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Political connections and investment in rural Vietnam

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Abstract:

This paper uses household panel data from rural Vietnam to explore the effects of having a relative in a position of political or bureaucratic power on farmers' agricultural investment decisions. Our main result is that households significantly increase their investment in land improvement as a result of relatives moving into public office. Connections to office holders appear to be important for investment because they strengthen de-facto land property rights and improve access to off-farm employment and to *informal* loans. The findings underline the importance of informal networks for economic behaviour in environments with developing institutions and markets. They also suggest the presence of an untapped potential for economic development: if households without connections could obtain equally strong property rights and access to credit and insurance as the well-connected households, investment levels would rise substantially.

1. Introduction¹

This paper investigates the effect of family ties between farmers and local government officials on investment in agricultural land improvements. The importance of agricultural investment for economic development is well recognized and has received increased attention in recent years, in part as a result of the ‘food price crisis’ in 2007-2008 (e.g. de Janvry and Sadoulet 2008). A number of papers have investigated the effects of land property rights on agricultural investment (e.g. Feder and Onchan 1987, Besley 1995, Alston, Libecap, and Schneider 1996, Braselle, Gaspart, and Platteau 2002, Jacoby, Li, and Rozelle 2002, Carter and Olinto 2003, Jacoby and Mansuri 2008, Do and Iyer 2008, Hornbeck 2010). Of particular relevance for this study is the contribution by Goldstein and Udry (2008). They investigated the effect of position in traditional, local power hierarchies on fallowing of agricultural land in the Akwapim region of Ghana. Fallowing is a major type of investment, and Goldstein and Udry show that farmers with traditional, political office have stronger property rights than other farmers and therefore fallow their land much longer than others. In this paper, we aim to contribute to this literature and do so in a very different context, namely that of rural Vietnam. We are interested in the effects of informal connections with representatives of the state on households’ economic behaviour and access to government resources. Households may be connected with public officials in three different (not mutually exclusive) ways. First, one or more household members may themselves *be* public officials. Second, a household may have relatives living outside the household who are public officials. Third, friends or other non-family relations of the household may be officials. The data set used in this paper contains information on the presence of public officials in each household and on whether household members have relatives or personal friends who are officials. For methodological reasons, we focus on the effects of having *relatives* outside the household who are officials. Therefore, the study is mainly an investigation of government capture by the extended families of public officials. In other words, it is a study of *nepotism* in local government. The reason for focusing on connections with relatives, rather than looking at the effects of officials in the household or connections with non-relatives, is the potential endogeneity of

¹ We are grateful for very insightful comments from Pranab Bardhan, Dilip Mookherjee and participants at the UNU-WIDER project meeting on ‘Land Inequality, Conflict and Reform in LDCs’, held in Hanoi on 3-4 January 2011.

officials in the household and connections with non-relatives. Whether a household member takes up work as a public official, and whether the household forms and reports connections with non-relatives in government, is simultaneously determined with our main outcome variable, agricultural investment. If a household has invested heavily, for example in the introduction of a new, high-value crop, the incentives for household members to seek employment as officials may be lower than in other households, because the returns from spending time on the farm are higher. A household planning to invest may actively nurture relationships with non-relatives in government in order to obtain approval or assistance for the investment project. Also, households may report an official as a 'friend' exactly *because* he or she assisted the household with a project, rather than the other way around. Connections with relatives outside the household are arguably more exogenous. A household's investment decisions does little to affect the probability of relatives in *other* households taking up positions as officials. Clearly, unobserved family characteristics (entrepreneurial spirit, risk and time preferences, etc.) may also affect investment as well as the probability of having a relative in the government. These factors are taken into account through the introduction of household fixed effects.

The economic importance of family networks in Vietnam is documented by the survey data used here as well as by other sources. For example, for more than half of the plots rented out by households in the survey, the tenants are relatives of the landlord. More than 90 per cent of monetary transfers received by households from private sources are from relatives. Households are asked whether they 'have someone they can turn to for money in case of an emergency'. More than 70 per cent report relatives as the main source of emergency funding. The 2001 World Values Survey asked respondents about the importance of different 'life domains'. Some 82 per cent of Vietnamese respondents say that family is 'very important', while 57 per cent regard 'work' as very important and only 22 per cent rank 'friends' as very important (Dalton et al. 2002). The most important, cultural background for these findings is the enduring influence of Confucianism in Vietnamese society.

So, family ties are important, but are ties to relatives with public offices particularly important and do they matter for agricultural investment? There are several reasons to expect that ties to government officials should matter for investment in land improvements. First, the attractiveness of such investment depends on the security of

land property rights, as empirically documented by several of the studies listed above. Local government often plays a critical role in determining the strength of land rights. Local officials issue property deeds, decide on land expropriation for infrastructure and other development projects, and implement land use regulation such as ‘zoning’ laws. Second, investment needs to be financed, and in areas where commercial, financial institutions are not well developed, local government often plays a key role in regulating access to credit. Third, agricultural investment is risky, even when land property rights are secure. New crops may fail or the price of output may drop. Investment is particularly risky when land markets are poorly developed because recovery of investment through sale or rental is then prevented. Local governments often control important sources of insurance. Access to credit is one such source, others include access to public sector employment and government transfers. As documented below, these propositions are valid for Vietnam.

We use household level panel data from the rural areas of 12 provinces in Vietnam to empirically explore whether the hypothesis of a link between personal ties to officials and investment is supported. Results show that households with relatives in positions of political or bureaucratic power do in fact invest significantly more than other households. This result holds in a household fixed effects model, indicating that it is not caused by unobserved household characteristics. Following the discussion above, we investigate three potential channels through which political/bureaucratic connections may affect investment: property rights, access to credit and labour market participation. Our results suggest that connections are important because they strengthen de-facto property rights and improve access to off-farm employment and *informal* loans.

The findings stress the significance of informal networks for economic behaviour in developing economies. They also suggest the presence of a potential for faster economic development. If households without political or bureaucratic connections could obtain equally strong property rights and equally easy access to credit and insurance as the well-connected households, agricultural investment would increase. As a result, rural economic growth would be stimulated.

It is important to understand the *motivations* of public officials that underlie these results. Do officials discriminate in favour of relatives simply because they value the welfare of relatives higher than the welfare of other households, or do they prefer to

interact with relatives, for example in extension of credit, because transaction costs are lower than in interactions with non-relatives? We review these issues in section 9.

