

Chapter 9

Fifty Years of Research on Land Tenure Policies and Land Markets: What Are the Major Lessons?



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Abstract This study makes a broad review of important contributions by economists to the understanding of land and labor contracts in agriculture and the analyses of major land tenure reforms in the twentieth century. Possible disincentive effects associated with share tenancy received much attention in the early theoretical literature and have later been scrutinized empirically with the availability of better data and better methods. With the development of better impact assessment methods and the experimental revolution in economics, land tenure reforms have increasingly also been assessed based on stronger data and better methods. However, using random treatments in such institutional reforms may neither be feasible nor recommendable in many cases. Still, experimental approaches may be used to investigate short-term impacts and help to reveal otherwise unobservable variables, such as risk preferences and trustworthiness, that affect land and labor contracts. With a good understanding of important contextual characteristics and new and better data, land tenure and land policies remain a vibrant and important area of research for applied economists. Rural transformation and adaptation to climate change put new pressures on rural factor markets and land tenure institutions in economies where shocks and pervasive market imperfections remain important challenges.

9.1 Introduction

Professor Keijiro Otsuka was one of the early contributors to the scientific literature that comprehensively assessed and confronted theories on land and labor contracts in rural communities with empirical evidence (Otsuka and Hayami 1988; Otsuka et al. 1992; Hayami and Otsuka 1993). These much-cited contributions to the literature followed a period when many development economists were obsessed with theoretical explanations for the dominance and persistence of share tenancy in many rural societies, much stimulated by the claimed ‘Marshallian inefficiency’ that Alfred

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Marshall (1890) identified as a potential weakness of share tenancy contracts (Cheung 1969; Bardhan 1979, 1989; Bardhan and Srinivasan 1971; Bell 1977; Bell and Zusan 1976, 1989; Eswaran and Kotwal 1985; Stiglitz 1974). The potential persistence of inefficient contracts challenged the belief that institutions and markets evolve toward more efficient equilibria. This ‘wicked problem’¹ of share tenancy, including the puzzle that 50–50 output sharing is a dominant empirical characteristic, attracted many strong brains. Multiple theoretical explanations were proposed and, over time, also tested with varying levels of rigor in heterogeneous contexts. Professor Otsuka and coauthors were, to the best of my knowledge, among the first to relate ‘Marshallian inefficiency’ to policy interventions that, for the same reason, may be coined as ‘policy failures’ as well as ‘market failures’ as they represented interventions that intervened in what was perceived as ‘imperfect’ markets and thereby unintentionally enhanced inefficiency and often with undesirable distributional outcomes (Otsuka et al. 1992; Otsuka 2007; Holden et al. 2013).

Ideology and contested resource, power, and welfare distributions were important drivers of political reforms in the twentieth century and resulted in, to a varying degree, radical reforms that affected the political economy of rural areas. The pre- and post-reform land tenure characteristics had substantial impacts on rural factor markets, power relations, and their economic and social impacts. This political heterogeneity also made it hard to make scientific inquiries to critically examine the causal effects of such reforms. Substantial differences existed in perspectives across social science disciplines between economists, who put much focus on efficiency and the functioning of markets, and some social scientists who, to a larger extent, emphasize distributional and power relations and have been skeptical of market forces. Over time, the research on land tenure reforms has moved toward becoming more evidence-based in keeping with the evolution of theory, impact assessment methods, and the availability of better data. Many nation-states experienced the consequences of large ideology-based experiments and learned the hard way from their own experiences.

In this chap, I try to summarize some of the key changes that have caused scientific research to have had an increasing influence on land tenure policies over the last 50 years. In Sect. 9.2, I will describe some fundamental issues that frame the functioning of agrarian rural economies. In Sect. 9.3, I give an overview of important theoretical developments and contextual variations of land and labor contracts in agrarian economies. Sect 9.4 summarizes some important lessons from the large land tenure–related policy experiments in the twentieth century. Sect 9.5 summarizes important developments in policy impact assessment methods and their applications to land tenure–related reforms, new and better datasets that jointly have enhanced the scope for better policy analyses, and some remaining limitations before I conclude.

¹ We call it a ‘wicked problem’ because of the inherent difficulties in identifying the causal relations between observable endogenous contract characteristics, imperfect market characteristics, and observable and unobservable landlord and tenant characteristics (such as motivations, beliefs, trust, reputation, and economic and social preferences).

