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Exchange and Social Structure in Norwegian Agricultural Communities

- How Farmers Acquire Labour and Capital

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Abstract: Using interviews and survey data from Norwegian farms, I address the questions of how farmers make use of various forms of exchange to acquire labour and capital and how these exchange practices depend on community structure. The article questions the commonly used dichotomy of "hired" versus "family" labour, and argues that the notion of farming as a family business should be supplemented by the notion of farming as a community-based moral economy in which multiple forms of exchange and payment are used flexibly in a market that is embedded in several types of long-term relationships. I argue that the embeddedness of this market affects farm economies in ways that may enhance their viability. The study draws on three traditions of economic sociology: political economy, the New Economic Sociology, and social exchange theory. I argue that public policies have protected a community structure that provides for a local, socially embedded labour and capital market. This social embeddedness facilitates two exchange forms that have been neglected by previous research on modern farming: reciprocal and non-monetised exchange.

Keywords: farming, community, family, embeddedness, exchange, labour

The Question of Labour and Capital Acquisition in Farming

Understanding how an economy works requires understanding how producers acquire basic inputs of production such as labour and capital. This article addresses the following interlinked questions: *How do Norwegian farmers use exchange to acquire labour and capital*? *How do farmers' exchange practices depend on community structure?*

Norway, populated by approximately 5 million people, has some 45,000 farms with an average size of approximately 22 hectares (NILF 2012). Norwegian rural communities thus typically have several, relatively small, farmer-owned farms that are kept within the same families for generations. This community structure provides for a labour and capital market that is embedded in long-term social relationships. This market's embeddedness in long-term relationships facilitates trust-based exchange. Thereby, the general moral norm of reciprocity becomes relevant to business. The functioning and significance of this trust-based local market have so far been insufficiently studied.

This study shows that the farming literature's traditional distinction between hired labour and family labour is conceptually flawed and, at least in the Norwegian case, empirically misleading: The farmers in this study acquire labour and capital through flexible use of different forms of exchange with both family members and non-family acquaintances. These findings suggest that the farming literature traditionally has underestimated the significance of lasting social relationships besides family: Because Norwegian rural community structure facilitates trust, reciprocal exchange (meaning exchange without explicit agreements) and non-monetised exchange play significant roles in farmers' acquisition of labour and capital, also when such inputs are acquired from people outside the family.

This study shows that the social structure of Norwegian agricultural communities may facilitate farmers' strategies for reducing risks and costs of labour and capital acquisition. The role of capital relative to that of labour has increased constantly in farm production since the Industrial Revolution (Friedman 1978; Calus and Huylenbroeck 2010). Today, many Norwegian farms are run mainly by a single man having advanced machinery (see also Djurfeldt and Waldenström 1996). This development has brought two significant challenges. First, the replacement of labour costs by capital costs entails that making the right investments is crucial to success: overinvestment and underinvestment may both be detrimental. Making the right investment decisions may be difficult for several reasons: Farming's seasonal nature entails that periodically important capital – be it implements, machinery, or buildings – is often left unused for long periods; in busy seasons, however, the farmer sometimes depends on access to replacement capital in the face of, for example, damaged implements. Also changing demands by markets and public regulations sometimes make the consequences of long-term investments unpredictable.[1] Second, there is the challenge of satisfying demand for short-term labour. Labour demands tend to vary with the seasons, especially in plant production. Additionally, the small labour force on most Norwegian farms makes farmers vulnerable to unforeseen events such as farmers' illnesses or injuries, breakdowns of machinery, or ill or escaped animals. Consequently, viable farming requires arrangements for securing short-term access to technical expertise and other labour. Increasing prices of labour, especially of skilled labour, relative to the prices of farm products are thus a significant challenge to many farmers. This study shows that a local labour and capital market, embedded in long-term relationships, enables farmers to respond to these challenges by flexibly combining several different forms of exchange.

I begin by reviewing the farm economy literature and proceed to outline the study's theoretical perspective. The theory section is followed by a brief description of the public policies that aim to conserve Norway's agricultural community structure. Subsequently, I present the study's methodology and the qualitative and quantitative data about farmers' exchange practices and social relationships. The article ends with a summary of conclusions.

The Farm Economy Literature

Polanyi (1957 [1944]) argued that during the Industrial Revolution, commodification of labour and land destroyed Western economic life's traditional embeddedness in social networks and institutions (see also Kjeldsen and Ingemann 2009). However, Friedmann (1978) observed that agriculture itself remained somewhat excepted from this disembeddedness, partly because of farmers' ability to replace hired labour with machinery. Despite the decreasing household production in most sectors of modern economies, the family farm remained the basis for agricultural production, making it a "privileged exemption from general tendencies toward capitalist production" (Friedmann 1978: 550). Subsequent sociological studies of the farming economy focused largely on the significance of family (see Hutson 1987; Gasson et al. 1988). These studies addressed the family farm's characteristics (Errington and Gasson 1994; Wallace et al. 1994; Djurfeldt and Waldenström 1996; Jervell 1999; Bjørkhaug and Blekesaune 2008), its importance to society (Hill 1993; Lobao and Meyer 2001; Lyson et al. 2001; Welsh 2009), and the causes of its survival (Schmitt 1991; Roberts 1996; Calus and Huylenbroeck 2010).

As Small (2005) points out, studies of family farms in the Western world have rarely addressed the significance of social ties outside close family. With few exceptions (Wilson 1995; Smithers et al. 2004), farming's embeddedness outside family has mostly been regarded as a distinguishing feature of alternative food supply chains – such as farmer's markets, community-supported agriculture, and organic food networks – that aim to counteract the tendency of industrialised food production and globalised markets to detach the economy from local social networks. Scholars have pointed to the ability of alternative supply chains to strengthen ties between producers (Chiffoleau 2009) and to make ties between producers and consumers a competitive advantage (Hinrichs 2000; Kjeldsen and Ingemann 2009; Trauger et al. 2010). Traditional farming has, explicitly or implicitly, largely been viewed as consisting of family firms interacting with an external market void of long-term social relationships. One notable outcome of this view is the widely used dichotomy of "hired labour" versus "family labour" (Hutson 1987; Gasson et al. 1988; Hill 1993; Djurfeldt and Wallenström 1996: 192, 194; Bjørkhaug and Blekesaune 2008; Lobley et al. 2009; Calus and Huylenbroeck 2010). This dichotomy has had two unfortunate consequences: First is the absence of empirical studies of how labour is actually provided within and outside family; second is the neglect of exchange forms other than hiring. The farm economy has thus been viewed largely as a dual economic system: on the one hand is the family, characterised by contributions that are not exchanged; on the other hand is the market, characterised by explicit and monetised exchange.

