

# Social Capital in Rural Denmark

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## Abstract

What are the roots of social capital and how can it be measured and built? Social capital is considered as a new production factor which must be added to the conventional concepts of human and physical capital. Social capital is productive because it increases the level of trust in a society and allows more transactions to take place without third-party enforcement. Theory and lessons from empirical evidence lead to the general recommendation that any loss in social capital must be deducted from the economic gain following market forces. For example, the voluntary organization of small-sized groups in the Danish Cooperative Dairy Movement was eliminated due to economies of scale. It may be so that an alternative way of production, taking social capital into account, could have increased economic growth further.

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## Introduction

An old Danish saying goes: A word is a word. This is important, because social capital, defined as people's ability to cooperate, may enhance economic growth in society. Why? Because a 'social glue' such as social capital, operationalized as the level of trust in a group, may reduce the number of transactions that must necessarily be enforced by a third-party. More transactions can take place at a lower cost, and trust will increase predictability and production in society. For example, it may be argued that voluntary organization among farmers lower transaction costs by having numerous informal transactions taking place which are not formally sanctioned. It is not necessary to monitor and enforce all the transactions. In this article we will use the Danish Cooperative Movement as an indicator of social capital because it is fully voluntary and as such reflects the level of trust and cooperation in rural society.

We hypothesize that a group with members who trust each other can accomplish more economic growth than a similar group without trust. As Putnam puts it: 'Trust lubricates society' (Putnam 1993b, p. 2). In this way, social capital is a new production factor which must be added to the conventional concepts of human and physical capital. Consequently, the concepts of social capital and trust are of extreme interest to social scientists.<sup>1</sup>

Therefore, the paper raises the following question: What principle can explain social capital, and how can it be built? In answering this question, Section 2 analyses the theoretical roots of social capital. Section 3 suggests different ways of measuring social capital. Section 4 looks at empirical evidence from rural Denmark. Finally, the implications of the theoretical framework and the empirical indicators of social capital are described in Section 5.

## **Social capital**

Tracing the theoretical roots of social capital raises a preliminary question: do we find a notion, in the social science literature, that can explain why people learn to trust each other and cooperate in the first place?

Such a question leads us to the concept of *reciprocity*.

Reciprocity is observed empirically by the perpetual exchanges of goods between the individuals and groups in every single community of a society, as was first shown by Mauss in a famous work, "The Gift", first published in 1925.<sup>2</sup> Mauss points out that it is precisely the reciprocity observed in the innumerable exchanges of goods in a society that - at an overall level - knits this society together in every aspect, producing common norms, common identity, trust and solidarity on the one hand, and strong economic ties on the other (Mauss 1969, p. 70).<sup>3</sup>

Reciprocity in the sense of "the ability of people to work together for common purposes in groups and organizations" has recently been defined more specifically as 'social capital.' (Coleman 1988). Social capital is a more narrow definition of reciprocity which focuses on trust. Trust is the expectation that arises within a community of regular, cooperative

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1. The ongoing World Bank project on social capital analyses these concepts and tries to measure it in different ways. See World Bank (1999).

2. This is shown in the Potlatch case among the Northwest coast Indians and in the case of the 'Kula' among the Trobriands (Mauss 1969).

3. Portes and Sensenbrenner point at Simmel as the source for "reciprocity transactions" (Portes and Sensenbrenner in Flora, 1998).

behaviour, based on commonly shared norms. Acceptable behaviour is disciplined by reinforcing encounters in a closed group. In this way, an informal agreement is accomplished where the only sanction is that of social ostracism.<sup>4</sup> Therefore, a crucial issue would be to avoid the groups from growing bigger if these social pressures are to be maintained effectively.<sup>5</sup>

By extending Mauss' argument further, we reach the conclusion that it is the demarcated, small scaled nature of the local communities that seems to stimulate the face-to-face exchanges which - according to Mauss - strengthen the socio-economic ties of the entire society. Reciprocal relations are being accumulated in bundles of local, social networks. Society's cultural 'fabrics' are functioning. Social capital is being produced. In this way local, social networks create bottom-up social control, the order and social cohesion of the entire society is guaranteed in the sense that everybody is committed to everybody. As Mauss puts it, "Although the prestations and counter-prestations take place under a voluntary guise they are in essence strictly obligatory, and their sanction is private or open warfare" (Mauss 1969, p. 3). In this way, Mauss actually provided a consistent explanation of Toennies' *Gemeinschaft* and Durkheim's "mechanical solidarity" - but not of the *Gesellschaft* and "organic solidarity".

