

## **The farmland rental market in North Central Vietnam: Outcomes and constraints**

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**Abstract:** *Vietnam's rural areas are characterised by small and fragmented farms, cost inefficiency and low agricultural income. An efficient land rental market is expected to alleviate some of these problems by creating incentives for allocative efficiency. Voluntary rental transactions are also expected to improve the welfare of both lessees and lessors. This study investigates the efficiency and equity outcomes of the rental market for farmland in Northern Central Vietnam, a region characterised by relatively low incomes and a high concentration of ethnic minorities. It also attempts to identify factors affecting the efficiency of the rental market. Market participation is affected not only by perceptions of risk and return, but also by social constraints that shape household priorities. Data for the study were gathered in two household surveys conducted in each of two villages. The first was a multistage sample survey of 200 households. The second was a census survey of rental market participants. It was found that the rental market is encouraging households to trade their use rights in mutually beneficial ways that transfer land to more efficient farmers. But there is considerable room for improvement through, it appears, increasing the number of market participants by reducing transaction costs associated with inadequate information and high perceptions of risk. However, these findings are based on simple comparisons of group means. A more sophisticated multivariate analysis drawing on the Theory of Planned Behaviour will be conducted as a next step to better understand the determinants of market participation with a view to making suggestions on how to improve market efficiency.*

**Key words:** market efficiency, transaction costs, social capital, land use efficiency, equity

### **1 Introduction**

The Vietnamese government introduced market-based land reforms to promote the consolidation of farmland and growth of farms, starting with the 1993 Land Law (Vietnamese Government, 1993). However, Vietnam's farms remain amongst the world's smallest (Eastwood et al., 2010) and most fragmented (Phuong, 2009). One explanation for this slow response is that the rural land market is inefficient (ADB, 2004; Deininger et al., 2008; Hung et al., 2007; Ravallion & Walle, 2003). This study investigates the performance of the land rental market in the North Central Coast region of Vietnam, and considers its efficiency and equity outcomes. The region is characterised by relatively low incomes and a high concentration of ethnic minorities (JICA, 2008). Ethnic diversity is expected to increase transaction costs and so reduce market efficiency (Beghin & Fafchamps, 1995). The study focuses on the rental market for farmland because the Land Law imposes stringent limits on the area of land that households may own but allows farmers to lease (not purchase) additional land. Besides, voluntary rental transactions are expected to result in both efficiency

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and equity gains whereas sale transactions do not hold the same promise, especially when land is valued for purposes other than agriculture, such as social security (Deininger & Jin, 2008).

This paper comprises of five sections. The second section introduces literature on the expected benefits of an efficient rental market for farmland. Section 3 outlines developments in Vietnam's land rental market. Section 4 describes the study site, sampling method and compares household demographics computed at the village level. Observations on the performance of the land rental market and its equity and efficiency outcomes are presented in Section 5. Section 6 presents evidence of market inefficiency. The paper concludes with recommendations for policy and future research.

## **2 Expected benefits of an efficient farmland rental market**

Land markets comprise both rental and sale markets. Rental markets are widely recognised as having better allocative efficiency and equity outcomes than sale markets, and often play a more important role than the land sale market in developing countries and transition economies characterised by tenure insecurity and market imperfection (Deininger & Jin, 2008). From an efficiency perspective, the land rental market imposes an opportunity cost on under-utilised and idle land. This promotes allocative efficiency as owners of under-utilised or idle land would rather rent the land out than forgo rental income. Consequently, transactions conducted in an efficient land rental market tend to transfer farmland from less effective to more effective farmers (Crookes & Lyne 2003). Renting can also improve farming efficiency by allowing emerging farmers to consolidate land thereby reducing losses associated with fragmentation (Hung et al., 2007) and benefiting from size economies in the adoption of new technology (Kille & Lyne, 1993; Swinnen et al., 2006).

Voluntary transactions conducted in an efficient rental market are expected to benefit both lessor and lessee. Equity improves as land transfers to those households short of land for subsistence or commercial farming purposes, while rental income accrues to those who cannot, or prefer not to, farm (Lyne, 2009). Moreover, renting does not create a landless class, and - where insurance and credit markets are imperfect or missing altogether - can help farmers to avoid permanent loss of land following adverse events such as crop failure.