Whereas some studies have pointed to the flexibility that follows from family members' and neighbours' unpaid work (Wallace et al. 1994: 525; Calus and Huylenbroeck 2010: 645), this study addresses the multiple forms of "payment" used to acquire labour and capital. I describe the social relationships through which Norwegian farmers gain access to labour and capital, and argue that the nature of these relationships shapes rural exchange practices in ways ignored by previous research. Regarding Norway, I argue that the notion of farming as a family business should, at the very least, be supplemented with the notion of farming as a community-based moral economy in which multiple forms of exchange and payment are used flexibly in a market that is embedded in several types of long-term relationships: family, neighbours, friends, long-term colleagues, and other acquaintances.

Theory: Political Economy, Social Embeddedness, and Social Exchange

This study addresses micro-level economic actions and these actions' dependency on social structure. To some extent this study thus combines the perspectives of three schools of economic sociology: the macro level of political economy (understood here as the study of interaction between political and economic systems), the micro level of social exchange theory, and the New Economic Sociology's concern with intermediating social networks. In his classic contribution to political economy, Polanyi (1957 [1944]) argued that pre-industrial economy was characterised by exchange through moral obligations of reciprocity – what social exchange theorists call “reciprocal exchange” (Emerson 1981) – unfolding in long-term social relations, thus making the economy "a mere function of social organization" (Polanyi 1957 [1944]: 49). He further argued (1957 [1944]: 57, 157, 249) that when a market system emerged, it destroyed this socially embedded economy. Polanyi argued that only through public regulation of the economy could people restore functional coexistence between economic and other social life.

A younger tradition – the New Economic Sociology – pointed out that the social embeddedness of pre-industrial economies indeed survived modernisation (Granovetter 1985; Swedberg 1997; Smelser and Swedberg 2005; Convert and Heilbron 2007). This tradition was above all shaped by Granovetter's (1985) criticism of neo-classical economics’ neglect of lasting social relationships. Granovetter argued that economic action, even in modern society, is "embedded in ongoing networks of personal relations rather than carried out by atomized actors" (Granovetter 1992: 4). Students of the New Economic Sociology criticised Polanyi for neglecting social embeddedness's ability to survive modernisation (Swedberg and Granovetter 1992: 9–10; Swedberg 1997: 165). However, this criticism is not entirely justified. Polanyi acknowledged that the reintroduction of political regulation of markets after WWII entailed that "[a]fter a century of blind 'improvement' man is restoring his 'habitation'" (Polanyi 1957 [1944]: 249, 250–58b). Polanyi's main insight was that the economy's social embeddedness depends on political institutions.

Although the New Economic Sociology highlights economies' social networks, it has been little concerned with the characteristics of micro-level exchange within these networks. Therefore, a third school – social exchange theory's "collectivist tradition" (Ekeh1974) – adds important insights to those of the more macro-oriented schools.

Social exchange theory originated from anthropological studies of pre-industrial economies. These studies described exchange systems that were deeply rooted in social institutions and long-term relationships (Malinowski 1932 [1922]; Levi-Strauss 1970 [1949]; Mauss 2000 [1950]). Therefore, Ekeh (1974) called their work the "collectivist tradition" (as opposed to the rational choice inspired "individualist tradition") of social exchange theory. Although sociological contributions by Homans (1974 [1961]), Blau (1998 [1964]), and Coleman (1990) pulled social exchange theory in an individualistic direction, the collectivist tradition continued through the works of Gouldner (1960) and Ekeh (1974), and it has been more prominent than the individualist tradition in recent social exchange research (Komter and Schans 2008; Lawler et al. 2008; Molm et al. 2007).

Important to the collectivist tradition is the conceptual distinction between "reciprocal" and "negotiated exchange" (see Emerson 1981: 33–34; Molm et al. 2003; Lawler et al. 2008). Whereas negotiated exchange unfolds explicitly through agreement among the parties, reciprocal exchange unfolds tacitly through contributions separated in time. Reciprocal exchange typically unfolds when there are lasting relationships between actors, when there is a moral norm requiring receivers to reciprocate givers, and when these actors mutually trust each other's commitment to this reciprocity norm. Consequently, the concept of reciprocal exchange highlights lasting social relationships' effects on economic practice. In this article, I use the distinction between negotiated and reciprocal exchange to show that the farming literature's neglect of lasting relationships beyond family has led to inadequate understanding of how the real-world farming economy works.

Because money is such a strong symbol of exchange, money is often used in negotiated (and thus explicit) exchange. Although money may also be used in reciprocal exchange – for example, when a receiver tacitly repays a giver by covering the giver's monetised expenses – reciprocal exchange usually unfolds most comfortably by use of non-monetised values such as labour, material, or information (Gezelius 2007). Negotiated exchange may also, naturally, be non-monetised. I use the distinction between monetised and non-monetised exchange to explore farmers' economic practice in greater depth, and to illuminate more clearly the flaws of the traditional dichotomy of hired labour versus family labour. This traditional labour dichotomy assumes that farmers acquire labour either through negotiated and monetised exchange with people outside the family, or through unpaid contributions by family members. I argue that these assumptions lack empirical basis.

In what follows, I describe relevant public policies regarding Norwegian farming and these policies' significance to rural community structure. Subsequently, I present the study of farmers' social exchange practices.

