

The Organisational and Productive Impact of the Economic System. The Case of SMEs

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ABSTRACT. The paper explains how the economic system determines the role and features of SMEs in a competitive environment. The economic system is defined as the co-ordinated set of institutions and structures that are economically relevant. As such, the economic system defines the way in which economic actors react to economic variables by adapting and acting and the way in which they interact.

In particular, the fundamental features of the economic system contribute to determine what actors can and find profitable to do, i.e. determine the level and configuration of non purely material costs and the features of markets. The economic system also determines incentives to economic actors by defining property rights and their enforcement and the nature of contracts. This in turn influences investment and consumption decisions, the supply of resources, and the production and utilisation of information and knowledge. Finally, the economic system determines the type and features of actors, what actors do and how they do by defining the possibility and profitability of specific human and organisational investment.

Based on these functions and given material technology, the economic system defines advantages and disadvantages of different organisational forms. Given capabilities and features of individuals and organisations, that cannot be easily changed in the short run, advantages and disadvantages determine the organisational form that is most efficient in any given context. Finally and considering network externalities and strategic complementarities, such an organisational form determines the organisational configuration as a stable configuration including features, weight and role of particular economic actors, the relation among actors of similar or different size and with governments. In the paper I consider the case of small and medium-size enterprises.

1. Introduction

Industrial structures of countries are characterised by the contemporary presence of firms of different type and size, there including also small and medium-size enterprises (SMEs). These are often considered as economically weaker and less efficient than large firms because of their limited size, organisational and ownership form, knowledge and skills competence, and technological level. In spite of the diverse organisational structure, different economies are stable and can be competitive in a globalising context. What is most interesting for the goal of this paper is that economies may be efficient and competitive in the open market not in spite of, but even thanks to SMEs.

One can explain the co-existence of SMEs with other organisational forms in two distinct ways: a) with a residual hypothesis based on such factors as market segmentation and policy support, and b) with the existence of specific advantages for each size category. In the former case, the economy competitiveness would derive exclusively from large firms and (supposedly) less efficient SMEs wouldn't perceptibly jeopardise it. In the latter case, SMEs give a net contribution to the competitiveness of the economy.

In a competitive environment and given the existing features of institutions and material technology,¹ specific advantages may be due to institutional or technical features (such as lower transaction costs or powerful incentives' and cannot be efficiently and effectively replaced in any other way (e.g. by exploiting scale and scope economies). Since institutions and material technology exist in a broad spectrum of variants, which also reflect the influence of what existed previously, SMEs can be organised in different

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ways, from isolated small businesses fighting for survival to modern SMEs organised in local productive systems (LPS) and industrial districts (ID).

Many factors supporting SMEs specific advantages have much to do with dynamic considerations, since they consist of greater ability to change and to promote change, better adaptability, superior performance in terms of co-operation, promotion of incentives, low sunk costs, and knowledge. However, advantages are matched with specific disadvantages, such as discovery and information costs, lack of scale and scope economies, co-ordination costs, difficulty to manage complex functions and govern change that presumably limit the scope for efficient operation of SMEs.

In this paper, I will only deal with those SMEs that are efficient in a competitive environment and organised in some kind of vertical integration or horizontal network and I will privilege the static comparative perspective. This is certainly only half of the story, but it is an important one and should be considered to understand the viability of different organisational solutions. The basic hypotheses of this paper are that, in a competitive environment: (a) given material technology, specific advantages and disadvantages of different organisational forms depend on the economic system (e.g. by defining specific transaction costs or incentives); (b) given the individuals' features as defined by social capital and capabilities, advantages and disadvantages determine the most efficient organisational form in any specific context; (c) given network externalities and complementarities, the organisational form determines the organisational configuration in an economy as a stable configuration that includes specific organisational features, such as the weight and role of SMEs, their relation to other SMEs and to large firms and governments. An organisational configuration is the fundamental organisational and operational product of an economic system. Given existing externalities and complementarities, the organisational configuration evolves through time by adapting to the environment and policies and the changing choices of social actors. I define it as a configuration, because it keeps its fundamental features until an external shock or the accumulation of a critical mass of environmental, policy or individual changes push it to transform

into a new organisational configuration. In this paper, I will deal with the production of an organisational configuration and its features.

The paper is organised as follows. The next section presents the fundamental independent variable of my explanation, namely the economic system and its features. Section 3 explains why and how the economic system contributes to select particular organisational forms and produces an organisational configuration. These aspects are analysed in the following three sections, 4 through 6. Sections 5 and 6 in particular explain how an SME organisational form and organisational configuration can be efficient. The consequences of an SME organisational configuration for the choice of material technology and the role of capabilities are discussed in section 7. Some policy considerations conclude the paper.

2. The features and role of the economic system

Given the hypotheses stated in the Introduction, the first step is to illustrate the features of the economic system that are crucial in determining the organisational configuration of an economy. The economic system is certainly not the only factor influencing the organisational configuration, nor is it free from the influence of other factors. However, for simplicity of analysis I will consider the existing system as given and I will disregard the existence of feedback effects. I will also disregard that the economic system determines (to a considerable extent) such variables as individual and social capabilities and policies. In fact, the existing economic system moulds both individual and social capabilities via investment (e.g. in education) and structures and constrains both policy instruments and their effect. However, these effects take place mostly in the long run and, as to policies and in any given economic system, a degree of freedom of choice exists concerning instruments, depending on the particular objectives of policy-makers and the context. Consequently, I maintain that the explanation I present here, although not exhaustive, is capable to clarify an important part of SMEs features, organisational form and role.

The economic system is the co-ordinated (self-regulating) and stable set of economically relevant formal and informal institutions and structures that

economic actors develop, agree on, accept or subdue to and define in contracts and other formal and informal ways in order to make their individual economic actions compatible, individually and socially useful, or advantageous to some powerful party. It comprises such crucial variables as rights (including property rights), their enforcement system, and constraints (in particular, the budget constraint of actors).