In addition to the studies on agricultural investment mentioned above, the present paper is also related to the literature on the political economy of local government (e.g. Bardhan and Mookherjee 2000, 2006, Besley, Pande, and Rao 2007, Ferraz and Finan 2008). The paper differs from most of this literature by focussing on a setting without multi-party democracy and by investigating in detail the importance of family relations between local government officials and private households. The study also builds on a group of papers, which address the economic effects of political connections (e.g. Fisman 2001, Khwaja and Mian 2005). A related but distinct economic literature investigates personal connection between managers and workers within organizations (e.g. Prendergast and Topel 1996, Bandiera, Bankaray, and Rasul 2009).

Section 2 presents background information on land and local government in Vietnam. Section 3 presents the data set and defines key variables, while section 4 presents descriptive statistics. Section 5 includes the core analysis of connections to officials and land-related investment. Section 6 investigates the effects of political/bureaucratic connections on land property rights, and section 7 analyzes the effects on access to credit. Section 8 focuses on the relationship between connections and labour market participation, while section 9 reviews the motivations of public officials to discriminate in favour of relatives. Section 10 concludes.

2. Background

Vietnamese agriculture is dominated by small, owner-operated farms. Rentals account for only about five per cent of agricultural land in our sample, and collective farms play a very minor role. The background for this pattern is the 1988 and 1993 land laws, which followed the Doi Moi reform programme initiated at the 1986 Communist Party Congress. The 1988 land law transferred farming responsibilities from agricultural collectives to households.² The 1993 land law went a step further and introduced Land Use Right Certificates (LURCs), also known as Red Books, which bestow upon holders 20 year use rights for annual crops land and 50 year rights for perennial crops land. LURCs may be traded, rented, mortgaged, exchanged, and bequeathed. For practical

² As described in Pingali and Xuan (1992), steps had been taken in this direction as early as 1981.

purposes, LURCs are therefore in effect quite similar to proper land titles. Ravallion and van de Walle (2004, 2006, 2008a) show that the process of de-collectivization was largely equitable and efficient, that subsequent land transactions worked to decrease the inefficiencies that arose from administrative land allocation, and that recent increases in landlessness should be interpreted as a side-effect of economic development, rather than a sign of increased marginalization of poor groups. Do and Iyer (2008) argue that the issuance of LURCs in the 1990s stimulated investment in perennial crops and increased time allocated to off-farm employment. Deininger and Jin (2008) show that land markets in Vietnam, especially rental markets, function to allocate land to small and efficient farmers. While these findings are not disputed, it is important to note that land markets, especially sales markets, are still extremely thin in many regions of Vietnam, especially in the North. For more than 70 per cent of the plots in our sample, farmers declared themselves unable to estimate the sales value of the land. Less than 15 per cent of the plots in the sample have been acquired through purchase. Thin or non-existing land markets render land-related investment more risky than otherwise. For general treatments of land issues in Vietnam, see Kerkvliet (2006), Brandt (2006), Ravallion and van de Walle (2008b), and Kirk and Nguyen (2009).

Vietnam has three tiers of local government, at province, district and commune levels. At each level, the local government is headed by 'People's Committees' (PCs). Some members of PCs are appointed by higher levels of government, while others are chosen in local elections. Although non-members are sometimes allowed to run and win elections, the election process is closely managed by the Communist Party and the 'Fatherland Front', an umbrella organization closely linked with the Party. Other parties than the Communist are not allowed. At each level, another elected body, the People's Council, undertakes an oversight function vis-à-vis the People's Committee. Local government leaders in Vietnam have generally been more accountable toward higher levels of government than toward local populations. However, downward accountability has been strengthened in recent years through the adoption of the so-called 'Ordinance on Grassroots Democracy' (OGD), passed in 1998 and strengthened in 2003 and 2007. The OGD spells out the rights of citizens in different areas, in terms of access to information, consultation and decision-making.

The introductory discussion suggested that informal ties with government officials may matter for land-related investment if local officials influence access to (or security

of) land property rights, or access to credit and insurance. In Vietnam, local government does indeed heavily impact on all these areas of rural, economic life. First, local governments play a crucial role in determining property rights security. Most obviously, the state manages the issuance of LURCs. While the process of issuing LURCs to millions of land users progressed with impressive speed and without obvious signs of widespread abuse by local authorities in the 1990s (Do and Iyer 2008, Ravallion and van de Walle 2004), the LURC issuance process is now widely perceived to be highly affected by corruption (World Bank 2009, Figure 3.5). Second, land expropriation by the state is quite common (four per cent of households in our sample experienced at least one expropriation in the past two years). This is perhaps to be expected in an environment of rapid, economic development, where land needs to be taken into use for infrastructure and industry, but the terms of expropriation are far from always being perceived as fair (Davidsen et al. 2010, World Bank 2009, chap. 3). Also, the state intervenes heavily in farmer decisions on what to use the land for. For example, local land use plans often designate plots to be planted with specific crops, most commonly rice (Markussen, Tarp, and Van den Broeck 2011).

Second, almost all formal lending institutions operating in rural areas of Vietnam are controlled by the state. In particular, commune authorities are widely used to screen applicants for loans from the most important state banks. These include primarily the Vietnam Social Policy Bank (VSPB), which extends non-collateralized loans to poorer families, and the Vietnam Bank for Agriculture and Rural Development (VBARD), which lends to rural households with security in LURCs.

Third, local officials control access to a number of temporary and permanent public sector jobs and to some public transfers. As discussed, jobs and transfers may function to cushion households from the negative impact of investments that fail.

Direct evidence on the importance of informal connections between government officials and private agents in Vietnam is provided by Appold and Phong (2001) who describe the functioning of such networks between government bureaucrats and firm managers. Gillespie (2002) argues that 'personalism', as opposed to merit-based systems of recruitment and promotion, is the key mode of operation in Vietnamese party and government hierarchies. Similarly, Gainsborough (2007) argues that patronage distribution plays a central role in the functioning of the Communist Party. The

entrenched nature of political patronage in Vietnam is also discussed in Abrami, Malesky, and Zheng (2008).

3. Data set, estimation model, and key variables

We make use of a household panel data set collected in the Vietnam Access to Resources Household Survey (VARHS). The survey was implemented in 12 provinces in Vietnam between July and September 2008 and between June and August 2010. It re-interviewed rural households sampled for the income and expenditure modules of the 2002 and 2004 Vietnam Household Living Standards Survey (VHLSS) in the 12 provinces.³ Provinces were selected to facilitate the use of the survey as an evaluation tool for Danida-supported programmes in Vietnam. Seven of the 12 provinces are covered by the Danida business sector programme support (BSPS), and five provinces are covered by the agricultural and rural development (ARD) programme. The provinces supported by the agricultural support programme are located in the North West and Central Highlands, so these relatively poor and sparsely populated regions are over-sampled. Our sample is statistically representative at the provincial but not at the national level.⁴

The 2008 round of the VARHS survey covered 2,278 households originally sampled for VHLSS 2002 or VHLSS 2004. Out of these households, 2,233 were identified and resurveyed in 2010 (implying an attrition rate of two per cent).⁵ Of these, 2,113 own or operate agricultural land. The household survey collected detailed information on connections to officials, other types of social capital, land-related investment, land characteristics, agricultural inputs and outputs, household income, saving and borrowing, and general information about individuals and households.