The Political Economy of Norwegian Farming: Protecting a Structure for Socially Embedded Business

Norway is a case of rural structure being deliberately maintained by public policies. Industrialised states have developed toward having fewer and larger farms, potentially eroding the local market for exchange of labour and capital. Although Norwegian agriculture is far from being excepted from such restructuration – it had some 200,000 farms with an average size of approximately 5 hectares in 1950, compared to the abovementioned 45,000 farms averaging some 22 hectares in 2011 – public policies have deliberately promoted the continued existence of small farms (Hegrenes 2000: 2). These policies are rooted in, among other things, a long-standing political goal of preventing depopulation of rural areas and of maintaining farming on a variety of scales in all parts of Norway (Government of Norway 2010: 7–9). These policies include farm property market regulations, import barriers, price regulations, and state subsidies.

The farm property market is regulated to conserve farms' ownership and size. The Allodial Rights Act (Government of Norway 1974) grants farmers' relatives the right – ranked according to their age and kinship – to take over the farm when the farmer retires or dies. Non-relatives need a license to buy farms. Owning a farm entails, subject to some limitations, a legal obligation to live on the farm and to run it. Regulated farm prices aim to facilitate family takeover and farmer ownership of farms (Government of Norway 2003). Public policies regarding farm ownership – reinforced by licensing requirements for large-scale animal production and by (partly transferable) milk-production quotas – also counteract farm size growth (Hegrenes 2000: 11; NILF 2011). These policies to promote continuity in farm ownership and farm size protect community structure and, thereby, facilitate business ties between generations of family members and between neighbouring farmers.

Norway further maintains its agricultural structure by pursuing one of the most protectionist policies in the OECD; state subsidies and import barriers are said to be the equivalent of more than 60 per cent of Norwegian agriculture's gross incomes (Government of Norway 2010: 21–22). The prices of imported agricultural products are regulated by tariff rates and quota provisions enabled by the present WTO regime and by Norway's decision not to join the EU. These import barriers enable the state to regulate the prices of Norwegian farm products by, among other things, subsidising their prices. Additionally, Norwegian farmers receive direct financial support from the state depending on their type and scale of production. The state differentiates its subsidies according to farm size to compensate for small farms' relative economic disadvantage and, thereby, to maintain a diverse farm structure. Farmers can apply for "replacement subsidies" to fund the hiring of replacement labour during farmers' vacations, weekends, or illness (Government of Norway 2007, 2010: 52; Hegrenes 2000).

Norway's system for governance of the economy developed as a political reaction to economic crises that unfolded during the 1920s and 1930s and that many perceived to be the result of unregulated markets. These events paved the way for political dominance by the labour movement and a belief in corporatist governance of the economy (Borgen et al. 2006: 30–35; see also Polanyi 1957 [1944]). Market economy regulated by the state in close association with industry organisations has characterised Norwegian society since. Norwegian farmers are thus well organised, and their organisations play key roles in the governance of Norwegian agriculture. Two strong farmers' unions and one agrarian political party promote farmers' interests in the political arena, whereas three large co-operatives promote their interests in the markets. Following their Basic Agreement of 1950, the state and the two farmers' unions have decided on public subsidies through annual negotiations. Norway's strong traditions of corporatist governance also entail that the farmers' unions exert significant influence through government policy consultations. The farmers' cooperatives have responsibilities regarding the implementation of public policies, thus ensuring them state support. Although liberalist political trends have challenged, and to some extent weakened, the corporatist governance system of Norwegian agriculture over the past 20 years (Borgen et al. 2006), Norway's agriculture still emerges as an advanced state-planned market economy (Almås and Haugen 1991: 80).

Methodology

I conducted twenty semi-structured, face-to-face interviews with farmers in south-eastern Norway between November 2008 and April 2009. Using the Farm Account Database of The Norwegian Agricultural Economics Research Institute (NILF) and the Subsidy Register of the Norwegian Agricultural Authority, I selected farms that employed the farmer largely full time on a year-round basis. Interviews, which followed a life-story approach, lasted for 75 minutes on average. Informants were guaranteed confidentiality regarding their identities.

These qualitative data were used to design a questionnaire sent to all of the 975 farmers in NILF's Farm Account Database during spring 2009. The Farm Account database contains a representative sample – ensured through random selection followed by voluntary recruitment – of Norwegian farms that are the main income source for the farmers’ households (NILF 2009). The survey, which was tested on a small group of farmers before being sent to the entire sample, had a response rate of 59.5 per cent (580 replies).

The questionnaire contained two questions regarding exchange of labour and capital. First, question Q6 asked "To what extent do you receive help or borrow/rent implements or other equipment from individuals within the following groups: spouse/live-in; father or father-in-law; mother or mother-in-law; your or your partner's children; other family; farmers outside the family; other acquaintances?" Reply alternatives ranged from "does not contribute at all" to "contributes daily". Subsequently, question Q7 asked about "how you reciprocate benefits received from family and acquaintances that you ticked off in the previous question." Reply alternatives, which were preceded by explanatory text, were grouped into types of negotiated exchange ("Agreement on reciprocation") and reciprocal exchange ("No agreement on reciprocation"). Respondents could tick off as many reply alternatives as they wished to. The following reply alternatives were presented:

- Agreement on reciprocation[2]
    - Exchange of work/material
    - Monetised pay according to need/ability to pay
    - Monetised standard pay[3]
- No agreement on reciprocation
    - Exchange of work/material
    - Person gets money according to his/her need[4]
    - Gifts
    - Fully or partly without reciprocation.

Because joint ownership is standard in Norwegian marriages (meaning that farmers’ incomes are usually also the property of their spouses), the often significant labour contributions of farmers’ spouses (see Table 1) tend to be more similar to self-employment than to paid or unpaid help. I have thus omitted statistics on spousal payment from the analyses because these are difficult to interpret. The relevance of public tax regulations to various exchange forms has not been a topic of the study, nor has the question of how farmers might respond to such relevance.

