

Collective Goods in the Local Economy: The Packaging Machinery Cluster
in Bologna

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The debate about the industrial districts of central and north-eastern Italy has evolved over the last 25 years. Initially, many saw them as evidence that small firms could prosper contrary to the arguments of the proponents of big industry. Debate focussed on whether small firm industrial districts had a genuine independent existence, or were the contingent result of large firms' outsourcing strategies (Brusco 1990, Bagnasco 1977, Bagnasco 1978). This spurred discussion about the role of local and regional government and political parties – small firm success might need services from government, associations, or local networks (Brusco 1982, Trigilia 1986). The difficulties that many industrial districts experienced in the late 1980s and early 1990s, together with the greater flexibility of large firms, led to a second wave of research, which asked whether industrial districts had long term prospects (Harrison 1994, Trigilia 1992, Bellandi 1992, Cooke and Morgan 1994). The most recent literature examines the responses of industrial districts to these challenges; it is clear that many industrial districts have adapted successfully to changing market conditions, but only to the extent that they have changed their modes of internal organisation, and their relationship with the outside world (Amin 1998, Bellandi 1996, Dei Ottati 1996a, Dei Ottati 1996b, Burroni and Trigilia 2001).

While these debates have generated important findings, much basic conceptual work remains unfinished. There is still no real consensus about what forces drive evolution in industrial districts and lead to their success or failure. Some scholars focus on the role of local government and associations in providing “real services” to small firms in industrial districts (Brusco 1992), whereas others focus more on cooperation or collaboration between the firms themselves (Piore and Sabel 1984). The literature is split between those who are more interested in policy, and those who are concerned with small firm interaction. While some authors seek to examine both, they have had difficulty in creating a single analytical framework. Further, the division between the two has been intellectually unhelpful in discussions of the regional economy of Emilia-Romagna.

In this chapter, we argue that the source of industrial districts' success and failure, is collective competition goods (Crouch et al. 2001). The collective competition good perspective allows us to focus more directly on the factors underlying firm success; small firms are unlikely to succeed on international markets if they do not have access to outside resources. By employing the collective competition good perspective, we can understand how both cooperation between firms themselves, and government assistance, may be important to districts. More pertinently, we may characterise these districts with reference to the varieties of governance through which these goods are provided, and the different institutional forms associated with these forms of governance. Finally, and perhaps most importantly, we can better understand the *dynamics* of industrial districts. As authors such as Beccattini have usefully emphasised, industrial districts are works in progress – they have succeeded exactly insofar as they have been able to change appropriately in response to new challenges. These responses are largely dictated by the

particular mix of governance modes that is found in a given industrial district. But, as Le Galès and Voelzkow (2001) have observed, governance in a specific situation is not simply a functional response to collective needs; it may be the result of political struggles between actors with differing objectives and interests (Knight 1992, Locke 1995). Thus, even though collective competition goods are vital to the success of local economies, their provision may be shaped by particular interest as well as collective need. The individual and collective interests of actors, and power relations between them, may change over time, and that these changes will themselves lead to shifts in the mix of modes of governance, which in turn will affect the amounts, and sorts, of collective competition goods which are produced, and thus, finally, conduct towards economic success or failure.

In order to substantiate this case, we analyse the recent evolution of one well known industrial district, the packaging machinery cluster in Bologna, in the Italian region of Emilia-Romagna. Our analysis seeks to address changes in the “Emilian model” as a whole, using this industrial district as a test-case where necessary. By employing the collective competition good perspective, we can analyse changes in regional state policy, in associations, in relations between firms, and in how these interact. The evolution of this industrial district has been driven by both the emergence of new challenges in the packaging machine sector, some of which require a collective response, and shifts in both the interests of actors, and the power of actors to achieve those interests.

The Packaging Machinery Cluster in Bologna

Bologna is the capital city of Emilia-Romagna, which has a strong and variegated mechanical engineering tradition (Bianchi and Gualteri 1990). This tradition is concentrated in the “core” provinces of the region, which is to say Bologna, Modena, Parma and Reggio-Emilia, with a small concentration of machine tool production in Piacenza, linked to the large industrial firms of the North of Italy. Still, mechanical engineering in Emilia-Romagna contains a wide variety of local specialisations. Thus, food processing in Parma has an associated cluster of producers of food processing machines, whereas the celebrated tile industry of Sassuolo has grown in association with specialised makers of ceramics processing machines and kilns. Machine production is often dependent on local clusters of production in other sectors.¹ However, some machine producers find most of their customers on national and international markets. Some clusters are moving from the one situation to the other. For example, producers in Sassuolo are now selling their machines internationally, to the dismay of local tile manufacturers, who perceive themselves as guinea-pigs for the development of technologies which will ultimately aid competitors. Other clusters of machine manufacturers have always had an international presence, including packaging machinery in Bologna.

<figure 1 around here>

¹ Discussion with Margharita Russo.

This cluster of production, sometimes erroneously described as a machine tool cluster, has its proximate roots in the development of the packaging industry after World War II,² previous to which there were only two firms producing packaging machinery in the province, Acma and Sasib (later joined by GD). These three firms were to serve as “mother firms” after the war as technicians working in the firms started up their own companies. Acma alone gave birth to ten important new companies which were to play an important role in the cluster.³ This proliferation of firms depended on two factors. First, burgeoning cross-sectoral demand for packaging machines meant that there was a wide variety of market niches, and room for many producers, and technicians could strike out on their own without succumbing to competition from their parent firm or other firms. Second, despite this variety, the mechanical skills needed to produce packaging machines for one market segment usually transferred with relative ease to another.

The packaging machinery industry grew both in number of firms and number of employees during the 1950s and 1960s, despite occasional industrial unrest. However, the *autunno caldo*, the period of industrial and political unrest which spanned the end of the 1960s, had important consequences for the structure of the cluster. Labour unions gained victories which impacted both the internal and external organisational structures of large firms in particular. The result was a radical shift in the form of production. As can be seen in Figure 2, there was an explosion in the number of very small firms working in specialised mechanical engineering in Bologna between 1971 and 1981. During the same period, employment among very small firms nearly tripled, growing from 672 to 1,863.⁴ The number of one person firms grew over tenfold, from 10 to 105. The same time-period saw only moderate increases in the number of medium sized and larger firms.

<figure 2 about here>

This enormous expansion was almost certainly a reaction to changes in labour arrangements. As one small firm association representative puts it;

When certain factors lead to problems for the firms ... - the choice was above all to “tertialise” - i.e. to put work outside the firm - to put out production, planning, offices, in order to optimise costs.⁵

More rigid conditions within medium sized and larger firms encouraged them to subcontract work, wherever possible, to small subcontractors. These subcontractors were better able to avoid regulation and trade unions. Thus, firms were encouraged radically to decentralise production, and to respond to burgeoning demand by putting work out, rather

² In the following history, I rely heavily on Capecchi (1997) and Curti and Grandi (1997).

