancy Contracts in Agrarian Economies. Journal of Development Economics 29:1-22.

Stiglitz, Joseph
1974 Incentives and Risk Sharing in Sharecropping. Review of Economic Studies 41(2):219-255.

World Bank
2003 Land Policies for Growth and Poverty Reduction. A World Bank Policy Research Report. Oxford: Oxford University Press.