Farmers' Exchange Practices and Social Networks

Introducing the Paradigmatic Case of Farm 20

In the following, I present qualitative and quantitative data on how farmers use exchange to acquire labour and capital. The data presentation revolves around a qualitative description of farm 20. Farm 20 is special in the sense that it displays a very high number of the typical exchange practices used for acquiring labour and capital on the farms in this study. 18 of the 20 farms in the interview study supplemented monetised exchange with non-monetised exchange; 15 (or 16 depending on interpretation of data) of the 20 farms supplemented negotiated exchange with reciprocal exchange. I thus present farm 20 as a “paradigmatic case” (Flyvbjerg 2006): a miniature highlighting typical patterns. I supplement the description of farm 20 with selected examples from other farms. I combine these qualitative descriptions with survey data from a representative sample of Norwegian farms to demonstrate the general validity of the qualitative descriptions.

Farm 20 is run by a man (farmer 20) in his mid-40s and his wife. Farmer 20 grew up on this farm when it was owned and run by his parents. The farm is located in a municipality with less than 9,000 people and more than 500 farms. The number of farms in this municipality has changed little since the late 1960s[5], although population size has increased by some 40% during this period. The stable farm-structure in this community has entailed that many farms that farmer 20 knew during childhood are still there and owned by the same families that owned them then. Consequently, friendships that farmer 20 established during childhood with children on neighbouring farms later transformed into significant business relations because these friends became farmers themselves and remained his neighbours. Farm-structure stability and continued family ownership have thus contributed significantly to farmer 20's professional network.

Farmer 20 actively took part in the farm work – without salary – during his childhood years. When in his early 20s, farmer 20 moved to a different county to work as a farm manager. However, his father's health declined shortly after, and farmer 20 therefore began commuting to his family's farm during weekends to work as a farm hand for his father. He received no payment for this help at that time. When farmer 20 was in his mid-20s, he took over his parents' farm and moved there with his wife, while his parents moved to a house nearby. Farmer 20 and his wife subsequently ran the farm together. They produced potatoes and vegetables, along with pork, for a number of years before they eventually specialised on their pork production and supplemented it with production of grain and seeds.

Figure 1 illustrates the social embeddedness of farm 20's market for acquisition of labour and capital. Three types of acquaintances have been especially important to the couple on this farm: four neighbouring farmers who are farmer 20's old friends from childhood; farmer 20's retired father; the couple's children, who live in the household. In addition to these socially embedded business relations, they also interact with an unembedded market for labour and capital, employing seasonal labour, and hiring sows. Figure 1 also illustrates briefly the assets that farm 20 acquires at this market and the forms of exchange used to acquire them. These exchanges will be described in further detail below.

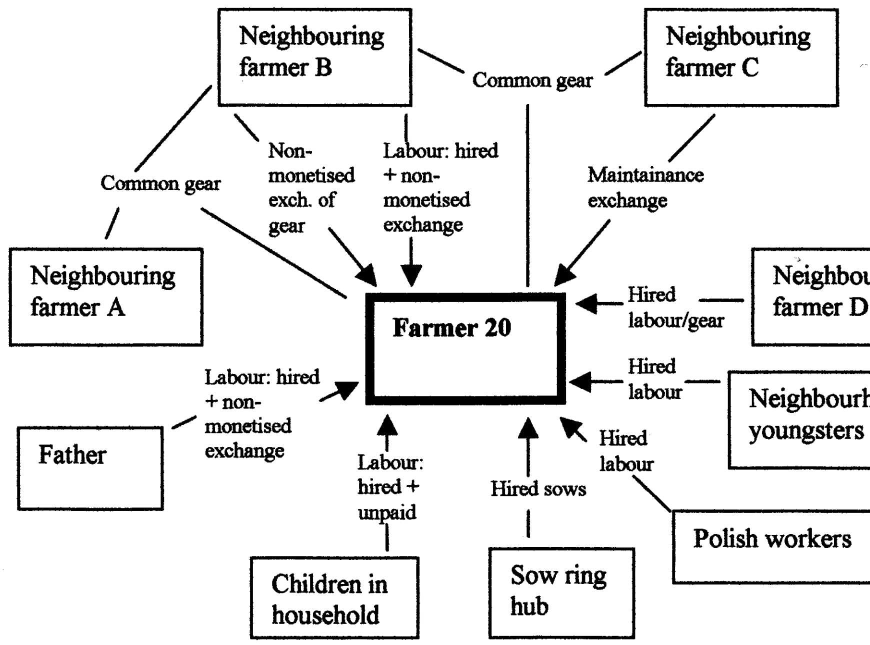

Figure 1. Exchange relations on farm 20

Table 1: Per cent of farmers who receive labour or borrow/rent gear from different types of acquaintances,[a] N = all farmers

	Sporadically	*Often at labour peaks*	*Weekly and at labour peaks*	*Daily*	*Sum*	*N*
Spouse/live-in	25.3	15.0	10.0	27.1	77.3	573
Father/father-in-law	13.6	8.0	9.6	12.8	44.0	561
Mother/mother-in-law	18.6	7.0	4.5	3.9	33.9	560
Own or partner's children	26.0	24.4	17.4	7.3	75.1	565
Other family members	33.9	16.0	3.0	0.1	53.9	555
Farmers outside respondent's family	53.2	16.4	1.2	0.1	72.4	562
Other acquaintances	44.3	13.6	2.3	0.2	60.4	558

[a] Reply alternatives for each acquaintance were mutually exclusive: The sum to the right is thus the percentage of farmers who receive some degree of contribution from the acquaintance in question.

Table 1 presents this study's survey data regarding contributions received by Norwegian farmers from their acquaintances. It shows that reliance on lasting social relationships is typical of Norwegian farmers. Unsurprisingly, we see that close family (spouses, children, and fathers) predominate among weekly and daily contributors. However, as can also be seen, a majority of farmers receive contributions from acquaintances outside the family, especially from other farmers, sporadically and during labour peaks. During the following presentation of interview data, I describe how farmers go about receiving contributions from their different types of acquaintances.

