Networks in transition

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Competitive paper

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Abstract. This paper presents a model for networks in transition from a planned economy to a market economy. The idea is advanced that a movement from one type of network logic to another type is taking place. Three parallel movements can be observed. First, the hierarchical planning, which characterises the planned networks, is during the transition undergoing a period where firms' plans in the beginning are colliding. However, subsequently the firms are assumed to try to match their plans and as a result a network characterised by decentralised mutual planning emerges. Second, the static nature of the networks in the planned economy is concurrently undergoing a turbulent phase during the transition period, before the networks become stable. Finally, as market networks gradually replace the transition networks, firms develop an identity in the network and thereby leaving the state of anonymity, which prevails in the planned networks. Discovery is advanced as the driving factor in the third movement from anonymity to identify.
Key words. Plans, transition, markets, networks, relationships.

INTRODUCTION

One of the most striking changes over the last fifteen years has been the transition form some kind of state-governed and planned economy to a more open economic system governed by the market. This development has taken place or is currently taking place in countries like China, India and Russia as well as in most other countries in the communist bloc in the former Soviet Union and Central and Eastern Europe From being planned economies, the plan and the plan's authorities are abolished, prices liberalized, and the countries move towards a general definition of a market economy. Independently of which perspectives is applied, it is obvious that the transformation of the market takes time and that a "continuous process of incremental change is now inevitable" (Filatotchev et al., 1996, p. 101). A perspective is needed that grasps the fact that transition is a market process, which Snehota (1993, p. 17) viewed in the following way: "market process is the process of networking, that is, establishing, strengthening, weakening and dissolution of exchange relationships between market participants". The aim of this paper is to conceptualise the transition of networks in economies that go from system extensively governed and regulated by the state to a system where the market is supposed to replace the role of the state.

In Western research on industrial marketing management, the term "networks" has its own distinct meaning. The basic premise for the concept of networks used here is derived from the findings of the Industrial Marketing and Purchasing Group (e.g. Ford, 1990; Håkansson, 1982; Håkansson and Snehota, 1995; Turnbull and Valla, 1986). It is not the first time a network approach has been used in studies of the transition economies, but usually the focus has been on foreign firms entering the markets (Bridgewater, 1999; Salmi 2000; Törnroos and Nieminen 1999) and the data have been gathered mainly at the Western firms. The existence of business networks within this tradition is based on the notion of combining heterogeneous resources in order to interlink activities and actors (Håkansson and Snehota 1995). In a wider context, business relationships are connected to each other through their interdependence and together constitute a structure, the business network, which is defined as a set of two or more connected business relationships (Anderson et al., 1994). Relationships and networks are terms used to describe a third type of governance mode, besides the firm/market transaction dichotomy (e.g. Håkansson and Johanson, 1993). This approach implies that there are no market transactions or network and relation ships exchanges in the planned economy. But, the concept of network can also be used to describe a structure in the economy, where firms tend to exchange resources over a long period of time, thereby constituting a network structure. This is how the word is used in this paper.

In the following section the nature of networks in planned economies is discussed. In the ubsequent section I discuss the literature on the transition economies and especially on the transformation of relationships and networks in such economies. Thereafter, I propose three movements, which are assumed to characterise networks in transition from planned economies to

market economies. The paper ends with a concluding discussion on character of interaction, change and use of knowledge in different types of networks.

THE NATURE OF NETWORKS IN PLANNED ECONOMIES

A well-defined hierarchy is the main foundation for the networks in planned economies. In general, the plan is assumed to fulfil the same function as the market in market economies, that is to allocate resources in the economy, but the plan also functions as a tool for how and where to achieve progress. The plan is a codified rule that requires three conditions to be able to function.

The *first aspect*, which is also the point of departure and the reason that a plan is assumed to function in reality, is that someone somewhere has perfect knowledge about all dimensions, both structural and temporal, in the economy. This is necessary so that the correct decisions, according to the political intentions, can be made. This is not enough however. The perfect knowledge and the political intention should either be united in one body or have an extremely strong link between them. Furthermore, having perfect knowledge is not sufficient, authority and power to realise these correct decisions are needed, as it is not those who has the political intentions and those who work out the plans who should actually realise the contents of the plan.

The *second* aspect concerns the information encoded in the plan. The plan should contain all information necessary for the supplier and the customer and furthermore it is crucial that this information can only be interpreted in one way by the firms. Misunderstanding has severe consequences, which means that the commands of the plan authorities have to be correctly communicated to the firms. Otherwise the plan cannot be realised, and furthermore, it can destroy the possibility of other firms realising their plans.

The *third* aspect concerns the fact that some kind of incentive has to be tied to the plan, that is, if the firm does not obey or understand the plan, which means that it does not fulfil it, the firm has to be punished or miss a potential reward.

Hierarchical planning and static networks

The quality of the products is regulated through the application of the federal standard. There are no incentives to produce products of a higher quality level than stated in the federal standards, because the price is regulated and an increase in quality would just induce higher costs. Further, if the firm manufactures products of higher quality, this does not affect the bonuses or the well-being of the firm. On the other hand, the buyer can reject products not meeting the federal standards. Rejections are deducted from the firm's production and could lead to the buyer's failure to fulfil its plan. Despite the federal standards, the firms have to give priority to the production of quantity at the expense of quality.