An efficient land rental market is characterised by low transaction costs and security of land tenure (Nieuwoudt, 1990). Transaction cost is defined as '...the cost of enforcing decisions. Included are the cost of obtaining information, establishing one's bargaining position, bargaining and arriving at a group decision, and enforcing the decision made' (Randall, 1972, p. 176). *Ex ante* transaction costs relate to the process of conducting a transaction, including the costs of searching for trading partners and of negotiating and specifying the terms of the contracts. *Ex post* transaction costs include the costs of monitoring, renegotiating and enforcing the terms of contract, and the risk of losses associated with a breach of contract. High transaction costs prevent markets from operating efficiently, and they are influenced by both legal infrastructure and social norms (Williamson, 1979, 1985, 2000).

The quality of the legal infrastructure has important implications for transaction costs in the land rental market as it influences the enforceability of property rights (Place et al., 1994). Lessors will perceive high risk in a rental transaction if they lack confidence in the legal system and its ability to defend their property rights against a claim made by tenants. This risk adds to the lessor's transaction costs and raises the offer price to prospective lessees, particularly those whose trustworthiness is unknown (Lyne & Thomson, 1997). A similar problem exists on the lessee's side owing to the threat of eviction, i.e. when they perceive that the duration of their contractual use right is not assured (Gordon, 1890).

In addition to the quality of legal system, social capital is considered to be an important factor affecting transaction costs and thus market efficiency (Charny, 1990; Putnam, 2000; Williamson, 1985, 2000). Social capital refers to social networks that can facilitate productive actions between individuals (Adler, 2002; Coleman, 1988; Moran, 2005; Narayan & Cassidy, 2001; Putnam, 2000). Trust, a central part of social capital is expected to reduce transaction costs as it reduces the *ex ante* costs of finding suitable trading partners and the *ex post* costs associated with non-compliance (Charny, 1990; Raiser, 2008; Tsai, 2000). However, different kinds of trust are expected to have different influences on transaction costs faced by individuals, and therefore have different impacts on market efficiency (Putnam, 2000).

### **3 The development of Vietnam's rural land market**

According to Vietnam's 1993 Land Law, land remained state property but individuals were assigned well-defined long-term rights to use, bequeath, transfer and mortgage the land. The duration of these rights and ceilings imposed on areas of land that could be held with these rights by individuals, households and organisations were defined by the law and varied across different types of land, e.g. agricultural land, forest land, residential land and industrial land (Vietnamese Government, 1993). These institutional changes were considered necessary to promote land use efficiency through market-driven land redistribution and consolidation. In terms of redistribution, use rights were expected to transfer voluntarily from less effective to more effective farmers. In terms of consolidation, it was anticipated that farmers would exchange and merge highly fragmented parcels of land into larger, commercial farms (Do & Iyer, 2007; Marsh & MacAulay, 2001; WB, 2010).

In 2003, the Vietnamese government issued Land Law No.13/2003/QH11 (Vietnamese Government, 2003), replacing the 1993 Land Law. Although this new law extended the duration of land rights and relaxed the ceilings on areas held with these more secure rights, a farmer wishing to consolidate land in excess of the defined ceiling can do so only through temporary transfers of use rights. This law clearly emphasised the importance of the land rental market relative to the land sale market in Vietnam. The change in land policy reduced unused land from 13 million hectares in 1993 down to 3 million hectares in 2008. While some of these gains have been attributed to the land market (WB, 2010), several authors argue that the market for farmland in Vietnam is still far from efficient and that a more efficient land market will help to raise stagnating levels of productivity in agriculture by reducing land fragmentation and improving allocative efficiency (ADB, 2004; Deininger et al., 2008; Hung

et al., 2007; Ravallion & Walle, 2003). This study provides empirical evidence of land rental market performance in the North Central Coast region of Vietnam, and its efficiency and equity outcomes.

#### **4 The study site, data collection and household demographics**

The research was carried out in two villages of Tuong Duong district. Tuong Duong is a mountainous area of the North Central Coast region and is characterised by low incomes and a high incidence of ethnic minorities. Tam Quang commune was chosen as it has diversity in land type, land use and culture. This diversity is expected to create variation in household resource endowments and priorities, leading to differences in the marginal value product of farmland between households. Without these differences there would be no demand for voluntary land transactions.