Contributions from Neighbours outside the Family

We have seen that farmer 20 and his wife have long-term relationships with neighbouring farmers. Among these neighbouring farmers, they collaborate most closely with farmer B (see Figure 1). Farmer B borrows agricultural implements regularly from farm 20. Farmer B, who is a mechanic, provides two types of services in return. First, he occasionally does maintenance work on farm 20's implements; these exchanges are negotiated but mostly non-monetised. Second, farmer 20 and his wife get free access to farmer B's tractor; these exchanges are reciprocal and non-monetised. Additionally, farmer 20 and farmer B mutually help each other with spreading manure on each other's fields: One man spreads manure while the other man ploughs. They use farmer 20's tractor for ploughing and farmer B's tractor for spreading manure. This exchange enables the two farmers to quickly work the manure into the soil. This exchange is non-monetised.

Money plays an interesting role in the exchanges between farmer 20 and farmer B. The two farmers have known each other from childhood, and their exchanges are characterised by significant mutual trust; their exchanges are mostly non-monetised and largely reciprocal. However, the two farmers do to some extent monitor the balance of the exchange, and they take note of extraordinary contributions. Money offers an easy way to restore balance whenever significant imbalance occurs. Because they own a thresher together with farmer A – each farmer owning 1/3 – they arrange one (sometimes two) meeting a year regarding their common thresher and other matters they might have. Imbalances are estimated and settled, sometimes by monetised payment, during these meetings:

> The thresher is kind of the main topic of the meeting, but we sometimes bring up other issues if there are great imbalances, if we feel that someone has used the other's resources more than normally... [I]f we find out that [farmer B] has done some extra [mechanic work], we find out how many hours that is and multiply that by a price (Farmer 20).

The use of money to restore balance in (largely) non-monetised exchange relationships appears to be common: farmers 16 and 19 describe similar practices. Farmer 16, who runs an organic dairy farm and also produces vegetables and feed, collaborates extensively with a neighbouring vegetable farm. Collaboration includes, among other things, reciprocal exchange of gear. He describes this exchange as follows:

> I also . . . exchange a bit with those who're growing vegetables on [another farm] up here. We collaborate quite a lot with them during growing season. They borrow the tractor from me, and I borrow implements from them. Or they come and do a bit of driving for me and things like that. Because they have . . . some rather specialised [vegetable implements] that I borrow from them. It's a little informal without much billing back and forth. This spring . . . it became a lot. They borrowed the tractor a lot; so I ended up sending a bill, on hourly basis, how long they've used it, because [they used it], you know, very many hours. But otherwise, when we need an extra tractor one day, if I need an extra tractor in the mowing, I can borrow it there, and the other way around they borrow the tractor without . . . We just make sure to send it back with a full diesel tank. So there's no more accounting than that (Farmer 16).

Noteworthy is that these neighbouring and trusting farmers switch from reciprocal and non-monetised exchange to negotiated and monetised exchange in order to restore temporary imbalances. Money is used here, not as their primary means of exchange, but as a handy alternative to restore balance when this cannot easily be achieved otherwise. Similar to farmer 16, farmer 19 describes switching between exchange forms to ensure a reasonable balance with minimal formalisation. Farmer 19 and a neighbouring farmer exchange labour by teaming up for grain transport and by mutually providing ad hoc help; they also exchange agricultural implements. These exchanges are largely non-monetised. Ad hoc help is provided on a purely reciprocal basis. However, farmer 19 explains that "[w]e exchange loans for some [of the gear], but his part became so predominant that I rent [his] sprayer". Additionally, farmer 19 threshes for this neighbour, the price of which is deducted from the price of the sprayer.

These examples illustrate how monetised pay serves to restore balance in largely non-monetised exchange. They also illustrate a conspicuous and very typical exchange pattern on the studied farms: collaborating partners pragmatically combine negotiated and reciprocal, monetised and non-monetised forms of exchange. By doing so, they minimise formalisation and, thereby, transaction costs (see e.g., Milgrom and Roberts 1990). This pragmatic combination of exchange forms allows farmers to confirm and to maintain trust, while also keeping exchanges balanced.

Regarding our paradigmatic case, farmer 20 also combines different exchange forms with his neighbouring farmer C who, as a payment for borrowing farm 20's float every year, does maintenance work on this float and stands in with farmer 20 in purchasing replacement parts. Additionally, farmer 20, farmer B, and farmer C own a manure wagon jointly. Farmer 20 and his neighbouring farmers A, B, and C thus form a business network that is tied together by a variety of exchange forms.

Farmer 20 collaborates with his neighbouring farmer D in a more limited and formalised manner than he does with farmers A, B, and C. Still, the exchange form used between farmer 20 and farmer D – negotiated and monetised exchange to cover seasonal needs for man-operated capital (typically machinery with driver) – is important and widespread among the farmers in the study. Farmer 20 has not invested in a sowing machine, so he hires farmer D to do the sowing for him in the spring. This exchange is negotiated and monetised, paid by the hour. Nearly all farms in the qualitative study cover at least some of their needs for labour and/or capital through such hiring. However, nearly all farms also cover at least some of these needs through non-monetised exchange. As we have seen, interviewed farmers typically combine these payment forms, and they typically also combine reciprocal and negotiated exchange.

Table 2. Per cent of farmers' engaged in negotiated and reciprocal exchange with contributing acquaintances within and outside the farmer's family,[a] N = farmers who receive contributions from the given relation

	Negotiated	*Reciprocal*[b]	*N*[c]
Within the family[d]	66.2	51.6	523
Outside the family	59.9	55.0	444

[a] Each cell represents one dummy-variable, because respondents could tick off several payment forms. Figures signify probabilities of exchanging respondents' applying reciprocal or negotiated forms when exchanging with acquaintances.
[b] "Fully or partly without reciprocation" has not been counted here as reciprocal exchange.
[c] Respondents who had not given any reply for a given type of social relation (i.e. respondents who had not engaged in exchange with that relation) were coded "missing" on all variables that included the respective social relation; whereas the remaining respondents were coded as either 0 (absent) or 1 (present) on each payment option. Relations marked as "do not contribute" or "do not exist" in Q6 were also coded missing in Q7.
[d] Spouse/live-in excluded.