The plan is the result of the planning process and as such, it is definite. The planning process, on the other hand, is a process over time where various actors play different roles. During the process the actors' knowledge is a point of departure for how the ends are specified and the means that are identified and allocated in order to realise those ends. A number of governmental organisations exist in parallel to the firms. Their task is to co-ordinate the activities in the economy. Co-ordinating a whole economy by establishing plan commands is an overwhelming task. The planning is an iterative bargaining process in which central agencies, branch ministries, and firms participated. The process begins with political decisions on the highest political level. The plan authorities then analyse, interpret, and compare such decisions with old information. The first round of the process results in a set of "control figures". They are communicated down the hierarchy and on the way, become more and more concrete until they are transformed into explicit quantitative plan commands.

If a strict hierarchical structure is the foundation for the plan-governance static networks become a natural consequence. A static network means that activities such as payment, transportation, production, storing, and so forth are performed in the same way by the same actors and towards the same counterparts over time. Furthermore, machines, equipment, premises, products, and other types of resources utilised by the actors to perform specific activities do not change in a static network.

Static networks and anonymity

The main cause for the static networks is the plan and the planning process and the fact that the plan authorities do not have what is assumed, namely complete knowledge in space and time. Establishing plans requires an enormous amount of information and the planning process is easier to perform if the

networks do not undergo changes. It is both easier to collect, interpret, and compare the information and also to assess and control the results of the plan if the networks are hierarchical and static, that is, static and hierarchical networks increase the chances that the information is valid, which in turn, increases the probability that the contents in the plan corresponds to the political intentions. This means that by not changing the authorities do not have to face and manage the economic problem to the extent they would have in the opposite situation (Hayek, 1945).

One important aspect that Ericson (1991) raises is that the production structure and the interaction between firms change very slowly. Firms are almost never shut down, relationships with customers and suppliers in the state sector very rarely changed, and capital stock and capacity were only abandoned due to breakdown and never for economic reasons (Ericson, 1991). Furthermore, the authorities remain the same. The technology used is the same for a long period and competition is absent. Nor did laws and regulations change. Most changes in planned networks are commanded from above, based on the argument that the authorities have superior knowledge (Berliner, 1976, p. 218). New technology is based on the conviction that "central planners know what needs to be done" (Nove, 1984, p. 167) and research and development activities are usually isolated from practice and remote from life, the problems the firms experience and from the economic consequences of the new technology. Berliner (1976) argues that the primary innovation function of the firm is to implement the innovations commanded from the authorities. Both potential users and the suppliers are resistant to new product and production technologies and there are several reasons for that. The user requirements are not incorporated into design decision and the user often finds that new products do not fit his needs. Maintenance and support service are seldom provided by the supplier, meaning that the customer has to deal with the problems that may occur. However, the potential user could be expected to know the technical qualities of the new products and production technologies and the consequences if he implemented it; neither the innovator — the supplier — nor the potential user — the customer — have complete knowledge about the consequences of using the innovation, which means that both the supplier and the customer encounter a resistance to do business with the new product.

However, since change increases the risk perceived, and since risk-taking is not rewarded, change is not in the interest of either the authorities or the firms. Actually, the only change that is welcomed by the firm is a change that made plan fulfilment easier to achieve. This change could take place within the firm or in the relationship, but under one condition: that the amount of resources allocated is the same. Usually, change means tougher plan goals and/or fewer resources, which means no improvement for the firm, unless the change is illegal (i.e., without the authorities having any knowledge about it). Change forces the firm to adapt to new conditions and to learn, which increases the uncertainty and the possibility of failure. Therefore, the firm tries to avoid changes. The system makes any attempt to change both personally risky and likely to fail. The firms' task is to absorb and put the change into use, which decreases the probability of change occurring. The firms learn and the networks change on command. It follows from that that the firms' relationships are static. Monitoring and control, the main mechanism in the planned economy, thus facilitate the static nature of the networks in the planned economy.

Hierarchical planning and anonymity

The firms' knowledge about other actors is deemed unnecessary in planned networks. The economy provides no incentives for firms willing to interact more closely with their counterparts (Mattsson, 1993) and only toward implementing plan commands (Ericson, 1991). From that follows that the hierarchical planning positively affects the anonymity in the same network. Anonymity can be defined as "the state of not having your name or identity known, especially when you have done a particular thing" and exists when the actors a network are ignorant about existing and potential customers and suppliers. But the anonymity is also a result of the static network, because when new technology appears and disappears, new firms are founded, laws and regulations are changed, uncertainty grows and it becomes more difficult and risky for the firms. In an unstable network, the main means of handling the growing uncertainty is to learn more about other individuals, firms, and authorities. It seems that the more extensive plan-governance of the network the stronger anonymity. However there is also an opposite force, which tends to weaken the anonymity in the network. The more hidden and illegal activities that are performed in the network the weaker the anonymity.