Unlike Mauss who studied non-European pre-capitalist communities, later studies within sociology and anthropology have questioned the apparent equilibrium of a society's production of social capital.<sup>6</sup> Societies are, thus, being regarded as more fragile, often disharmonious, or even as collapsing. Social ties do not exist per se - they can be lost and must, therefore, continually be renewed. A society's social capital must be built and protected. Whereas it takes a long time to build up a 'stock' of trust in society, it may be destroyed in a very short time. For example, Putnam (1996) shows in his article "The Strange Disappearance of Civic America" how a large stock of social capital in the USA, which culminated during the civil rights movements at the end of the sixties, rapidly eroded in the following decades. The prime cause, he argues, is TV, stealing people's time and preventing them from taking part in civic engagements.

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4. The social norms can be based on religious or justice values but they also cover secular norms like professional standards and codes of behavior. These norms are created and transmitted through cultural mechanisms. The word 'culture' itself suggests that the ethical rules by which people live are nurtured through repetition, tradition, and example. Therefore, human beings will never behave as purely selfish utility maximizers as postulated by economists. See Granovetter (1985) for a critique of neoclassical economy. See Svendsen, G.T. (1998) concerning economic rationality and Svendsen, G.T. (1999) concerning profit maximization and altruism among US environmental groups. See also Green and Shapiro (1994), Fukuyama (1995a, b), Becker (1968, 1996) and Olson (1982, 1993, 1996).

5. Large, open and more complex settings would require a more impersonal or indirect form of trust. More complex networks of mutual trust must be woven together. Often, members must trust in the trust of others. Here, social networks may allow trust to become transitive and spread: I trust you, because I trust her and she assures me that she trusts you. See Sandefur and Laumann (1998) concerning Coleman's concept of social capital. See Portes (1998) and Flora (1998) for a review of the origins of the concept of social capital.

6. Durkheim struggled to understand the problem in "Suicide" (1963 [1897]), using case studies from Western Europe. Within anthropology, conflict theory was introduced by the marxist influenced Max Gluckman, using case studies from South Africa (Gluckman 1958).

## Measurement

Putnam (1993a) proposes a simple operational proxy: the density of voluntary organizations of any type. By comparing the North and the South of Italy, he concludes that the density of voluntary organizations is much higher in the North than in the South. This difference should then explain why economic performance is much higher in the North than in the South.

Putnam states that the reason for this difference in density of voluntary organizations is the level of hierarchy. The North and South started on divergent paths back in the eleventh century when the South was subjected to a hierarchical Norman kingdom in 1100. This type of society reduces the amount of trust in leaders. Ordinary people and leaders are not interacting socially and do not build social capital. So the South experiences the Hobbesian outcome of amoral familism, clientelism, lawlessness, ineffective government, and economic stagnation (Putnam 1993a). The solution would then be to scale down the role of hierarchical state intervention to avoid this "southern deadlock" and thereby leave room for horizontally structured voluntary organizations.<sup>7</sup>

Putnam (1993a, p. 167-170) lists different examples from different places all over the world that may indicate the presence of social capital. They can be divided into three categories: Farming communities, informal savings institutions and commons.

First, there are numerous cases where farm tools are extensively borrowed and lent among farmers. This allows each farmer to get his work done with less physical capital. The tools are not stolen even when it is possible to steal without getting detected. As such, the Danish Cooperative Movement may be an indicator of social capital because it is fully voluntary. It was built between 1850 and 1900 and it created small local savings banks which were later followed by enterprises such as dairies, slaughterhouses and shops (Paldam and Svendsen 1999). This is our main case in Section 4.