Environmental complexity, the variety and variance of the features, perceptions and goals of individual actors, and the latter computational limitations to understand, process, and utilise information about the environment and to predict the behaviour of other actors jeopardise productive activity. These factors produce a world of uncertainty, incomplete and asymmetric knowledge and information, threatening opportunism, bounded rationality, that require some regularity and predictability, or direct relation among social actors as necessary conditions for production to take place. In fact, it is only via mutual co-ordination that the goals, choices and action of individual actors become mutually compatible and can produce individual and social gain.

a) Actors are individuals and organisations² who base their economic activity on a complex set of institutions and structures. In a purely democratic society, actors are free to choose directly or to delegate such choice to some other agent, and to act accordingly. Since operating in a co-ordinate way with other actors produce superior outcomes via complementarities and externalities (such as those produced by labour division), actors in a society find convenient to devise institutions that mould their choices and behaviour. This reduces conflicts, improves the economic value of information and decreases uncertainty by creating predictability of choices and behaviour that further enhance the advantage of institutions.

b) Institutions are the formal and informal, socially established, shared or imposed arrangements for interaction among actors. Institutions and structures can be established in an impersonal way (via a market for institutions)³ or in an administrative, top-down way by imposition or in any mixed combination of the two pure ways. Since particular institutions feature complementarities and externalities and may be complex, they may produce structures, such as the property rights

structure, which includes property rights of different type co-existing in the same economic system. Property rights determine what actors can or must do, the relations among the owners of production factors and the kind of remuneration they obtain by selling or utilising those factors, be it fix and having priority or residual. Another such structure is the budget constraint of economic actors. The budget constraint typical in any system – being it hard or soft – determines whether actors must rely exclusively on their own resources or whether they can enjoy rents from other actors, consumers, or the government. In such a way, the budget constraint defines *ex ante* the behaviour that is most convenient to actors and consequently determines the prevailing limits to production, being them either demand or supply.⁴ In sum, institutions and structures define what actors can do, what is expected from them, or they must do, and what is advantageous for them. In this way, they give stability and predictability to economic interaction.

c) The crucial form of interaction among actors in the economy are transactions. It is the possibility to pursue one's goals and to gain returns or to implement the orders received via transactions that give actors the fundamental incentives in the economic domain. In order to have stability, transactions ought to be defined among parties in any kind of explicit and formal or implicit and informal agreements. Recurrent interactions generate patterns of transactions that are stable, because they create trust and rely on the parties' reputation or their retaliation power. In this case, contracts may be relational and often implicit in nature (relational contracts). Also enforcement can be implicit and implemented via the value that trust, reputation and retaliation power have in allowing for the replication of transactions. Since occasional, one shot transactions do not share the above features, their content must be carefully specified in explicit *ex ante* contracts (formal contracts). In this case also enforcement takes the form of a specialised function supplied by public or private actors, that have a crucial role in the success of transactions.

d) Contracts are the device by which transactions are formalised *ex ante* and implemented. Contracts are based on institutions and define the nature and content of a particular interaction. They

also define the gains, costs and risks from that particular interaction and their allocation to individual parties. The advantages of contracts, then, come at a cost. In fact, the form, nature, stipulation and enforcement of contracts determine transaction costs, which are a crucial component of co-ordination costs. The situation of the two different kinds of contracts is not symmetric, though. Relational contracts are cheaper, more stable and flexible and supply a long-time horizon to interactions among parties. However, they require lengthy and costly investment in trust and reputation and feature short-run losses in foregone opportunities from transactions with alternative partners. Formal contracts are more complex and costly since they must be more complete, although hardly perfectly so, and better specified and enforced. They are also more rigid and supply shorter time horizon to interaction. However, they do not require any long-run investment and permit to take advantage of unexpected interactions. Contracts bind independent partners in a transaction or set of transactions. They are crucial devices in markets. When hierarchy replaces markets, contracts exist in a loose form or may be replaced with compulsion. A loose form of contract is a contract that specifies only some general features of a set of transactions, as in labour contracts within organisations. These contracts remain incomplete and ambiguous and leave room for hierarchical discretion. In a transaction based on compulsion, one of the parties can order the other(s) a particular act and require compliance, as in an army based on compulsory enrolment or in the classical Soviet-type economy.

As seen above, the basic components of the institutional setting of an economy are actors, institutions, transactions, and contracts. Actors are the subject of economic activity, institutions are the factors that address and bind their activity, transactions are the means by which production takes place and contracts are the ties among actors that define transactions. Given this setting, why should an economic system be necessary?

As noted above, institutions feature complementarities, incompatibilities (trade-offs) and externalities. This means that: a) since some institutions strengthen each other, they become dominant, hence characteristic of a given situation, and b) those institutions that are not dominant

survive in institutional niches, impose additional costs upon actors as an insurance against environmental variability, disappear, or require particular devices to survive (that usually some powerful delegated third party imposes, such as the state). In this way and in any situation a co-ordinated framework of consistent institutions and structures develop spontaneously or is imposed. Such framework forms the economic system.

An economic system produces consistent choices and behaviour of actors. This has great advantages for an economy. First, such consistency makes learning processes simpler and the choice and behaviour of actors more stable and predictable. This reduces uncertainty and the (co-ordination) costs for running the economy and eases conflicts. Second, by creating a consistent and co-ordinated framework, the system stimulates and supports specialisation of actors, their capabilities and the production and diffusion of knowledge and information. Third, co-ordination and the ensuing specialisation stimulate and support actors in looking for new solutions in particular directions and by co-ordinating their efforts. This favours discovery and change, at the cost of limiting the spectrum of trials and solutions. The system limits opportunities, but favours better exploitation of existing ones. In a competitive environment, such specialisation produces superior results at the cost of foregone opportunities in other directions. However, one should consider that – since the environment where economic activity takes place is varied and variable, as the features of economic actors are – this specialisation cannot go beyond certain limits. This conserves an amount of variety and variability within the economy that turns useful when the features of the environment or the actors change.