Ericson (1991) claims that a commitment to maximal resource utilisation, implying tautness and pressure in planning, and the lack of any liquidity or flexible response capability in the system were typical for the planned networks. This means that any kind of disturbance has severe consequences for the whole network, which often results in situations where some firms have a surplus, while others have a deficiency of products. Regardless of this, business beyond the plan is usually strictly forbidden. If it occurs, the firms involved risk heavy penalties and in most cases, they do not have the financial means to pay extensive fines. Berliner (1952) notices that if a large number of people are engaged in illegal activities, they are likely to expect others to be prepared to do the same or at least to accept that others do it. The stakes are high and thus, these situations are characterised by mutuality and trust, which weakens the anonymity.

NETWORKS IN TRANSITION

One of the reasons for the transition from a planned to a market economy was the relative failure in planning the exchange between the firms in the economy. Therefore, it is not surprising that the transition is perceived by management as mainly a market problem, that is, as the firms and the managers having problems in handling their relations with the surrounding environment. Markets in transition economies are often characterised by:

- Differences between old and new relations and networks
- Importance of personal relations
- Changes in relations and networks
- Difficulties in managing relations and networks

The differences between old and new relations and networks

As a result of the extensive institutional changes these economies undergo, some researchers discuss and compare the old relations and networks, which were established already during the planned economy, with those relations and networks that emerge during the transition to a market economy (Huber and Wörgötter, 1998; Salmi, 1996; Sedaitis, 1997). According to Huber and Wörgötter (1998) and Sedaitis (1997), the old relations and networks are different from the current ones, and Huber and Wörgötter, moreover, observe that they are entirely separate entities. Salmi (1996), on the other hand, says that the new networks in industrial markets originated from the old networks and that the new evolving relations in the transition largely build on the old ones. This is the case even for small firms, which are often spin-offs from big firms, and the management tend to utilise the relations from their old workplaces.

However, there are diverging views about what happens with the existing relations and networks during the transition. Huber and Wörgötter (1998) argue that two types of networks evolve: survival and entrepreneurial networks. The survival network consists of former state-owned firms, which strive for power and control in order to “obtain rent,” whereas the actors from the entrepreneurial networks are either individuals from the former state-owned firms or new entrants. Sedaitis (1997) observes additional differences, noting that spin-off firms from former state-owned firms have higher network density than new private start-up firms, and it follows that their strengths are their skills to build institutions and to use relations to former colleagues. The networks of spin-off firms are inversely related to the volume of market sales but are positively related to compliance with the internal rules of the exchange. Start-up firms are more honed to pursuit of opportunities and excel as revenue generators. They are more dynamic, flexible, and able to respond quickly to shifts in market conditions. There seem to be differences between relations established in the planned economy and those established after 1992 as the old networks tend to be more embedded in a complex set of personal relations, which are used to maintain power and dominance in the network, while the networks of newly established firms are more dynamic.

The importance of personal relations

The importance of personal relations in the state-governed economies was first observed by Berliner (1952); several researchers have since studied the role personal relations play in both legal and illegal business activities. Thus, it seems that the reason for the importance of personal relations can at least partly be viewed as a legacy of the planned economy, especially the shortages of goods, which were so

significant and widespread. This means, for instance, that firms tend to rely more on personal relations than on the legal system to solve disputes and conflicts (Hendley, 1997). However, in one of the few empirical studies, Hendley et al. (1997) draw an opposite picture, in which professional, ethnic, family, social, and political relations had little importance, at least for former state-owned firms. The only factors that had any bearing were a common educational background or the result of the old official relations. Ledeneva (1998) argues that although the first wave of businessmen originated in personal relations, reforms tend to undermine the importance of personal relations, while they still seem to be important in contacts with tax authorities, customs, banks and district administrations.

But, the importance of personal relations can also be a result of the reforms; that is, due to the uncertainty and volatility in the transition economies, firms tend to do business with those with whom they already have strong personal relations. In an environment characterised by high transaction costs due to opportunism, lack of a property-rights-based legal framework, lack of a stable political structure, and firms, which lack knowledge on how to buy and sell in a market, networks of personal relations are instrumental (Peng and Heath, 1996). The best way to realise agreements and contracts is to do business with those whom one trusts. Consequently, the importance of personal relations is both a legacy of the planned economy and a result of the uncertainty and volatility caused by the reforms.

Difficulties in managing relations and networks

In the light of the firms' lack of experience in managing relations with suppliers and customers and the deep production decline in most transition economies after the reforms are initiated, it is not surprising the firms have difficulties in managing relations. It seems, however, that despite the dismantling of the plan and the liberalisation of prices, insufficient supplies remain a big problem for most firms (Shama, 1992). Relations to the suppliers change character; in many cases they become bad or very bad (Filatotchev et al., 1996), and they make up the most serious problem for a long period of time (McCarthy and Puffer, 1995). According to Gurkov (1996), this is in part because of a lack of means with which to purchase raw materials and semi-finished goods, and high debts to suppliers. The insufficient supplies mean that shortages remain (Blanchard and Kremer, 1997).