³ See CIEM et al. (2009) for further background information and details. The sampled provinces are, by region: Red River Delta: Ha Tay. North East: Lao Cai, Phu Tho. North West: Lai Chau, Dien Bien. North Central Coast: Nghe Anh. South Central Coast: Quang Nam, Khanh Hoa. Central Highlands: Dak Lak, Dak Nong, Lam Dong. Mekong River Delta: Long An.

⁴ The VARHS was also implemented in 2002 and 2006, but several key variables used in this paper were only introduced in 2008.

⁵ In addition, 991 households in selected upland communes were interviewed in 2008. 951 of these were re-interviewed in 2010. These households were included for the purpose of evaluating a Danida policy programme being implemented in these areas. Since this sample is not statistically representative, we do not use it.

We consider regressions of the type:

$$I_{ht} = \alpha C_{ht} + \beta' X_{ht} + v_h + \varepsilon_{ht} \quad (1)$$

where I_{ht} is the real value of land-related investment undertaken by household h in period t , C_{ht} is an indicator for having a personal connection to a local government official and X_{ht} is a vector of potentially time-varying household characteristics. v_h represents unobserved, fixed household characteristics such as entrepreneurial spirit, risk aversion and time preferences. The error term ε_{ht} captures measurement error in the value of investment and unobserved, time-varying household characteristics. Conditional on X_{ht} and v_h , ε_{ht} is assumed to be uncorrelated with C_{ht} . As pointed out in section 1, this assumption is more likely to be valid when C_{ht} is a measure of having a relative in government than when the variable includes connections to relatives as well as non-relatives. Therefore, we focus on connections with relatives only.

We have data on four different types of land-related investment, including investments in soil and water conservation, perennial crops, structures for aquaculture (mainly ponds) and other structures, such as farm buildings, fences or animal sheds. For each type of investment data was collected on cash spending as well as household labour input during the past year. Household labour is valued by the average wage rate in the province for an unskilled agricultural labourer, as calculated from the wage and employment data available in the survey. The total value of investment is calculated as the value of cash spending and labour inputs in all four types of investment.

To measure personal connections to officials, respondents were asked whether any of their a) relatives or b) personal friends outside the household 'hold any office or other trusted positions in the commune or higher levels of government'. At most two connections could be listed. The survey also asks whether any officials are residing in the household. This is the case for about seven per cent of households in both 2008 and 2010. To avoid mixing the effect of *connections* to officials with the effect of *being* an official, and because the decision to work as an official is potentially endogenous, these households are excluded from the analyses. The main results of the paper are unchanged when households with officials are included in the estimation sample.

4. Descriptive statistics

Table 1 presents descriptive statistics on connections to officials, land-related investment and a number of other household characteristics. Statistics for 2010 are

presented. Results for 2008 are similar. The table shows that 29 per cent of households have a relative or personal friend holding an office or other trusted position in government. Most connections reported are with relatives. Some 21 per cent of households have a relative who is an official, while only 16 per cent have personal friends in trusted government positions.

A total of 46 per cent of households have undertaken some form of land-related investment in the past year. The most common form of investment is in soil and water conservation. Given the prevalence of paddy rice farming in Vietnam, this is not surprising. The most valuable type of investment, on the other hand, is in ‘structures’, such as fences and farm buildings. The average value of land-related investment is 2.1 million Dong, equivalent to about five per cent of average household income. Households with family connections to officials invest more than other households in all categories. However, they also stand out when it comes to other variables. For example, they have more schooling, are members of more voluntary-membership groups and have higher incomes, although the discrepancy in income (28 per cent) is smaller than in investment (38 per cent). Below, we investigate whether the correlation between connections and investment is robust when controlling for these other factors.

5. Connections and investment

Here estimates of regression (1) are presented. As is evident from Table 1, the investment variables are quite heavily censored. In each year, less than half of all households report any land-related investment. To take account of censoring and also include household fixed effects in the regressions, we use one of the semi-parametric estimators proposed in Honoré (1992). We refer to the Honoré estimator as a ‘fixed effects tobit’. One potential draw-back of this method is that cluster-robust standard errors cannot be calculated. As a robustness check we therefore also present results from a linear fixed effects model and a conditional logit model (the dependent variable being an indicator for any investment), where cluster-robust standard errors are available.

To implement the familiar log-linear model without dropping observations with zero-values on the dependent variables, we use $\ln(I + k) - \ln(k)$ as our dependent variable, where k is a positive constant. As in Jacoby and Mansuri (2008), we set k to be .1 times the lowest, strictly positive value of investment observed. While parameter

estimates are to some extent sensitive to the choice of k , z -statistics are largely unaffected.

A number of control variables are included. First, we need to distinguish the effect of connections to officials from the effect of other types of social capital the household may possess. Therefore, we include a variable measuring the number of formal groups the household belongs to. In Vietnam, the most important of these are the so-called 'mass-organizations', including the Farmers' Union, the Women's Union, Youth Union, and Veterans' Union. While these organizations have close links with the state, they do enjoy a degree of independence from local government and membership is voluntary. Group membership has been used as measure of social capital in a number of other studies, for example Narayan and Pritchett (1999) and La Ferrara (2002). To measure the extent of a household's informal network, we introduce a variable measuring the number of weddings the members of the household have attended during the past year. Weddings are an important occasion for networking and the frequency of wedding attendance is much higher than is typical in Western countries. The median value on the variable is 13 and less than five per cent of households did not attend any weddings in the past year. As is evident from Table 1, both voluntary group membership and wedding attendance are correlated with connections to officials.

Second, the level of land-related investment should be expected to depend on the amount of land operated by the household and on the number of working age household members available to contribute labour to investment projects. At the same time, households with large landholdings and many members may find it easier to forge connections with officials. Therefore, we control for the amount of agricultural land operated by the household and for the number of household members between 15 and 64 years of age. Both variables are in logs. For similar reasons we also control for the age, schooling and gender of the household head. For the age variable, we add a squared term to take account of possible non-monotonous effects of age.