The survey data regarding negotiated/reciprocal exchange and monetised/non-monetised reciprocation, presented in Tables 2 and 3 respectively, show that the qualitative data are representative of Norwegian farming: These exchange forms are widespread, and approximately equally so. The tables also show, as do qualitative data presented below, that no form of exchange or payment is confined to family or to non-family members. The data thus imply that the commonly used distinction between "hired" and "family labour" obscures characteristics of Norwegian farms' labour market: Exchange unfolds in many forms besides hiring; non-family contributors are often not hired; family members are often hired. The very high probabilities of monetised reciprocation being used among family members and of non-monetised reciprocation being used among non-family members (Table 3) are especially noteworthy in that respect.

Table 3. Percent of farmers using forms of reciprocation of contributing acquaintances within and outside the farmer's family,[e] *N = farmers who receive contributions from the given relation*

	Monetised reciprocation	*Non-monetised reciprocation*	*Fully or partly without reciprocation*	*N*[f]
Within the family	77.6	49.0	40.0	523
Outside the family	46.4	72.5	15.3	444

[e] Each cell represents one dummy-variable, because respondents could tick off several payment forms. Figures signify the probabilities of respondents' using different forms of payment (or no payment) to acquaintances who have contributed.
[f] Notes c and d of Table 2 apply here.

I have argued that the local embedded market for labour and capital is characterised by a pragmatic diversity of exchange forms used within, as well as outside, the farmers' families. This market often has significant economic consequences. Farm 17 illustrates how the ability to generate monetised income from this local market dampens unfortunate consequences of over-investment. Farm 17 is a dairy farm that also produces grain, seeds, and feed for livestock. The economy on this farm has over the years been damaged by a number of unfortunate investments. Farmer 17 attempted, since the early 1980s, to build a farm based on small-scale production of eggs, pork, and dairy-milk. The ensuing differentiated investments eventually proved unprofitable, leading to enduring financial problems. Today, farmer 17 has wound up the egg- and the pork-productions, apart from a few animals kept for his own household. Farmer 17 explains that the local market for man-operated capital has been a financial rescue:

> Contract work[6] has gone on alongside [other tasks] all along . . . And that is sort of what has made ends meet financially, at least in recent years. . . So you might say you've invested too much. . . but I've made the money by [contract work]. . . [The contract work includes] really everything in grain, grass, and manure, but baling is the biggest. . . I've got all the gear. . . But the thing is we've bought. . . bigger machines than we need. We haven't bought them particularly for contract work. We've bought the machines we need for ourselves, but we've bought them too big . . . I depend on having more than my own driving with that kind of gear (Farmer 17).

A farmer's excess capital reduces the pressure on nearby farmers to invest in similar capital. Farm 18 represents a complementary opposite to farm 17 in that respect. Farm 18 is presently based on nurse cows, horses, feed production, and grain. This farm is run by a young couple who is in the process of building their farm into a viable livelihood and, thereby, reducing their dependence on off-farm employment. The man on farm 18 presently works as an electrician besides farming. This couple needs to keep their present production going while they carefully consider which investments to make for the long term. Supply of man-operated capital from neighbouring farmers enables them to pursue such a cautious strategy: They presently hire neighbouring farmers for threshing, sowing, grass reaping, and bale wrapping. All of these services are provided by negotiated and largely monetised exchange. They hire a neighbouring farmer – a distant relative – to do threshing for standard payment. They hire a second neighbouring farmer to reap and to wrap grass. A third neighbouring farmer sows for them and receives partly monetised and partly non-monetised (but negotiated) payment in the form of electrician services. In addition, they lease a grain dryer from a cousin nearby.

As Figure 1 illustrates, local youth form part of the local embedded labour market. The (now discontinued) vegetable production of farm 20 was labour intensive, involving manual washing, cutting, and wrapping of vegetables. Although farmer 20 and his wife worked as much as they could themselves, they depended on hiring workers from outside the family. They preferred hiring local youth. They explain that these youngsters in turn recruited their friends, thus making work a social event.

Contributions from Family

Our examples so far have shown that the rural community provides for an embedded market for labour and capital and that embeddedness enables actors to combine different forms and means of exchange. I now describe how close family members form part of this embedded market. As is typical of Norwegian farms (see Table 2), farm 20 has benefitted from the labour input of the farmer's children and retired father. I described above how farmer 20 in his younger years provided non-salaried help to his ill father. Since farmer 20 and his wife took over the family farm, they received regular help from farmer 20's retired father for several years until he became too ill to work. During those years, the father regularly came to the farm, sometimes on his own initiative and sometimes on request, to take part in on-going work. Farmer 20 says this about paying his father:

> Interviewer: The help he gave you, was that [unpaid]?
>
> Farmer 20: Yes . . . I used some replacement money[7] on him.
>
> Interviewer: . . . some paid and some unpaid, you mean?
>
> Farmer 20: Yes, yes, yes.
>
> Interviewer: Was [his payment] connected to specific tasks . . . that he kept account of?

> Farmer 20: No . . . It was discretion . . . It was done at the end of the year. I felt that it was his turn to work a little for us now, because I had worked for them. So, it was kind of like that.

Farmer 20 describes his father's contributions as fulfilment of reciprocal obligations established when farmer 20 helped his father years earlier; he thus regards his father's contributions as part of long-term reciprocal and non-monetised exchange. This exchange is supplemented by some monetised payment. Table 4 shows that these exchange practices are common in farmers' business relations with their fathers, as is largely the case concerning their business relations with other family members.

