Limited Horizons and the Persistence of Collective Farms in Post-Soviet Agriculture

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Abstract
Agricultural transition in the former Soviet Union has, surprisingly for many observers, not led to a widespread adoption of individual farming. This article attempts to understand some previously neglected forces behind this outcome. It develops a theoretical model of farm restructuring in which managers exploit the preferences of workers for conformity within a social reference group to cement their own power. The model provides a rationale for the persistent support among workers and managers to the status-quo organisation, despite the availability of a more efficient individual farming option. Based on empirical evidence, we argue that managers have an incentive to keep horizons of workers limited by sheltering them from pro-reform influences. Polar reform equilibria are generated that are consistent with the observed spatial patterns of restructuring. The model predicts that policies aiming at the establishment of independent farms will fail unless they induce a ‘big push’ in reform attitudes among workers.

Keywords
Agricultural transition; former Soviet Union; social interaction effects; farm restructuring.

JEL classification
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1 Introduction

After one and a half decades of agricultural transition in the former Soviet Union, economists continue to be puzzled by the lack of change in farming organisation in all but a few successor countries. The persistence of large farms is particularly outstanding in Ukraine and Russia. Although entrusted with formal property rights in land and assets, agricultural workers as the new owners seem to be quite hesitant to establish smaller family farms. Due to their prevalence in most market economies, these have commonly been regarded as a blueprint for farm restructuring (Koester 2005). However, as Lerman et al. (2004, 123) note in a recent monograph on the state of agricultural transition in this region,

“The overwhelming majority of farm workers in Russia, Ukraine, and Moldova prefer to keep their land and asset shares in the former collective, which in the meantime has reregistered as a corporate farm with a new market-sounding name. They waive their right of exit, at least for the time being, and pool their resources to create a corporate structure.”

A common explanation for this absence of change has been that exit costs for individual workers are too high, because they lack the physical and human resources to take the risk of running a business on their own, and because up- and downstream markets are still largely geared to large collective successor farms (See Mathijs and Swinnen 1998 and Rizov 2003 for expositions of these arguments).

There is no doubt that lacking resources and pervasive market imperfections are major reform obstacles. However, this explanation remains unsatisfying or at least incomplete because it is unable to deal with a number of observations that have been made in the course of transition.

First, why is it that not only the managers of large farms, but also the group of agricultural workers apparently stand united to oppose the establishment of smaller private farms in those countries where reform is stagnating? Koester (2005, 109) summarises the attitude of managers as follows: “Managers were used to feeling socially responsible for the employees on the farm. … [They] believe in a specific role of the state, namely to accept social responsibility for the survival of the large farms.” With regard to farm workers, Lerman et al. (2004, 158) report that:

“Only 6-7% of respondents in household surveys in Russia and Ukraine indicate that they would like to exit the farm enterprise with their share of land and assets and establish a private farm. Nearly half the respondents in Ukraine (47%) are even opposed in principle to the right of exit with land and asset shares, although this right is protected by existing laws.”

Second, why is it that local up- and downstream markets do not develop to better serve the needs of small farmers? If family farms are a superior mode of organisation, economic incentives exist to overcome prevailing market imperfections. An explanation is hence required why individual entrepreneurs do not emerge to set up a more favourable business environment for private farmers, as it does exist in most Western economies.

Third, why do we observe such a striking duality in reform patterns across the Commonwealth of Independent States (CIS)? Whereas large farm structures remained more or less untouched in Ukraine, Russia, Belarus and the Central Asian republics, there has been a complete dismantling of collectives and a far-reaching individualization of agriculture in the Baltics and the Trans-Caucasian countries Armenia, Azerbaijan and Georgia (Rozelle and Swinnen 2004). It seems that resource endowments and market failures
are matters of degree, so that more evenly distributed reform outcomes across countries and regions would have been expected.

This paper offers an alternative explanation for the persistence of pre-reform farming structures in the CIS countries that is consistent with these observations. It is based on the argument that corporate farm managers exploit the tendency of workers for conformity within the collective to cement their own power. Building on commonplace observation and theories of social psychology, we argue that farm workers have preferences for behaving in conformity with peers. We then assume that farm managers benefit from the pre-reform status quo, because it assures them access to income, local power and prestige. These managers may find it expedient to manipulate their workers in a way that they reject any organisational change as being not conform with the norm. It is suggested that workers either receive monetary benefits in exchange for behaving loyally to the manager, or managers may actively keep the horizon of farm workers limited. They do this by withholding information concerning privatisation rights, preventing political organisation, not allowing outsiders to invade the village or start businesses with defecting workers, and by stressing the necessity of ‘collective solutions’ to problems.

By modifying a framework due to Schaffner (1995), these arguments are formalised and their theoretical implications derived. It is shown that farm managers have an incentive to employ workers that are loyal to them and to alienate outsiders who might undermine this loyalty, and that they may be willing to sacrifice farm profits for benefits that arise from keeping the pre-reform structures. Workers in turn may find the status-quo organisation of agriculture just ‘normal’ and thereby perpetuate its existence, although a higher paying reform alternative exists. Whether farm managers pay workers higher wages to keep them loyal or whether they sequester them depends on the relative costs of both options, and a mixture of both strategies may prevail in a given region. A regional equilibrium is derived in which either all corporate farms in a given area remain intact or all farms are dissolved. These implications are shown to be largely consistent with the evidence.

The paper is organised as follows. In the following section 2, we motivate our approach by summarising recent evidence on social interaction effects and authority structures in post-Soviet rural areas. Section 3 presents the formal model. Sections 4 and 0 derive its implications with regard to loyalty elicitation strategies and the formation of regional reform equilibria. In section 6, the model results are confronted with further empirical evidence. Section 7 concludes.

2 Group conformity and patronage in the post-Soviet countryside

Introspection and casual empirics confirm that a human tendency for conformity is ubiquitous in everyday life. It has its theoretical foundations in the social psychology literature and can be defined as the dependence of individual preferences on the behaviour of a social reference group. According to Aronson (1992, 13-33), conformity is reinforced if the majority of the group has an unanimous opinion, if the other group members are important and comparable to the individual, or if the individual fears social punishment by peers. Schaffner (1995, 249) hence argues that it is particularly strong in rural communities where the individuals’ work, kinship, social and religious groups are almost coincident. In addition, people have a tendency for conformity if the environment of the individual becomes increasingly uncertain, so that the behaviour of others
provides guidance on what is the right thing to do (Aronson 1992, 28). In the transitional context of farm restructuring in the CIS, this is likely to be a relevant factor.