In order to internalise the features of the economic system and take advantage of the latter co-ordinating and uncertainty- and cost-reducing effect, actors invest resources in the system specific assets, whose persistent value forms systemic capital.⁵ It is thanks to such investment and the accumulation of systemic capital in their hands that actors may keep their freedom of choice and behaviour, yet co-ordinate these with those of other actors. The latter can take place spontaneously in a purely decentralised way or by dele-

gating co-ordination to specialised third parties. Co-ordination can also be the result of the activity of a specialised governmental agency (e.g. a planning office) by means of incentives and regulation or compulsory orders. Co-ordination produces externalities and complementarities that increase the impact of systemic capital. It is in this way that the economic system implements the crucial role of co-ordinating the choice, decision-making and production activity among different and possibly distant and diverse economic actors and makes those compatible with social goals.

To conclude, by organising and giving stability, co-ordinating economic activity and by creating regularities and constraints, the economic system reduces the consequences of bounded rationality and of uncertainty, constrains opportunism, adverse selection and moral hazard, defines specificity, mitigates the problem of small numbers by creating regularities and norms and of information asymmetry or missing information. In short, the economic system reduces and shapes the impact of the limits of economic actors, defines incentives, stimulates and moulds adaptation and innovation well beyond what isolated institutions would do. These advantages compensate the costs and disadvantages that actors have to pay for operating in an economy (e.g. learning costs, costs for internalising and conforming to rules and set up appropriate devices), and actors can take advantage of the net residual.

3. The economic system, organisational forms and configuration

In the Introduction, I supposed that there is a rather precise correspondence between the economic system, organisational forms and configuration. This is so because the economic system determines advantages and disadvantages of different theoretical organisational forms and configurations, supports certain solutions and hampers or prevents others. In a context where actors are boundedly rational and where there is a minimum degree of competition, the set of such advantages and disadvantages determine the allocation of entrepreneurial and organisational resources and effort in an economy, there including investment in system specific assets.⁶ Such allocation selects particular organisational forms as the most viable

and effective in a given system from among the different organisational forms that theoretically exist and could be viable given the existing material technology. Together with the features of individual actors (there including their rationality and capabilities, entrepreneurial inclination, and choices), organisational forms stabilise around an organisational configuration. In a competitive environment, it is this organisational configuration that determines the specialisation of the economy, given comparative advantages and the endowment with resources. Such configuration evolves following the evolution of the economic system.

An organisational form includes three crucial aspects:

a) the type of economic actors and their general features that prevail in a given economic system. This is, for instance, the case of public companies and specialised financial companies in the Anglo-American economic system, or the case of stable dominant shareholding and universal banks in continental European system. This is also the case of purely executive large industrial companies and all-pervasive state budget and planning functions in the classical Soviet-type system, or that of bargaining companies, more active banks and less active state budget in the reformed socialist system.

This is not to say that alternative actors (e.g. self-managed or nonprofit organisations) or institutions (e.g. co-determination) cannot exist along with "typical" ones. More simply, probabilities that some particular actors have a dominant role are much higher, their survival, adaptation and development are more probable and easier. The economic system creates advantages and disadvantages that may attain a critical mass, there including costs, gains, network externalities and complementarities that increase the probabilities that new actors take on an organisational form similar to that of dominant actors if they want to become successful.⁷ Other actors can survive, but may need specific devices (e.g. public help and regulation, lower taxation, market niches and segmentation, political or social support) that compensate for disadvantages deriving from the economic system.

b) In a similar fashion, the economic system determines the size of economic actors that is most viable and efficacious. This is so because of the

nature of property rights, there including the features of capital markets and control mechanisms, along with the features of material technology.

c) Actors of a particular type and size use resources to produce and engage in transactions. The actors' budget constraint, a crucial component of the economic system, determines the amount of those resources compared to the economic performance in the previous period.⁸ This in turn determines the possibility to invest and expand and influences the decision-making process.

The type and size of economic actors and their resources define the different organisational forms that actually exist in an economy. Organisational forms consist of any kind of theoretically existing organisational solutions that are actually viable in any given context. This kind of viability derives from the co-ordinating impact of the economic system that, as seen above, determines incentives and constraints to economic actors in transactions. By producing network externalities and complementarities among actors of different type and size, contracts, incentives and constraints induce firms to specialise. Particularly important is the specialisation between industrial and financial firms. Thanks to the effects of co-ordination, different kinds of firms meet to form a stable organisational configuration. An organisational configuration is a specific organisational set-up that may include specialised actors of different type and size and with a typical budget constraint that are in a particular stable, although evolving relation.⁹ An organisational configuration is, e.g., an industrial district or a local productive system. Other examples are Japanese *keiretsu* that integrate firms of different type and size and also including SME subcontractors, pyramidal groups or holdings controlled by one family or a closed group of shareholders. In the case of isolated firms without any stable relationship with other actors, organisational form and configuration coincide.

4. The economic system and SME organisational form

It is within the framework presented in the preceding sections that the well known theoretical and historical features of SMEs¹⁰ can display their advantages and disadvantages and produce a stable

organisational configuration. The crucial questions to be answered, then, are: Why do SMEs exist in any system and why do they enter different organisational configurations? Why do they have different features in different systems? What are the SME consequences for the economy and what is the performance of an organisational configuration including SMEs? I will deal here exclusively with competitive industrial SMEs as a specific organisational form that can produce different organisational configurations.

In real economies, the size of firms and its variation through time is certainly in relation to the size of the market, the level of development and the features of technology. Often small firms are relatively more important in small economies than in large economies and in less developed compared to more developed economies. There also is some truth in the statement that often SMEs use simpler technological solutions than large firms do. This is the outcome of different factors: the relevance of scale economies and standardised demand, the branch specialisation, the development of transportation and communications and other infrastructure, the availability of large concentration of capital and the capacity to self-finance investment, the spread of market information, mobility of resources, organisational capabilities and standardised technical capabilities, degree of urbanisation, social acceptance of large firms. It was not until very long ago that the standard view in both the West and the East was that the development path was from small to large size. A large SME sector was seen – possibly except in some particular branches – as a sign of lower development. Common wisdom was that in competitive branches the best SMEs would grow into large firms while the others would exit the market, and that even small economies were bound to specialise based on large, open firms exporting the larger part of their production.