9.2 Some Fundamentals

Economists were, for quite some time, obsessed with measuring efficiency and how to move economies toward first-best, perfectly competitive markets. With efficient markets, there would also be more goods to distribute to enhance social welfare. The definition and allocation of private property rights became a cornerstone of the ideal perfect market economy. Interventions could only be defended if they removed market failures in situations where markets were missing or imperfect.

However, the real world, especially the rural world where land is a fundamental resource in food production and a base for livelihood, suffers from some fundamental characteristics that are not conducive to achieving perfect market conditions. This may be described as the fundamental production relations in agriculture (Binswanger and Rosenzweig 1986). Land is immobile and thereby determines the spatial nature of food production and other forms of agricultural production. Most agricultural production is rainfed and depends on seasonal rainfall and temperature patterns, creating the unique seasonal nature of agricultural production. The spatial dispersion also has strong implications for the degree of market integration; and location-specific and partly irreducible transaction costs that influence imported inputs and exported outputs. The dependence on stochastic weather and other risks, covariate shocks, and uncertainties have contributed to imperfect or missing intertemporal markets for insurance and credit. Pervasive imperfections in labor markets associated with moral hazard and potential incentives to shirk, combined with seasonality in demand for labor, explain the dominance of family farms and family labor in agricultural production almost everywhere in the world. Such rural economies are therefore characterized by some forms of pervasive and irreducible transaction costs and information asymmetries. This led Greenwald and Stiglitz (1986) to characterize them as constrained Pareto-inefficient. While the Theory of Second Best warned against believing in simple solutions to deal with apparent market failures, Greenwald and Stiglitz advocated a more intervention-friendly approach to enhance the performance of imperfect market economies. Later the removal of poverty traps received more attention.

While the Green Revolution, in combination with infrastructure investments (roads, irrigation) and related institutional innovations, greatly enhanced the development of factor markets in most rural areas, rural land, labor, credit, and insurance markets remained imperfect. The variation in political histories across nation-states also created a large heterogeneity in farm size distributions, from the very egalitarian distributions after radical reforms in China, Vietnam, and Ethiopia to the extremely skewed distributions in Latin American countries. With large variation in population densities, we also see an enormous variation in average farm sizes from micro-farms in India, Bangladesh, and Rwanda, to extremely large farms in Australia, Argentina, and Canada. I will focus primarily on the more densely populated developing countries. Land tenure issues become more important and often challenging to resolve when land is scarce. In the next sect, I will go through the evolution of important theories that economists have used to explain land and labor contracts in agriculture.

9.3 Developments in Theory and Contextual Variations of Land and Labor Contracts

Alfred Marshall (1890) had a profound impact on how economists developed and refined theories on land and labor contracts. The potential disincentive effects associated with output sharing have been subject to many theoretical and empirical assessments, as summarized in the introduction (Otsuka et al. 1992). A summary of the major sophistications of theories and additional contextual modifications follows.

From certainty to stochastic production risk and implicitly missing insurance markets. Cheung (1969) introduced the idea that sharecropping implied risk sharing among landlords and tenants and became an essential element of later analyses. Input sharing combined with output sharing can balance contract incentives (Braverman and Stiglitz 1986). Low elasticity of substitution between essentially complementary factors of production combined with factor market imperfections and pervasive transaction costs, and tenure insecurity associated with tenure reforms, lead to heterogeneous outcomes in resource use efficiencies across contract partners and contracts (Holden et al. 2010).

From principal-agent models to bargaining models. In many situations, the landlord may be less able to dictate all contract conditions, and bargaining models may be more relevant. Several elements of the contracts may be bargained over, such as input sharing, output sharing, crop choice, and contract duration and renewal conditions (Akerberg and Botticini 2002; Gebrehiwot and Holden 2020).

From risk-neutral to risk-averse landlords and tenants. From the rich landlord-poor tenant to the more common reverse tenancy with poorer landlords, it has become more relevant to assume that both parties are risk-averse in developing-country settings where both landlords and tenants are fairly poor (Ghebru and Holden 2015).