Second, so-called rotating credit associations are found all over the world. They are made up of groups who agree to make regular contributions to a fund. Payments are then given, in whole or in part, to each contributor in rotation and this is helpful, for example, to finance a wedding, a bicycle, a sewing machine or a shop. The rotation continues until all members have had a turn at receiving the pot. Why shouldn't participants drop out once they have received the pot? Seeing that risk, why would anyone else contribute in the first place? Therefore, the system could not work unless all members kept paying voluntarily, trusting everybody else to keep paying.

Third, there have been some cooperative attempts to manage common pool resources all over the world, as listed by Ostrom (1990). The most important ones are grazing grounds, water supplies and fisheries.

In general, the three categories mentioned above are characterized by relatively small and closed groups with social pressure and face-to-face interaction. Small, close-knit communities with regular face-to-face interaction may establish trust and intimate familiarity.<sup>8</sup>

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7. At a general level Boix and Posner argue that it is a society's "deep-rooted social inequality" that blocks the building of social capital, a crucial point that is 'almost invisible' in Putnam's account of Italian history as well as in other accounts of 'the evolution of social co-operation' (Boix and Posner 1998, p. 689).

8. Recent sociological research shows that both kinship relations ('strong ties') and non-kinship relations, i.e. friends, connections etc. ('weak ties'), are important elements in the building of social capital (Granovetter 1973). The strong ties are necessary for the internal solidarity within the community; the weak ties lead to linkages to extra-community networks (Flora 1998, p. 483). See also Hofferth And Iceland (1998). Several empirical examples may be mentioned here. In Roumania, it is common that people take part in wide

## The Danish cooperative dairy movement

When measuring how social capital is built, we use Putnam's approach and focus on participation in voluntary organizations, using as a case the establishment of a cooperative dairy movement in rural Denmark at the end of the 19th century. When explaining erosion of social capital, we focus on the declining number of cooperative dairies, which began at about 1960 and escalated in the following decade. Because of this drastic reduction in the number of local dairies due to economies of scale, we hypothesize that this is the main reason why social capital is reduced.

### *How is social capital built?*

During the last decades of the 18th century feudalism in Denmark was gradually wiped out by land reforms creating a whole new class of family farmers owning their own land. The struggle for a better life in the Danish countryside seemed to stagnate during an economic crisis in the 1870s. International corn prices slumped, and especially the small, corn producing, Danish farmers found themselves in a hopeless, economic situation (Bjoern 1982, p. 17-19).

Generally, the shift to exporting secondary agricultural produce instead of grain due to the new demands of the world market led to an increase in the production of animal produce. But in 1879 Germany imposed a duty on all living cattle coming from Denmark, and the export of cattle was halved the following year (Bjoern 1982, p. 48). The loss of the German market gave rise to the so-called home dairies, where neighbours collaborated in the production of butter.

Inspired by the English Cooperative movement back in the early 1840s<sup>9</sup> farmers in Hjedding near Varde in the Western part of Denmark developed the concept of home dairy into that of a cooperative dairy. Their dairy, which was founded in 1882, was to become the ideal model to be imitated all over the country during the subsequent decades. So it happened that after a period of only 10 years, one third of all Danish farms delivered milk to one of the about 700 cooperative dairies, *andelsmejerier*, spread all over the country (Bjoern 1982, p. 112).

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networks with manifold functions. Here friends, relatives and neighbours - more than having a mere social function - are supposed to help each other with advice and services as well as acting as economic safeguard. In Roumania the rates of interest of private loans are extremely high - something which is clearly strengthening this tendency towards an informal economy. A case of the strength of ties of kinship, i.e. 'strong ties', can be found in Russian Karelia, where "networks of kinship and friends help many who are in the poorest situation, providing them with food, clothes and other necessities" (Kortelainen 1997, p. 33). Another example, recently studied, is the kinship based alliances in Kazakhstan. These informal networks have experienced an enormous growth after the fall of the Soviet Union (see Odgaard and Simonsen 1998).

9. In 1843 some weavers in Rochdale near Manchester opened a cooperative wholesale society, owned by the members themselves. The first cooperative wholesale society in Denmark was founded in 1866.