³ For a partial “family tree,” see Curti and Grandi (1997).

⁴ Note that we are using data for the Istat classification 29.5, specialised machine production, rather than 29.563, the narrower classification for packaging machine producers. Many smaller subcontractors are likely to be classified as specialised machine producers rather than packaging machine producers as such; thus, adhering to the narrower classification is likely to give a distorted understanding of the trends.

⁵ Interview with Alessio Festi, Confartigianato.

than hiring new workers. Small artisanal firms sprang up, often specialising in one or a few phases of the production process. Designs were sent out to these firms which then created pieces to specification, and either returned them to the buyer firm, or sent them on to other subcontractors for final processing. The buyer firm usually retained control of the strategic phase of assembling the final product.

This system of production, as in other Italian industrial districts, helped packaging machine producers to become highly successful on international markets. The period in which firms shifted to decentralised production saw substantial growth in employment in specialised mechanical engineering in Bologna, from 8,296 in 1971, to 12,451 in 1981 (Istat Industrial Census Data). Afterwards, employment in the sector seems to have gone into slight decline, falling to 11,573 in 1991, and 11,354 in 1996, broadly congruent with an overall decline in manufacturing employment in the region.

While employment appears to be in slight decline, the industry saw nearly continuous growth in turnover during the 1990s. The serious crisis that hit German machine producers between 1991 and 1993 seems to have had no equivalent in Emilia-Romagna; although machine producers in the region saw some fall in turnover in late 1991 and 1992, the devaluation of the lira within the EMS in September 1992 appears to have boosted sales in this heavily export-oriented industry.⁶ The following years saw continued growth in turnover, reaching a peak of 20.3% between 1994 and 1995. More recently, however, the sector has seen some difficulties as a result of the more general turbulence on export markets in 1998 and 1999. In particular, firms producing tobacco machinery have experienced difficulties, due to a substantial drop in demand from traditional customers (large cigarette producers), together with a nearly total drying up in demand in new export markets such as Indonesia and China during the Asian financial crisis. While some firms and local economic actors believe that these changes might herald future difficulties, the general consensus appears to be that the problems were conjunctural rather than structural. Furthermore, the continued prosperity of the packaging machine industry in the recent past, suggests that its competitiveness on export markets is not fundamentally dependent on successive devaluations of the lira.

Currently, the packaging machine cluster appears to enjoy a position of relative stability. Emilian producers dominate the Italian packaging machine industry, providing almost 70% of total employment in the sector.⁷ In 1995, the national industry's sales were 2.5 billion dollars, of which 1.97 billion dollars came from exports. Within Emilia-Romagna, Bologna predominates in terms of both the number of companies (61% of the total number in the region) and number of employees; some 69% of total employment in the industry in Emilia-Romagna is concentrated in the province of Bologna.

<Insert Figure 3 about here>

The packaging machine cluster of Bologna is not an industrial district according to the

⁶ Graziani (1998) provides an up-to-date account of macro-economic developments in Italy.

⁷ Curti and Grandi (1997).

statistical definitions used by many authors (Sforzi 1996, Burroni and Trigilia 2001); it only accounts for a relatively small share of total employment in the province. The province of Bologna has roughly nine hundred thousand inhabitants⁸ - like many areas of Northern Italy, it has suffered from demographic decline over recent years. It has a strong manufacturing sector, which accounts for nearly 38% of total employment, within which the machine industry, not including basic “metal bashing,” accounts for 22% of employment, including “other specialised machines,” which accounts for 10.3% of total manufacturing employment. Thus, while the specialised machine industry doesn’t dominate Bologna as, say, textiles do Prato, it does play a substantial role in the city’s economy. Furthermore, the specialised packaging machinery industry was an important motor force driving Bologna’s economic success in the post-War period.⁹ “Packaging Valley,” as it is dubbed, has a high degree of internal coherence, and densely structured relations between local firms, suggesting that even if it does not fit the statistical definition of an industrial district, it may possess the governance characteristics associated with the industrial district model.

Total Employment	Manufacturing Employment	Machine Industry Employment	Spec. Machine Employment
316,951	119,420	27,372	12,340

Based on 1996 Industrial Census Data, Istat.

The particular mode in which collective competition goods are provided has clear implications for the organization of production in the district. In the next section, we spell out the relationship between these collective goods and modes of governance at greater length. Before so doing, however, it may be appropriate briefly to examine CCG provision in three important areas – training, technology transfer and provision of information on foreign markets.

Packaging machinery manufacture in Bologna differs from machine tool manufacture in Germany in its lack of emphasis on formal, standardized training. On the one hand, engineers play no role, except in the very largest firms: design work is done by draughtsmen and technicians. On the other, there is no formal national apprenticeship system worth speaking of. Traditionally, the *apprendistato* contract, such as it is, has been used to deny full employment rights to younger workers, rather than to ensure proper training in skills. While this may be changing – new requirements mandate that apprentices spend a certain amount of time in the classroom – it is too early to assess the impact of the reforms.

As is often true in Italy, there are local solutions to national deficiencies: in this case commune-funded technical training institutes. One such body, the Aldini-Valeriani Institute in the commune of Bologna, plays a vital role in training technicians. It has deliberately sought to provide the skills needed by packaging machine manufacturers,

⁸ Tavolo Unico (n.d.)

⁹ Capecchi (1997).

and to keep up with emerging technologies. The main problem faced by this institute is demographic: it has faced a 50% fall in its catch-pool of potential students in recent years. Unlike other technical training institutes, it has managed to remain attractive to young students, but the end result has been a dearth of young qualified technicians in the industry. The competition among firms for recent graduates of the Aldini-Valeriani is sometimes vicious, resulting in opportunistic poaching between firms (see below) and very high salaries for individuals with qualifications. Even so, firm owners and local associations believe that many young people are no longer attracted to careers as technicians: they prefer instead to learn about information technology. The Aldini-Valeriani has sought to diversify its courses to cater to new needs, while local business actors have sometimes toured schools to persuade young students of the benefits of working as a technician.

There has been a recent – and quite important – initiative to provide further training for technicians already in employment. Discussions among relevant actors led to a scheme, spearheaded by ASTER, a part of the regional economic development body, to train technicians in the industry in areas such as control systems, quality evaluation, reduction of production time, and integration of machines in the total production process. This scheme, run by the University of Bologna's engineering faculty, in association with UCIMA, the relevant trade association, proved to be extraordinarily popular; twice the anticipated number of technicians signed up for training. At the time that research was conducted (mid 1999), it was anticipated that the scheme would be repeated in successive years.