Firms in transition economies do not only experience difficulties in managing relations to suppliers; relations with the customers have became worsened as well (Filatotchev et al., 1996) and are often perceived as a major constraint on firms, probably due to a sharp decrease in demand (Buck et al., 1998; Golden et al., 1995; McCarthy and Puffer, 1995). At the same time, the firms perceive a higher level of competition (Golden et al., 1995; Shama, 1992). Another serious problem linked to relations to suppliers and customers was that the firms experienced a financial recession, which forced many of them to begin to barter (Aukutsionek, 1998; Commander et al., 2002; Gurkov, 1996; Poser, 1998).

Changes in relations and networks

The change of governance of the economy aims to cause change on the micro-level. Gurkov (1996) observes that firms strove to change their products in order to satisfy customers, and the changes within their distribution channels confirm this observation; moreover, these changes towards an increased market orientation lead to better performance. Also, in this case the increased uncertainty is the triggering factor as it causes the firms to focus more extensively on the buyer, beginning to develop new products, conducting market research, and trying to satisfy customers (Golden et al., 1995).

Obviously, some researchers have advanced the idea that existing relations are maintained but transformed during the transition process. Salmi and Mattsson (1998) argue that the social network based on personal relationships and the network of production relations undergo an overlapping process, while Huber and Wörgötter (1998) observe that these two networks tend to exist in parallel rather than overlapping with each other, which means that the former state-owned firms will continue to do business with each other while the small newly founded firms develop new networks.

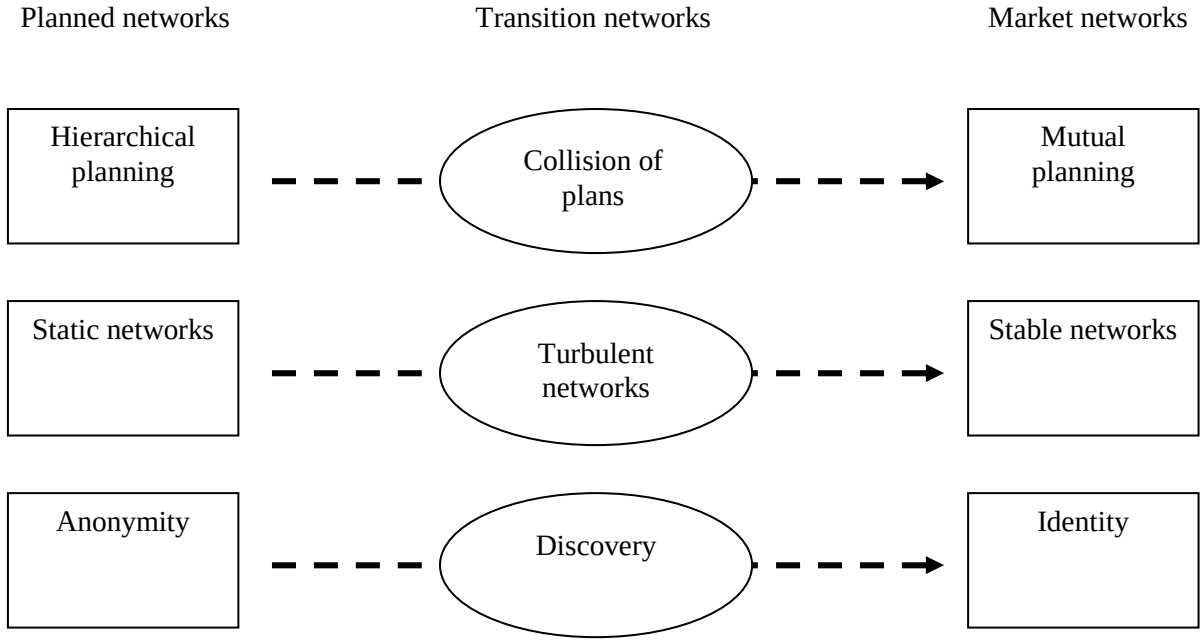
Davis et al. (1996) observe an almost total collapse of networks between firms in different transition economies after 1992. Moreover, they also found that firms' success is related to their ability to establish and maintain domestic and country-specific networks. Gurkov (1996) confirms the collapse of former production relations, and counterparts that let the firms down were viewed as being the main reason for the failure of many firms. Blanchard and Kremer (1997) even argue that the lack

of trust and reputation combined with weak contract enforcement, short-term horizons and opportunistic behaviour in the networks are reasons for the production decline. Another explanation may be that the position of the customer in economic systems characterised by monopoly and shortages, such as in the planned economies, is weak. In such situations the exit option is inaccessible and the voice option is meaningless or counterproductive. According to Gurdon and Savitt (2000), the first option used by customers in the transition economies, when they got access to alternatives, tend to be to exit the relationship. Thus, exiting is a natural behaviour when barriers are removed and alternatives appear. In consumer markets this is a quick process, but it is slower in industrial markets (Gurdon et al. 1999).

MOVEMENTS TOWARDS A NEW NETWORK LOGIC

The results of the various change processes in the network can be viewed as movement from one type of network logic towards another, new, network logic (see figure 1). This is not a terminal point, but rather a movement, and many of the old characteristics still remain.