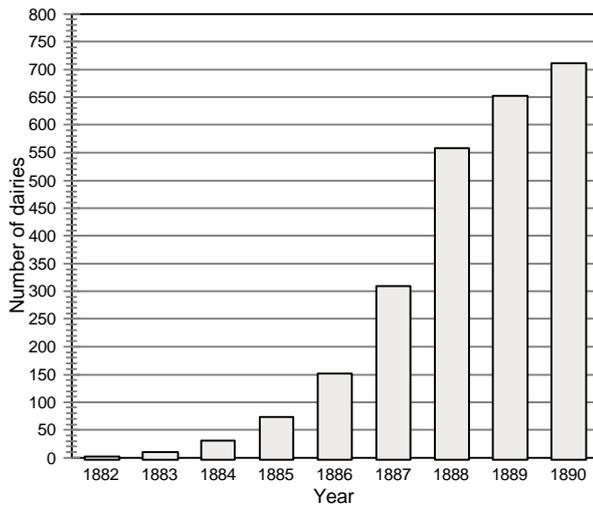


Figure 1: Number of Danish cooperative dairies 1882-1890.

Source: Bjoern 1982, p. 85.

This development took place *in spite* of the Danish government. Until the end of the decade, the Danish government - being conservative and anti-socialist - did nothing to encourage the foundation of cooperative dairies. In fact, both the state and the agricultural organizations were often “downright negative” in their relation to the dairies (Bjoern 1982, p. 80). But the movement was out of their control. The rural population joined voluntarily and the number of cooperative dairies increased rapidly. Voluntarily, people spent their own money as start capital, raised loans in their own local financial institutes,<sup>10</sup> themselves asking - and paying - for technical advice and so on. In short, they managed to do so despite the state, using their own resources.<sup>11</sup>

These resources, scarce though they seem in the Danish countryside in the beginning of the 1880s, sprang out of mutual confidence and mutual trust between members of the local society. To know each other well was clearly a precondition for people joining in any shared, economic adventure, especially such a risky one.

Because the number of participants of a cooperative dairy was limited by the small size of the local area, one may presume that these people knew each other very well, and the joint and several liability, therefore, seem to have been the appropriate way to resolve common, economic tasks (translated from Bjoern 1982, p. 96).

But why did all these people engage in such activities? What purposes and interests did they share? And what common goods did they achieve?

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10. The investments were first of all financed by the local savings banks. In this way “the main part of the capital invested in the dairies 1882-90 comes from the savings of the agriculture itself” (translated from Bjoern 1982, p. 100). See also Paldam and Svendsen, G.T. (1999).

11. “The cooperative dairies were not a result of a central administration. From their foundation they were formed by the local population and the conditions of the locality” (translated from Bjoern 1982, p. 119).

Apart from people knowing and trusting each other, a precondition for the success of the cooperative dairy was common economic interest, promoted in the four standard paragraphs of the articles of such an organization (see Roerdam 1983, p. 27-34).

First, the idea of open membership was to invite everybody to join the local *andelsmejeri*, regardless of either political/religious conviction or economic ability.

Second, this was supplemented by democratic decision making. Thus the owners voted “due to heads and not due to cows” as the saying went. Everybody, high and low, was equal.<sup>12</sup>

Third, people shared the economic responsibility for their dairy, supplying start capital, all bearing the responsibility of loans for buildings, equipment, etc. Thus, people were jointly and severally liable for the risks of loss and were, therefore, also forced to cooperate in spite of political, religious or social conflicts - a most crucial detail.<sup>13</sup>

Fourth, the profit was not shared in a socialist way: it was paid back to the members in proportion to the amount of milk delivered by each individual during a certain period of time.

In this way the democratic, socio-economic elements - at that time by some interpreted as “socialist influence” - were outweighed by the profit making part of the whole business. The members actually earned money! Rationalizations and the use of new technologies and professionalization increased the total profit from 20 to 25% on average, compared to the home dairies (Bjoern 1982, p. 116).

We see that strong common, economic impulses, mediating political, religious and social differences, first of all constitute the core of this kind of cooperation. People in the Danish countryside simply became richer and richer during this period in spite of the international economic crisis.<sup>14</sup>

As we have already shown in the Danish case economic profit as well as democracy and trust appear to be crucial in the process of social capital building. They lead to the formation of social capital, to its ‘*cytogenesis*’ so to speak.