Third, a large literature has, as already alluded to, emphasized the effects of land property rights on investment. As discussed in section 1, an effect of connections to officials on investment may operate *through* property rights. In this sense, including measures of property rights in regression (1) may amount to over-controlling. However, connections are not the only source of property rights, and to take account of the possibility that property rights are correlated with connections through other channels

than a causal effect from connection to rights, we include three measures of land property rights. First, the share of operated land held with a LURC is used. Second, as described in section 2, state-directed land use management remains prevalent in many areas of Vietnam. In particular, local land use plans often determine which crops farmers grow. Typically, farmers are required to grow rice. We regard restrictions on crop choice as a limitation of property rights and include a measure of the share of land subject to crop choice restrictions in the regressions. Third, a measure of the share of rented operated land is included (see for example Jacoby and Mansuri 2008).

Fourth, a year-indicator is included to take account of changes over time in the economic environment. Random effects models include province indicators.

Finally we stress again the importance of including household fixed effects. A number of difficult-to-observe household characteristics, such as entrepreneurial spirit, cognitive abilities and risk preferences are likely to affect both investment decisions and the probability that relatives are officials and therefore give rise to concerns about endogeneity. Household fixed effects largely account for these factors.

Table 2 shows the result of estimating random and fixed effects tobit regressions for total investment. The first model is a random effects tobit, while the second is based on the fixed effects tobit estimator discussed above. The first two regressions include indicators for having a relative with a public office. The last two include dummies for having either a relative or a friend with public office. As discussed above, connections with friends are potentially endogenous. On the other hand, this variable may be regarded as a more complete measure of household connections with officials than the variable including only connection with relatives. We include these regressions as a means to test the robustness of the main results, namely those for connections with relatives only.

All models show a strong and statistically significant, positive effect of personal ties with a public official on land-related investment. The effect is somewhat smaller in the fixed effects than in the random effects models, as would be expected if unobserved, fixed household characteristics affect both investment and connections in the same direction.

Most control variables are insignificant in most specifications. The main exception is farm size, which has the expected, positive effect in all models. The 2010 year-dummy also has a strong positive effect. The reason may be that investment is often

financed from retained earnings, and that the full effect of the global grain price boom on household income had not yet kicked in by the time of the 2008 survey.

5.1 Robustness

The finding of a positive effect of relatives with public office on land-related investment is our main result. In Table 3, the robustness of this result is tested in a number of dimensions. The dependent variable is total investment and fixed effects are included throughout. In other words, the regressions in Table 3 are all permutations of regression 2 in Table 2.

First, in the presence of imperfect credit markets, investment may depend on household income, because retained earnings are a main source of financing investment. At the same time, households with high incomes may be able to use their financial resources to help relatives obtain government positions. Indeed, as mentioned, Table 1 shows that households with connections do have somewhat higher income than other households. The reason for not including income in the preferred specification is that it may be endogenous. A main, potential purpose of investment is to generate higher levels of income. On the other hand, investment in the current period may also lead to lower earnings in this period, even if it raises income in the future. For example, perennial crops typically do not yield any harvest until a few years after planting. Regression 1 in Table 3 ignores these concerns and includes a measure of real household income, in logs. This variable enters significantly, but with a negative sign. The coefficient on connections to officials is still significant and changes very little as a result of this exercise. If a measure of income from other sources than agriculture is included, in order to reduce the effect of reverse causality from investment to income, results are quite similar, although the coefficient on income is now insignificant (not shown).

Second, the investment variable is highly skewed. While the logarithmic transformation goes a long way towards reducing the influence of high outliers, it is nevertheless prudent to also check the effect of excluding extremely high observations from the estimation sample. Regression 2 therefore excludes observations more than three standard deviations above the mean on the investment measure. Again, the estimated coefficient on relatives with public office remains positive and significant.

Third, as discussed above, a drawback of the fixed effect tobit estimator is that cluster-robust standard errors cannot be calculated. While the household fixed effects probably remove the most important source of intra-cluster autocorrelation, it is still

interesting to estimate models where clustered standard errors can be calculated. Regressions 3 and 4 in Table 5 report results from a linear fixed effects model for total investment and a conditional logit model for undertaking any investment, respectively. Both regressions include cluster-robust standard errors and in both cases the effects of relatives in government are positive and significant.

In sum, results strongly support the view that family ties to public officials lead to increased levels of land-related investment. In the following sections, we investigate which channels of causation bring about these results.

6. Property rights

As already argued, one channel through which connections to officials may affect investment is property rights. Table 4 presents regressions for two different measures of property rights. First, we consider the share of a household's farm land which is held with a LURC. LURCs endow holders with a number of rights, and local officials have considerable discretion in the process of issuing LURCs. Second, we consider an indicator for having been expelled from at least one plot of land by the state during the past two years. This category does not include all transfers of land to the state. Only cases where households explicitly say that they were 'expelled' are included. In both 2008 and 2010, the state was responsible for at least 95 per cent of the cases where households were expelled from land. Hence, 'land grabs' by private agents are rare, and government land expropriation is the main source of tenure insecurity.

Control variables in Table 4 are generally the same as in Table 2. However, in the regression for share of land with LURCs, we include the log of farm land owned, rather than operated, because households do not hold LURCs for land they rent.⁶ In the regressions for having lost land to the state, we include the amount of land owned *including* the land which was expropriated. For example, if concerns about equality of the land ownership distribution play a role in state land expropriation decisions, then initial land holdings are the relevant factor to consider. The variables for share of land with restricted crop choice and share of rented land are not included. These factors should not affect LURC status and may be endogenous.

⁶ We refer to land to which the household has the use rights as 'owned land', even if the land is strictly speaking still owned by the state.

For the share of land held with a LURC, linear regressions are used. Results are similar if we use logit models for having any land with a LURC or for having LURCs for more than half of the area owned. In the models for being expelled by the state, we use random effects and conditional (fixed effect) logit models. Results are similar if tobit models for the amount of land expropriated are used instead (results not shown).

Results show that family ties to officials have no effect on the share of land held with a LURC. This is true in the random as well as the fixed effects models used. This indicates that even if officials demand bribes for issuing certificates (World Bank 2009, Davidsen et al. 2010), they do not discriminate in favour of family members.

The regressions for being expelled by the state paint a different picture. In the random effects model the effect of having a relative with public office is negative but not significant. In the fixed effects model, on the other hand, a strong and statistically significant, negative effect of family connections to officials appears. Having a relative with a public office is associated with a significant drop in the risk of having land expropriated. Again, as a robustness check, we replace the indicator for family connections with the indicator for having either friends or relatives who are officials. The negative effect of connections to officials is robust to this modification.

These findings indicate that while *formal* land rights are not strongly affected by personal connections to public officials, *de facto* property rights are in fact strengthened by having such ties.