Retired fathers are often a valuable work force on farms because they know the farms intimately, have trusting (and often caring) relationships with the farmers, have a strong sense of belonging to the farms, and have pensions that reduce their need for monetised payment. Farmer 20 and his wife say this about the father's contributions before he became too ill to work:

> Farmer 20's wife: [My father in law] [became seriously ill] . . . and we didn't think he'd make it. But then he kind of recovered, and participated a bit at home. He was around doing small tasks. It was worth gold; he knew where stuff belonged, and how things could be fixed.
>
> Farmer 20: He had no strength, but he knew everything. Sitting on the tractor driving, for example, all day, was not a problem.
>
> Farmer 20's wife: He did, and that went fine . . . He did it almost as recreation. He had to get over to the farm, he used to say . . .
>
> Farmer 20: The advantage of . . . guys like him, is that they know what to do. You don't have to explain to them in detail about where to be, how to drive . . .
>
> Farmer 20's wife: Which field is ours and things like that.

Farmer 20: Yes! What should be on that field, what should we have there . . . And you know, the day [that work force] is gone . . . you have to implement emergency plans . . . We actually have to hire help to make wheels go round . . . We have used lots of Poles and, you know, they say “yes and amen” and then they’ve misunderstood everything . . .

Farmer 20’s wife: [Quotes Pole] “Yes, I fix it”.

Farmer 20: And then they fix something entirely different . . . So it’s very handy with those senior consultants.

Farmer 20’s wife: Who both know a lot and are

Farmer 20: Underestimated labour.

Economic difficulties tend to highlight the economic importance of retired fathers’ labour: Farmer 17, presented above as a case of unprofitable investment, explains that the death of his father, who had provided significant unpaid help, necessitated hiring non-family and relatively unskilled labour, increasing his costs and, thereby, also his economic difficulties.

Table 4. Per cent of farmers using forms of payment to contributing family members,[g] N = farmers who receive contributions from the given relation

	Monetised reciprocation	*Non-monetised reciprocation*	*Fully or partly without reciprocation*	*N*
Father/father-in-law	26.4	38.5	48.5	231
Mother/mother-in-law	18.0	37.8	55.2	172
Own or partner's children	81.2	17.4	11.0	409
Other family members	39.1	54.6	22.1	271

g All of Table 3’s notes apply to this table.

Farmer 20 and his wife acquire labour from their children through negotiated and monetised exchange, provided this labour is of a certain scale. They usually pay their children by the hour for such contributions, but occasionally they pay them discretionary amounts of money. Table 4 shows that it is typical among Norwegian farmers to use monetised payment for labour provided by their children. The probability of monetised payment is higher for the farmers' children than for any other group, including contributors outside the farmers' family. Table 4 shows that the conspicuous finding in Table 3 – that monetised payment is far more probable within the family than outside the family – is because of monetised payment to farmers' children. Monetised payment to children may, at least partly, stem from deliberate labour training provided by farmers who serve as their children's first employer.

Not all the work by children on farm 20 is paid for: the children also perform minor ad hoc tasks to ensure that the family's everyday life runs smoothly. Farmer 20's wife explains:

> It's more like, kind of duties. That we're actually a family. And if we shall make these wheels go round, we've actually got to help each other. And if I have to go to a parents' meeting in the evening, and they feed the sows, then it's more like a duty. They don't get paid for such small things that I ask them to do. But if... there's something regular every morning... it becomes something entirely different (Farmer 20's wife).

The case of farmer 20's father and children illustrates common similarities and common differences between close family and other acquaintances in the embedded market for labour and capital. Both family and non-family business relationships are characterised by a pragmatic mix of different forms of exchange: In both types of relationships we find common use of negotiated as well as of reciprocal exchange, and of monetised as well as non-monetised reciprocation. However, within-family exchange still has distinguishing characteristics: The examples above illustrate that reciprocal obligations within close family can be fulfilled over very long time spans; they also illustrate – as do the survey data – that monetised payment of close family is relatively often based on discretionary need assessments. The survey data showed a 47.4 per cent probability (N=523) of need-based monetised payment being used within the family, compared to a 14.4 per cent probability (N=444) outside the family. These characteristics arguably reflect the special position of family members within the business: the farm is largely perceived as a common livelihood for those family members who either presently run the farm, are likely to do so in the future, or have done so in the past. These family members contribute and receive payment in the form (and to the extent) that best suits this family's needs at the time.

Farm 11 illustrates how shifting exchange forms are used among family members to suit their needs. Farmer 11, a man in his mid-30s who produces dairy-milk, grain and beef, grew up on the family farm when his father ran it. Around the age of 20, farmer 11 moved out, took education and worked for various firms. During those years, he also worked as a weekend relief for his father. He explains that his father did not pay him any regular salary for this, but gave him money when he needed it. However, a few years later, farmer 11's father went on sick leave, which required farmer 11 to do most of the farm work for him. This contribution increase by farmer 11 resulted in formalisation and monetisation: farmer 11 became employed by his father on a regular contract basis during the first year of the sick leave. The following year, farmer 11 began leasing the farm from his father. Farmer 11 finally moved to the farm a few years later. When farmer 11 eventually had taken over the family farm, his father worked for him in the seasons and occasionally also in the cow house. His father did not receive any monetised payment for that work, but it may be interpreted as tacit reciprocation of his son's contributions years earlier. Although these arrangements of help and exchange had several different forms, they appear to serve a similar purpose: to facilitate a generation shift of farm management and ownership. Farmer 11's informal labour contributions, his employment, and his leasing were all stages in the process of taking over the family farm; the subsequent labour contributions of his retired father also ease this generation shift.

Although significant similarities exist between within-family exchanges and exchanges among non-family acquaintances, data regarding family members are distinguished by the particularly strong sense of community they display. This sense of community also entails that – as Table 3 and Table 4 show – many family contributions are not subject to exchange: The probability of contributions not being reciprocated is significantly higher within the family than it is outside.

Contributions from the Unembedded Market

We have seen that the exchanges by which farmers acquire labour and capital are strongly embedded in lasting social relations. We have also seen farmers' preference for acquiring labour from such relations. Farm 20 has acquired labour from the unembedded market largely to compensate for labour shortage within their local social network. In their labour-intensive vegetable production, they experienced that employing youngsters is, for natural reasons, temporary. Employing workers from abroad thus became necessary. The declining health of farmer 20's father necessitated hiring foreign workers also for other purposes.