Technology transfer constitutes another potentially important area for packaging machinery manufacturers. While there is some regional provision of aid through the ERVET system, the sorts of linkages between institutions to be found in Germany, and even Britain and France, have few parallels in Emilia-Romagna. The provincial government provides some aid to small firms seeking to introduce new technologies, but its funding possibilities are extremely limited. Cooperation between universities and firms on technical issues has traditionally only been possible where personal friendships existed between businessmen and professors (Bertini 1998). There is no equivalent of the Steinbeis or An-Institutes of Baden-Württemberg, to provide a formalized means of linking the two environments, nor even British-style encouragement of "entrepreneurialism" on the campus. This said, recent institutional changes, and the proactive policy of the current rector of the University of Bologna may lead to improved university-industry links in the future. Further, the Aldini-Valeriani Institute provides an informal variety of technological transfer, introducing new technologies to the district through its training programmes.

The lack of outside aid in technology transfer has been less of a problem for large firms than for small ones. Larger firms in the district often rely on their foreign branch offices to keep an eye out for potentially useful technologies; one large firm in the district has recently licensed an important patent from NASA. Smaller firms may become involved in pilot projects conducted by ASTER, or make use of the facilities provided by Democenter, another part of the regional economic development system, to acquaint

themselves with recent innovations. More usually, however, they observe each other, and their foreign competitors at trade fairs, in order to find new advances. Technological progress in the manufacture of packaging machinery tends to be incremental rather than accelerated, and it is frequently possible to understand a new mechanism by examining it, and then to employ it in one's own machines (many advances are difficult to patent). Furthermore, there is high turnover of technicians in the district: firms sometimes rely on their new employees to tell them the technological tricks of their former employers.

Finally, provision of information on foreign market opportunities usually takes place through market mechanisms. There are two potential public sources of such information, ICE (Istituto nazionale per il Commercio Estero), and the quasi-public Chambers of Commerce system. The first of these is only sometimes helpful. Although local firms have received help from ICE, they observe a substantial difference between the ICE offices located abroad, which are often helpful and responsive, and the central offices in Rome, which tend not to be especially interested in firms' needs. Further, some foreign offices appear to be more helpful than others. The Chambers of Commerce also provide some information on foreign markets, albeit usually of quite a basic variety. There was little evidence of firms making use of Chambers of Commerce for such information.

In the absence of public provision, firms usually turn to market provision of this CCG. Firms usually rely on one of three sources of such information. First, the very largest firms have extensive sales organizations of their own, and branch offices in the more important foreign markets. Thus, these firms have people in important customer countries who can inform them about relevant market and regulatory developments. Some smaller firms which have become highly dependent on the larger ones may also sell through these organizations. Second, some smaller firms appoint agents in foreign countries, who receive commissions for any sales generated. Third, there are several firms in Bologna which are specifically devoted to sales and export of other firms' machinery – these "commercial" firms play a highly important role for many small firms. Typically, such a firm will have a long term relationship with several manufacturers, selling complementary machinery, and will seek to find orders on foreign markets, then negotiating a package deal on behalf of the manufacturers, and receiving a percentage of the sales price as its reward. These sales firms are crucial to the success of smaller firms in the district, yet tend to go unrecognized by national, regional and local government – they do not receive the sorts of export insurance assistance that their German equivalents do. Furthermore, the associational structure of the district is poorly suited to their needs: while they are unable to take advantage of associational assistance provided for manufacturers, the relevant organizations for commercial sector companies also has little relevance for them.

The State, Governance, and CCGs in the Packaging Industry

If, as both Ganne (1992) and Le Galès (2001) have suggested, the state lies behind

the pattern of local economic development in France, it also plays an important, albeit very different, role in Italy. The Italian political economy is fundamentally conditioned by the weakness of the national state, and the relative importance of local and personal forms of social organisation (Trigilia 1996). Indeed, “private dynamism” and “public disorder” can be seen as two sides of the one coin (ibid.). As Locke (1995) argues, the relative confusion of the national political economy goes hand in hand with an extraordinarily wide degree of variation between local economic systems. The “Third Italy” has enjoyed considerable economic success. Other regions have stagnated, although local economic systems are beginning to spring up in the Mezzogiorno (Burroni and Trigilia 2001). Other regions again have been dominated by large firms, although here too small firm systems are beginning to play a significant role.

The weakness of the state not only creates regional variety but affects the form that local economic organisation takes. The state can act to affect the provision of collective competition goods in three important ways. First, it may use its Weberian monopoly on legitimate violence to regulate, mandating rules which actors on its territory must obey. This may involve “beneficial constraints” (Streeck 1997), which force actors to contribute to collective competition goods. Second, it can use revenues to provide grants or other resources to alleviate collective competition good deficiencies. Third, it may act together with private actors in a cooperative mode, seeking to solve collective competition problems together, and providing monetary, enforcement, and persuasive resources to this end.

The Italian state only partially approximates the Weberian model. First, as Marino Regini has observed, its power to regulate is limited.

It has been widely observed that even when public policies apparently assign a leading role to state regulation, ... mechanisms for circumventing them are often set in motion; or else the state rules are only weakly and inefficiently implemented¹⁰

In contrast to Germany, where macro-economic policy and heavy regulation leads to high predictability in economic life (Cooke and Morgan 1998, Streeck 1992), Italian state regulation imposes a heavy burden on economic actors without any guarantee that rules will be applied consistently. Neither state bodies nor courts are perceived as impartial or efficient. Most recently, the Italian state has been affected by Europeanisation, which binds the government, making it a more credible actor, and has transferred many regulatory functions upwards, in a “hardening” and “hollowing out” of the state (della Sala 1997).

The picture is somewhat more mixed when it comes to the second and third modes of provision of financial resources, and cooperation with private actors. There are important differences between different levels of the state. Italy has four main levels of government, the national, the regional, the local, and the provincial. Some national state-sponsored bodies provide collective competition goods that are of use to local producers.

¹⁰ p.106, Regini (1997).

For example, SACE (Sezione speciale per l'Assicurazione del Credito alle Esportazione) provides export credit guarantees for risky markets, and ICE, information on these markets. However, the provision of these goods is patchy. Firms in the packaging machine cluster in Bologna believe, whether correctly or incorrectly, that SACE assistance tends to go to big firms with good connections in Rome. Even larger local firms have had difficulty in securing aid.

The regional level of government is closer to local firms, and should logically play an important role in small firm policy. Indeed, this is partly the case. However, the importance of the regional level to Italian economic and social life has sometimes been exaggerated. On the one hand, authors such as Nanetti (1988), Putnam (1993) and Cooke and Morgan (1998) accord it a central role in their analysis of Italian economy and society. On the other, Trigilia (1991) and Dente (1997) suggest that the region is still a relatively weak level of policy and interest articulation, and that local government and local loyalties are still much more important.