It is therefore not surprising that a number of studies have found evidence in favour of deeply rooted preferences for group conformity in rural areas of the former Soviet Union. The strong social consensus on the rules of the Russian village is described by Paxson (2002), who mentions the moral obligation to work together and to help each other in the village community; a generally strong emphasis of reciprocity; and the resentment to carry out cash transactions with a socially close individual. She also reports that the subordination of one’s own will to that of the group is a virtue explicitly endorsed by villagers.

Of particular importance for the moral economy of the Russian village seems a socially sanctioned, egalitarian wealth distribution (Paxson 2002). Haimson (1988) stresses how homogenous and self-contained peasant communities were at the eve of collectivisation in the early twentieth century. This led to a strong refusal of the idea that land is treated as a commodity that could be sold to outsiders of the community. Schulze (2002) cites a number of recent polls which consistently show that the rural population rejects buying and selling of land. Acquiring land for personal benefit is seen as ‘conflicting with the norm’ (p. 314). Schulze argues that this attitude goes back to the traditional land commune obshchina, and that it was probably reinforced by the comparatively long period of collectivised agriculture in the Soviet Union. Schmemann (1997, 314) writes, based on experiences in a central Russian village:

“The communal mentality of the prerevolutionary countryside was only strengthened by collectivization, and those peasants who stayed on the land stayed there precisely for the sense of collective security offered. To grab a large piece of land for oneself and to milk it for money was to spit in the face of the collective and to lose its protection.”

These insights suggest that it may be a shortcoming to neglect the importance of group-based social norms and their influence on individual decision-making in the post-Soviet countryside.

The hierarchical authority structures in post-Soviet rural areas are another fact frequently mentioned in the literature. In discussing the reasons for the lacking restructuring of collective farms, Lerman et al. (2004, 149) argue that:

“[A] factor that must not be ignored is the traditional power of the manager, both as an omniscient community leader who decides everything in the village and as a representative of the outside authorities (regional or federal). In many instances, the manager exercises influence to prevent deep restructuring and preserve the large-scale organization as a way to keep his power and his perquisites. Personal survival is a behavioral factor that influences and motivates the decisions of managers in all corporations, and farm managers in transition economies are not an exception.”

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1 The obshchina or mir was a communal organization based on joint ownership of land that emerged from ancient tribal communities in rural Russia. As a special legal relationship between landlords, state and labourers, it had the power of local jurisdiction and periodical land redistribution, according to family size. Members were collectively responsible for taxes levied against the obshchina. The system was practised until the beginning of the Russian civil war (see Paxson 2002; Schulze 2002 for overviews).

2 An early articulation of the idea that emerging private farmers threat the local power of established farm chairpersons who therefore might steer the reform process according to their own interest is Van Atta (1993). More recently, Valentinov and Nedoborvsky (2005) have reaffirmed this point for Ukraine.
In an in-depth study of two rural regions in Ukraine and Russia, Allina-Pisano (2002) finds that these tendencies have been reinforced during the transition period (pp. 310-11):

“Declines in production meant that many of the lines of interdependence that support household and enterprise economies became lines of mere dependence. The flexible quid pro quo … came to resemble a precarious entitlement system that requires workers to be on good terms with managers as much as possible at all times. With his control of inputs for household production, his connections with district administration, his ability to conduct informal large-scale transactions for fuel, sugar, and other commodities on behalf of the enterprise, the chairman of a farm literally holds the fate of its workers in his hands. As every villager learns, … ‘it’s better to keep silent or ‘say yes sir’’”.

She concludes (p. 314):

“Farm managers and district administrators – as gatekeepers to the exercise of enterprise members’ ownership rights – gained de facto ownership of land and with it, the autonomy and economic incentive to persist in their new roles as leaders in a quasi-feudal system.”

In Allina-Pisano (2004, 501-7), the author describes how chairmen of collective farm successors and other local authorities were intimidating those who left to set up their own private farm. Apparently common harassment practices included attempts to turn public opinion against private farming by launching critical articles in the local press, publicly belie it as something strange, suspicious and worthy of ridicule, up to acts of open violence against family members of private farmers.

Furthermore, it is shown how authorities used the notion of the stranger and outsider as an instrument to drive a wedge between the (loyal) rural population and private farmers. The fact that many of these independent farmers emerged from marginal groups of the rural society, such as single women or members of ethnic minorities, was publicly denounced, and representatives were insulted and called ‘Gypsies’.

There are hence various ways in which social and political pressure is exerted to force villagers into a behaviour that is supportive of the goals of local authorities. Dependence on the latter “cowers people into what is quite rational political passivity in the circumstances”, as Humphrey (2002, 155) notes.

Building on these observations of local power structures, we examine their interaction with the commonly observed tendency among villagers to behave in conformity with their peers, which makes it particularly easy for the farm chairperson or manager to manipulate his or her workers.

### 3 A model of manager-induced organizational stability in post-Soviet agriculture

Our model formalises the idea that corporate farm managers exploit the tendency of workers for conformity within the collective to cement their own position and power. It has been inspired by an approach due to Schaffner (1995), who analyses the stability of servility arrangements in feudal, pre-capitalist agriculture. Schaffner argues that if workers prefer to do what their peer workers do, farmers of large estates may have an incentive to limit the day-to-day contact between their own labour force and non-servile workers in order to create a servility culture on the farm. She thus introduced the notion of ‘keeping the horizons limited’ as a strategy to secure power relations within an administrative hierarchy. We adopt this idea and apply it to post-Soviet agriculture which, according to several authors mentioned in the previous section, displays a number of parallels to feudal agricultural systems. In contrast to Schaffner, and more in line with
reality, we focus on a one-tier labour market and do not model alternative wage contracts. Instead, we introduce the possibility that farm workers may leave the collective and set up their own individual farm. In addition, to keep the model simple, we abstract from enforcement problems related to labour effort on the collective farm.