Figure 1 Movement towards a new network logic



From hierarchical planning to mutual planning

Going from a system with hierarchical planning to a system where the plans and the plan authorities are dismantled can be discussed from two aspects. *Firstly*, going from a centralised plan to decentralised plans is in itself a *process*, and *secondly*, it is the *relationship* that undergoes the change of governance. In a system with decentralised planning and plans, firm A's plan is always related to firm B's plan. What A produces, which machines and equipment it uses, how it stores and transports goods, is never autonomous but related to how firm B deals with these and how much it pays for them. Moreover, it is also related to B's production, storage, transportation, and so forth. In the planned economy, the knowledge needed for these activities is assumed to be codified in a central plan. The firms' limited experience of planning their operations is a constraint, when the transition starts. Moreover, they lack experience of jointly planning the exchange and use of resources in relationships with other firms and from that follows that the centralised planning is replaced by a decentralised planning where the firms make up the plans independently of the authorities, but also independently of their customers and suppliers.

This means that even though they are able to plan their operations, the planning is made in isolation from other actors' plans, which, in turn, implies the fit or matching of the firms' plans is

probably to a considerable extent a result of luck. Very often, the plans simply do not fit with each other. This tends initially to lead to collision between plans. Collision of plans causes turbulence, at least in the beginning. However, there is also an opposite force in this process, where fit is brought about in the plans so they begin to match each other, and matching causes stability.

Richardson (1972, p. 68) says that the matching of plans is typical for a relationship in a market economy: "This co-ordination cannot be left entirely to direction within firms because the activities are dissimilar, and cannot be left to the market forces in that it requires not the balancing of the aggregate supply of something with the aggregate demand for it but rather the matching, both qualitative and quantitative, of individual enterprise plans." In the planned economy, the matching of plans is done by uniting the individual firms' plans into one big centralised plan, whereas a decentralised system requires interaction between firms. It takes at least two to plan, and since plans can be viewed as codified knowledge, firms have to learn from each other. Interaction enhances this. The fact that it takes two to plan means that unilateral dependence on the plan authority and its knowledge is gradually transformed into mutuality between the firms in the network as the firms gradual begin to integrate and mutually adapt their plans. However, this change does not take place in a vacuum. Poor matching and the collision of plans may result in dissolution of some relationships and establishment of others.

The second aspect concerns two matters: the type of knowledge and the strength of the relationships. In general, the planned economy produces fragmented, but static relationships. Fragmented relationships are less efficient when it comes to joint learning, since they are less reciprocal and mutual and, moreover, they are less embedded, as one level is missing. Thus, the consequences if they are dissolved are less severe. It also means that firms with fragmented relationships have to be more open to finding solutions outside the relationships. On the other hand, a firm with integrated relationships where resources like products, knowledge, production facilities, and activities like transportation, storing, production are adapted in the relationship with a specific counterpart (Hallén and Johanson, 2004) searches for solutions within the relationships, where the problems have occurred, rather than across the relationships or beyond the boundaries of the network (Uzzi, 1997).

In the market networks planning is also a decentralised activity, which seldom is interrupted or interfered by the authorities, but the collision of plans made by firms lacking experience about how to match plans, is gradually transformed into mutual planning where firms strive to match their plans to each other. But as the hierarchical planning is transformed into mutual planning the tautness and inflexibility of the plans in the planned networks disappear the plans are be more flexible so that they can cope with unexpected disturbances.

From static networks to stable networks

A related movement accompanies the process from hierarchical planning to mutual planning. The transition provides excellent evidence that change is not unproblematic. It seems to be characterised by the paradoxical co-existence of on the one hand, inertia (that is, everything takes a long time), and on the other, turbulence (that is, lack of steadiness, too many, too fast and too unpredictable changes). In the previous section the argument was that the transition process is, owing to network anonymity, where firms are ignorant both about their customers and suppliers and how to jointly plan the operations in the relationships, initially characterised by a collision of plans. Two firms in a relationship are very lucky if their attempts to make the first joint plans succeed. Instead, it is rather likely that they will fail. The lack of experience in the relationship thus causes turbulence, which spreads throughout in the network.

The turbulence is a result of the decentralisation just discussed. The transition economies are often viewed as turbulent (Salmi, 2000; Czaban and Whitley, 2000). McCarthy et al (2000) argue that these economies undergo various stages, sometimes characterised by turmoil and crisis. Turbulence means that the changes in the market are frequent and unexpected. Due to the turbulence, it is difficult to predict the outcome of the firms' behaviour. Turbulence is partly a consequence of the institutional changes, since they lead to re-consideration of the ends for the firms at the micro level and re-allocation of the means controlled and used in the economy. Since both ends and means are given new meanings, they also recurrently force the firm to question its experience of the network. But the turbulence is also a result of changed behaviour. Firms interpret the changes in different ways and,

therefore, form their expectations differently. Consequently, it is likely that the behaviour of the firms as a result of the movement away from plan governance is unpredictable, which makes planning difficult. Moreover, behaviour of firms also changes over time, since some firms react quickly, sometimes almost instantly, while others do not change their behaviour until much later.