But building social capital involves another step: the spread of socio-economic networks or ‘*mytosis*’. How was the idea and practice of cooperative dairies to be spread out to the entire country? In order to understand this we have to supplement the three core elements - profit, democracy, and trust - with that of entrepreneurship. Most important, the entrepreneurs had to be reliable. The element of entrepreneurship is, thus, closely connected to the element of trust.

At a *micro level*, the single local entrepreneur had to be regarded as a ‘most trustworthy’ man in every aspect, if he was to succeed with his dairy project. The choice would fall on the local school teacher, known by everybody, on a respected and well-to-do farmer or on a dairy technical autodidact, who had already proven his worth by contributing to the foundation of several dairies in other parts of the country. In short, the members wanted their leaders to be “experienced men, inspiring confidence, whose participation was found to be valuable or even necessary for the foundation of the dairy” (translated from Bjoern 1982, p. 104).

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12. With the exception of 10-15 % of all the cooperative dairies, which voted ‘due to cows and not due to heads’ (Bjoern 1982, p. 95).

13. The newspaper, *Fyens Tidende*, wrote in May 1888 in connection with the foundation of dairies near the city of Ring: “former political opponents - foes, one could even say - went hand in hand in the most perfect agreement and concord” (translated from Bjoern 1982, p. 115. See also pp. 95-96).

14. The total production of the Danish agriculture increased from 305 million DKK in 1870 to 897 million in 1913. The export of butter increased from 12.5 million kg. in 1880 to about 90 million kg. in the beginning of the new century, and the export of milk increased from 200 litres to about 600 000 litres in the same period (Bjoern 1982, pp. 21, 552 and 561).

The local school teacher, especially active in the first years, only seldom acted on the basis of pure philanthropic, say, socialist motives. He wanted to profit economically. Normally, the community gave him a small piece of land, a so-called "schoolacre". In order to supplement poor wages and thereby be able to provide for an often very numerous family he had to cultivate this piece of land skilfully. This intensive form of horticulture furthermore involved the raising of domestic animals, including cows. So we understand that the school teacher himself acted as milk supplier, enlarging a source of income of his, not to speak of the earnings in connection with the writing of association articles for the society, contributing with technical devices (Bjoern 1982, p. 108).

The well-to-do farmer, who more and more tended to take over the role as entrepreneur, had a special economic interest in the local dairy. First of all he had a lot of cows and was, therefore, able to increase his profit more. But often he was simply 'head hunted' by smaller entrepreneurs with less social, political and economic prestige, because only he could act as the trustworthy man needed, often with the power to gain access to the local savings bank and exercise major influence on the bank's board of directors.

This kind of head hunting was soon to become common practice at the *meso level* - that is, at a level where *groups* of entrepreneurs communicate and cooperate. So we see that all these local consultants, experts, most trustworthy men were invited to different corners of the country to talk about the revolutionary innovation, *andelsmejeriet*, the great majority of them proposing strictly economic arguments (Bjoern 1982, p. 72). Moreover, after the talk these men were often invited to participate in the foundation of a new dairy in the local areas in question because of their former engagements, known by all to be successful. So, from functioning solely as single, local entrepreneurs, they joined into entrepreneurial groups at the regional level, thus enlarging the common good of their activity to include extra-local communities.

The entrepreneurs, facilitating local cooperation, trust and economic growth at a local, micro level with a regional, meso level, were soon also to facilitate this particular stock of social capital with a national, *macro* level.

Social capital spreading to a national level, then, first of all had the result that the cooperative idea was promoted and a lot of dairies were built. Second, that the foundation of a dairy followed exactly the same pattern no matter in which part of the country it took place (Bjoern 1982, p. 72). And third, but not least important: that promotion and agitation transformed into communication.

A common national interest was created, as well as a debate.

So it happened that towards the end of the 1880s newspapers and agricultural magazines, formerly ignoring the matter, began to show interest, now criticising, now defending the model. Educational institutions became an intermediary of the cooperational idea - and in 1889 even the government finally decided to recognize the movement by offering the cooperative dairies free technical support (Bjoern 1982, p. 80).