Two household surveys (a sample survey and a census survey) were conducted in each of two villages (Son Ha and Bai Xa) within the Tam Quang commune. The sample survey was intended to generate a representative sample of households from the commune. The sample villages (primary-stage units) were selected with probability proportionate to an estimate of their size, where size was measured by the number of households. A random sample of farm households (secondary-stage units) was then drawn from a list of farm households constructed for each sample village. A constant sampling rate was applied to each sample village, and was sufficiently large to generate a total sample of 200 farm households. This self-weighting sampling process allows sample statistics to be computed at the commune level without weights to account for differences in village size. The census survey followed the sample survey and covered all rental market participants in each village. Data gathered in the census survey were used to identify the characteristics of lessors and lessees. Although the data are analysed quantitatively, many of the variables are qualitative in nature and used Likert-type scales to measure respondents' perceptions.

Despite the short distance (6 kilometres) between Son Ha and Bai Xa, these villages are characterised by significant differences in socio-economic and geographic features. Kinh are the dominant ethnic group in Vietnam, accounting for more than 80% of the country's population. Table 1 shows that only 4% of Son Ha's population are Kinh, the vast majority being Thai - one of the largest ethnic minorities in Vietnam. Bai Xa village has a much larger share (37%) of Kinh people.

The proportion of household members classified as farmers is significantly lower in Bai Xa (41%) than in Son Ha (53%). Conversely, Bai Xa households have a much higher proportion of members working in non-farm enterprises and earn substantially higher off-farm incomes than do Son Ha households. Off farm incomes are earned in seasonal farm labour and permanent jobs in local authorities and factories. Although Son Ha households earn relatively higher farm incomes, they are much poorer than their counterparts in neighbouring Bai Xa. It is interesting that Bai Xa has a much lower proportion of Thai households and a much higher proportion of adults with tertiary education.

**Table 1: Mean value of demographic variables for households in Son Ha and Bai Xa**

Demographic variables	Son Ha (n=115)	Bai Xa (n=80)	t-value
Thai people in each village (%)	96.0	63.0	5.744***
Kinh people in each village (%)	4.0	37.0	5.744***
Household size (people)	4.1	4.3	1.125
<b>Occupation of household members</b>			
Farmers (%)	53.2	40.8	3.372***
Students (18 years old or older) (%)	3.4	6.6	1.861*
Housekeepers (%)	4.2	0.7	2.978***
Self-employed in non-farm work (%)	5.9	14.1	2.698***
People earning a pension (%)	2.4	5.1	1.564
Annual off-farm income per household member (1000VND)	2932	5946	2.595**
Annual farm income per household member (1000VND)	847	384	2.623***
<b>Education attainment</b>			
Adults with primary education (years 1-5) (%)	23.1	13.7	2.810***
Adults with tertiary education (%)	6.7	14.1	2.661***

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1% level of probability respectively.

Source: Household sample survey, 2012.

Despite their lower incidence of farmers, households in Bai Xa are endowed with much larger areas of lowland, which is flatter and better suited to arable farming than the highland (Table 2). While mean household endowments of irrigated lowland are similar in both villages, households in Bai Xa average 701m<sup>2</sup> of non-irrigated lowland compared to just 42m<sup>2</sup> in Son Ha. The most important sources of farm income in both villages are maize and bamboo which together account for more than 90% of household farm income.

**Table 2: Mean area and number of plots by land type for households in Son Ha and Bai Xa**

Land type		Land owned		
		Son Ha	Bai Xa	t-value
Irrigated lowland	No. of Plots	1.35	1.89	2.852***
	Area (m <sup>2</sup> )	574	509	0.447
Non-irrigated lowland	No. of Plots	0.09	1.11	9.970***
	Area (m <sup>2</sup> )	64	701	8.445***
Arable highland	No. of Plots	0.22	0.04	3.924***
	Area (m <sup>2</sup> )	2402	42	3.577***
Forest land	No. of Plots	0.67	1.23	5.854***
	Area (m <sup>2</sup> )	41991	34397	0.287

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1% level of probability respectively.

Source: Household sample survey, 2012.

## 5 Equity and efficiency outcomes of the rental market

The incidence of rental transactions is one measure of rental market activity (Crookes & Lyne, 2003). According to this indicator, the rental market is less active in Son Ha than in Bai

Xa where the rates of participation are 18% and 41% respectively (Table 3). Table 3 also shows that the average number of transactions per sample household is substantially higher in Bai Xa (0.57) than in Son Ha (0.20). For the Commune, it is estimated that 58% of willing lessees and 64% of willing lessors did not participate in the market. This suggests market inefficiency - particularly in Son Ha which has much lower ratios of actual to willing lessees and lessors than does Bai Xa.