7. Credit

Another possible explanation for the investment differential between well-connected households and others is variation in access to credit. Local officials play an important role in the allocation of loans from state-run lending institutions. Also, connections to officials may improve access to informal loans, either because farmers can borrow money directly from officials, or because officials facilitate connections to lenders or act as guarantors for a loan. If it is well known in the local community who is connected with whom, and connections with officials are known to improve a household's earnings-potential, then having a connection should improve credit-worthiness assessments.

Table 1 shows that in 2010, 37 per cent of households had an outstanding formal loan and 17 per cent had an informal loan. Table 5 presents regressions for currently

having a loan with, respectively, formal and informal lenders. Again, the set of control variables is similar to those used in Table 2. Owned farm land is used instead of operated land, because only owned land can be used as collateral.

Random and fixed effects logit models for having a loan are presented. Results are similar if tobit models for the amount borrowed are used (not shown). The results show that family connections to officials are positively associated with having formal as well as informal loans. However, the effect of connections is not significant in the regressions for having a formal loan. In the models for having an *informal* loan, on the other hand, relatives with public offices have a stronger and statistically significant effect in random as well as in fixed effects models. Again, the significant effect remains when connections to friends as well as relatives are considered (in regression 5), although the point estimate is considerably *lower* in this model than in the one considering only connections with relatives. This indicates the existence of a strong norm for helping family members obtain access to credit.

These findings suggest that access to credit, especially from informal lenders, is one of the reasons behind the effect of connections to officials. Clearly, the effect of connections to officials on access to credit may in principle simply be a result of the effect on property rights discussed in section 6. As emphasized by de Soto's (2000) famous remark, stronger property rights ease access to borrowing because it makes it easier to put down assets as collateral. On the other hand, there may well also be a direct effect of connections on access to credit. As discussed above, local government officials play a significant role in screening loan applicants and may also act as informal lenders themselves.

Another interesting result emerging from Table 5 is the strong, positive effect of group membership on use of credit. The explanation is likely that mass organizations play an important role in screening potential borrowers. To obtain approval from commune authorities to borrow from VSPB or VBARD, a letter of recommendation or similar is often required from the Women's Union, Farmers' Union or other mass organization.

8. Labour market participation

Improved access to credit may facilitate investment because it lowers the price of capital. It may also matter, namely because borrowing often functions as an ex-post risk

management strategy. Since informal loans are typically available more quickly and on more flexible terms than formal ones, they may play a particularly important role in this respect.

Another risk-coping mechanism is diversification of income sources. The opportunity to take up wage work when desired may considerably lower the risk of experiencing a drop in living standards if an investment project fails. Therefore, an alternative explanation for the effect of connections to officials on investment is that officials help their friends and relatives get access to jobs.

Based on this motivation, Table 6 presents random and fixed effects logit regressions for reporting household participation in the labour market. For connections with non-relatives, endogeneity is an important concern here, even in fixed effects models. While connections may well facilitate access to jobs, jobs may clearly also bring about connections. Again, however, these concerns are effectively addressed by focussing exclusively on connections to relatives, rather than non-relatives. Getting a job may plausibly lead to the generation of a new friendship with an official. It is much less likely that a new job leads a person to get a new *relative* who is an official.

Control variables are again similar to those used in Table 2. Owned rather than operated land is used because the latter is likely to be less affected by endogeneity. The share of operated land rented is excluded due to concerns about endogeneity. Including this variable does not, however, alter the main results.

Results show a positive and statistically significant effect of family ties to officials on the probability of participating in labour markets. The effect is present in fixed as well as in random effects models. It is significant both in models where the indicator for connections to relatives only is included and in those where the indicator for any connections is used, although in the fixed effects models only at the 10 per cent level. These findings support the view that connections to officials facilitate access to wage employment. When indicators for wage employment are introduced in the regressions in Tables 2 and 3, the effect of relatives with public office does not disappear. Hence, the effect of family ties to officials on investment does not appear to operate through *current* wage work. However, the knowledge that wage work is available *in the future* may significantly increase a farming household's willingness to invest because, as discussed, the opportunity to engage in wage work functions as a risk-coping strategy.

9. Motivation of officials

The results presented indicate that public officials tend to bias decisions in favour of their own relatives. What motivates such behaviour? The answer to this question has important consequences for how the results should be interpreted and for the policy implications drawn. Consider the following simple model of the optimization problem faced by an official. There are N households in a commune. The first r of these households are relatives of the official, while the others are not. x_i is the consumption level of household i . U is a concave utility function. λ is the weight the official attaches to the welfare of non-family members, relative to members of the extended family. c_r is the local government's net cost of providing one unit of consumption for a household related to the official. c_n is the net cost of providing a unit of consumption for non-relatives. B is the budget controlled by the official. The official's problem is:

$$\begin{aligned} \max \quad & \sum_{i=1}^r U(x_i) + \lambda \sum_{i=r+1}^N U(x_i) \\ \text{s.t.} \quad & c_r \sum_{i=1}^r x_i + c_n \sum_{i=r+1}^N x_i \leq B \end{aligned}$$

The official maximizes a weighted sum of the households' utility functions subject to a budget constraint. Now, favourable treatment of relatives may originate either in the official's objective function or in the constraints faced. If λ is lower than one, the official has a 'taste for discrimination', in the words of Gary Becker (1971). A low value of λ clearly results in favourable treatment of relatives. Alternatively, relatives may receive favourable treatment because the *cost* of securing a certain level of consumption for a household related to the official is lower than the cost of securing the same consumption level for another household ($c_r < c_n$). In particular, social ties between relatives may lower the transaction costs of different kinds of activities. For example, the local government may extend subsidized loans to families, as in the case of the VSPB programme in Vietnam. If the government's ability to secure loan repayment is imperfect, social ties between officials and borrowers potentially serve to reduce the risk of default. As a second example, the government may employ people for a wage. If monitoring of workers is costly, social ties between officials and workers are potentially useful in terms of reducing the wage worker's incentive to shirk. From this perspective, connections between officials and their relatives are social capital that facilitates the smooth running of transactions.

The results presented so far do not provide direct evidence on the motivations driving the behaviour of officials. Nevertheless, they give some indications. First, the finding that relatives of officials are less likely than others to have land seized by the government is difficult to reconcile with the view that favourable treatment of relatives is due to lower transaction costs of dealing with relatives. It is difficult to think of efficiency gains that may result from providing stronger property rights protection to relatives than to others. This finding therefore indicates that discrimination in favour of relatives at least to some extent springs from the objective function of officials. On the other hand, the findings that relatives of officials have privileged access to credit and to wage employment fits the transaction cost story better. It is entirely possible that favourable treatment of relatives in these fields is driven by a taste for discrimination, but it may also be that, *given* the informational asymmetries and limits to contracting present in the local economy, preferential treatment of officials' relatives is efficient in these fields.