From static (one-period) to dynamic (recursive) models. With the expansion from one-period to recursive dynamic models, issues like land quality and conservation investments and contract renewal conditions depending on trust and reputation can influence contract outcomes and motivate effort and partner selection. Such contracts may address dynamic land quality externalities and moral hazards through threats of eviction and make contract renewal conditional on good performance (Banerjee and Ghatak 2004; Kassie and Holden 2007).

Covariate weather shocks in a reverse tenancy setting can induce distress rentals and unfavorable fixed-rent contracts for poor landlords to obtain urgently needed cash (Gebregziabher and Holden 2011; Ricker-Gilbert et al. 2021; Tione and Holden 2021a). This also highlights the implicit credit associated with payment at harvest rather than at planting time, as fixed rents typically are paid upfront.

Complementary indivisible factors of production, animal traction power, and reverse tenancy. These have been observed in India (Jodha 1985), Eritrea (Tikabo 2003), and Ethiopia (Ghebru and Holden 2015). Imperfect or missing markets for rental tilling services may be due to the strong seasonality in agriculture, strict timing requirements of land cultivation in rainfed agriculture, and moral hazards associated with the management of rented animals.

Overall, contextual heterogeneities require careful adjustment of theoretical models for them to adequately represent and explain local land and labor contracts and land productivity differentials.

9.4 Lessons from Some Real-World Land Tenure-Related Policy Experiments

Radical tenure reforms that built on the analysis of the capitalistic system by Karl Marx and others had a tremendous impact on the land tenure systems in many countries. Anti-market revolutions were major drivers of rural transformations in Eastern Europe, China, Vietnam, Ethiopia, and to varying but lower degrees in other countries. The elimination of private property rights and establishment of state property were fundamental and were combined with the allocation of user rights of varying strength that evolved following many failed attempts to run collective and state farms. In China, establishing the household responsibility system was a game-changer that recreated many of the benefits inherent in family farms.

Other than the radical land reforms above, land-to-the-tiller reforms in many Asian countries, such as Bangladesh, India, Nepal, Pakistan, and the Philippines, aimed to enhance land access for land-poor and landless tenants. De facto evidence indicates that landowners, in many cases, managed to evict tenants, and tenants were often converted to permanent laborers or were provided short-term unregistered contracts only (Otsuka et al. 1992). In Nepal, high-caste landowners also rented land to other inefficient high-caste households rather than more efficient low-caste households (Aryal and Holden 2013). The reform, therefore, failed to improve land access for the land-poor and may also have enhanced the inefficiency associated with short-term sharecropping contracts because tenure insecurity affected tenant selection and the ability to use renewal conditions to enhance tenants' incentives.

Secure private property rights have been seen as a key to efficient land use in market economies. Land titling programs that provided documented land rights have been the approach used in most developed countries. Some early attempts at land titling for the same purpose were done in developing countries, such as Thailand and Kenya (Feder and Onchan 1987; Place and Migot-Adholla 1998). It was believed that land titling would enhance the functioning of credit markets by facilitating the use of land as collateral, like in western countries (de Soto 2001). Several other attempts at classical land titling in Africa did not perform as well as hoped (Benjaminson et al. 2009). The titling upon demand approach, in particular, became too costly for many landholders and favored the wealthy.

Low-cost land registration and certification was a new approach that was first implemented on a large scale in Ethiopia from 1998, first through an orchestrated participatory approach with simple technologies (Deininger et al. 2008). With the improved access to electricity and computer and digital technologies, the low-cost approach was expanded in several countries in Africa and Asia. It was used to

strengthen landholders' property rights and tenure security in countries with weak user rights to land, such as Ethiopia, China, India, Rwanda, and Vietnam. Studies in Ethiopia have shown that this reform has strengthened tenure security, investment in conservation, and land rental market participation (Deininger et al. 2011; Holden et al. 2009, 2011, 2013). Credit market improvements following the reform may take longer to appear as they depend on the development of sales markets for land and for banks to be able to use foreclosure.