3.1 Individual vs. social utility

Despite its intuitive plausibility, economists have only recently paid increasing attention to the formal modelling of social interaction effects (see Brock and Durlauf 2001 for an overview). A standard approach has been to split the utility function into an individual and an additively separable social component. Furthermore, it is commonly assumed that deviations far from group average are penalised more strongly (Jones 1984). Given a choice variable, \( \lambda \geq 0 \), the resulting composite utility function, \( u^* \), may then be represented as follows:

\[
u^* = u(g(\lambda)) - v((\lambda - \bar{\lambda})^2),
\]

with individual utility \( u(.) \), social utility \( v((\lambda - \bar{\lambda})^2) \). The function \( g(.) \) transforms \( \lambda \) into a utility-relevant magnitude, for example income, and \( \bar{\lambda} \) is average behaviour in the social reference group. Moreover, \( u', v' > 0 \).

As will be discussed in detail below, (1) formalises the idea that individuals have preferences for conformity with their peers, or doing what is the normal thing to do in a given social reference group. Both increasing positive or negative deviations from group average cause increasing discomfort, but there is no discomfort if everybody in the group behaves identically and chooses the same \( \lambda \). As a result, outcomes will likely be homogenous within a social reference group, but may be radically different between groups.

Jones (1984) and Schaffner (1995) introduce a third utility component into (1), according to which choice of a higher \( \lambda \) also has an intrinsic disutility. While this may be plausible for applications to work effort and servility services, we neglect this in the current application to workers’ loyalty. A major reason to model workers as indifferent to loyalty as such is that loyalty causes little physical effort and appears much less personally humiliating than servility as described by Schaffner. Under our assumption, however, it is individually less attractive to deviate from group norms.

3.2 Social reference groups and the geography of the model

We distinguish two major reference groups that may influence the behaviour of villagers, which we denote regional and national. The regional reference group is the community of people living in geographical proximity to the individual. We pragmatically identify this with the county or raion, which has been the lower level of the two-tiered administrative system throughout the former Soviet Union. In most rural regions of Ukraine and Russia, each collective farm forms the economic and social centre of a village, and a raion contains a dozen or so collective farms. Sociological field work in rural Russia has shown that there has been some mobility within localities, for example because villages were abandoned by the government and the population forced to relocate to nearby places. However, most rural people spend their entire life in a certain area, where they are surrounded by their relatives (O’Brien et al. 2000, 95). People liv-
ing in a region are more likely to meet in person on a regular basis and hence form a natural social reference group.\(^3\) Social interaction within this reference group, and information flow in particular, is hard to manipulate by local authorities.

As a second reference group we posit a wider, potentially non-rural population that provides an alternative blueprint for what is the right thing to do and how to behave. With regard to de-collectivisation in agriculture, the mode of behaviour of this social reference group is codified in the national reform legislation, which gives an individual worker the right to leave the collective and withdraw his/her assets. It is identified with a reform-oriented, urban majority, and with family farms in Western Europe or North America, which are presented as a model for agricultural restructuring. In countries with a strong tradition of individualised farming prior to collectivisation, the members of former generations may constitute part of the reference group. Information about this social reference group is primarily transmitted via the media, through television or newspaper, through tradition, but also via agents of change who enter a community, in village congregations, or by word of mouth.\(^4\) In contrast to the narrow reference group, interaction with the wide reference group can presumably be influenced by the local farm manager. He may or may not keep the horizon of his workers limited by withholding information concerning privatisation and other civil rights, preventing political organisation of farm workers, not allowing outsiders to invade the village, inhibiting the creation of support networks or businesses for private farmers, frightening defectors, and stressing collective identity and local ‘collective solutions’ to problems.\(^5\) The degree to which the manager keeps horizons limited determines how strongly farm workers identify themselves with the wider, reform-minded reference group, as will be formalised below.

### 3.3 Workers’ and managers’ choice

Farm workers have preferences, \(u\), for income, \(y\), and additive preferences, \(v\), for conformity with other workers in their reference group. Their income depends on a binary loyalty decision, \(\lambda\). They may either stay on the local corporate farm, \(\lambda = 1\), in which case they support the farm manager in local politics, e.g., voting for him in the farm assembly, and do not exert their right in asset shares of the farm. Loyal workers receive an

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\(^3\) In addition, many regions are homogenous in ethnic terms, some of them officially recognised as autonomous areas subject to the ethno-territorial principle of both the former Soviet and the current Russian constitutions (Stadelbauer 1996, 42-49).

\(^4\) In Russia, this reference group has been represented by the reform-oriented Association of Peasant Farms and Agricultural Cooperatives of Russia (AKKOR). According to Wegren (1995, 28-29), AKKOR had a network of branches in every oblast by the mid 1990s. Since its foundation it has held annual congresses and publishes an own weekly newspaper, ‘The Russian Farmer’. It supports private property and freedom of land use. Although its primary constituents are private peasant farmers, it appears to have more support in urban than in rural areas. Similar movements exist in other CIS countries.

\(^5\) Csaki and Lerman (1997, 4) describe how farm managers use information control to keep horizons limited: “The beneficiaries in the land sharing process appear to be uninformed concerning the rights attached to their land shares. Thus, only 8% of respondents with shares report that it is allowed to sell land shares. … On the other hand, most respondents (80%) know that they are allowed to ‘invest’ their land shares in the farm enterprise, thus becoming shareholders of a new corporate entity… The option of investing the shares in the farm enterprise is recognized by almost all respondents because it has been repeatedly emphasized by farm managers, who are apparently the main source of information about land reform and who very conveniently have omitted to mention the other legally available options for internal restructuring.” Similar evidence is provided by Koester (1999).
annual wage, \( w \). Labour contracts can be enforced costlessly by the corporate farm manager and there is no other employer in reach for farm workers than the local corporate farm. Alternatively, workers may choose to become independent farmers and withdraw their assets from the corporate farm, \( \lambda = 0 \), in which case they receive an income from private farming, \( f(\lambda) \), where \( \lambda \) the share of loyal workers in region \( r \) who have not taken up private farming and have loyally remained on the corporate farm. We assume that \( f'<0 \) to capture various types of network externalities, for example the necessary political support for restructuring up- and downstream markets for private farmers, and learning processes and information spill-overs among reform oriented entrepreneurs to reduce uncertainty and ambiguity in decision making.\(^6\)

It is assumed that farm workers make comparisons among each other with regard to how loyal they are to the corporate farm management. An individual perceives the more discomfort the stronger he/she deviates from average group behaviour in terms of loyalty, expressed by the share of loyal workers in the reference group, \( \lambda \). Utility is assumed to decrease with the composite term \( (\lambda - \lambda)^2 \). For simplicity it is assumed that both utility functions are linear, hence \( u', v'= \text{const} > 0 \).