The situation changed since the Seventies and even more so during the Eighties. There were different reasons for this: increasingly differentiated demand and new technologies that made scale economies less important, the search for flexibility also to overcome trade union power in large firms and environmental regulation. SMEs became increasingly important in all developed market economies and, to a limited extent, also Eastern

European economies. This was the outcome of greenfield investment as much as decentralisation of specific productive functions initiated by large firms, partly in a pattern of vertical integration.

Within this general path of development, countries at similar level of development and even broadly comparable also under other features such as size of the economy (e.g. Western European countries) present a strikingly different picture as far as the size structure of firms is concerned. Consider, e.g. Italy and Germany or Hungary and Bulgaria or China and U.S.S.R./Russia. Indeed, the factors mentioned above (technology, demand features, search for flexibility, and the like) have broadly existed in all countries at the same time. This means that material technology is by and large similar – at least potentially and in each of the two geo-systemic fields, the West and the East, and in countries at approximately the same level of development. Consequently, material technology cannot explain satisfactorily the particular structure of different organisational forms and the construction of different organisational equilibria in economies that are similar under many respects and are strongly interacting and even integrating.

I contend that this situation is largely the outcome of distinctive systemic features, that strongly influence the costs, constraints and advantages of economic activity, their allocation, the control over production factors and the particular way this takes place. This establishes a particular systemic configuration that determines the prevailing features of transactions and contracts and hence incentives. In this way the above systemic variables define the actors' behaviour and not only allocate entrepreneurial and organisational effort, but also the organisational form that is most convenient. Provided that different kinds of material technology exist (either produced, producible or importable), in a competitive environment any organisational form chooses the particular configuration of material technology that is best viable in her case. In this way, the economic system determines which specific configuration of the material technology is efficient in a given context.¹¹ The efficiency of such a solution depends on the joint effect of technological and systemic features. In other words, the organisational form that is the most efficient in a given context includes one specific

material technology – or combination thereof – that is the most efficient because of the features of the economic system.

Small size is an organisational form that is characterised by a different material technology compared to large size and an organisational configuration including SMEs is different compared to one not including any of them. This statement is trivial when considering traditional small scale activities, that are often based on market segmentation and the paternalistic environment of the extended family. More interesting is the case of different organisational forms coexisting in a competitive environment and possibly forming different organisational configurations. In this case, the access to different material technologies is possible and factor prices are identical or very similar for any organisational form and configuration. If one supposes that the environment is competitive, this suggests that such configurations are equally efficient at least in a dynamic sense. That is, given environmental variety and variability and supposing that the role of policies is not particularly distorting, in the long run the overall balance of possible short run advantages and disadvantages of each particular organisational form and configuration – also considering the costs of change from one form or configuration to another one – are equalised.

Since there is relatively wide supply of different material technologies, one should conclude that no more efficient set of organisational configurations is possible within the existing economic system. Hence, if an economy is less competitive than comparable ones in an open environment and excluding unforeseen factors, this is due to the economic system and requires systemic reform or transformation.

To illustrate this point, I distinguish the analysis in two stages. First, in the next section I explain why and in which sense an SME organisational form is efficient. This amounts to explain which institutions and structures and which kind of co-ordination produces a particular SME organisational form that is actually competitive in an open environment. Second, in the following sixth section I will explain why and how an organisational configuration including SMEs is efficient in an open environment. I will also briefly consider the limitations that such an organisational

configuration has and that derive from the specific material technology they require. This I will do in section 7. This amounts to say that the economic system that produces an organisational configuration based on SMEs chooses a specific material technology that may push the economy to specialise in “weak” markets. This will lead us to briefly consider the role of policies in the concluding section.

5. The efficiency of an SME organisational form

As noted above, technical flexibility dramatically improved also in large firms following technological improvements during the last quarter of century. Although SMEs may not have presently a clear advantage in technical flexibility, deriving from the material technology utilised and may have to pay broadly the same price for factors in a competitive environment, their relative advantage becomes important when coupled with greater flexibility of the SMEs organisational form. This advantage may derive, in particular, from the owners/stakeholders relation and can consist of greater adaptability to environmental variety and variability. Although large firms may manage better environmental complexity, reorganising a large firm and changing her production profile is certainly more complex and costly than in the case of an SMEs. In the case of large firms, exit is also economically and socially more complex and politically more difficult to accept. Large firms have to control their market by decreasing exit and relying more on loyalty, while reacting to voice. This produces greater rigidity and causes additional costs. Typical devices are advertising, trade marks, premia to loyal customers, long-term labour contracts, stable subcontractors and suppliers. However, this may be a winning device only when some kind of differentiation of standardised products is possible and when long-run planning of production is feasible. Whenever the environment becomes highly diversified and variable in time or there are great regional differences that segment the factors or goods market, when the actors’ variance is great,¹² and provided that a suitable technology exists,¹³ the advantage of SMEs may be great.

Material technical features are important and

necessary, but they are not sufficient to explain the existence and success of a large group of competitive SMEs. Indeed, the potential supply of material technological solutions is much broader than those devices that are actually utilised and the demand for particular solutions produces a reallocation of resources that are invested in producing the required technology. When the latter process is successful, it further eases constraints on the side of material technology. Why, then, cannot large firms replace those SMEs? And why do countries at broadly the same level of development feature distinct organisational forms and configurations? One could imagine large firms organised as an archipelago formed of productive “islands” totally independent from each other and possibly dispersed on the territory. Even in this case, and provided that suitable material technology exists, SMEs would conserve specific advantages.

First, the “archipelago” organisation of large firms would have great transaction costs, primarily control costs. We know from Williamson that firms efficiently replace – in their internal activity – markets with hierarchies. Consequently, the firm owners or managers need to control the firm entire activity. Autonomy of individual components must be accompanied by some sort of control, but autonomy is compatible only with positive and negative internal incentives, not direct control. Consequently, it cannot go beyond certain limits and is constantly under threat of re-centralisation. Incentives for autonomous “islands” may be weaker than in the case of independence based on relational contracts in a competitive environment, although they may be superior to pure hierarchies. This is so in any case when co-operation is superior to competition and when success depends on dispersed knowledge, active participation, and great organisational flexibility. To compensate for their weaknesses, large firms can offer a better planned environment, that inevitably softens market signals and incentives. Necessary condition for this solution is substantial investment in corporate culture. We know from Coase that if this increases transaction costs substantially, large firms do not materialise.