Regional government policy in Emilia-Romagna has been the subject of much academic debate (Leonardi and Nanetti eds. 1990, Cooke and Morgan 1998). Attention has focussed on the regional planning process, and the role of the regional economic development organisation, ERVET. Emilia-Romagna, like other regions in Italy, has prepared economic plans at frequent intervals since its creation (Bellini 1990, Bellini 1998). These plans have helped set the terms of regional economic debate. They also have been shaped by tensions between the regional and local levels which are downplayed in much of the literature.¹¹ In the period when the Communist party was prevented from playing a role in national government, Emilia-Romagna demonstrated that Communist rule need not lead to economic disaster. Thus, the success of the industrial districts of Emilia-Romagna was welcome. However, these districts also posed political problems, precisely insofar as they were organised on a small geographical territory. Not only did this suggest that industrial districts were local rather than regional, but many parts of Emilia-Romagna had no industrial districts, and thus had different economic needs. The response to this dilemma was twofold. On the one hand, regional planning authorities sought to replace the localist networks characteristic of industrial districts with national and international networks, where the region would continue to be a "privileged sphere of regulation."¹² On the other hand, for purposes of regional economic policy, planners identified "industrial districts" in outlying provinces which clearly had very different forms of economic organisation, in order to avoid the perception that industrial policy was favouring the heartland of the region at the expense of the rest.¹³ The region also sought to use the planning process to subordinate provinces and communes to its authority. At one stage, it sought (together with other regions) to have the provinces replaced outright by new planning districts; when this initiative failed, the regional government contented itself with ensuring that local and provincial economic plans would have to be both compatible and consistent with the overall regional framework.

¹¹ Interview with Nicola Bellini.

¹² p.116, Bellini (1990).

¹³ See Giunta Regionale (1998).

The most recent planning document, *La Regione Globale: L'Emilia-Romagna nell' Europa del Duemila*, is a continuation of these trends. It too speaks of "industrial districts" which do not fit the commonly accepted definitions of the term, as for example the seaside tourism industry and large firm chemical industry of Romagna. It points to the industrial districts as important sources of economic growth, but suggests that they need to be embedded in global rather than in local networks. The renewed emphasis on global networks is linked to important policy changes. First, planning officials speak of how regional policy may help give local firms the necessary credentials to participate in these networks. Here, officials suggest that it is important that they do not rely on "old" personalised trust relationships, but rather acquire externally validated certification through ISO or similar schemes. Second, officials are seeking to respond to the difficulties experienced by certain Emilian industrial districts by helping them reposition themselves as nerve centers in international production networks, hiving off lower end manufacturing to other parts of the world, while retaining higher end manufacture and design. Third, there is a new emphasis on helping internationally oriented "leader firms" within the district, rather than the district as a whole. In principle, these "leader firms" are supposed to diffuse an outward focus to less open firms in the district. In practice, it may be expected that many weaker firms will fail, be subordinated to, or be absorbed by, their more successful competitors or buyer firms.

These changes in broad outlook are reflected in policy changes within ERVET, and are also linked to genuine changes in relations between firms. ERVET, the independent agency and holding company charged with overseeing economic development in Emilia-Romagna, has received considerable attention in the academic literature (Leonardi 1990, Amin 1998, Mazzonis 1996, Bellini et al. 1990, Cooke and Morgan 1998). It has also recently been undergoing substantial changes both in its goals, and the methods used to attain these goals (Cooke and Morgan 1998). ERVET, as it is currently constituted has two elements. First, it coordinates the planning and implementation of much of the region's economic policy. In the 1970s, ERVET was perhaps the most important nexus of regional economic decision making, with enormous informal clout.¹⁴ Recent years, however, have seen ERVET assume a much less political role, and concern itself more with the implementation aspects of policy. Second, ERVET provides a framework for a number of regional service centers, the majority of which were set up to meet the collective competition good problems of industrial districts within the region, such as CITER, in the knitwear district of Carpi, which is now experiencing difficulties. Other centers were set up to provide general services to firms in the region, rather than to particular districts. For example, ASTER is involved in technology transfer across a wide variety of sectors, while DEMOCENTER provides demonstrations of new technologies, and CERMET provides testing and certification services for the machinery sector in particular. Despite their general orientation, some of these centers retain a largely localised clientele; *campanilismo* remains a strong force guiding business relationships.

ERVET has seen changes on two fronts. First, there has been an ever stronger push towards marketisation of its services. The centers were set up in a period when there

¹⁴ Interview with Nicola Bellini.

was a perceived deficit of certain services for small and medium enterprises. Now, many of the centers set up with regional funding are facing increased competition from private sector organizations which offer many of the same services. There are also more overt forces pushing ERVET service centers to adopt a more market-based approach. Until relatively recently, ERVET's funding from the regional government had been ring-fenced, giving it considerable freedom from external pressures. However, the continuing hostility of business organizations such as Confindustria to regional industrial policy led to a re-opening of the debate on regional economic development strategies, and a new approach in which funding to ERVET and its service centers is more directly tied to specific projects. The more rigorous approach to regional funding has pushed ERVET service centers to seek new sources of funding, either from the market, or from the European Union. Nowhere is this more obvious than ASTER, the technology transfer agency, which has recently reorganized itself so that its divisions map the different areas of funding available under the European Union's Fifth Framework Programme. ERVET officials foresee that as funding becomes less and less tied to the region, the centers will adopt an increasingly national, and indeed international orientation, seeking to market themselves to firms outside the region. Thus, ERVET is moving away from a traditional "state" mode of governance to a more market based approach on the one hand, and an approach conditioned on the need for European Union level funding on the other.

Second, as previously discussed, there has been a fundamental shift of regional economic policy. Insofar as ERVET still acts as a regional development agency, it now focusses on linking firms into international networks rather than local ones, and on ministering to leader firms within the district, rather than to the district as a whole.

Today, it is necessary to work in a very differentiated manner with particular attention to the leader firms, because it is these that are succeeding in globalising themselves, and in remaining on the market.¹⁵

These two changes go hand-in-hand; officials within the regional government and ERVET believe that it is exactly the leader firms who have the potential to participate in international networks. This marks a fundamental shift in the Emilian model of provision of "real services" – the emphasis is now on helping leader firms to survive on international markets, and on helping medium sized firms to grow and adapt to a leadership role, rather than on supporting the network of small firms as such. This tendency is most marked in ERVET policy towards districts such as Carpi, which have seen radical changes and internal re-organisation; here, ERVET policy aims to help leader firms assume privileged positions in international filières of production, rather than remaining embedded in localised ones. At a more general level, centers such as CERMET play a very important role in this strategy; certifying Emilian firms to be certified to internationally recognised standards and to succeed in becoming a partner for other firms in the global arena.