**Table 3: Rental market participation in Son Ha and Bai Xa**

Villages	Commune (n=195)	Son Ha (n=115)	Bai Xa (n=80)
<b>Indicators</b>			
Average number of transactions per household	0.35	0.20	0.57
Rate of actual land rental market participation (%)	27.7	18.3	41.3
Proportion of willing lessees that participate (%)	41.7	29.1	66.7
Proportion of willing lessors that participate (%)	36.9	26.9	43.6

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1% level of probability respectively.

Source: Household sample survey 2012

The census survey data (relating only to rental market participants) support the argument that rental transactions promote land use efficiency by transferring land to more effective farmers. Table 4 shows that for land transferred to households better equipped to farm; the average value of farm equipment owned by lessees is 50 times higher than that of lessors. In addition, lessees are better endowed with family farm labour; 2.46 people per lessee household compared to just one person per lessor household. Lessees had also attended twice as many agricultural training courses over the previous 12 months. Differences in efficiency are perhaps best demonstrated by differences in income earned per unit of arable land; lessees earned VND960 per m<sup>2</sup> from annual crops in the 2011/12 season compared to VND100 earned by lessors. More than 90% of the 46 lessees claimed increases of 150% or 200% in yields on land that they hired (relative to yields previously achieved by their landlords). It is interesting that these improvements in yield were not achieved by heavier applications of purchased inputs, but rather through better management and more intensive use of family labour. This may reflect liquidity constraints faced by lessees who earn relatively low off-farm incomes. Even so, lessees are clearly more willing and able to farm than are lessors.

Equity outcomes are often observed in the temporary transfer of land from land wealthy to land poor households, and in the transfer of rental income (or part of the crop) from income rich tenants to cash strapped landlords, particularly households headed by widowed females who also tend to have less family labour. The data presented in Table 4 do provide some evidence of rental income transferring to female-headed households, which account for 21% of lessors and only 4% of lessees. The average annual cash rental was VND500000 and crop shares averaged one-third of the amount harvested. However, there is no evidence of land transferring from relatively land wealthy lessors to land poor lessees. This may reflect the egalitarian way in which land was originally allocated to households when ownership was decollectivized.

**Table 4: Efficiency and equity aspects of land rental market**

Variables	Rental market participants	
	Lessees (N=46)	Lessors (N=44)
<b>Efficiency aspects</b>		
Farm equipment owned (1000VND)	633	12
Household stock of farm labour (people)	2.46	1.00
Annual income for crops (1000VND/m <sup>2</sup> )	0.96	0.10
Annual income from forest plantation (1000VND/ha)	680.5	534.3
Expenditure on seasonal crop inputs <sup>1</sup> (1000VND/m <sup>2</sup> )	1.87	1.74
Off-farm income per capita (1000VND)	1807	10378
<b>Equity aspects</b>		
Proportion of female headed households (%)	4.3	20.5
Irrigated lowland endowment per capita (m <sup>2</sup> )	193.6	140.8
Non-irrigated lowland endowment per capita (m <sup>2</sup> )	107.9	134.6
Arable highland endowment per capita (m <sup>2</sup> )	112.0	41.6
Forest land endowment per capita (ha)	0.9	1.0

Note: 1) Household expenditure on fertiliser, seed, chemicals, hired labour and machinery services for irrigated lowland.

Source: Household census survey, 2012.

Table 5 reports the areas operated by lessors and lessees. When compared with the land endowments presented in Table 4, it is evident that the rental market is creating an emerging class of larger, commercial farmers. Areas operated by lessees are very much larger, for all classes of land, than are the areas operated by lessors. Likewise, when compared with the commune means (computed from the sample survey data) the areas operated by lessees are markedly higher for the more productive lowland classes. It can therefore be argued that the consolidation of land by emerging commercial farmers is equity enhancing as it closes the income gap between lessees and lessors who benefit from much higher off-farm incomes.