A farm manager allocates the labour force of his farm, \( N \), and other assets to produce composite farm revenue, by using a given technology. Corporate farm assets are the sum of all individual asset shares, and asset shares can be withdrawn by workers if they wish. The manager is assumed to be the residual claimant of farm profit.\(^7\) A manager therefore benefits from the loyalty of farm workers, who support him politically, perpetuate the existence of the collective farm and thus secure his income and local power. Although not modelled formally here, benefits for the manager may also be of a psychological nature.\(^8\) In the following, we focus only on the loyalty decision of workers and simply assume that all other production factors available to the manager are allocated in a standard profit-maximising way, hence generating a gross profit of \( \Pi \) for the manager.

Being aware of social reference group effects among his/her workers, a manager can deliberately keep the horizon of farm workers limited by sheltering them from the national reference group and by exerting explicit or implicit political and social pressure on them, as described above. Let \( \theta = 1 \) if the manager actively keeps the horizon of his loyal workers limited and \( \theta = 0 \) otherwise, with \( \theta \in [0..1] \). Limiting the horizon has an influence on which reference group farm workers use to assess their utility from behaving loyally to the manager. If workers’ horizon is kept limited, they compare their own behaviour with that of all other workers in the region, \( \lambda = \lambda \). If the horizon is not kept

\(6\) While there is now an established body of literature on economic network effects in agglomeration, only more recently has interest increased in how social interactions foster the emergence of entrepreneurs in a given region (see Minniti 2005 for an overview).

\(7\) Little is known about the remuneration of the core management of corporate farms. Koester (1999, 216) reports that many of the farm chairmen appear to enjoy a respectable living standard despite the poor economic situation of agriculture. It is hence assumed that they are the de facto residual claimants of profits.

\(8\) Psychological benefits may arise because managers enjoy being the ‘head of a commune’ (Amelina 2000, 503). The manager may also have a preference for seeing agricultural production organized in corporate farms. This could be the case if he/she has professional concerns that the farm’s dissolution will be economic mischief and lead to a food crisis (Koester 2005, 109).
limited, they compare their behaviour with a wider, national reference group, $\lambda = \lambda^\pi$. The national reference group is assumed to be at least moderately reform-minded on average, so that $\lambda^\pi < 0.5$. As a consequence, workers who accept the wider social reference group always experience less discomfort from choosing disloyalty than from remaining loyal to the manager. It is assumed that $\lambda^\pi$ is exogenous and can not be influenced by decisions of individual farm workers. By choosing $\theta$, the manager determines the relative weight of the two possible reference groups of workers: $\lambda = \theta \lambda^\pi + (1 - \theta) \lambda^n$. How costly it is to keep horizons limited is given by a cost function $C^\theta = C^\theta (\theta, R)$. Costs may arise from own political activity of the manager to turn down reform-minded influences from outside the region, or bribes to public authorities who might stand up for civil rights of workers. This function depends on a vector of regional characteristics, $R$, that includes the existence of conservative vs. reform-oriented political networks in a given region, strength of collective vs. individual traditions, distance to urban centres, climatic and technological dimensions of agricultural production, etc (such differences are discussed, e.g., by Amelina 2000). It is assumed that $C^\theta_1 > 0$ and $C^\theta_11 > 0$, implying that it is marginally costlier to achieve higher levels of sheltering. The survival of the corporate farm in a given village depends on the ability of its manager to assure loyalty of a sufficient number of workers in that village, subject to a budget constraint.

The optimisation problem for a farm worker is hence:

$$\text{Max } u^w = u(y) - v((\lambda - \lambda)^2)$$

subject to:

$$y = \begin{cases} w & \text{if } \lambda = 1 \\ f(\lambda) & \text{if } \lambda = 0 \end{cases}$$

$$\lambda = \theta \lambda^\pi + (1 - \theta) \lambda^n.$$ 

The optimisation problem for a manager in village $j$ in region $R$ is:

$$\text{Min } C^m = wN_j + C^\theta (\theta, R)$$

subject to:

$$w \leq \frac{\Pi - C^\theta}{N_j}$$

$$w^\pi (\lambda = 1) - w^\pi (\lambda = 0) \geq 0$$

where constraint (6) defines the corporate farm’s budget constraint and constraint (7) defines the loyalty participation constraint (hereafter denoted as the LPC). Both will be just binding under optimising behaviour. Note that in the model corporate farm output only depends on retaining a loyal labour force and the manager’s task is simply to minimise the cost of keeping workers loyal.

Managers make decisions concerning $\theta$ and $w$, to which workers react by choosing $\lambda$, according to the utility they derive from behaving loyally or disloyally to the manager. Because the decision of a single worker not only depends on the manager’s offer but
also on the behaviour of other individuals in his/her social reference group, identical offers by managers may lead to different workers’ response in different regions. This is analysed in further detail below.

To summarise the intuition, workers’ relative remuneration is, in two distinct ways, influenced by social interaction effects. First, there is a market effect. The latter may be described as a network externality or critical-mass phenomenon that influences the monetary returns from independent farming. The more workers turn into private farmers, the easier it is, both economically and politically, to establish independent farming as an accepted organisational mode. Second, there is a psychological effect, according to which non-conformity with the reference group causes discomfort.

These two effects may be usefully be analysed by focusing on the polar cases of $\lambda = 1$ (all workers in the reference group are loyal to the manager) and $\lambda = 0$ (nobody is loyal). In the first case, switching from $\lambda = 0$ to $\lambda = 1$ means making one’s own behaviour conform with all the others in the reference group, so that the disutility from non-conformity completely vanishes. In the second case, however, the worker switches into nonconformity, and this may outweigh monetary benefits from loyalty. Conversely, if most people in the reference group are loyal to the manager, switching into disloyalty causes discomfort but yields the opportunity to benefit from private farming. In his/her loyalty decision, the worker thus weighs the utility from wage payments or higher earnings from private farming against the potential disutility from non-conform behaviour. Which reference group is used to make this assessment can be influenced by the manager who may opt to keep the horizons of his/her workers limited.

### 4 Least-cost elicitation of loyalty

We return now to the manager’s cost minimisation problem. Recalling that we use $LPC$ to denote the loyalty participation constraint ($LPC \equiv u^w(\lambda = 1) - u^w(\lambda = 0)$), the minimizing the cost of loyalty elicitation yields the following first-order condition:

$$\frac{C^m_\theta}{LPC_\theta} = \frac{C^m_w}{LPC_w},$$

which in the optimum state is equal to the marginal cost of securing loyalty of workers.