In any case, we believe the explanation in terms of a taste for discrimination rests on a stronger basis. In the fields of property rights protection as well as credit provision, the findings indicate that officials prefer informal rather than formal channels of distributing benefits to relatives. In particular, connections with officials have no effect on the share of land held with a formal title, but do affect the real risk of losing land to the state. Family ties with officials have a stronger effect on access to informal than formal loans. Informal channels of redistribution are more difficult to monitor for the bodies that may hold officials accountable for their conduct (local populations as well as higher levels of government) than formal channels. A preference for using informal channels of redistribution indicates in our assessment that officials seek to hide these transactions from their principals. Now, the rationale for hiding redistribution is stronger if it is driven by the private preferences of officials than if it results from efficiency concerns. If it is common knowledge that relatives of officials work harder in government jobs and repay loans with higher probability, favourable treatment of these households should be quite legitimate. If so, the effect of ties with officials should be equally strong for formal as for informal channels of redistribution.

Whether favourable treatment of relatives springs from the officials' objectives or constraints, policy action is called for. The 'first-best' allocation of government resources should hardly be based on kinship relations with public officials. However,

policy recommendations differ depending on our interpretation of an official's motivation. If favourable treatment of relatives is based on a taste for discrimination, strengthening of the accountability of officials is called for. Stronger accountability increases the probability that officials with strong, nepotistic preferences are replaced and therefore also forces the officials' (derived) preference for discrimination down. Accountability may be strengthened by increased public participation in local government, for example through a strengthening of People's Councils and the introduction of more competitive local elections. On the other hand, if favourable treatment of relatives is based on lower costs of transactions with these households, action is needed to reduce the cost of transactions between officials and non-relatives. If strategic default on government loans is an issue, the introduction of group lending schemes or improved systems to gather and distribute credit history data may be important. If shirking among government employees is the issue, strengthening of incentives to increase effort at the job is of key value.

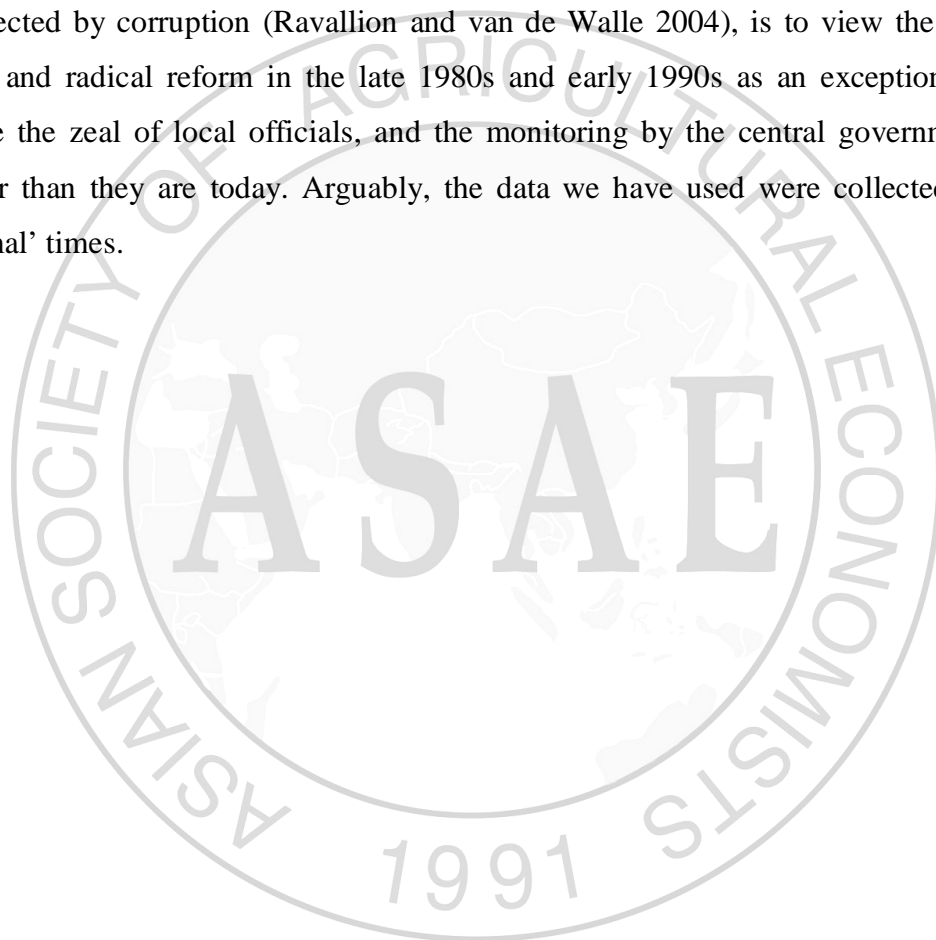
10. Conclusion and discussion

This paper has investigated the political economy of agricultural investment in rural communities in Vietnam. We find that family ties to local government officials lead households to significantly increase their levels of land-related investment, for example in perennial crops and in soil and water conservation. Our results suggest that connections to officials lead to increased investment because they strengthen land property rights and improve access to credit and labour markets. The findings also indicate that officials have a preference for using informal rather than formal means of redistributing resources to their relatives. The main results all hold in models with household fixed effects, suggesting that they are not caused by unobserved, fixed household characteristics which drive both investment decisions and the quality of social networks.

The findings underline the economic importance of informal connections, particularly in environments where property rights institutions and markets for credit and insurance are not fully developed. Future research should attempt to further advance our understanding of the motivations behind nepotistic behaviour of local government officials. As stated above, we believe that the effects of family ties to public officials presented in the paper are (at least to some extent) based on a taste for discrimination

among officials. Therefore, measures to increase the accountability of local governments in Vietnam are called for.

The literature on land reform in Vietnam has tended to paint a largely positive picture of the effects of reform and the role of local government in implementing it. We do not dispute the findings of these studies, but our results do indicate that elite capture and nepotism play important roles in the present day local political economy of land relations in Vietnam. One way to reconcile our findings with, for example, Ravallion and van de Walle's conclusion that the process of de-collectivization was largely unaffected by corruption (Ravallion and van de Walle 2004), is to view the period of rapid and radical reform in the late 1980s and early 1990s as an exceptional epoch, where the zeal of local officials, and the monitoring by the central government were higher than they are today. Arguably, the data we have used were collected in more 'normal' times.