Second, the relation between labour and capital as the crucial component of owner/stakeholder relation explains that SMEs can have some

relative advantages over large firms. Neo-institutionalists maintain that condition for organisational efficiency is that property rights belong to the factor that, being specific, is most difficult to monitor and control.¹⁴ This is the precondition for economising on transaction costs. Such factor is capital whenever capital is specific to the firm and labour is un-specific. This situation exists in different ways in different types of large firms. Such is clearly the case of large firms based on stable controlling shareholders. In public companies, managers supply the factor that is most difficult to control and that can only be checked indirectly via the capital market and managerial market. However, labour has become more firm specific and rights have been reallocated to the advantage of (a part of) labour. This is the consequence of two factors: a) increasing knowledge and skills required to adapt to competition in a globalising economy,¹⁵ when quality, diversification and variability of demand grow and when more complex technical solutions are used, and b) social and political factors. These consequences are largely the product of economic systems that push actors to pursue a gain by competing. These same features push actors to pursue increasing technical flexibility of physical capital by decreasing costs and diversifying investment as a device to reduce risk and broadening the supply basis for financial capital. The latter, both in case of debt and equity capital, is implemented through more sophisticated financial products and wider social basis of stock exchanges. Increasing technical flexibility and broadening basis derive from processes on both the supply and the demand side. On the latter, actors look for additional sources of financial capital and greater technical feasibility to increase their adaptability to competitive pressure and their freedom from direct control. On the former, the owners of capital that are interested in increasing their returns and decreasing risk constantly look for alternatives. Although there are great differences among various economic systems in this respect, a capitalistic economic system – by pushing competition and including incentives to gain and growth – ends up with making capital more abundant and less firm specific.

The same developments make the organisation of production more complex and the speed of adaptation to rapidly changing circumstances

crucial. The human factor to manage these functions becomes increasingly important. It is also increasingly important that those endowed with crucial capabilities become stable components of the organisation. These processes take place in different ways in different organisational forms. Large firms have access to broader unskilled or low-skilled (generic) labour market than SMEs have, since the former have access to wider labour market than the latter have. This makes labour relatively less specific in the case of large firms compared to SMEs, hence the position of workers is weaker. This pushes workers to establish stronger organisations to defend weak rights. Consequently, this produces greater labour organisation and conflicts within large firms. Such relative disadvantage may be strengthened by labour regulation, more stringent in the case of large firms. Such features may increase transaction costs compared to competitive SMEs where even generic labour is more specific and costly to replace, due to the limited production profile of SMEs and possibly greater impact of local society and because workers may prefer to be employed at large firms. In the case of skilled labour the situation of large firms and SMEs is relatively similar in the sense that such labour is increasingly firm specific and stable in both.

As to capital, large firms have potential access to broader capital market. However, when there exist stable and closed control shareholders, weakly protected minority shareholders afford relatively high information and transaction costs and risk that may keep them away from large firms. A part of this capital may accrue directly or indirectly (e.g. through local banks) to SMEs, where it is more specific, hence more protected. However, the specificity of capital may be weakened via diversification of investment to overcome the threat deriving from active entry and exit mechanisms in the case of SMEs and from intergenerational problems in the case of owners. This produces transaction costs that are specific to SMEs and causes potentially great sensitivity to the role of skilled labour.

The consequence is that in competitive SMEs capital may become less specific and labour more specific. These processes have been more forceful in those production processes that cannot easily be standardised, that can be divided into short pro-

duction cycles and where highly skilled labour is the fundamental factor. Increasing labour specificity that makes labour more difficult to control requires some kind of attenuation of property rights to capital and the strengthening of those of labour.¹⁶

Under the above mentioned circumstances, this may give SMEs selective advantages over large firms in terms of lower transaction costs (in particular, thanks to relational contracts and arm-length transactions), greater stability from long-term relations, stronger incentives for participating individuals (employees and investors), greater organisational flexibility and adaptability. It is these factors that produce an SME organisational form that is efficient, hence competitive. As I will show below, this gives the opportunity to SMEs to produce an organisational configuration where they dominate specific branches and are successful subcontractors to large firms. Consequently, SMEs are not necessarily anomalies or relicts. They can be efficient participants in the labour division and successful competitors even in a highly competitive environment, when those conditions are economically important.

SMEs selective advantages become greater when the context where they operate has important social capital and when the pre-existing organisational configuration included many SMEs (via path dependent processes). Social capital is usually a legacy of history, but it is kept or increased by those features of the economic system that render labour and human and social variables more specific. Since social capital strengthens the economic role of trust and reputation, it favours drawing up relational contracts in place of formal contracts. Relational contracts are weak to the threat of opportunism and need some external insurance or protection that is provided by social capital. However, they present great advantages in the form of stable transactions, lower transaction costs (less expensive drawing up, control and enforcement), provide greater incentives to their implementation, are more flexible since they can easily and cheaply adapt to changing circumstances. Relational contracts are consequently less prone to moral hazard and adverse selection. If social capital is important and the inter-firm or intra-firm context privileges long-term stability of social relations, relational

contracts can restrain opportunism more effectively than formal contracts.

6. The efficiency of an SME organisational configuration

As noticed above, competitive SMEs can be organised in three different ways: as independent firms, as subcontractors to large firms and as independent SMEs networks (such as local productive systems and industrial districts). Social capital, by producing the social basis for trust and reputation and relational contracts, is an important component of the explanation of the organisational structure of SMEs. However, this is not enough, since social capital is necessary to explain the above mentioned factors (trust, reputation and relational contracts), but it is not sufficient to explain the allocation of those factors to productive use. In short, trust, reputation, and relational contracts exist in any society where social capital is sufficiently important, but this is not guarantee that they have a productive role in the economy. They can have, for instance, a role in explaining the consolidation of Mafia-like networks. To have a productive role in the economy, a proper economic system is needed. Those same factors are not sufficient to explain more complex organisational forms either. Nor is social capital crucial in accounting for vertically integrated firms, where opportunism is restrained via the control by large firms. In all these cases, the economic system is of crucial importance. Three different aspects of the economic system are crucial here: a) complementarities, b) budget constraint and in general organisational and financial discipline, and c) decentralisation and co-operation. These three aspects appear with different importance in the three variants of the SME configuration.