This describes how $\theta$ and $w$ jointly contribute to ensure workers’ loyalty and can also be written as:

$$\frac{C^m_w}{C^m_\theta} = \frac{LPC_w}{LPC_\theta}.$$ (8)

The left hand side of (7) describes an isocost curve of securing loyalty. The right hand side describes a loyalty indifference curve, that is the locus of all $\theta, w$ combinations where the joint effect of $\theta$ and $w$ just suffices to make $u^w(\lambda = 1)$ as high as $u^w(\lambda = 0)$. Analysing the single components of the optimality condition allows us to be more precise with regard to the shape of the isocost and loyalty indifference curves. From the definition of $C^m$ in (5) follows that $C^m_w = N_j = \text{const}$, that is the costs of a marginal wage increase is determined by the number of workers. Furthermore, given our earlier as-
Assumption about the costs of limiting the horizon, $C^m_\theta = C^0_\theta > 0$. The more $\theta$ is used, the costlier is the marginal increase. The isocost curve therefore has a concave shape (Figure 1). The budget constraint (6) defines a maximum wage $w_{\text{max}} = (\Pi - C^0_\theta) / N$ the manager is able to offer. It is determined by the collective farm’s productivity, the extent to which horizons are actively limited and potential opportunity costs of the manager (assumed zero henceforth). If there is no limiting of horizons, $w_{\text{max}}$ can be drawn into Figure 1 as shown, assuming that the solid cost curve displays the manager’s budget. $w_{\text{max}}$ then denotes the locus at which $w = f$ for a given $\lambda^*$ if $\theta = 0$, that is loyalty elicitation occurs only through wage payments.$^9$

Because $C^\theta$ is also dependent on regional characteristics, $R$, different regions exhibit different isocost curves. The southeast shift shown in Figure 1 is induced by relatively increasing costs of limiting the horizon vis-à-vis the wage costs.

**Figure 1: Isocost curves for securing the loyalty of workers**

![Isocost curves for securing the loyalty of workers](source: authors’ figure.)

It is also possible to determine the shape of the loyalty indifference curve. To ease the analysis, we assume that $\lambda^* = 0$. Under this assumption and after substituting (2) to (4) into the LPC, the latter becomes:

$$LPC \equiv u(w) - v((1 - \theta^0)^2) - u(f) + v((\theta^0)^2) = u(w) - u(f) - v + 2v\theta^0\lambda^*.$$ 

The implicit function allows us to determine the slope of loyalty indifference curve as:

$$\frac{d\theta}{dw} = - \frac{LPC_w}{LPC_\theta} = - \frac{u'}{2v\lambda^*}.$$ 

Under the assumption of constant marginal utility of income for the loyal worker, this term is a constant. The loyalty indifference curve, within the [0..1] boundaries, is thus a

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$^9$ In actual practice, a part of the wage may be paid in-kind, including inputs and machinery access for the worker’s household plot and other non-monetary benefits, such as discounted meals in the corporate farm’s cafeteria or access to health services.
straight line that becomes steeper as $\lambda^*$ decreases. In words, how effective it is to keep horizons limited in a given region depends on how many workers are (still) loyal. Keeping horizons limited is a perfect substitute for increasing wages, as long as there are loyal workers in the region and as long horizons are not yet fully limited.

Both the isocost and loyalty indifference curves may now be drawn into one figure, in which the tangency point satisfies the optimality condition (8) and thus determines the optimal choice of $\theta$ and $w$ for securing loyalty of workers (Figure 2), denoted with asterisks. Note first that, for a given $\lambda^*$, different isocost curves in different regions as displayed in Figure 1 would lead to varying optimal elicitation strategies. Regional characteristics determine how managers elicit loyalty and how costly it is. In regions where politically influential managers cannot afford to pay higher wages, they will resort to a strategy of keeping horizons limited in order to secure the survival of their corporate farm.

Figure 2: Reference group effects and the optimal choice of $\theta$ and $w$

![Figure 2: Reference group effects and the optimal choice of $\theta$ and $w$](image)

Source: authors’ figure.

Furthermore, Figure 2 shows the effects of changes in average reference group behaviour as captured by $\lambda^*$. A decrease in average loyalty of the reference group has two effects, as shown by the move from the higher $\lambda^*$ to the smaller $\lambda^*$. First, the loyalty indifference curve shifts out to the right, because workers need a higher compensation for their increased disutility from remaining loyal. Furthermore, it becomes steeper because limiting of horizons is now less effective and the wage equivalent to a given increase in $\theta$ shrinks. As a result, the manager needs a larger budget to keep workers loyal; the new isocost curve obeying the tangency condition lies further northeast. In addition, relatively less limiting of horizons and higher wage payments will be in the least-cost solution of the manager. Note that the manager may have already exploited his maximum budget, denoted by $w_{\text{max}}$ on the horizontal axis, so that it is no longer feasible to keep workers loyal to the collective. This would indeed be the case in Figure 2.
5 Regional reform equilibrium with social interaction effects

This section analyses how the interaction between managers and workers and among workers drives reform choices in the model and shows how polar equilibria may be induced, with either all or no farm workers loyal to corporate farm managers. To do this, we focus on a single geographic region comprised of identical corporate farms. We proceed in three steps that are illustrated by the three charts in Figure 3. First, we investigate the pure market effect of social interaction. After that, the psychological effect and the effect of limiting horizons are added.
Figure 3: Regional loyalty equilibrium with different social interaction effects

(a) pure market effect

(b) market and psychological effects without limited horizons ($\theta = 0$)

(c) market and psychological effects with limited horizons ($\theta > 0$)

Source: authors’ figure.
Figure 3 (a)-(c) display the wage workers require to remain loyal as a function of the regional share of loyal workers, $\lambda'$. The solid line in each graph hence denotes the participation wage that assures that the $LPC$ (7) is just binding.

Figure 3 (a) assumes that there is no social utility associated with loyalty or disloyalty (i.e., $v = 0$). The solid line shows the pure monetary or market effect of each worker’s loyalty decision, driven by the productivity of private farming, $f$. It illustrates how positive network externalities from establishing independent private farms lead to higher pay-offs if more workers choose disloyalty. Wage payments higher than $f$ imply that workers remain loyal, whereas payments lower than $f$ lead workers to withdraw.