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Table 1 Descriptive statistics (means)				
		<i>Hh has relative with public</i>		
		No	Yes	All
<i>Connections to officials</i>				
	Relative or friend with public office	0,10	1,00	0,29
	Relative with public office	0,00	1,00	0,21
	Friend with public office	0,10	0,38	0,16
<i>Land-related investment</i>				
	Invested in land improvement	0,44	0,56	0,46
	Invested in soil and water cons	0,36	0,48	0,38
	Invested in perennial crops	0,10	0,10	0,10
	Invested in aquaculture	0,05	0,07	0,06
	Invested in other structures	0,04	0,06	0,04
	Total investment in land improvement	1,960	2,711	2,121
	Investment in soil and water cons.	475	778	540
	Investment in perennial crops	225	343	250
	Investment in aquaculture	363	674	429
	Investment in other structures	897	915	901
<i>Other variables</i>				
	Household income	41.717	53.309	44.201
	Number of groups the hh belongs to	1,51	1,83	1,58
	Number of wedding attended	15,77	21,51	17,00
	Household size	4,35	4,21	4,32
	Operated farm land, sqm.	7.595	8.495	7.788
	Age of household head	52,95	53,92	53,16
	Years of schooling of household head	6,34	7,31	6,55
	Female household head	0,23	0,16	0,21
	Share of land with LURC	0,70	0,79	0,72
	Share of land with restrictions	0,25	0,23	0,24
	Share of land rented	0,07	0,05	0,07
	Expelled by state from land in last two y	0,04	0,04	0,04
	Has formal loan	0,35	0,42	0,37
	Has informal loan	0,17	0,18	0,17
	Used extension services in last year	0,40	0,40	0,40
	Number of extension visits received	0,23	0,23	0,23
	Number of extension meetings attended	0,91	1,10	0,95

Note: Statistics for 2010. N=1990. Only households who own or operate agricultural land are included. Households with public officials are excluded. On the value of investment variables, two extremely high outliers are excluded (both of them have relatives with public offices). Money values are in '000 Vietnamese Dong. Prices are adjusted for inflation and regional price-variation, using 2008 prices in the Red River Delta as the basis.

Table 2 Investment and connections to officials				
	<i>ln(k)</i> :			
	RE-tobit	FE-tobit	RE-tobit	FE-tobit
Relative with public office	1.290***	0.941**		
	[3.73]	[2.07]		
Relative or friend with public office			1.690***	1.235***
			[5.31]	[3.34]
Number of groups the hh belongs to	0.455***	0,129	0.435***	0,124
	[2.94]	[0.59]	[2.81]	[0.56]
Number of wedding attended	-0.019*	-0,009	-0.021*	-0,009
	[1.76]	[0.60]	[1.91]	[0.65]
Hh members aged 15-64, log	-0,106	0,989	-0,107	0,997
	[0.30]	[1.35]	[0.30]	[1.38]
Operated farm land, log	2.181***	1.194***	2.157***	1.202***
	[14.36]	[2.67]	[14.24]	[2.69]
Age of head	0,007	-0,185	0,014	-0,161
	[0.08]	[0.38]	[0.18]	[0.33]
Age of head, squared	0,000	0,002	0	0,001
	[0.39]	[0.39]	[0.47]	[0.34]
Years of general education of head	0,066	0,125	0,057	0,119
	[1.38]	[1.07]	[1.21]	[1.01]
Female head	0,272	-0,761	0,273	-0,684
	[0.69]	[0.44]	[0.69]	[0.38]
Share of land with LURC	-0,339	-0,41	-0,362	-0,411
	[0.89]	[0.72]	[0.95]	[0.72]
Share of land with restrictions	0,069	0.961*	0,087	0.920*
	[0.16]	[1.77]	[0.21]	[1.68]
Share of land rented in	0,925	0,083	1,021	0,28
	[1.13]	[0.05]	[1.25]	[0.16]
Year = 2010	1.355***	1.537***	1.285***	1.455***
	[4.76]	[4.85]	[4.51]	[4.58]
Observations	3633	3338	3633	3338
Number of households	1964	1669	1964	1669

Absolute value of z statistics in brackets. Households with officials are excluded. The first and third regressions are random effects tobit models and includes province indicators. Regressions 2 and 4 are household fixed effects tobit models, based on Honoré (1992). The trimmed least squared estimator proposed by Honoré is used. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3 Investment and connections to officials, robustness tests

	<i>Dependent variable</i>			
	<i>ln(total investment + k) - ln(k)</i>		<i>Any investment = 1</i>	
	FE, linear	FE-tobit	FE-linear	FE-logit
Relative with public office	0.937** [2.07]	0.854* [1.89]	0.675** [2.13]	0.388** [1.96]
Total hh income, log	-0.776*** [2.92]			
Number of groups the hh belongs to	0.128 [0.59]	0.097 [0.44]	0.082 [0.54]	0.022 [0.25]
Number of weddings attended	-0.002 [0.18]	-0.004 [0.26]	-0.007 [0.87]	-0.006 [1.03]
Hh members aged 15-64, log	1.237* [1.68]	0.992 [1.35]	0.499 [1.18]	0.194 [0.83]
Operated farm land, log	1.164** [2.52]	1.237*** [2.75]	0.758** [2.51]	0.356** [2.04]
Age of head	-0.066 [0.13]	-0.197 [0.40]	-0.017 [0.12]	-0.075 [0.70]
Age of head, squared	0.001 [0.13]	0.002 [0.40]	0.000 [0.15]	0.000 [0.59]
Years of general education of head	0.139 [1.19]	0.117 [1.00]	0.066 [0.96]	0.041 [1.05]
Female head	-0.468 [0.28]	-1.063 [0.60]	-0.389 [0.45]	-0.705 [1.21]
Share of land with red book	-0.467 [0.84]	-0.215 [0.38]	-0.239 [0.71]	-0.157 [0.68]
Share of land with restrictions	1.093** [2.04]	0.776 [1.43]	0.583 [1.32]	0.303 [1.07]
Share of land rented in	0.305 [0.18]	-0.696 [0.38]	0.047 [0.04]	-0.073 [0.09]
Year = 2010	1.738*** [5.54]	1.553*** [4.89]	0.881*** [3.11]	0.500*** [2.90]
Permutation relative to regression 2 in	Income	Outliers	Linear model	Logit model with
Table 2	controlled	excluded	with clustered	clustered standard
			standard	errors
			errors	
Observations	3230	3308	3338	1224
Number of household	1615	1654	1669	612

Absolute value of z statistics in brackets. Households with officials are excluded. In regression 1, a few households with negative income or missing data on total income are excluded. Regression 4 is a linear fixed effects model and regression 5 is a conditional logit. In these models, standard errors are clustered by commune. In the logit model, households with not variation on the dependent variable are excluded, which explains the low number of

observations in regression 5. The other regressions are household fixed effects tobit models, based on the estimator developed in Honoré (1992). * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4 Connections and property rights