Customary tenure reforms were also attempted in many African countries in response to growing population pressure, individualization of land holdings, and the emergence of land markets (Holden et al. 2010; Holden and Otsuka 2014; Wily 2011). The sharp increase in the demand for land in the 2008–2012 period associated with high energy and food prices also triggered land grab fears and more coordinated international and national actions to better protect land rights (Deininger and Byerlee 2012). While this period revealed that large tracts of land were up for grabs, many large investors gave up their projects when the energy prices fell in the following years. Large heterogeneities both within and across countries make it hard to generalize about the impacts of such customary tenure reforms. However, there is a high risk that elite capture will play an important role in such reforms, and the poor and vulnerable are at high risk of being marginalized (Wily 2015).

9.5 Development in Policy Impact Assessment Methods and Datasets and Their Limitations

While the early literature on land and labor contracts focused on finding theoretical explanations for observed regularities, a few studies carried out careful empirical investigations regarding the correctness of the theoretical assumptions and explanations. With the development of better data collection efforts with survey data and the use of better econometric methods, there was also a gradual improvement in the empirical verifications. Shaban (1987) established a new and higher standard for assessing land-use efficiency on sharecropped versus fixed-rent and owner-operated land of owner-cum-tenants. By using models with household fixed effects, he was able to control for unobservable household characteristics and allowed a within-household comparison of input use and productivity on sharecropped and owner-operated plots. His study in India supported the Marshallian disincentive hypothesis as productivity was found to be lower on sharecropped than on owner-operated land. However, the approach may not help reveal the impacts of underlying tenure reforms that would have to be captured based on repeated data collections over time and framing of natural experiments based on such policy changes.

A further refinement of the analysis of contract efficiency also needs to deal with selection biases associated with partner (tenant) selection and plot selection for rent. If landlords prefer to rent out their poorest quality plots, the Shaban approach may not be able to control for unobservable land quality, and the approach may then

exaggerate the degree of Marshallian inefficiency associated with sharecropping contracts. In settings with variations in contract characteristics, such as variation in output sharing rates, input sharing rates, contract duration and termination conditions, a mixture of kin and non-kin tenants, a mixture of oral and written contracts, and variation in who has the responsibilities for land conservation, etc., one may theorize about the importance of these heterogeneities. It is nearly impossible to identify the determinants of each and estimate their effects unless some natural experiment can be identified. In most cases, one is left to speculate based on estimated correlations.

The systematic review by Lawry et al. (2017) illustrates the difficulty of finding studies that satisfy the high-quality standards of modern impact assessment related to measuring impacts from land tenure policies and reforms. After reviewing 27,000 studies, they ended up with only 20 studies upholding a high-quality impact assessment standard. Out of these, ten studies were in Africa, and of these, five were in Ethiopia. Two lessons emerge from this. First, there is a need for more high-quality studies. Second, the limited geographical coverage of the existing high-quality studies provides reason to question their external validity, given the large heterogeneity in contexts.

Experimental methods hold the potential to provide new evidence on the impact of new tenure reforms and policy interventions (e.g., spatial discontinuity and pipeline difference-in-difference designs can help reveal at least short-term local impacts of such reforms) (Ali et al. 2014; Deininger et al. 2011). Randomized controlled trials (RCT) have been advocated as a ‘gold standard’ for identifying causal effects but have also been criticized for not having such potential related to policy variables that cannot easily be randomized or where the causal mechanisms are highly context-specific (Deaton 2010). Selection issues are at the heart of contract choice. Random allocation of contracts under a double-blind standard is challenging to use when treatments are observable for the groups being treated, and the treatment effects emerge gradually over time. Elimination of the selection component of selection-based contracts through randomization can only make a partial assessment of the benefits of such contracts.

The increasing availability of more nationally representative household panel datasets, such as the Living Standard Measurement Study–Integrated Surveys on Agriculture (LSMS-ISA), provide useful insights, including on some land tenure issues and land market participation in the smallholder sector in many African countries (Jayne et al. 2021; Tione and Holden 2020, 2021a, b). One of the limitations of these surveys is that they do not include sufficient samples of medium and large farms to facilitate careful analysis of land exchange across these farm size categories.

Other data include the Land Matrix (<https://landmatrix.org/>), which compiles data from national investment registries on large-scale land investments. While this database has many omissions and limitations, it may be further improved and become the basis for more reliable investigations over time (Anseeuw et al. 2013; Cochrane and Legault 2020).