**Table 5: Mean area of land cultivated by land type**

Land type	Land cultivated		
	Commune (n=115)	Lessees (N=46)	Lessors (N=44)
Irrigated lowland (m <sup>2</sup> /per capita)	133.2	290.0	28.7
Non-irrigated lowland (m <sup>2</sup> /per capita)	71.2	168.2	23.8
Arable highland (m <sup>2</sup> /per capita)	218.7	122.3	5.7
Forest land (ha/per capita)	0.6	0.7	0.4

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1% level of probability respectively.

Source: Household sample and census surveys, 2012.

## 6 Efficiency of the land rental market

Although the rental market is generating efficiency and equity gains, this does not mean that the market itself is efficient. The data presented in Table 3 suggest that the rental market could be performing much better as the majority of sample households that expressed a desire to participate in the market did not do so. This section presents indicators of social capital and the legal system, and considers their implications for transaction costs and market efficiency.

It has been contended that transaction costs increase with increasing levels of ethnic diversity, possibly due to language and trust barriers across ethnic groups (Beghin & Fafchamps, 1995). The data lend some support to this argument as more than 70% of the observed rental transactions were conducted between households that belonged to the same ethnic group, which may indicate a high level of bonding social capital. At the same time, the data indicate a much lower rate of market participation in Son Ha village than in Bai Xa village even though Son Ha is less ethnically diverse (96% of the sample households are Thai). This could point to different levels of trust, different social norms or different levels of confidence in the legal system between the Kinh and Thai groups. Interactions between ethnicity, social capital and these potential determinants of market participation are not explored fully in this brief paper.

Overall, the vast majority of observed rental transactions were conducted between friends and relatives (Table 6). Crookes and Lyne (2001) interpret a high proportion of such personalised transactions as evidence of high risk perceptions in the presence of moral hazard and absence of an effective legal system. When legal settlements are costly, time consuming and can harm future long-term cooperation, contracting with members within the social network is expected to reduce *ex post* transaction costs as the members are less likely to be opportunistic due to the moral sanctions (Cersosimo & Nistico, 2008; Charny, 1990; Tsai, 2000).

The study used a 3-point Likert-type scale (where 1=low agreement and 3=high agreement) to explore perceptions of transaction costs related to moral hazard. The mean scores presented in Table 6 indicate that perceptions of moral hazard (e.g. the risk of land being overused or claimed by tenants) are indeed higher amongst willing lessees and lessors than amongst their participating counterparts. They also suggest that willing lessees and lessors have less confidence in the legal system. For example, willing participants perceive that it is more difficult to resolve a land dispute and are more concerned that their land might be expropriated by a local authority. However, a more direct reason for the high proportion of transactions between friends and relatives may be one of proximity; the costs of finding and farming a suitable plot are lower for land that is owned by neighbours, and neighbours tend to be friends or relatives. In this case, better access to information about willing participants and their land or land requirements may reduce *ex ante* transaction costs and promote market efficiency.



**Table 6: Indicators of transaction costs perceived by actual and willing rental market participants**

Variables	Lessees (N=46)	Lessors (N=44)	Willing lessees (n=42)	Willing lessors (n=41)
Participants transacting with friends or relatives (%)	90.7	80.4	-	-
<b>Perceptions of transaction costs (1=low, 3=high)</b>				
Risk of land rented out being overused	-	1.20	-	2.03
Risk of rented land being claimed by tenant	-	1.09	-	1.98
Difficulty in resolving a land dispute	1.38	1.51	1.63	1.97
Risk of rented land being expropriated by local authority	-	1.05	-	1.31

Source: Household sample and census surveys, 2012.

## 7 Conclusions

Information presented in this paper indicates that the land rental market is promoting both farming efficiency and equity in the study site. The market is helping lessees who are more committed to increasing farming income, and is thus reducing the income gap between lessees and lessors. At the same time it gives households that do not have sufficient resources to farm their land effectively a chance to earn rental income by leasing their land out. However, these beneficial outcomes are constrained by market inefficiency as expressed by the high proportion of households that do not participate in the market even though they would like to. Simple comparisons of group means suggest that participation in the rental market may be constrained by *ex ante* transaction costs caused by inadequate information and by *ex post* transaction costs associated with moral hazard. Future research will attempt to analyse the role of social capital and legal infrastructure relative to other determinants of market participation using a multivariate approach drawing on the Theory of Planned Behaviour. The results are expected to inform recommendations aimed at bringing willing participants into the rental market to their mutual benefit and to improve land use efficiency.

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