By means of entrepreneurship the Danish Cooperative Dairy Movement, *andelsmejeribevaegelsen*, thus went through the 'mytosis' proces. The model of cooperation embedded in a specific local network was exported to other localities and even to other countries.<sup>15</sup> The communication net gradually extended. Interregional relations based on mutual trust were created, almost physically knitting rural Denmark together by strong socio-economic ties. Social capital was built, not only to the profit of the individual, local community but also to the profit of the whole nation.

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15. The Danish Cooperative Movement have strongly influenced similar movements in Norway and Sweden.

We have now seen that the process of social capital building in rural Denmark in the first place was caused by economic impulses in connection with two other elements, democracy and trust. This constitutes the initial part of the process, the ‘*cytogenesis*’ of social capital. This is followed by the second part of the process, the spreading out of networks or ‘*mytosis*’ through entrepreneurial agitation, promotion and exportation of a specific model of organization.

Such complexity is also noted by Putnam (1993b, p. 3), who in an article concerning democracy remarks that “those who have social capital tend to accumulate more”. “Stocks of social capital”, i.e. the civic traditions of a society defined as its, through history, accumulated sum of trust, norms, and networks, thus form the basis of further accumulation of social capital (Putnam 1993b, p. 3).

In our Danish case it is hard to say whether it was ‘civic traditions’ that generated the revolution, and the following evolution. It might be - and it might not.<sup>16</sup> It is beyond doubt, though, that once the organizational model had been established, it formed an almost physical, socio-economic structure, apt to not only satisfy pure economic purposes, but also economic, social as well as purely personal purposes which is well documented in current investigations on the subject.<sup>17</sup>

In this way the Danish Cooperative Movement, *Andelsbevaegelsen*, should be regarded as a socio-economic phenomenon, whose social and economic factors are inextricably woven together. Here, we witness a specific cooperative ‘spirit’ or *Weltanschauung* allowing neighbours, tied together by strong socio-economic relations of trust, to communicate, visit each other, exchange services, help each other. In short: to participate in each others lives.

### *How does social capital erode?*

The amount of social capital, which was built and institutionalized in the Danish countryside from the early 1880s and through the first half of the 20th century seems to stagnate and erode during the 1960s. It took 80 years to build up this public good but only 15-20 years to destroy it.

Like in other Western countries a large scaled rationalization beginning in the 1950s took place in Danish agriculture due to international, economic pressure. This rationalization was of a technological nature and had widespread cultural impact on life in the Danish countryside. So it happened that during this period about 250 000 left their agricultural occupations, the

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16. There is no doubt that the earlier mentioned land reforms created the “structural frame” for the development (Bjoern 1988, p. 368). Also important for the movement were the Danish *folkehøjskoler*, folk high schools, since the 1840s important channels for the spread of knowledge to the rural population. See also Korsgaard 1997 for a more detailed analysis.

17. E.g., this suggestion is confirmed by a recent fieldwork study from the countryside of the Western part of the Danish island Funen (Elberg 1999). An interesting detail is revealed in an interview with a fisherman’s wife. Here, the woman recalls the old fellowship with the other women of the community, culminating in the collective purchase of a washing machine back in 1945 (Elberg 1999, chapt. 5). But the idea that the whole population of the village necessarily and logically should be tied together by common interests as the newcomers imagine it, is a totally foreign thought to her and the other elderly inhabitants of the community (Elberg 1999, chapt. 5). The exchange between the newcomers is of a formal kind of nature. In other words, they reciprocate because they think it rational to do so. Like the newcomers, the ‘indigenous’ inhabitants also meet in a formal way in different societies, but - more important as it seems - they also meet privately after the meetings to discuss and chat. Unlike the newcomers, they form both formal **and** informal socio-economic networks (Elberg 1999, chapt. 5).

greater part of them seeking new jobs in the nearby cities or towns. This can be paralleled with the rapid decline in the number of farms from about 200 000 in 1960 to about 70 000 in the mid 1990s (Bjoern 1997, p. 309).

This development was to hit the Danish Cooperative Movement especially hard. In the beginning of the 1930s there were about 1700 dairies, but they were reduced to less than 20 in 1997. All these local enterprises were closed on the basis of economic arguments. And, evidently, this did not hinder an immense increase in productivity as is shown in the diagram.