Land registry data are a potential source for analyzing land and farm size distributions in countries where land registration has been implemented. Such data may help

map variations over space and time and may even be used to assess the gender distribution of land over time and space (Holden and Tilahun 2020). Spatial data hold a lot of potential for more refined analyses in combination with maps. The tricky issue is ensuring the anonymity of subjects studied when spatial microdata are presented.

None of the data sources above provide data on landholders' preferences, such as their risk preferences, that have been identified as potentially important for contract choice. Likewise, they do not provide data on trust; trustworthiness; and reputation, beliefs, or expectations, such as the perceived tenure insecurity of landlords and tenants. These variables are potentially important in relation to land contract decisions in communities where such types of information and its distribution may play an important role. While some studies have combined surveys and experiments to reveal additional insights on such variables, such studies are still few and represent an area where more research would be useful. An exception is a study by Holden and Tilahun (2021), who used a trust experiment to elicit a measure of tenants' trustworthiness in Ethiopia and found that more trustworthy tenants were more likely to access rented land in a context with rationed access to such land.

9.6 Conclusions

This chap has drawn a broad line through major land tenure reforms during the twentieth century and highlighted important areas where economists contributed theoretically and empirically by generating new insights to better understand land tenure and policy impacts, especially land and labor contracts in agriculture. The insights gained as well as improved data access can also be used to analyze contemporary issues, such as rural transformation processes and the tackling of climate change. Land rental markets have become particularly important in facilitating rural transformation as land sales markets have been constrained by law, fragmented holdings, and owners unwilling to sell even if they do not use the land efficiently themselves.

The evolution of value chains and commercialization of agriculture through contract farming has further improved market integration in many rural areas. Whether this revolution leads to the end of smallholder farm production has been raised. However, with continued population growth in most rural areas, we see a growing scarcity of land, increasing land values, and decreasing farm sizes in many developing countries. Strong growth in the nonfarm economy combined with reduced population growth may trigger a rural transformation with reduced dependence on agriculture, rising rural wages, and conversion to larger farm units in more agrarian countries, as observed in many western countries and, also recently, in China (Huang and Ding 2016). Interventions to reduce transaction costs in spatially-dispersed land rental markets have been instrumental in speeding up this process in China. In contrast, the farm size distribution has been fairly stable in Vietnam over the period 1992–2016, even though rural wages have increased (Liu et al. 2020). Instead, farm households have gradually increased their engagement in the nonfarm economy and adopted labor-saving technologies on their farms. Efficient markets for renting

machinery rather than land renting have facilitated the capital for labor transformation in Vietnam. This substitution of capital for labor is driven by growing wage rates but may not happen in areas where population growth is high. The recent pandemic and climate change represent short-term and longer-term threats to employment and continued wage increases, hindering or delaying this transformation process.

Climate change and the recent and ongoing pandemic have demonstrated stronger than ever before that we live on a small planet, and collective actions at the global as well as local levels are needed to mitigate risks and change policies and behavior to ensure more sustainable development that protects the interests of future generations. In this context, the security and role of property rights and markets are growing in importance, and they are under threat due to natural disasters, economic crises, climate change/covariate weather shocks, and political conflicts and war. The respect for human rights and the emphasis on poverty reduction as a central Sustainable Development Goal are also under threat, as seen by the inability of the UN to handle recent conflicts, destitute migration, and hunger catastrophes. Increasing tensions between the world's superpowers also jeopardize efforts toward finding solutions to the threats from climate change.

9.7 Recollections of Professor Keiji Otsuka

I first met Keiji Otsuka at IFPRI in 1995 when I visited there for a job interview. In 2005, I invited him (and Frank Place) to coedit our book *Land Markets in Africa*. We had several workshops with young talented African economists that contributed chapters to the book. Funding by the Environment for Development network facilitated workshops in Ethiopia, Kenya, and Beijing. We were also invited to Tokyo to complete the book published by RFF Press in 2008. Based on this experience, we agreed to coedit another book, *Land Tenure Reform in Asia and Africa*, and invited Klaus Deininger as the third coeditor. Also, we arranged several workshops with the book contributors for this book, and the book was published by Palgrave. In between and after, we met at various conferences and also made some joint field trips in Ethiopia, although factors outside our control undermined our plans for more extensive joint work. I always admired the dedication and hard work of Professor Otsuka, and he was always well prepared when we met to work on our book projects. I am honored to contribute to his Festschrift.

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