The changes outlined above are important for policy, but it remains to be seen how successful they will be. What is clear is that they are having consequences for the

¹⁵ Interview with ERVET official.

interface between policy makers and local firms. In the packaging machinery industry in Bologna, there are complaints that some centers, such as ASTER, are more responsive to the possibilities for external funding than to the actual needs of firms. Projects often tend to be more tailored to European Union research frameworks than the realities of the local economy. However, there are highly important exceptions, such as the previously described initiative to improve training; here was one example at least of ERVET securing outside funding to meet important collective competition good needs within the district. One may also point to CERMET's certification and testing services. While CERMET is located in Bologna, it does not provide the informal governance for the district that more "traditional" real service centers used to. Instead, it provides services on the market, in competition with other providers. What reaction there was among local firms to CERMET was highly positive.

Finally, there are the two lowest levels of government in Italy, the provincial and communal administrations. The provincial level of government has only marginal relevance to firms in the packaging machinery cluster in Bologna, and to firms elsewhere. While it administers some grants programmes for small and medium sized enterprises, its role is largely technical. The communes, in contrast, may provide highly important collective goods to firms. As has been remarked by previous authors (Brusco 1982, Brusco and Righi 1989), commune governments provide many important collective competition goods to districts, including social services, control of land prices, and basic utilities. The packaging machine cluster is spread across several communes within the province of Bologna, which provide such goods; one may point in particular to the Aldini-Valeriani institute (already discussed), which is funded by the Commune of Bologna and is described without exaggeration by firms and other local actors as the heart of the industrial district.¹⁶ This institute also has an associated museum, as well as the Aldini-Valeriani Foundation, created in 1997, which provides a venue where local economic interests can discuss technical training. While some local actors worry that it has failed to keep pace with the very latest technologies, and demographic changes have led to a fall off in the number of students, most felt that it still played a highly important role, and indeed was irreplaceable. It is difficult to underestimate how Aldini-Valeriani has cemented the social world of the local packaging industry; most local firm owners have passed through its doors, as have their employees.

Associations and Governance in "Packaging Valley"

Much of the interest in the "Emilian model" (Brusco 1982) has been in how small firms associations provide services to their members. The collective competition goods provided by such associations, it has been argued, are essential to the success of small firm industrial districts in Italy. Such associations allow firms to capture the economies of scale that would otherwise only be available to large firms with hierarchical organisation.

¹⁶ On the history of the Aldini-Valeriani Institute, see Capecchi (1997), Curti (1994), Curti and Grandi (1997).

These arguments hold considerable merit; it is undeniable that the success of small firms is linked in large part to these associations. Unlike other European contexts, where small firm organisations tend to be weak or concerned more with their representative functions than with providing services to members, Italian associations such as the CNA (*Confederazione Nazionale dell'Artigianato e della Piccola e Media Imprese*) are involved in the day to day lives of their members. Interviewees who had contact with these associations almost universally expressed a high degree of satisfaction. This said, the governance approach allows us to put these associations in a broader perspective. What is striking is the degree to which small firm associations in Italy seek to respond to the deficiencies of the state. On the one hand, the state fails to provide many important collective competition goods. Thus, associations can “sell” themselves to members by offering to provide these goods. On the other hand, the state nevertheless imposes an almost impossibly high regulatory burden on small firms so that associations act as intermediaries, representing the collective or individual interests of firms to bureaucratic agencies and interpreting the regulatory requirements of the state into a language that small firms can understand. These functions do not exhaust the role of small firm associations, which also provide additional bargaining weight to small firms in their dealings with banks, and may organise cooperation among their members on issues of common interest (although see below). But efforts to alleviate, or counteract, the deficiencies of the state, probably account for the majority of their everyday business. Thus, the state not only fails to provide certain collective competition goods; it may create the need for such goods (intermediation with a complicated and unpredictable state sector).

There is a high degree of fragmentation among business associations in Italy. Unlike some other European countries, there is not a neat split between representative associations and associations concerned with industrial negotiations; the same organisation may represent business interests to government, bargain with organised labour, and provide services to its members. The multiplicity of organisations sometimes leads to confusion, but also may be one of the reasons for their responsiveness to their members: competition is vigorous.¹⁷ Business organisations may be identified according to political affiliation, or size category of firm, or category of industry, or combinations of these. In the packaging machinery industry, the important associations are the CNA and Confartigianato, both of which have traditionally ministered to very small artisanal firms, API (*Associazione di Piccole e Medie Imprese*), which has a membership consisting of small-to-medium sized industrial enterprises, and Confindustria, the umbrella business organisation, which has members from all size-categories, but has typically been dominated by large firms. The CNA is undoubtedly the most important association both in terms of numbers and political influence; it has 62,700 member firms in Emilia-Romagna, and has traditionally been linked to the Communist party and its heirs, which dominated regional politics until very recently. Confartigianato, which has a more right wing viewpoint on economic and social issues, has far fewer members in the region (although it is the larger association nationally), but still has a very respectable

¹⁷ Competition is increasing as artisanal associations begin to compete with associations of small to medium sized firms, and as the ideological cleavages which led to this initial fragmentation become less important for small firms. We are grateful to Luigi Burrone for this point.

representation among firms in the packaging machine industry. API has some 1,300 members in the Bologna area, and 70% of its members are involved in the metal or mechanical engineering industries in some way. Finally, Confindustria is primarily concerned with the needs of larger firms, and is perhaps not as politically weighty as its national equivalent, although its regional leadership has had a very substantial role in recent debates. The trade association for packaging machine manufacturers, UCIMA (*Unione Costruttori Italiani Macchine Automatiche*) is affiliated to Confindustria, and has played an important role in the industry, although some local actors criticise it for its removal from the day-to-day issues concerning manufacturers, its geographical distance from Bologna (it is based in Milan, and has recently closed down its Bologna offices) and its insensitivity to small firms. Italy also has an extensive system of Chambers of Commerce, with mandatory membership and a privileged legal status, which was reinforced in 1993 (Law 580/1993). Chambers may occasionally play an important role in local economic regulation (Perulli 1989) but are more usually ineffective and isolated. While the Chamber of Commerce of Bologna does provide basic information on export markets to its members, has some regulatory functions, and has an associated facility for organising trade fairs, it is commonly regarded by firms and other organisations as irrelevant.