The turbulence in the network means that dissolved business relationships are a widespread outcome of the change of governance (Davis et al., 1996; Gurkov, 1996, Hallén and Johanson,). Insufficient supplies usually remain a big problem for firms during the transition period (Blanchard and Kremer, 1997; Shama, 1992), and the relations to the suppliers often deteriorate (Filatotchev et al., 1996). In parallel, a lot of existing products quickly become obsolete, while new products and technologies appear (Golden et al., 1995), in many cases of foreign origins.

The privatisation of state-owned firms increased the turbulence in the network. The privatisation takes place in a chaotic context (Potts, 1999) and is closely tied to the political development, and since the political situation tend to be chaotic, the privatisation is neither stable nor predictable. The privatisation produces alliances between the directors of the former state-owned firms and the employees. While the managers strive to retain control over the firms, rejecting outside owners and capital, the employees' goal is to avoid lay-offs (Krivogorsky, 2000). Under these conditions, the top-management applies short-term tactics with the aim to survive and where status quo is maintained. Because of such a conservative tactics, privatised firms tend to be passive in reconstructing their firms (Potts, 1999), for instance, by way of establishing business with foreign firms (Filatotochev et al., 2001) or implementing new technologies and products (Krivogorsky, 2000).

Further, entry barriers for new firms are abolished (Eliasson, 1998), which means that new customers and suppliers enter the network, which both increases the degree of competition, but also expands the range of potential sources of supply. A huge number of small and medium-sized firms tend to be established in these economies (Kontorovich, 1999). However, the number of firms registered fluctuates and even stagnates now and then. The small and medium-sized firms do not make a homogeneous group, since they have different backgrounds and act differently (Peng, 2001; Smallbone and Welter, 2001). Thus, it seems that the formation of small and medium-sized firms tends to contribute to the turbulence, but it has also been argued that complexity and turbulence per se stimulate and foster entrepreneurial activity (Peng, 2001; Puffer and McCarthy, 2001). Finally, the number of foreign firms operating in these types of markets tend to increase. This produced a more complex network structure with greater competition, since foreign firms tended to change customers as a result of the change during the transition (Salmi and Möller, 1994).

However, the turbulence does not remain forever, but is leading to a more stable network, implying that turbulence is a phase that is likely to precede a phase of *stability*. When network of integrated relationships gradually evolve and firms begin to match their plans, instead of letting them collide, a more stable structure replaces the turbulence, which prevails in the transition economy. However, it is important that there is a big difference between a static network and a stable network as the later allows changes, but they will take place within existing integrated relationships and have an incremental character. Moreover, in opposite to the static network, changes do not come as plan orders from the authorities, but be a result of the interaction, which the firms perform in the relationships, but also linked to the surrounding network.

There is likely that the number of relationships the firm have in the transition economy exceeds the number of relationships it had in the planned economy. An explanation of this change might be that the firm gradually turns into a node of co-ordination. The increased number of relationships can be viewed as a source of technological change (Ahuja, 2000; Powell et al., 1996). More integrated relationships give access to more sources of information, but since the relationships serve the function of transmitter of information, the total flow of information can also increase. Uzzi (1997) also suggests that relationships, where the exchange is deeply embedded in social relations, enhance joint problem solving and transfers of fine-grained information. In order to create and use complex and non-codified knowledge in the planned economies, whole networks are designed; they are not self-organised through various connected change processes. This can be seen in the priority industries such as the space industry or the military industrial complex. Consequently, one would not expect the transition process to contain the transfer of fine-grained information and joint problem-solving, but rather novel knowledge and discoveries.

A paradox with networks in market economies is that at the same time as they are stable they enhance change (see e.g., Easton and Lundgren, 1992; Håkansson, 1987; Håkansson, 1989; Halinen et al., 1999). Stable networks provide two important preconditions for learning. First, firms usually tend to learn more about that of which they already have knowledge (Cohen and Levinthal, 1990). Obviously, new knowledge is dependent on old knowledge and there is a path the firm has to walk. Furthermore, since learning is a process, firms need time to repeat the experience, as do individuals, which means that the stability positively effects joint learning between the firms in the network.

From anonymity to identity

Anonymity prevails in the networks in the planned economy. Fragmented relationships with low interaction are typical. Ignorance and knowledge are antonyms and having a name, or rather, an identity can consequently be viewed as the opposite of anonymity. Identity has lately emerged as a way for how those inside and outside the organisation perceive the organisation (e.g., Gioia et al., 2000; Dutton and Dukerich, 1991). However, the link between a clear identity and improved co-ordination in a market economy has also recently been examined (Kogut and Zander, 1996). The emphasis has so far been on management's role in creating the identity and how the public and the media perceive the created picture. Moreover, it seems that the type of identity has been in focus, while the interaction in the identity-building process has been of subordinate interest.

However, the present approach has a somewhat different point of departure, since it views identity as relative concept. The word identity derives from Latin *idem*, the same (Concise Oxford Dictionary, 1990). This "sameness" implies that something or someone is the same for those inside as for those outside. For instance, an identity card has a photo, an image, which should correspond to the face of the holder of the card. However, an identity card is not forever. It can by some accident lose its sharpness and clarity and since all our faces get older, also older cards lose their validity. From that follows that identity also grasps the "sameness" over time. Clarity and correspondence between the inside and the outside and some kind of consistency compose the firm's identity.