Farm 20's acquisition of piglets thus stands out as an example where these farmers prefer to acquire capital through purely negotiated, monetised exchange at a market dominated by business-only relations. The couple used to buy piglets from a neighbour and from the farmers' cooperative, thus concentrating on feeding the pigs until they reached slaughter weight. However, feeling that this production form yielded less work and less interesting tasks than they desired, they included piglet production in the cycle. This change removed their piglet acquisition from the embedded local market.

Instead, they joined a so-called sow-ring: a group of producers who hire pregnant sows from a specialised sow company (the sow-ring hub). The hub delivers to the member farms sows in fixed numbers at predetermined intervals, to ensure reliable and timely piglet supply for all. Because sows circulate among producers, the system requires that all actors in the sow-ring co-ordinate their production cycles. Consequently, participation in the sow ring is organised through long-term contracts. The sow ring is thus a case of a strictly formalised, unembedded system being preferred to ensure reliable capital supply.

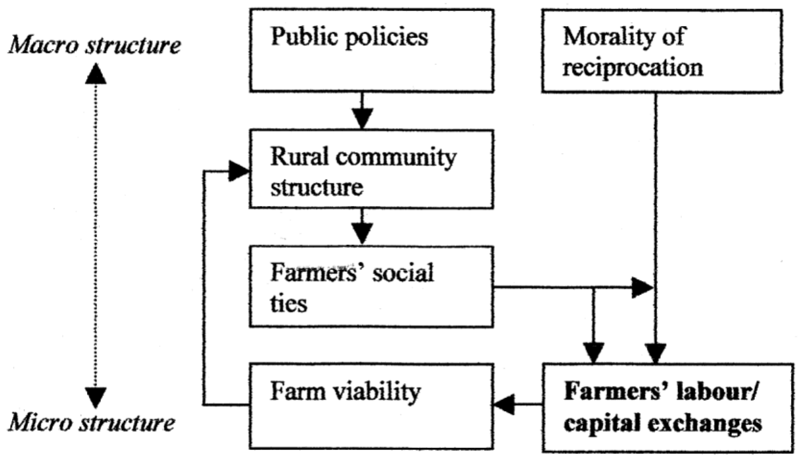

Figure 2. Causes and effects of farmers' labour/capital exchanges

Conclusions

This study addresses the questions of how Norwegian farmers use exchange to acquire labour/capital and how these exchange practices depend on community structure. Figure 2 outlines the article's main argument: The Norwegian agricultural community structure, which is conserved by public policies, is characterised by communities containing several, relatively small, farmer-owned farms that are kept within the families for generations. This community structure provides for a socially embedded market for farm labour and capital. The embeddedness of this market facilitates trust-demanding exchange forms, such as reciprocal and non-monetised exchange, that have been neglected by students of modern farm economies.[8] The social structure of Norwegian agricultural communities thus enables farmers to flexibly use several forms of exchange to reduce risks and costs of labour and capital acquisition. These findings urge us to rethink how the farming economy works.

First, the study shows that farming's social embeddedness is not confined to family but includes a broader community of neighbours, friends, long-term colleagues, and other acquaintances. Second, the commonly used dichotomy of "hired" versus "family" labour presents a misleading description of Norwegian farm economies: Family members may indeed be hired; non-family contributors may often not be hired; exchange unfolds in several forms besides hiring.

The farmers in this study acquire labour and capital through flexible use of different exchange forms within a network of many different types of acquaintances. To understand the Norwegian farm economy, the concept of the family farm should be supplemented by a broader concept of the *community farm*: a farm in a local moral economy where labour and capital are acquired through exchange, typically in multiple forms, among trusting acquaintances.

The existence of a local, embedded market for labour and capital brings at least two types of economic advantages for farmers. First are advantages of trust: Trust reliance enables exchange at low transaction costs; trust also provides for long-term reciprocal exchange that brings flexibility regarding the time and form of reciprocation. Second is economic robustness in the face of sub-ideal investments and acute labour shortage: Farms with excessive capital – typically in the form of agricultural implements or buildings – may ensure returns for these investments by offering their surplus to local farmers with a corresponding shortage; acute labour shortage – typically caused by unforeseen events – may be remedied relatively easily among trusting neighbours ready to create or fulfil reciprocal obligations by stepping in on short notice.

I will thus end the article by suggesting a hypothesis that can be considered to be almost a Goldsmith (1978) hypothesis in reverse: The economic viability of modern, capital-intensive farms increases when these farms are situated in multi-farm communities characterised by lasting social networks. Scholars should thus extend their research from solely addressing the farms' dependence on family to also address the farms' dependence on community.

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Endnotes

[1] The problem of making the right investments under uncertainty was a frequent concern among informants. Informants on twelve out of twenty farms in the interview study expressed concerns about framework conditions changing in unpredictable ways.

[2] "Monetised standard pay" was listed only under "Agreement on reciprocation" because standard pay requires explicit exchange. "Gifts" naturally belong only under "No agreement on reciprocation".

[3] "Standard pay" means payment according to standard pay rates. I used the Norwegian term "*betaling etter tariff*".

[4] Monetised repayments may be used in reciprocal exchange when these repayments are framed as a matter of covering the recipient's needs.

[5] Notably, figures on farm structure are not fully comparable over time due to changes in classification criteria and measuring methods (Statistics Norway 1971; www.ssb.no, accessed November 29, 2011).

[6] The term “contract work” translates from the Norwegian term “leiekjøring” which refers to farmers’ practice of hiring out their machinery with their labour to other farmers.

[7] Farmer 20 refers here to his use of subsidies to fund the hiring of replacement labour during farmers' vacations, weekends, or illness.

[8] These exchange forms are often associated with pre-industrial economies. Lambrecht’s (2003) description of non-monetised exchange in eighteenth century Europe is an example from literature on farming in the North.

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