As has been mentioned, small firm associations such as the CNA, Confartigianato and API offer important services to their members, many of which alleviate the heavy regulatory burden of the state. The CNA in Emilia-Romagna handles tax accounting for some 40,000 of its members, and payrolls for 20,000. They also represent their members in labour negotiations. The Italian industrial bargaining system is quite convoluted; while bargains are made on the national level, considerable variation is possible at the firm level. Larger enterprises bargain individually with the relevant trade unions, but artisanal firms are represented by their associations, who negotiate regional agreements to cover all artisanal producers. Labour relations in the recent past appear to have been relatively peaceful, and FIOM, the dominant trade union in the industry, is eager to explore new forms of cooperation which would help secure jobs in the area, building on the success of EBER (see below); its efforts have usually been rebuffed by firms and business organisations, who wish to confine the role of unions to labour issues alone. The creation by the regional government of a new body, the Institute for Labour (*Istituto per il Lavoro*), which examines economic issues from a viewpoint sympathetic to the trade unions, may help trade unions expand their ambit in the future.

Artisanal and small firm associations also advise their members on regulation. Small firms in Italy have to cope with a bewildering variety of official requirements; organisations such as the CNA and Confartigianato have sought to help alleviate this burden, often interceding directly on behalf of their members. More recently, these associations have been focussing ever more on the European Union, as EU regulations and quality requirements become ever more important. At the time of research, the CNA in Bologna was putting together a project to help small firms in the packaging machine industry comply with European Union quality regulations.¹⁸

18 Interview with Roberto Manaresi, CNA Emilia-Romagna.

Nowhere is the role of associations in making up for the deficiencies of the state clearer than in the so-called *enti bilaterali*, bilateral bodies set up by trade unions and small firm associations. Cooperation between business and trade unions to provide collective competition goods has some history in Italian industrial districts; Carlo Trigilia documents early forms of such arrangements in Prato (Trigilia 1989). More recently, formal bilateral arrangements at the regional level has come into being through a national level agreement between the artisanal associations and trade unions in 1988 (EBER 1997). The Emilia-Romagna body EBER (*Ente Bilaterale Emilia-Romagna*) began its activities in 1993, and, like its equivalents in other regions, had its beginnings in the failure of the state to provide certain collective goods to artisanal firms. In particular, there was no provision for social insurance for small firms in difficulty, unlike larger ones. In return for a relatively low subscription, all artisanal firms in Emilia-Romagna who subscribe to EBER have access to funds which allow them to pay 40% of the wages of their workers during crisis periods. Initially, small firms were deeply suspicious of the arrangements, in part because of the degree of trade union involvement. However, the financial difficulties that many small firms experienced in the 1993-1994 period showed the value of such arrangements; by 1999, some 85% of the eligible firms in Emilia-Romagna were members. EBER also helps member firms meet legal requirements for health and safety, and is assisting actively in on the job training. Although it has relations with some state bodies, it perceives itself as far more efficient; while a government body may take up to 60 days to approve an apprenticeship contract, EBER has a 7-10 day turnaround.¹⁹ It helps meet trade union and regulatory concerns in areas like health and safety – problematic for micro-firms, which cannot afford to devote an employee to these issues - by creating a system of trained regional representatives. The most comprehensive study available of *enti bilaterali* suggests that these bodies may provide an embryonic alternative to the failures of the welfare state (Perulli and Catino 1997).

Cooperation between Small Firms as a Source of Collective Competition Goods

Perhaps the most widely debated feature of industrial districts has been small firm cooperation. The claim that small firms are motivated to cooperate has been well received by economic sociologists suspicious of economics. Cooperation in industrial districts has been ascribed to the survival of communitarian norms of solidarity, which transcend rational egoism, and allow firms to work together for common ends.

These arguments are by no means incompatible with the governance approach to economic institutions, which stresses how community may provide a means of governance (Streeck and Schmitter 1985, Hollingsworth, Schmitter and Streeck 1994, Hollingsworth and Boyer 1997, Le Galès and Voelzkow 2001). Indeed, Wolfgang Streeck has suggested (perhaps tongue-in-cheek) that cooperation in Italian industrial districts, unlike Germany, is based on community norms and a voluntaristic ethic. However, it is also possible to treat the community form of governance in a more restrictive sense (Farrell 2000, Le Galès and Voelzkow 2001, Crouch and Trigilia 2001), and see it as differing from other forms of governance insofar as it involves more informal institutions, rather than a different set of normative motivations. In many

¹⁹ Interview with Enrico Mattei, Director, EBER.

settings, “community” governance may rest on a set of informal rules to which actors need have no particular normative attachment – they may obey them because it is in their interests to obey them, rather than because of any sense of fraternal attachment to others in the community.

Our research suggests that the latter characterization of the community form of governance better describes relations among packaging machinery producers in Bologna than the former. There was little evidence of the sorts of strong fraternal bonds between firms that some analysts of industrial districts speak of. Indeed, the opposite usually seemed to be the case. Small firm organizations spoke of the difficulty of encouraging their members to cooperate; small firms were highly individualistic even where cooperation could clearly have been advantageous. It is true that small firm owners were coming together to try to counter the increasing dominance of larger firms in the district, by presenting a common front on export markets. But even here, cooperation was problematic. One owner of an export firm spoke of how difficult it was to persuade the manufacturing firms that he worked with to cooperate. There were clear financial advantages to further cooperation in areas such as supplies and financial services, but the individual firms did not want to sacrifice their individual autonomy. Indeed, individualism was arguably more important than communitarianism to the success of the district; the desire of technicians to work on their own, rather than as employees, had historically driven the creation of small firms.

There was considerable opportunism among firms in certain areas. A severe shortage of qualified workers in the industry meant that firms had little compunction in poaching workers, and in using their new employees to find out about the production methods and techniques used in their former workplaces. Indeed, there was a more general phenomenon of diffusion of technical information through copying of designs; while this may have had some positive effects for the district overall, it also discouraged major investments in research that could not be protected by patent.

Unsurprisingly, there was little horizontal cooperation among competitors or potential competitors. Relations with these competitors were usually seen as a sort of zero or constant sum game; a firm was likely to suffer lost sales if a competitor made advances. While there was horizontal cooperation among firms which made complementary rather than competing products, such cooperation was not generalized, and was usually based on personal relations. For example, a firm which received an order for one of its machines might tell another firm which made complementary machines about this possible new customer.