This means that identity is something changeable and formable and it seems that it is interaction that builds identities. The firm's identity develops when it fulfils specific tasks, not just any thing or the same as everyone else is doing, in the relationships with specific actors. "Identities are constituted out of the process of interaction. To shift among interactions is to shift among definitions of the self" (Weick, 1995, p. 20). The firm has an identity, which is not the same as everyone else's and it is a result of an interaction with other firms, which implies a heterogeneity and diversity among the firms. By interacting with other firms the focal firm's identity emerges (Håkansson and Johanson, 1988), which, first of all, gives other firms an idea of the attractiveness of the focal firm (Anderson, Håkansson and Johanson, 1994), but a firm's identity is something to more complicated than this. The firms' identity is who it is and being someone also means not being someone else (Håkansson and Snehota, 1995). It also means using and exchanging resources in a way that could be identified by other firms.

Identity seems to have two input components: *experience* and *reputation*. Experience is gained from doing things in relation to others. Interaction gives the firm experience and in a relationship, it consists of the firms jointly solving various problems (Uzzi, 1997) or alternatively, failing to solve problems related to, for instance, transportation, payment, storing, production, negotiations, and so forth. Interaction takes place between different people in the relationship. The relationship is thus a vehicle for gaining experience, since experience is based in action and context.

The transition tends to mean movement from fragmented relationships to integrated relationships. The latter ones force firms to interact more extensively, not with everyone, but with some. By adding new activities or increasing the number and the quality of activities performed, the possibility of gaining experience increases. Consequently, the fewer the number of issues that have to be managed in the relationship, the less experience gained by the firms. Fragmented relationships tend to mean strong anonymity, whereas an integrated relationship with a more extensive interaction gives the firm a clearer and sharper identity. A firm's identity is thus constituted after a period of business. The transition process thereby tends to give firms a deeper and richer type of identity, but it also diversifies the identity, since one cannot have a relationship with everyone. The heterogeneity of the identities increases.

However, the network identity constitutes of one additional component, the connected actors' way of perceiving the focal firm. By moving the focus from the relationship to the network, the issue of the transmission of experience to connected actors follows. Reputation is the mechanism that transmits the experience of firms in the network, which makes it essential as a component of the network identity. Reputation is experience or other types of non-experiential knowledge that is transformed into opinions, ideas, and information about specific actors and then transmitted between the firms. Thereby, firms learn about other firms beyond the exchange. However, in transition economies, lack of reputation as a mechanism to transmit experience is a reason for the still existing shortage of input, and indirectly, for the production decline (Blanchard and Kremer, 1997). If experience is gained from doing things in relation to others, reputation can be defined as the information actors in the network get about an actor without doing business or having any real direct contact with him. The interaction gives firms answers to the saying: "Tell me who your friends are, and I will tell you who you are", but it does not only concern the exchange partner.

Anderson and Weitz (1992) observe that a firm's reputation of fairness is instrumental when firms establish relationships. Relationships thereby fulfil a function both as vehicles for the acquisition of experience and as transmitters of reputation. An excellent example of the role the transmission of experience plays within a network is Granovetter's (1973) discussion of the strength of weak ties. He suggests that weak ties, which are distant and involve a low interaction, are efficient in providing the firms with novel knowledge and discoveries. But the codified and more objective knowledge about a firm, which is diffused in the network, is less important, compared to the experience. The codified and objective knowledge is available for all and lacks an element of trust. This means that no one stands behind it.

However, there are firms that do not interact with the focal firm, but gain knowledge about the focal firm through other firms. Two questions appear immediately. The first concerns the number of connections of the connected actors, or the density of the network. These aspects are important, because together they determine from how many directions experience can be acquired. They also open up possibilities for comparisons. Firms hear from different sources about other firms. Various aspects and details from various directions can be put together and give both a deep and wide picture of the firm's identity. The number of connections is also a control mechanism. The network can be utilised as a way of diffusing negative opinions and information about a firm.

The second aspect is how distant the connected actor is from the focal firm. Its importance is based on the assumption that the strongest input in the identity is interaction and therefore, the longer the experience travels in the network, the more it tends to lose richness and trustworthiness. The details become fewer and it will be perceived as less reliable. The conclusion is that the interaction between the firms in the relationships becomes more extensive and intensive and that the connected relationships also increase in quantity, which together means that the firm's identity in the network becomes clearer and sharper during the transition process.

The three change processes discussed follow the decentralisation and are instrumental in the movement from anonymity to identity. While search either represents the transfer of knowledge existing somewhere else or re-creation of knowledge already possessed by the firm, discovery implies not only new knowledge, but also something that was unknowable for the firm. There is nothing the firm could do when it came to discovery; the firm cannot avoid it. Discovery is essential in the transition economy, because of the anonymity that prevailed in the planned network and the turbulence caused by the change of governance. When the economy is governed through an endless set of decentralised plans instead of one centralised plan, it means that the plans cannot always correspond. The firms realise that their plans will collide and they find things of which they had no prior knowledge. The transition means that the ends and the means are recurrently redefined and re-allocated and no one has complete knowledge about what is going to happen. This unpredictability means that it is impossible to have knowledge about even a very limited range of possible developments. All this results in that an expanded interaction with customers and suppliers becomes necessary. In this phase the interaction itself and the customers, the suppliers and their characteristics are something new and unknown for the firm. In the interaction, the firms discover things that until then hasvebeen unknown.