The term $w_{\text{min}} = f(\lambda' = 1)$ denotes the minimum wage the manager must offer if all workers in the locale are loyal. Note that this is the circumstance when private farming is least productive. The term $w_{\text{max}} = \frac{\Pi}{N}$ indicates the maximum wage that the manager can afford to offer, given the productivity of the collective farm. The intersection of $w_{\text{max}}$ with the solid $f$-line defines a regional lower threshold of loyal workers, $\lambda'$. If $\lambda'$ falls below this lower threshold, corporate farming will no longer be sustainable in the region and the only institutional equilibrium for the region will be complete agricultural privatisation.

We thus see the sense in which this model has a tipping point at $\lambda'$. At loyalty levels above $\lambda'$, corporate farming will be retained. But once a critical mass of reform-minded workers is reached, the reform equilibrium is self reinforcing. For this reason, even though independent farming yields higher pay-offs, external forces, for example an information campaign, may be necessary to reach this equilibrium. How likely it is that private farms emerge depends on the location of $\lambda'$, $\lambda'$. The further this is on the left, the higher the probability that collective farms remain intact.

We consider now what happens when we reintegrate social utility in the model. Initially, we assume that horizons are not limited such that social norms are set by the national level reference group, i.e., $\lambda = \lambda^n < 0.5$. Under this assumption, workers are influenced by pro-reform groups and feel uneasy about behaving loyally. As illustrated in Figure 3 (b), the incorporation of social utility under these assumptions results in a parallel shift of the $LPC$ to the northeast. Loyalty is now more expensive to elicit, and the threshold point, $\lambda'$, shifts to the right. The range over which a regional loyalty equilibrium obtains thus shrinks, making it more likely that the region will shift to the full reform or privatisation equilibrium.

While social effects thus are a threat for the existence of the collective farms (and hence the income base and power of the manager), they also provide a mechanism that the manager can use to avert this ‘farmer threat’ (Van Atta 1993). In our model, the manager can either make loyalty more attractive by increasing wages, or influence the social reference group of workers by actively limiting their horizon. The latter effect is displayed in chart (c), where we permit the manager to choose $\theta$ to be greater than zero. As analysed in the previous section, the optimal $\theta$ increases with $\lambda'$. For illustrative purposes, we re-draw the $LPC$ in Figure 3 (c) holding $\theta$ fixed at the optimal level for some relatively high level of $\lambda'$. The solid line illustrates those wage levels which just meet
the LPC for that fixed level of $\theta$. For that given level of $\theta$, the LPC will cut from below the LPC for the no social effects case. We now define a $\lambda^*$ as the critical value of $\lambda$ such that $\lambda = 0.5$. At this $\lambda^*$, the individual worker’s disutility from choosing either loyalty or disloyalty is just equal. For $\lambda^* > \lambda^*$, managers can elicit loyalty by offering a wage lower than that required to elicit loyalty in the absence of social effects. For $\lambda^* < \lambda^*$, a higher wage must be paid to elicit loyalty. However, this wage will still be weakly less than that required to elicit loyalty when managers do not limit horizons in the presence of social effects. Finally, note that $w_{\text{max}}$ and the budget available to pay wages ($\frac{\Pi - C^\theta}{N}$) diminishes when managers choose $\theta > 0$. But despite this offsetting effect, the capacity of the manager to limit horizons will always shift the threshold loyalty level, $\lambda^*$, re-expanding the range over which corporate farming can be sustained, as shown in Figure 3 (c).

By changing the pay-offs, keeping the horizons limited has another profound effect on the regional equilibrium which is very much in the interest of the manager: it establishes a second polar equilibrium for average regional loyalty levels to the right of $\lambda^*$. Once the majority of workers has decided to remain loyal, this process is self-reinforcing, as indicated by the additional solid arrow. By stressing the collective identity of workers and keeping away any reform-minded attitudes from villagers, the manager can establish a stable equilibrium that guarantees the existence of the collective farm. Because workers feel comfortable with doing what is, in the community, the normal thing to do, they have an incentive to choose loyalty if the majority did so already. With regard to workers’ pay-off, however, the polar loyalty equilibrium as drawn in chart (c) is inefficient as compared to the full de-collectivisation outcome. Even so, because limiting the horizon shifts the threshold loyalty level $\lambda^*$ back to the left, it makes it even more likely that a loyalty equilibrium occurs.

6 Testable implications and empirical evidence

Given our basic assumptions concerning social interaction effects among workers and managers’ incentives to keep horizons limited, the model provides a number of testable implications:

1. Within a pool of regions with comparable social and geographical characteristics, there are either regions which totally de-collectivise, so that there are no loyal farm workers and a widespread establishment of private farms, or regions which keep collectives completely intact, so that there are only loyal farm workers and a ‘loyalty culture’ persists. Because only polar reform equilibria are stable, there will be no intermediate or mixed restructuring outcomes, ceteris paribus.

2. Persisting loyalty equilibria can only be overcome if a sufficient number of workers decide to leave the collective farm, utilise the network externalities in private farming posited by the model and thus ‘jump’ over the critical lower bound loyalty level. If managers keep horizons limited, marginal improvements in the relative returns to independent farming have no effect on workers’ loyalty.
3. Depending on the relative costs of monetary incentives vis-à-vis limiting horizons in a given locality, managers use different mechanisms to elicit loyalty. Where costs of sequestering villagers from external influences are lower, managers will – ceteris paribus – reduce wage levels and more strongly keep horizons limited. Where keeping horizons becomes exceedingly costly because widespread access to information and unambiguous reform policies ease coordination on a de-collectivisation equilibrium, collective farms will dismantle unless managers are able to offer higher wages.

In this section, we present evidence that is consistent with these implications. Because there has been little systematic research on the relevance of social interaction effects in our context, the results are tentative and more detailed empirical treatments remain for future work. To ensure consistency with the reform choice as specified in the model, we focus on countries with redistributive de-collectivisation policies, as opposed to countries that opted for restitution to former owners (for details see Lerman et al. 2004, 85-93; Rozelle and Swinnen 2004, 421-429). In a simplifying view, asset redistribution, at least formally, provided a fairly large but well-defined group of rural residents the option to appropriate a share of formerly socialised assets. It was practised in all CIS countries and in some Central European countries, notably in Albania. Restitution, on the other hand, restricted the group of eligible recipients and introduced former and possibly absentee owners or their heirs as additional stakeholders. This mode of restructuring prevailed in most other European transition countries. However, the more complex conflicts of interest in asset restitution have not been incorporated in the model so far.