In this way, economies of scale and competition led to the shut-down of local dairies and the centralization of dairy production. More efficient dairy production leads, on its own, to more economic growth. However, one must deduct the loss in social capital, and it is not clear whether the net gain is positive in this case. Perhaps a modernized, decentralized system would have managed just as well - and maybe better in the long run?<sup>18</sup>

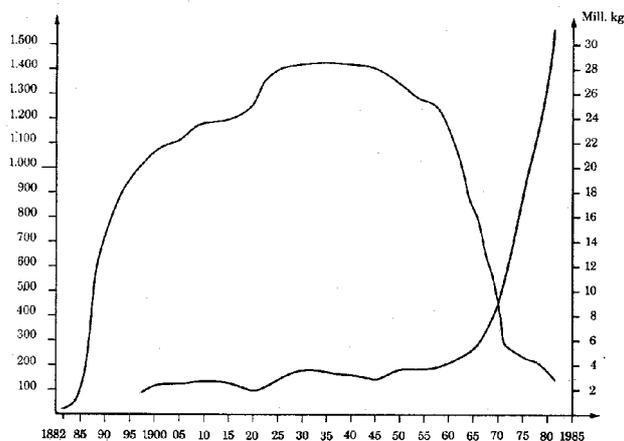


Figure 2: *Number of dairies and production of milk. 1882-1981.*  
 The curve to the left shows the number of cooperative dairies 1882-1981.  
 The curve to the right shows the production of milk.  
 Source: Roerdam 1983, p. 94.

Putting the national economic question aside, we see that the development - including the ‘sacrificing’ of local dairies - was experienced as nothing less than a disaster by the rural Danish population, as widely documented by ethnological fieldwork. In the beginning of the 1970s an ethnological study was made of a Danish colony of *husmaend*, smallholders, called the *Roenhav* colony on the island of Als (off the coast of the Southern part of the peninsula Jutland). Here, the formation of social capital in a local farming community is evident.

The smallholders had the same opinions and evaluated things in the same way. From the foundation [in 1925] to about 1950 the colony formed a relatively stable and homogeneous, local community (...) The smallholders were united by economic and cooperative ties in a pattern of social relations which constituted a small-meshed network” (translated from Solvang 1997, p. 68).

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18. Fruitless as they seem, such questions seem relevant in the Danish context. For the time being the Danish cooperative group of dairies, “MD foods”, is monopolizing the home market. Taking the risk of being accused of nostalgia, we doubt that this development will further the general interests of the nation.

From 1950 cultural changes gradually set in. Conflicts between generations of smallholders due to the technological revolutions of the occupation resulted in the initial disintegration of the “patterns of network” within the community (Solvang 1997, p. 68).

Later research from the beginning of the 1990s, undertaken by the same ethnologist at the same location, shows that the total structural changes in Danish agriculture which took place in the period 1962-75 led to a total disintegration of the Roenhave community as an agricultural community within the cooperative movement context.

In the course of these years the erosion of social capital was completed.

However, in the 1980s and 1990s it seems as if a stock of social capital was being built again - but a totally new one, dominated by the new socio-economic groups, who moved into the houses, which were formerly smallholding farms (Solvang 1997, pp. 81-83). The ‘glue’ of the new networks being created is seen in the “mutual human relations” and not so much in the cooperative “working relations”, which had totally dominated the smallholding community until 1950 (Solvang 1997, p. 83).

An investigation of four Danish villages (Christiansen 1980) tells us that only those communities which succeeded in maintaining common village activities - formal as well as informal - were able to survive the ‘cold years’ from 1960 to the mid 1970s (Christiansen 1980, p. 326). The collapse of the old way of living is described by the same ethnologist in a book with the significant title: “A life form on forced sale?” - referring to a dying rural culture (Christiansen 1982).

But also in these fieldwork studies we witness that something new is happening. Other people, not belonging to an old agricultural tradition, are voluntarily moving into the empty houses left by former farmers, thus facing the problems of transport, slender occupational chances and insufficient public service.