Fragmented, thin and weak relationships tend to be a good soil for novel knowledge (Hansen, 1999), thus, when the network moves from anonymity to identity, discoveries are important and this

development is strengthened by the turbulence. When expanding the interaction firms often have to face situations that are impossible to plan and to predict beforehand. They are unknowable for the firm and from that follows that searching after the beforehand known often turns into discovering the unknowable or as Tsoukas (1996, p. 22) put it: "Firms are faced with *radical uncertainty*: they do not know, they cannot, know what they need to know". Thus, discovery is an important factor of the movement towards new network logic.

DISCUSSION

The analysis does not only increase our understanding of a firm and its context, in the light of the change of governance from a planned to a market economy. It also provides insight into the nature of networks in three different economic systems. Table 1 highlights six aspects of networks in three types of economic systems. These aspects are interrelated and they describe how the networks go from simple, centralised, and tautly planned to a system of decentralised planning, where the firms' individual plans are isolated from each other, which tends to cause them to collide. Moreover, in the planned networks, the interaction in the relationships has narrow range and low intensity, that is, few of the firms' activities are actually adapted to specific counterparts.

However, the planning affects not only the interaction in the relationships, but also the dynamics and changes that take place in the planned networks. In planned networks, change and interaction are often separated in time and space. The reason for this is that the firms in the relationships interact while change usually is initiated from authorities that are remote from the relationships. This means that changes, which the authorities begin often, are very big and have an extensive effect on the firms, however, often distant from the daily operations at the firms. The firms, on the other hand, do not have any incentive to change the interaction, because they are not rewarded if the interaction becomes more efficient. As the centralised and taut planning of the networks are replaced by decentralised planning, the collision of plans tends first to mean radical changes, and later that the interaction and change begin to merge and become more integrated. Changes then spring from the interaction within the relationships rather than coming as a result of initiatives from the authorities.

As the transition ends, it is likely that the firms begin to match their plans. The planning is still decentralised, but no longer performed in isolation; rather it is conducted as a mutual activity. Typically, the planning is also slack, and the plans provide a flexibility that the taut planning does not inhibit. The flexibility is necessary as it makes the relationships less vulnerable to disturbing elements from the surrounding network. The flexibility is also necessary as the plans now concern and integrate a much wider interaction that is usually performed with a higher intensity than in the planned and transition networks. Altogether, this development is characterised by a movement from fragmented relationships and static networks via turbulent relationships and networks during the transition period to integrated relationships in stable networks. Owing to the integration and stability and to the decentralised planning, change separated from interaction is difficult to make. Instead, market networks tend to be dominated by incremental and gradual changes, which often arise from the interaction and which have to fit into the interaction in the relationship.

Table 1 Characteristics of three types of networks

	Planning	**Interaction**	**Change**	**Use of knowledge**	**Relationships and networks**	**Identity**
Planned networks	Simple, centralised and taut planning	Narrow range and low intensity	Interaction and change are separated Either small or huge changes	Knowledge is used to preserve the current structure	Fragmented relationships in static networks	Poor and one-dimensional
Transition networks	Decentralised and isolated planning	Expanding range and irregular	Interaction and change begin to	Knowledge is either used to extensively	Turbulent relationships in turbulent	Emerging and contradictory

	Chaotic collisions of plans	performance of interaction	merge Radical changes	reconstruct the network or to defend old structures and to break down old structures	networks, which undergo an integration process	
Market networks	Decentralised and mutual planning Matching of flexible plans	Wide range and high intensity	Interaction and change are integrated Incremental changes	Knowledge is used to cause change, but within a stable structure	Integrated relationships in stable networks	Multi-dimensional and rich of details

This slow development implies a new way of using knowledge in the network. While the planned networks are static and the relationship fragmented, the knowledge is mostly used to preserve the current network structure, but also to keep the narrow interaction intact. This means that new knowledge is not needed and instead the planned networks are to a large extent characterised by firms using already existing and old knowledge. The situation in the transition network is likely to be almost the opposite. As the firms learn about their customers and suppliers, and as the structure inherited from the planned networks is challenged, new knowledge is widely created and used. The new knowledge created in the market networks must be balanced with the old knowledge, which results in a combination of new and old knowledge.

As there are no reasons to interact more closely or to change the interaction, the firm's identity in the network is likely to be poor and one-dimensional and anonymity usually prevails in planned networks. But first, firms develop rich and multi-dimensional identities in the market networks; their identities emerge as contradictory in the process where knowledge often is used in order to break down the relationships inherited from the planned networks. In a chaotic situation, where plans are colliding and radical changes tend to dominate; firms often have to discover previously unknown details about the counterparts – details that in the market network make up the firm's identity.

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