### 6.1 Duality of reform outcomes in former Soviet countries

A first piece of evidence that is broadly consistent with the hypothesis of polar de-collectivisation results comes from a simple comparison of reform patterns in Table 1. All countries given in the table started from the Soviet model of large-scale collective and state farms, which usually allowed individual farming only in the form of subsidiary household plots. In the first group of countries given in the table, the overwhelming share of land was individualised already five years after reforms had started. On the other hand, farm restructuring has been almost absent in all of the bigger successor countries, where the share of individual farms rarely has passed the 20-percent mark of total land use even ten years after the start of reforms. Moreover, a large share of this is represented by the millions of attached household plots that already existed during Soviet times, and it is unclear how much land has simply been abandoned.

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10 An alternative would be to rely on micro data concerning individual reform choices and directly test the relevance of social interaction effects econometrically (Brock and Durlauf 2001; Fletschner and Carter 2007). The data requirements and methodological subtleties of such an approach are challenging, however.

11 Also Georgian agriculture is largely dominated by individual farming. Comparatively low figures in the table are due to the fact that a considerable share of land lies idle in former state farms, which ceased to operate during the civil war 1992-94 (Lerman et al. 2004, 123).
Table 1: Share of individual farms in total agricultural land of some former socialist countries (percent)

<table>
<thead>
<tr>
<th></th>
<th>Pre-reform</th>
<th>5 years after start of reforms</th>
<th>8-10 years* after start of reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Examples for de-collectivisation equilibria:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albania</td>
<td>3</td>
<td>95</td>
<td>n.a.</td>
</tr>
<tr>
<td>Armenia</td>
<td>7</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Georgia</td>
<td>12</td>
<td>50</td>
<td>44</td>
</tr>
<tr>
<td>Latvia</td>
<td>4</td>
<td>81</td>
<td>87</td>
</tr>
<tr>
<td>Lithuania</td>
<td>9</td>
<td>64</td>
<td>85</td>
</tr>
<tr>
<td><strong>Examples for loyalty equilibria:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belarus</td>
<td>7</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Russia</td>
<td>2</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Kazakhstan</td>
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<td>24</td>
</tr>
<tr>
<td>Moldova</td>
<td>7</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Ukraine</td>
<td>6</td>
<td>10</td>
<td>17</td>
</tr>
</tbody>
</table>

* depending on data availability.

Source: Data compilation taken from Rozelle and Swinnen (2004, 426).

This broad comparison does not take into account the various differences in initial conditions which were present despite a common Soviet heritage and which may have explanatory power for reform outcomes. For example, Rozelle and Swinnen (2004, 439) argue that in countries with labour-intensive technologies, individualisation yielded substantial gains in technical efficiency and thus induced restructuring. However, in line with the theoretical implications of our model, even in adjacent regions with similar production conditions, highly different reform outcomes emerged. A first example are the orchard, vineyard and tobacco growing regions of Transcarpathia, Moldova, the Crimea and parts of Caucasus. These continued to be cultivated by corporate farms in Ukraine and Moldova throughout the 1990s, while a widespread parcellisation took place in the Trans-Caucasian Republics (see Kegel 1997 for Georgia). A second example is the Baltic dairying and pig rearing region. This most western region of the Russian forest zone now covers Latvia, Lithuania, Belarus and Northern Ukraine (Stadelbauer 1996, 481). Whereas production is still dominated by collective farm successors in the latter two countries, individualisation has progressed substantially in the Baltic countries (Meyers and Kazlauskiene 1998).\(^\text{12}\)

In addition, it would be desirable to have cases of varying reform patterns within one of the newly emerged countries, which appears to be most promising in the land-rich countries such as Russia and Ukraine. Although there are certain regional variations in terms

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\(^12\) Contrary to all other countries listed in the table, Latvia and Lithuania implemented a reform approach based on restitution to former owners. It seems plausible that a not too distant history of family farming or even the appearance of claimants to individual farms that had been expropriated under the Soviet regime makes limiting of horizons very costly and coordination on a de-collectivisation equilibrium much more likely.
of reform outcomes within these countries (see Craumer 1994 for Russia), the overall picture is one of widespread reluctance to become engaged in individual farming (in contrast to household plot production). However, Uzun (2005, 89) notes that even in Russia there are single islands of radical de-collectivisation: “In Saratov Oblast, the agriculture in some districts is ‘totally individualized’: all the corporate farms have been liquidated and their land and assets have passed to peasant farmers.” This finding supports our hypothesis of polar equilibria and merits further research into its causes.

6.2 How de-collectivisation equilibria have emerged

More direct evidence on the role of individualisation examples and the emergence of a critical mass of disloyal workers can again be derived from the countries classified as displaying a de-collectivisation equilibrium in Table 1. Unfortunately, the literature describing de-collectivisation processes at the local level in these countries is very scarce. However, the following examples provide some preliminary insights that support the implications of our model.

Kegel (1991) is an account of reform processes that took place in the last months of the then Georgian Socialist Soviet Republic (SSR). At the outset, she notes the above-average role of household production in the Georgian SSR compared to other Soviet republics. She then describes how, in August 1989, a decree by the Republic administration was issued according to which kolkhozes and sovkhozes should be liquidated and individual farms be introduced in six raions of the Republic. According to the author, this was a move by the government to counteract the notorious inefficiencies in socialised food production of the Republic. Decisions on de-collectivisation were to be made by majority vote of the collective’s general assembly. Contrary to most of the later experience in Russia and Ukraine, almost all collectives and state farms in the reform regions were formally dissolved by January 1, 1990. As a result of delays in formal land distribution, spontaneous parcellisation by single farm workers occurred in spring 1990. Kegel (1991) reports a locally strong demand for land by former workers, as a result of which hundreds of individual farms were established in the reform regions.

This reform pattern exhibits a number of interesting characteristics that are consistent with our model. First, the Georgian public was used to the fact that individual production was a major food supplier in the Republic. Furthermore, the power of local farm directors was held in check due to the still widely intact hierarchy of the Georgian socialist government. Finally, spontaneous individualisation attempts provided the examples for the majority of rural dwellers to follow suit, which led to a complete break-up of the former collective structures. All this made it prohibitively costly or impossible to keep horizons limited and led to the apparent move towards a de-collectivisation equilibrium in these regions.