Can this be interpreted as the beginning of a new cycle of social capital building, a new ‘round’ so to speak? - the rise of a specific, time and place bound stock of social capital in rural Denmark, in which the social dimension of the relations seems to be more important than the economic dimension of the relations. If this is the case, we have to reject Putnam when he talks about a nation’s stock of social capital in pure historical terms, arguing that the accumulated civic traditions should form the basis for further accumulation of social capital. Taking the case of rural Denmark, it certainly *is* possible to argue that the stock of social capital, which was formed at the end of the 19th century, was based on the preceding, civic traditions, but this argument simply will not do when we are speaking about the stock of social capital that has been built gradually since the 1970s. In this case the ‘old’ stock of social capital seems to have been lost once and for all, which shows the *context-dependent* nature of social capital. Do stocks of social capital, then, have limited lifetimes, though of varying duration? Can we prolong their lives at all? Can trust possibly be transferred from one period of time to another? Only by further investigations can such questions be answered.

## **Implications**

Empirical evidence suggests that the old saying ‘a word is a word’ used to be valid in the Danish country side but that the level of trust decreased when dairy production was centralized. In this way, the article suggests that social capital, in the sense of trust, was built when the voluntary Danish Cooperative Dairy Movement was established at the end of the last century, leading to cooperation and economic growth in rural Denmark, despite international, economic crisis.

However, this former, rich peasant community life seems to have collapsed gradually when small, local dairies were shut down. Thus, we draw attention to the fact that any loss in social capital must be deducted from the economic gain following economies of scale (centralization of dairy production). We suggest that alternative possibilities should be considered further, taking social capital into account, because it is uncertain whether the net gain is positive or whether another way of organizing production - and maintaining the high level of social capital established during the Danish Cooperative Dairy Movement - would significantly have increased economic growth further.

Because the only sanction mechanism in voluntary groups is that of social ostracism, the setting for these effective social sanction mechanisms must be maintained. It is important to prevent voluntary closed groups, beneficial to economic growth, from turning into harmful rent-seeking groups. As such, these voluntary groups should not be formally institutionalized and the sizes of such well-functioning voluntary groups should not be increased. Otherwise, the disciplining effect of repeated face-to-face interaction will be reduced. So will trust among people when they are repeatedly exposed to free-rider behaviour and the avoidance of paying for the informal establishment of collective goods.

How was social capital built and how did it erode?

First of all, we found that the initial establishment of networks - the '*cytogenesis*' of social capital - is contingent upon the existence of the three key elements: democracy, trust and the equal possibility of making profit. Second, that the spread of networks - or the '*mytosis*' of social capital - is contingent upon entrepreneurship on a regional and national level.

These two stages in the cycle form what we have termed the building of social capital. The common goods achieved in this way consisted of a significant increase in productivity from the beginning of the 1880s. This happened in a broader context of increased communication between people, at a local, regional and national level, in spite of international economic crises and the governmental scepticism towards the cooperative dairies.

Third, the story showed us that centralization and monopolization of production activities seem to weaken the communication, thus leading to the last stage of the process or what we called the *erosion* of social capital.

So, during the last decades, the democratic elements of the cooperative model - open membership, democratic decision making, shared economic responsibility - seem to have slipped away. Shared responsibility and mutual trust between people are reduced to pure economic obligations between the individual producer and the monopoly-like organization. In this way, from about 1960, social capital has been hollowed and the networks, formerly serving a multitude of functions, have imperceptibly vanished, as documented in the ethnological investigations. However, a new stock of social capital seems to be built in rural Denmark in these years, primarily under the influence of the newcomers who are increasingly dominating the former peasant communities. Unlike the stock that was built in the 19th century and was characterized by cooperative working relations, this one seems to be characterized by mutual human relations. In this way, we witness the emergence of a completely new 'cycle' of social capital within the context of a new historical era - a stock of social capital, which we may presume will develop through the stages of *cytogenesis*, *mytosis* and *erosion*. However, instead of ending up with a purely mechanistic view of the nature of social capital, we will point out the possibility of, actively, enhancing trust and cooperation in society. In other words, the complexity of socio-economic relations in a society, summed in Mauss' notion of reciprocity, must, where economically feasible, be protected from disintegration.

Thus, we conclude that formalized economic relations must not be isolated from the informal, social relations between people belonging to the same local community. Social capital must be added as an important production factor when considering economic growth and the net outcome of any economic solution such as economies of scale and centralization of production.

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