This is not to say that there was no norm-driven cooperation whatsoever. The packaging machine industry involved a relatively small number of actors who met together repeatedly in a shared social setting, and sometimes formed friendships. In addition, shared locality had a modest positive effect on cooperation. But what must be emphasised is that cooperation co-existed with opportunism, and that most “costly” forms of cooperation seemed to be based in shared interest rather than community feeling or deep personal ties. Individual interests did not become merged in the collective interest of

the community. Other scholars who are familiar with the district report similar findings; Vittorio Capecchi speaks of his disappointment in the relatively low level of cooperation among packaging machine manufacturers, whereas Silvano Bertini states that

I do not share the opinion of theorists of industrial districts that there is an almost fraternal trust ... It is a trust that is based on relationships that become consolidated over time, and that are profitable for both parties.²⁰

Where there is clear evidence of widespread cooperation is in the vertical organisation of production. As in many other Italian industrial districts, the production of packaging machinery in Bologna is characterised by radical vertical disintegration. Except for the very largest firms in the district, the usual pattern is for all, or nearly all, the parts of a machine to be put out to artisanal producers, who make pieces to a design drawn up by the final firm, and then return these pieces, or send them on to other producers for further processing. The final firm may only perform the final assembly (which is, it must be said, the most strategic stage), and in some cases the buyer firm puts out even this crucial stage of the production process to other firms. The few very large firms in the district, as might be expected, rely more on their internal resources for production, but even these rely heavily on subcontracting, especially in periods where demand is rapidly shifting. Also, specialised subcontractors may often amortise the costs of advanced machinery more rapidly than hierarchically organised firms, which may only need such machinery on an infrequent basis. While this may have had its beginnings in large firms' outsourcing practices, it relies (as discussed below) on previously existing informal community rules, and has demonstrated its merits in economic conditions quite different from those where it had its beginnings.

This form of production requires a very high degree of cooperation if it is to work properly and gives rise to risks of hold-up (Williamson 1985). However, formalised, contractual commitments do not play a major role in relationships between subcontractors and final firms. Instead, informal, "personal" relationships prevent both parties from behaving opportunistically most of the time. Subcontractors who behave well and provide good quality at a reasonable price can be reasonably assured of a long term commitment on the part of their buyer firm, even if there may be dry periods when the market is bad. Buyer firms, in contrast, may have a high degree of flexibility from subcontractors with whom they have a long term relationship; these subcontractors may be willing to work long hours or weekends if necessary to complete contracts that are time sensitive.

Our research suggested that this honesty on the part of both sets of actors could be attributed to informal institutions and their associated enforcement mechanisms. Informal institutions (defined here as sets of rules, following North 1990, Knight 1992, Trigilia 1998), provided orientations to both buyer and subcontractor firms as to what each could expect. These informal norms built on local traditions which mandated a high level of honesty in personal relations, so that subcontracting relationships in the packaging machine district were seen as personal ones, even in situations where it was unlikely that

²⁰ Interview with Vittorio Capecchi, Interview with Silvano Bertini, Istituto per il Lavoro.

any genuine bonds of friendship existed. Thus, there were rules which stated that certain kinds of opportunism were unacceptable. But the norms might have had little force if they had not been accompanied by enforcement mechanisms. The social world of packaging was relatively transparent and firms which consistently violated the perceived rules of interaction between subcontractors and final firms would eventually be unable to do business. Thus, social rules and enforcement mechanisms combined in such a way that it was in the interests of firms to behave honestly in most aspects of subcontracting relations. There is evidence suggesting that these results may be generalised to other industrial districts; as Brusco and Bianchi seem to suggest (Brusco 1992, Bianchi 1993), a focus on informal rules and their consequences may lead us further than the rather vague attribution of cooperation to a cooperative set of values. In many ways, these relations resembled the forms of social cooperation modeled by game theorists (Greif 1994, Calvert 1995), but they were not identical: norms did sometimes appear to affect actors' internal motivations.

These findings have important consequences for the characterisation of change. Previous authors have suggested that many industrial districts are moving from a "community" form of governance in which affective ties predominate, to a more hierarchicalised and stratified form of governance in which economic interests motivate actors (Franchi and Rieser 1991). Change, for these authors, involves a move towards calculability. Such a theory apparently lies behind the arguments of Bennett Harrison, who uses the machinery industry in Bologna as a test case for the apparently ineluctable decline of the Italian industrial district (Harrison 1994). Harrison takes the guardedly pessimistic arguments of earlier writers on Emilia-Romagna and radicalizes them. He looks at how Sasib, one of the largest firms in the district, was bought out by a nationally based holding company, which sought to create a new group of machinery companies which would achieve economies of scale by centralising subcontracting decisions. This, in Harrison's opinion, was emblematic of changes which would almost inevitably lead to the decline and disappearance of localised subcontracting networks in Bologna. Community ties would be replaced by the hierarchical domination of large firms.

Unfortunately for Harrison's thesis, the forces he identifies as vectors of change did not have long term consequences. It is true that Sasib, along with other large firms in the region, sought to centralise their subcontracting relations on the group rather than the firm level in the early 1990s. However, this policy proved in the words of one interviewee at another large firm in the district, to be a "disaster." It was swiftly abandoned by all the firms who had adopted it.

This said, there is good evidence of a shift in the district to a more hierarchicalised form of production, which may have consequences in the long term for the kinds of subcontracting based on informal, long term relationships which we have previously described. The district has been seeing a process of consolidation since the early 1980s. Previously, a producer might specialise in one particular machine for a particular stage of the packaging process for a particular sort of product; for example, blister-pack machines for pharmaceutical products. Thus, an entire packaging line might incorporate machines from several different producers. Now, multinational customers

firms in sectors such as food, pharmaceuticals or tobacco, are more and more likely to demand “single solution” packages of machines from a particular firm. This trend has led to a process of consolidation within the industry, as larger firms buy out specialised producers in order to integrate their machines into a broader range, so as to meet customer demands. On the one hand, this means that there is less space for specialised final firms within the industry. Some, in niches which are unattractive to larger firms, are relatively secure. Others are likely only to be able to find markets through subordinating themselves to larger firms in the district, who have a lock on important customers. This means a substantial shift in the balance of power within the district to larger “group” firms (Farrell and Knight 2000). While smaller firms are seeking to meet this threat, their efforts are being hampered by the fundamental individualism of small firm owners. It appears that the district is shifting from a “network of firms,” in which no one firm or small set of firms predominated, to a “networked firm” model in which large, leader firms play an important role (Burroni and Trigilia 2001).

These events are also having knock-on effects for relationships between final firms and their subcontractors. The larger firms in the district are moving towards more formal and more hierarchical relationships with their subcontractors, in which key suppliers are identified and built up, and very frequently asked to manage the relationship with smaller sub-suppliers. This more hierarchical system will probably see a greater share of the profits of cooperation go to the firms at the top of the system than in the past. One larger firm in the district speaks quite candidly of how it squeezes the subcontractors it has built up when it needs to; it treats them, in Semlinger’s term, as “flexibility reservoirs” (Semlinger 1993). While this is not necessarily representative of the district as a whole, it is clear that even those large firms which seek to adopt a more cooperative attitude to their subcontractors have few compunctions in using their leverage to further their own particular interests.