	<i>Dependent variable</i>				
	Share of land with		Expelled from land by the state in		
	LURC		past two years		
	RE-GLS	FE-REG	RE-LOGIT	FE-LOGIT	FE-LOGIT
Relative with public office	0.012 [0.72]	0.004 [0.18]	-0.224 [0.83]	-1.084*** [2.74]	
Relative or friend with public office					-0.916** [2.50]
Number of groups the hh belongs to	0.006 [0.62]	-0.002 [0.18]	0.13 [1.15]	0.287 [1.07]	0.274 [1.06]
Number of weddings attended	0.001 [0.89]	0.000 [0.17]	-0.01 [1.28]	-0.02 [0.92]	-0.019 [0.93]
Hh members aged 15-64, log	0.047** [2.48]	-0.01 [0.32]	0.693** [2.43]	0.514 [0.66]	0.454 [0.59]
Owned farm land, log	-0.025*** [2.69]	-0.03 [1.11]			
Initial farm land owned, log			-0.041 [0.32]	0.824 [1.35]	1.066* [1.81]
Age of head	0 [0.03]	-0.014* [1.70]	-0.025 [0.36]	-2.086*** [2.70]	-1.989*** [2.64]
Age of head, squared	0.000 [0.93]	0.000* [1.94]	0.000 [0.62]	0.008* [1.72]	0.008* [1.73]
Years of general education of head	0.008*** [2.97]	0.005 [1.24]	0.076* [1.88]	0.087 [0.79]	0.088 [0.79]
Female head	0.008 [0.36]	-0.02 [0.45]	0.611** [2.08]	32.505 [1.03]	26.724 [0.88]
Year 2010	-0.044*** [2.96]	-0.037** [2.53]	0.126 [0.65]	2.570* [1.93]	2.379* [1.91]
Observations	3739	3466	3748	208	208
Number of household	2006	1733	2010	104	104

Robust z statistics in brackets. Standard errors clustered by commune, except in regression 3. Households with officials are excluded. Province dummies are included in the random effects models. In the fixed effects (conditional) logit models, households with no variation on the dependent variable are excluded. This explain the low numbers of observations in the last two regressions. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5 Connections and use of credit

	<i>Dependent variable</i>				
	Hh has formal loan		Hh has informal loan		
	RE-	FE-	RE-	FE-	FE-
Relative with public office	0.054 [0.45]	0.032 [0.18]	0.295** [2.52]	0.699*** [3.45]	
Relative or friend with public office					0.339* [1.93]
Number of groups the hh belongs to	0.216*** [4.03]	0.105 [1.37]	0.159*** [3.06]	0.212** [2.47]	0.226*** [2.60]
Number of weddings attended	0.007* [1.88]	0.004 [0.84]	-0.001 [0.16]	0 [0.04]	0.001 [0.10]
Hh members aged 15-64, log	0.510*** [3.80]	0.22 [0.85]	-0.129 [1.06]	-0.397 [1.31]	-0.471 [1.56]
Owned farm land, log	0.259*** [4.59]	0.166 [0.94]	0.015 [0.30]	0.460* [1.77]	0.507** [1.97]
Age of head	0.021 [0.67]	-0.049 [0.35]	-0.035 [1.25]	-0.017 [0.12]	-0.012 [0.09]
Age of head, squared	0.000 [1.22]	0.000 [0.18]	0.000 [0.58]	0 [0.03]	0 [0.02]
Years of general education of head	0.024 [1.35]	-0.054 [1.22]	-0.062*** [3.88]	-0.021 [0.41]	-0.021 [0.42]
Female head	0.118 [0.79]	-0.242 [0.38]	0.043 [0.33]	-0.418 [0.62]	-0.324 [0.48]
Share of land with red book	0.194 [1.43]	-0.609** [2.50]	0.125 [1.01]	0.103 [0.41]	0.134 [0.55]
Share of land with restrictions	-0.17 [1.16]	0.095 [0.40]	0.092 [0.68]	0.454 [1.61]	0.346 [1.24]
Share of land rented in	1.126*** [3.68]	1.536*** [2.64]	0.471* [1.82]	1.184 [1.51]	1.320* [1.69]
Year 2010	0.150* [1.72]	0.233* [1.89]	0.292*** [3.08]	0.292** [2.08]	0.250* [1.77]
Observations	3396	1078	3396	900	900
Number of household	1698	539	1698	450	450

Robust z statistics in brackets. Standard errors clustered by commune, except in regression 1 and 3. Households with officials are excluded. Province dummies are included in the random effects models. In the fixed effects (conditional) logit models, households with no variation on the dependent variable are excluded. This explain the low numbers of observations in the last two regressions. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 6 Connections and wage work

	<i>Dependent variable</i>			
	RE-LOGIT	FE-LOGIT	RE-LOGIT	FE-LOGIT
Relative with public office	0.290** [2.06]	0.363* [1.80]		
Relative or friend with public office			0.309** [2.40]	0.362* [1.86]
Number of groups the hh belongs to	0.103* [1.70]	0.079 [0.88]	0.103* [1.69]	0.08 [0.91]
Number of weddings attended	-0.007* [1.78]	-0.007 [1.14]	-0.008* [1.81]	-0.007 [1.09]
Hh members aged 15-64, log	1.881*** [11.09]	1.884*** [5.98]	1.877*** [11.08]	1.884*** [6.03]
Owned farm land, log	-0.516*** [7.53]	-0.302 [1.09]	-0.520*** [7.57]	-0.295 [1.05]
Age of head	-0.054 [1.50]	0.064 [0.54]	-0.053 [1.45]	0.071 [0.60]
Age of head, squared	0.000 [0.85]	-0.001 [0.94]	0.000 [0.81]	-0.001 [0.99]
Years of general education of head	-0.047** [2.28]	-0.108** [2.46]	-0.049** [2.35]	-0.114*** [2.61]
Female head	0.837*** [4.59]	0.047 [0.06]	0.835*** [4.58]	0.089 [0.11]
Share of land with red book	0.2 [1.32]	0.144 [0.64]	0.195 [1.28]	0.131 [0.59]
Share of land with restrictions	-0.045 [0.27]	-0.145 [0.59]	-0.047 [0.28]	-0.161 [0.65]
Year 2010	0.268*** [2.78]	0.350*** [3.08]	0.256*** [2.65]	0.336*** [2.98]
Observations	3738	950	3738	950
Number of household	2006	475	2006	475

Robust z statistics in brackets. Standard errors clustered by commune, except in regression 1 and 3. Households with officials are excluded. Province dummies are included in the random effects models. In the fixed effects (conditional) logit models, households with no variation on the dependent variable are excluded. This explains the low numbers of observations in the last two regressions. * significant at 10%; ** significant at 5%; *** significant at 1%