First, competitive independent SMEs require an SME friendly financial system. This need derives from the crucial complementarity between productive activities and their financing. Since banks must afford greater information, organisational and managing costs in their relation to SMEs compared to large firms, locally based banks are particularly well suited to successfully overcome these disadvantages. In fact, being locally based, they take advantage of reputational and trust effects and have an interest in investing resources

to acquire specific knowledge of the local economy and its actors. Since their interest in the local economy is permanent, the cost of the investment is dispersed on long time and the return is likely to accrue for a long period. Hence local banks may successfully overcome the disadvantages that banks typically have in financing SMEs. Being locally based and probably SMEs themselves, local banks may have disadvantages in dealing with large firms (e.g. weak bargaining, control and enforcement power). Hence, their activity is easily SME friendly (and possibly large firms averse). A further systemic factor needed to modern independent SMEs is a well developed external system of vocational training. Since these firms are small, they can hardly afford to set up internally that system. This is due to both the costs of such a system, the complexity of organisation and the threat of opportunism by trained workers. The solution can only be collective and can be supplied – separately or jointly – by SMEs organisations, industrial and professional organisations (such as chambers of industry and commerce) or governments (probably local governments).

Second, locally based banks and vocational training are important for all three variants of the SME organisational configuration. However, more complex variants are in a stronger position, since they can directly organise alternative channels of finance and training. In vertical integration, these can be supplied by large firms to their subcontractors. However, further conditions are needed to make viable this organisational configuration including two different organisational forms (large firms and SMEs). Technological complementarities apart, vertically integrated SMEs have hard constraints because they must internalise the large firm culture and priorities, be disciplined and react promptly to orders, be punctual and reliable and operate according to the large firm technical requirement. All this requires complex organisational capabilities in the large firm, that must be internalised by SMEs subcontractors: they are hierarchical capabilities as against competitive market capabilities (as in the previous case of isolated SMEs). Vertically integrated SMEs must carefully concentrate their effort in upgrading hierarchical capabilities, although they can partially give up market capabilities. In fact, the large

firm supplies the latter and manages complementarities directly.

Third, the most complex and difficult case is that of SMEs networks. In fact, in this case SMEs form an organisational configuration that is independent and competitive in the market. A necessary prerequisite of such organisational configuration is a set of systemic features. One is decentralisation of governments and of financial, material, human (there including vocational training, capabilities and skills) infrastructure. However, networks are only possible if SMEs are able to directly manage complementarities and network externalities in a co-operative way. In general, this requires to upgrade trust and reputation to avoid opportunism. This is possible only if relational contracts are grounded in trust and reputation, thus making co-operation produce network externalities and complementarities. It is then the private value of network externalities and the lock-in produced by complementarities that make co-operation viable and individually profitable in a setting where no third party with retaliation power exists (such as the large firm in vertical integration or the market test in independent SMEs). In such circumstances network co-operation has an appropriable market value and SMEs prefer long-run stability of the network to short-run opportunistic advantages, since the former are larger in the long run and the latter may imply (locally based) considerable costs. It is this interest of SMEs in continuing co-operation and the high price they would pay in case of opportunistic behaviour that give stability to co-operative networks.

In a network context, co-operation based on relational contracts replaces hierarchies and market and allow SMEs to manage jointly particular functions. These are in particular those functions where large size and the ensuing market power and hierarchical organisation have an important market value (e.g. input procurement and marketing of final production). An SMEs organisational configuration may act on the market similar to one large firm, while keeping individual firms autonomy in the production process. Since this type of organisational configuration is more complex to manage than one single large firm, it can be profitable and consequently stable in a competitive environment only if those functions

are managed in the framework of stable, long run co-operative relations within the organisational configuration and with the external context. Such stability replaces the advantages of markets and hierarchies with those of long-run co-operation.

However, benefits deriving from network organisation come at a price of attenuated owners property rights to the advantage of stakeholders. The latter are in particular other SMEs in the network, employees and the local community, but also stable suppliers of particular functions. Since they supply each SME with differential net value (deriving from network externalities, complementarities, greater commitment and stability), property rights attenuation is a rational response that produces a superior and appropriable market value. Consequently, ownership can be rewarded its proper market value, while leaving a residual that can be distributed to stakeholders. This configuration of property rights (that is a crucial feature of the economic system) require proper technology, in particular organisational technology. In fact, it is particularly in this type of organisational configuration that labour – in particular labour with particular technical and relational skills and more in general stakeholders – becomes relatively scarce and crucial, hence more difficult to control. Therefore, a proper technology must be chosen that makes labour more specific by increasing its participation to the residual control of the productive process and includes some kind of participation to the distribution of residual income.

7. SME organisational configurations, material technology and capabilities

In the previous section I showed that an SME organisational configuration can exist and it can be efficient in a competitive market. However, this may be so in different ways. Since I supposed that in a competitive environment there is no difference of factor prices among different organisational configurations, I suggested that the reasons for such efficiency should be looked for in the features of the SME organisational configuration. Consequently, the crucial question is: are there specific features of an SME organisational configuration that select a material technology far from the technological frontier? This technology

may be socially inferior in the sense that specialises the economy in mature industries.

Indeed, this may be the case. As seen above, an SME organisational configuration consists of a complex system of co-operation and internal labour division that provides important advantages to the network participants and make them competitive in an open environment. Since this organisational configuration includes important co-ordination costs and is open to the threat of opportunism, it needs particular conditions to be efficient and stable. Among these, and given capabilities, the stability of the context where actors operate and a shared, deep and symmetric basic knowledge of the context and of the different aspects of the diverse kind of investment that actors perform are particularly important.