A similar description is provided by Cunngu and Swinnen (1997) for Albania, where people had a relatively fresh memory of individual farming at the time of the collapse of the communist regime. Because the ultimate collectivisation wave had occurred only in 1967, there was still a broad support for family farms as an organisational mode. Com-

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13 Georgia declared independence from the USSR on April 9, 1991.
14 Between 1986 and 1988, household production contributed on average about 47 percent of gross agricultural output of the Georgian SSR. For the USSR in total this share was only 26 percent (Kegel 1991, 369, based on official statistics).
pared to other socialist countries, the beginnings of reform in the agricultural sector which had been initiated by the last socialist government were late and superficial. Furthermore, they were orchestrated by a severe economic crisis and food shortages in rural areas. In spring 1991 a spontaneous break-up of collectives and an illegal appropriation of assets by individuals gained momentum. This could only partly be controlled by a newly elected reform government, which introduced formal restructuring legislation. Cungu and Swinnen (1997, 72) report that, by abusing the liquidation authority given to them by the new government, some of the former collective farm managers retained the most valuable parts of assets for themselves, whereas others tried to delay the reform process in order to keep their power and privileges. However, it was impossible to halt the dismantling process and more than 90 percent of former collective land had been distributed to family farms by August 1993. Similar to the Georgian case, the fact that individual farming was an accepted way of food production, coupled with the spontaneous re-emergence of individualisation examples – apparently led by former managers –, pushed up the costs of limiting horizons and made the swift transition to a de-collectivisation equilibrium possible.

6.3 Variations in managers’ strategies to keep collectives intact

We finally look at some evidence on how managers have tried to keep the collective farm operating and how varying cost relations have affected their strategies. Data on the cost of limiting horizons is not available, we therefore have to rely on indirect evidence.

Based on sociological fieldwork, Perrotta (2002) analyses the variety of internal governance mechanisms that exist despite a structurally similar appearance of corporate farms in Russia. A first result is that the farms she surveyed varied in the extent to which official share certificates had been issued to farm workers. Her analysis directly supports the idea of what we have called limiting horizons (p. 125):

“There have been significant delays in the actual distribution of legal share certificates: this is often said to be due to ‘shortages of paper’, or of the necessary funds for printing large numbers of certificates. These ‘shortages’ often reflect ongoing power struggles between local authorities and federal level policy makers: the former try and pass the cost of privatisation on to federal level authorities and/or use the excuse of shortages to delay confirmation of changed ownership.”

She further shows how farm managers use varying mixtures of financial or political mechanisms, that is monetary incentives or hierarchical pressure, to ensure survival of the collective (pp. 126-7):

“[A] critical factor which distinguishes one collectively occupied farm from another is … the personality of the farm director. These lie along a spectrum from uncommunicative autocrat to democratic manager, responding to the interests of shareholders. If he … wishes to ignore the changed status of the members and/or trivialise the meaning of land and property share ownership, farm populations usually fail to eviscer any sign of changed attitudes or behaviour. On the other hand, if the farm director is enthusiastic and communicative, farm members are more likely to explain that ‘the land is now ours, the profit are ours, so it is worth working harder’. … Agricultural wages are excessively low throughout Russia. On farms where decisions are made autocratically by farm directors, members simply complain, and state that they are being treated even worse than ‘before’. … The more progressive farm director is more likely to acquire and distribute share certificates than the autocrat; rents and dividends are more likely to be paid to land and property share owners, where their rights are publicly acknowledged.”

This is consistent with our result that, within the pool of collective farms, transparent decision making and access to information about legal rights go hand in hand with fi-
nancial incentives for workers, whereas wages on farms with highly centralised power structures tend to be low.

7 Conclusions

Based on explicit theoretical modelling of social interaction effects among farm workers and the hierarchical power relations between managers and workers, we have shown how several outcomes of de-collectivisation in former Soviet countries can be derived that have been neglected by previous authors. In particular, our model provides a rationale for the persistence of widespread support to collective farm organisation among workers and managers, despite the availability of a more efficient individual farming option. The model explains why managers have an incentive to keep horizons of workers limited by sheltering villages from external influences and how different loyalty elicitation strategies may be determined. It generates polar reform equilibria that have been demonstrated to be largely consistent with the spatial patterns of reform in the group of post-Soviet transition countries.

The presence of limited horizons has implications for the design of policies aiming at the establishment of independent farms. Given a loyalty equilibrium, it is not sufficient to improve managerial resources and relax factor market constraints for prospective individual farmers, as argued e.g. by Rizov (2003). The effect of marginal improvements in individual farm profitability on the loyalty equilibrium in our model will be nil. Crucial for reform in the present model is the formation of a critical mass of workers who are willing to establish independent farms. This could possibly be achieved by support programmes which make loyal farm workers aware of the fortune of successful non-loyal workers, which lead to the emergence of individual consciousness raisers among the group of loyal farm workers (and not only to the spread of disembodied ideas), or which make it more costly for farm managers to keep the horizons of workers limited. In other words, a ‘big push’ in reform attitudes among workers is a precondition for reaching the full de-collectivisation equilibrium, which may be induced by a sufficient number of positive examples of independent farming in a region. Whether fifteen years of stagnation in the non-reforming countries have reinforced or eroded existing norms of collective production may be an interesting issue for empirical research.

In addition to stimulating a critical mass of individual farmers, reform averse managers could be compensated for their foregone benefits. However, the exact design of such a scheme is likely to be a highly controversial matter, and it remains unclear whether managers would indeed exchange their prestige and power for a monetary reward.

Following Schaffner (1995), our theoretical model represents a subtle departure from the traditional assumption of exogenous preferences. By keeping horizons limited, a manager can shape the social reference group of workers and thereby influence what they regard as the normal thing to do. Moreover, the manager can, for his or her own benefit, deprive workers of a more productive reform option. Workers then evaluate individual farming by referring to their current reference group, although they would be exposed to a different reference group if they left the collective farm. Workers who for some reason escape the limited horizon find themselves better off than they thought they would be, and better off than they had been. We consider this an interesting and fruitful way of combining economic analysis with social psychology and broader ethno-
graphic and sociological insights to uncover the power asymmetries prevalent in the post-Soviet countryside, which may find useful applications in other contexts as well.

References