These conditions are best given in mature industries. These industries operate in relatively stable and predictable context, knowledge is relatively standardised, and technical progress is usually incremental. In these conditions, actors can accurately estimate the expected return and risk of new investment and have time and incentives to reach agreements on the allocation of costs and benefits. Under these circumstances, relatively slow adaptation does not jeopardise the delicate conditions of co-operation within the organisational configuration and may even promote their improvement. Therefore, the very features of an SME organisational configuration produces incentives to specialise in mature industries and choose mature material technologies.

This conclusion, that is well known in the theoretical and applied literature, becomes stronger if we release the condition that capabilities are given.¹⁷ Although this is so in the short run, capabilities are changed and produced in the long run. I explained in the previous sections that an SME organisational configuration is efficient thanks to specific advantages such as relational contracts, that are cheaper than formal contracts. It also produces powerful internal and external incentives. Such co-operative solutions support the efforts of firms in those activities (such as export services) where co-operation produces greater advantages than competition, and this is so generally in mature industries.

This kind of industry organisation enables firms to draw up on each other's distinctive capabilities

in the form of particular skills, information and tacit knowledge of process and techniques.¹⁸ The longer are the term of the contract and the co-operation, the more extensive is the learning induced cost reductions for the participants, the more powerful are incentives, the greater are knowledge and information generated and positive and appropriable externalities emerging therefrom in the form of incrementally new products and processes, new combinations of resources, enhanced competitiveness, production rationalisation, and quasi-rents.¹⁹

These and other advantages balance disadvantages in those activities where competition is superior to co-operation, in particular when coupled with large size. These are, in particular, R&D activities.²⁰ To these, one should add that in an SME organisational configuration actors have to invest valuable resources to sustain and upgrade relational capabilities as a substitute for the higher transaction and adaptation costs typical of formal contracts.

Capabilities include the knowledge, experience and skills and the ability and motivation to perform certain actions and pursue goals. Although they are given in the short run, they may change in the long run via investment. Institutional and systemic literature emphasises that investment in capabilities depends upon the institutional and systemic environment in which they take place.²¹ Investment in capabilities requires long periods of time to take effect, in particular as far as tacit skills and complex organisational capabilities are involved. Similar to investment in physical capital, such investments have high risk of failure, in particular under circumstances of high environmental uncertainty or institutional disruption. An SME organisational configuration presents relative advantages here, in the sense that it creates a co-ordinated environment for individual SMEs that reduces the threat of uncertainty and disruption and thus supports investment in capabilities. The effectiveness of institutions and incentives in turn depend upon the level of capabilities in the economy. If capabilities are initially of a lower level, responses to changes in institutions and incentives will be proportionally lower. Such outcome also holds when a particular capability contains tacit aspects: the more this is so, the stronger it continues to reflect the incentives and

institutions of the old system in a relatively long time. Consequently, capabilities with a high degree of tacit, system-specific components change slowly.

Capabilities play a crucial role and are particularly complex in the case of horizontal inter-firm co-operation as in an SME organisational configuration. To explain this point I will distinguish between technical capabilities and relational capabilities. The former refers to the knowledge – both codified and tacit – the skills, the ability and the experience necessary to perform the appropriate technical action (production or marketing). Relational capabilities have to do with the *ex ante* organisation and co-ordination of the economic process, because they determine the ability of social actors to co-operate, thus replacing the direct control over the productive process.

Relational capabilities are particularly important for an SME organisational configuration. In fact, this is made of SMEs that – at least because of their limited size – cannot include all the technical capabilities to manage complementarities and manufacture a particular product.²² However, they may have good relational capabilities. If so and if the economic system supports such development, firms have the opportunity and the incentive to co-operate by establishing local productive systems or even industrial districts. In this way they increase their control over the entire (actually collective) productive process, thus improving knowledge and strengthening incentives.

The increasing complexity of the context – promoted by such factors as internationalisation, technological progress, increasing role of complex financial variables, cultural change – further increases the importance of relational capabilities for the survival and development of SME organisational configurations. This may produce uncertainty that in turn strongly influences the firms strategies and may easily give rise to successful risk adverse strategies.²³

To conclude this point, investment in relational capabilities and the specific features of co-operation among SMEs have consequences for the actors' specialisation, hence for the specialisation of an SME organisational configuration. This institutional set-up shows advantages in such co-

operative solutions where small size and its specific features is not an obstacle and where relatively less sophisticated co-operative outcomes (such as export services) are important. These advantages require specific technological solutions. In particular: a) it should be possible to divide the production process of complex goods in short production cycles, and b) R&D activities should not be crucial and replaceable with progressive adaptation of products and processes. These produce specialisation in mature industries.

However, with proper features of the economic system, the character of an SME organisational configuration may be coupled with innovativeness and high quality. Indeed, the adoption of short productive cycles is a crucial innovation in itself and an SME organisational configuration has no genetic obstacles to pursue major R&D activities. What is at stake here is the economic convenience and organisational capability to upgrade the SME organisational configuration to the technical frontier. Two major obstacles exist: a) short production cycles may prevent comprehensive overview and proper management of complex processes at the technical frontier; b) co-operative solutions need clear-cut problems and easily verifiable implementation. Frontier R&D activities are different, since their economic outcome is uncertain, the context may be unstable and unpredictable, markets and products are developing, barriers to entry may be low and failure and exit risk high, investment is relevant, knowledge and experience is scarce. As a consequence, the ability of insiders to estimate accurately the expected return and risk of new investments may not be crucially higher than that of outsiders. Consequently, co-operation may fail in front of relevant allocation problems concerning costs and outcomes of R&D.

8. Conclusions and some policy suggestions

Strong relational ties produce an outcome (an SME organisational configuration) that is strong in a mature market, but may be weak in a development perspective. It may be unable to solve spontaneously this organisational failure. Two kinds of solutions can be envisaged: (a) spontaneous solutions from within (a firm belonging to the network becomes the leader) or from outside

(an external large firm becomes the owner of at least one firm internal to the network). Both can be economically successful, since dominating firms can invest in R&D to reduce allocation problems. However, in both cases success amounts to the network disruption, at least in the long run. This may replace horizontal networks based on co-operation with vertical integration based on hierarchy; (b) policies addressed to solve the failures while keeping the advantages in terms of co-operation and relational capabilities.

In this context, policies would promise a superior result in new branches and productions by coupling the advantages of SME organisational configurations with production on the technical frontier. To understand this, let us review the disadvantages of an SME organisational configuration. These are inability to produce on the technical frontier, and inability to overview and manage complex technical and production processes. Since material technology cannot be easily changed in the short run and via national-level policies and can only be adopted if economically convenient and since social capital is even more difficult to change, stable solutions can only be looked for in the economic system. Policies should act on the different components of the system: (1) individual institutions and structures, (2) co-ordination, (3) co-operation via the allocation of costs and advantages, and the provision of incentives. The idea is to use policies to upgrade the specialisation of an SME organisational configuration in stronger market positions with better demand perspectives and higher profits. This in turn would finance investment in upgrading.

Since an SME organisational configuration is weak in producing internally complex solutions on the technical frontier, policies should help to find a solution by transforming the network. The easiest and possibly most effective way of doing so is to furnish incentives for integrating new actors supplying missing institutions and structures. One such actor are universities and research centres, which could be incrementally supported depending on their ability to supply missing functions to SME organisational configurations. Another possibility is to establish public or mixed centres specialised in R&D for SME networks and in training highly skilled workers specific to SME

networks. These centres could sell their products or supply them as credits to be repaid with (part of) the higher income that SMEs produce via such improvement.

Another possible way of overcoming major failures in the management of complex processes, in particular when these are on the technical frontier, is by fostering the rise from within the network of missing functions. One way of fostering such solution would be the introduction of compulsory financing via a special tax (financed by decreasing correspondingly profit- or other taxes) to finance such complexity managing centres. Networks should be left free of choosing between setting up such centres and finance them with the withdrawn tax or finance a public centre by means of such tax. Such co-ordination function could also be played by special arbiters of R&D financing and the utilisation of R&D outcome within the network. Arbiters should help to solve the problem of failure of collective action in the provision of a public good such as R&D within the network. Arbiters could be financed as in the preceding case and networks should be left free to choose between direct private supply or public supply.

Another component of such policies should be the provision of skilled labour mobility within the network. This could be done in similar ways by establishing, e.g., a private/public or co-operative firm for "renting" highly skilled labour to individual network firms. Finally, policies could reallocate rights and duties from individual firms to the network in order to help solving the crucial problem of the allocation of costs and advantages of complex functions and provide powerful incentives to invest in R&D and in complex functions. This could be done, e.g., by making the network liable for a part of taxation due by individual firms or a subject of credit. Such reallocation could be voluntary and favoured via lower taxation (compared to taxation of individual firms) and better credit or other conditions. For instance, network credit could be in part secured (insured) by public (local) governments. Other examples are the supply or financing of real services to networks instead of individual SMEs, such as showrooms in foreign markets. Examples of this kind of policies have shown fair results in different countries (e.g. Italy). However, they did not reach

such a critical mass as to change the nature of the SME organisational configuration.

A general feature of policies is to help SME organisational configurations solve their failures. This should be done by relying as much as possible on the active participation and contribution of individual firms and pushing them to strengthen the network functions. The goal should be to upgrade the main advantage of SME organisational configurations – i.e. relational capabilities and the ensuing ability to co-operate – by using them to reach new frontiers in production and SME organisational configuration alike.

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Notes

¹ By material technology I mean the application of discoveries of natural and mechanical sciences to production, the methods, theory and practices governing such application, and the knowledge and skills relative to such application.

² An organisation consists of a group of individuals who interact permanently to pursue a common goal on the basis of institutions and clearly specified individual roles, that are defined in explicit or implicit contracts and other types of inter-personal agreements.

³ Cf. S. Pejovich (1996).

⁴ Cf. J. Kornai (1980).

⁵ Cf. B. Dallago (1996). Systemic capital can include specific knowledge and skills, specific interpersonal and interorganisational relations, organisational structures, particular physical capital, and the like.

⁶ W. Baumol (1993) proves that institutions determine the allocation of entrepreneurial effort and abilities to alternative – productive, unproductive and even destructive – uses.

- ⁷ U. Pagano and R. Rowthorn (1997). Cf. also H. M. Dietl (1998).
- ⁸ Cf. J. Kornai (1980).
- ⁹ I disregard here that this takes place under the influence of policies and given the individuals' features (in particular capabilities of different kind) and the characteristics of pre-existing organisational configuration, since all these variables depend in part on the present or previous economic system.
- ¹⁰ On the historical features of SMEs cf. Z. Acs (2000).
- ¹¹ U. Pagano and R. Rowthorn (1997).
- ¹² On the organisational consequences or actors' variance in opportunism and bounds on rationality cf. O.E. Williamson (1999).
- ¹³ The crucial features of this technology are: a) production processes are short or can be substantially shortened, and b) goods and services are produced in small series or fully customised.
- ¹⁴ For an application of neo-institutional analysis to the study of economic systems, with particular concern for property rights, cf. S. Pejovich (1998).
- ¹⁵ On the consequences of globalisation for the relation between capital and labour cf. the articles by M. Obstfeld and R. C. Feenstra in D. Rodrik (1998).
- ¹⁶ Cf. F. Barca and P. Casavola (1997).
- ¹⁷ I consider here individual capabilities, i.e. the knowledge (know-how and know-what), skills, and experience, that individuals and organisations use to carry out "... the large number of activities ... related to the discovery and estimation of future wants; to research, development and design; to the execution and coordination of processes of physical transformation, the marketing of goods, and so on." G. B. Richardson (1972), p. 888. Cf. also G. Antonelli and S. Montresor (1999). Individual capabilities are organised in the framework of social capabilities and are embedded in the economic system.
- ¹⁸ B. Loasby (1994). Cf. also A. Amin and F. Wilkinson (1999).
- ¹⁹ F. Santos (1998).
- ²⁰ Cf. M. Bagella (1998).
- ²¹ Cf. W. Swaan (1998).
- ²² G. Richardson (1998).
- ²³ E. Benedetti, M. Mistri and S. Solari (1998).
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