In part, this matches Harrison's pessimistic predictions and Franchi and Rieser's romanticism, but only in part. The vectors of change are quite different. Even if informal community rules have played an important role in subcontracting relations, these rules are more based on calculability than identity, so there is no simple destruction of *Gemeinschaft* by *Gesellschaft*. Furthermore, the forces that appear to be driving institutional change are twofold; the individual interests of actors, and the power of actors to achieve those interests (Farrell and Knight 2000). Individual actors who are powerful enough to bring through changes that are beneficial to themselves are likely to do so, regardless of whether or not this helps the overall prosperity of the district. In this case, large firms which are seeking more formalised relations with their subcontractors are not doing so because they are interested in the collective interest; they are doing so because this is to their individual advantage. While this might be in the collective interests of the district, it might just as well be that it has negative consequences in the long run. Large firms are able to do this because of their increased bargaining power, suggesting that change in the industrial district is better seen as the contingent result of alterations in the bargaining position of actors, than the ineluctable effect of macro-level social forces. The changes that we identify appear to be real, and will likely structure the district in the short-to-medium term. But it is also possible that shifts in final customer markets will

again favour smaller enterprises over larger ones; the evolution that we have identified is by no means set in stone, and may be revisited if external circumstances are such that there are changes in the interests or the bargaining power of the relevant actors.

Conclusions – Applying the Governance Approach to the Understanding of Change in Industrial Districts

In the above, we have examined the mix of governance institutions in three important areas affecting the industrial district of packaging machine producers in Bologna, and indeed the “Emilian model” as a whole – the state, associations, and relations among firms. The governance approach gives us tools to understand both continuities and changes in these areas. Regional economic policy, as implemented through ERVET, appears to be moving from a “state” form of governance in which the state provides collective goods that allow industrial districts to prosper, to a more market driven mode. At the level of policy delivery, many service centers are moving from a mode in which the state provides funding for projects and cooperates with local actors, to one in which the state has a secondary role in centers that are more and more market-oriented. Policy goals now focus not on the delivery of collective competition goods to industrial districts as such, but on providing key leader firms with the necessary credentials for international networks. In relationships between firms, we see the continuation of a “community” based system of informal rules in certain interactions, but also how this system is threatened by external forces privileging large firms, and allowing them to assume a more dominant role, so that inter-firm relations do not take place among a community of equals, but rather in a quasi-hierarchical setting.

More cogently, the governance approach allows us to examine the local (and regional) economic system as a totality. The different modes of governance are clearly inter-related. This is most obviously so in the way that the relative inefficiency of the state sector impinges on the others. Associations both provide collective competition goods that are not provided by the state, and seek to intermediate between small firms and a system of regulation that these firms often find incomprehensible. Furthermore, they, are responding to changes in the constitution of the state, adapting to EU requirements as these become more important for producers in the packaging machinery district and, one presumes, other districts too. Small firm subcontracting relations tend to be informal rather than formal; this reflects the weaknesses of the state legal system.²¹ But on another level, the regional state does respond to changes in inter-firm relations. Regional policy makers have concluded that a policy which seeks to build up small firm districts as a whole is unlikely to guarantee regional and local prosperity; instead they are seeking to work with “leader firms.” In part, this reflects genuine changes in the organization of the packaging machinery district.

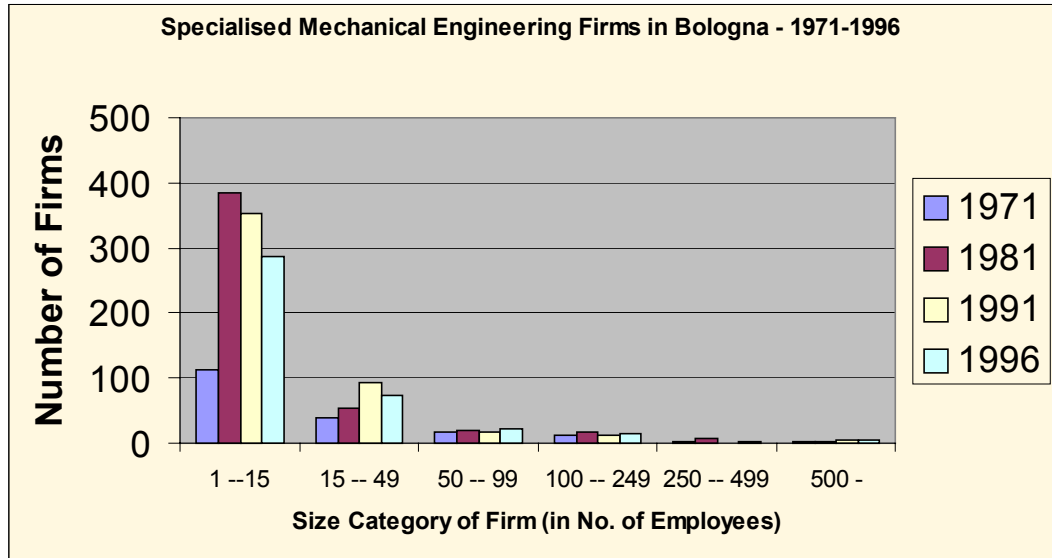
²¹ Italy has recently introduced legal changes which aim to provide more formalised protections to subcontractors against late payment, but local research in Bologna suggests that less than 20% of subcontracting relationships conform to these legal requirements. See http://www.bo.cna.it/ind_subfor2.htm (checked September 26, 2000).

Yet the governance approach also allows us to focus on the *political* nature of change. It would be a mistake to conceive of the governance system of the packaging district of Bologna in purely functional terms, in which the strength of one mode of governance may automatically compensate for the weakness of another in guaranteeing economic success. Instead, the mix of governance, and changes within it, can be attributed to shifts in the political opportunities open to various actors, whether they be firms, local government, regional government, or associations. Thus, the regional government's new approach may also be seen as part of a history of struggle between local and regional levels in Italy, in which regional policy actors have continually sought to justify their relevance in a context where local economic ties remain strong. Similarly, recent changes in relations among firms appear to be the result of larger firms pursuing their self-interest, rather than a strategy aimed at preserving the strength of the district as a whole. Here, the weakness of one form of governance (such as the state) may provide political opportunities for other actors, but does not necessarily imply that these actors will respond in such a way as to meet the collective needs of the local system. This may indeed happen (as is arguably the case with EBER), but one also may envisage situations in which actors pursue their individual interests in such a manner as to lead to a collectively undesirable outcome. Arguably, the new orientation in regional policy is more rooted in political considerations than socio-economic fact; by neglecting the traditional sources of success in industrial districts it may lead to the long term vitiation of their economic dynamism.

Province	Machine Industry Employment	Spec. Machine Employment
Piacenza	5,634	1,366
Parma	9,221	5,323
Reggio-Emilia	16,963	2,609
Modena	24,643	4,533
Bologna	27,372	12,340
Ferrara	5,910	1,110
Ravenna	3,696	1,323
Forli'-Cesena	3,240	927
Rimini	3,349	2,237

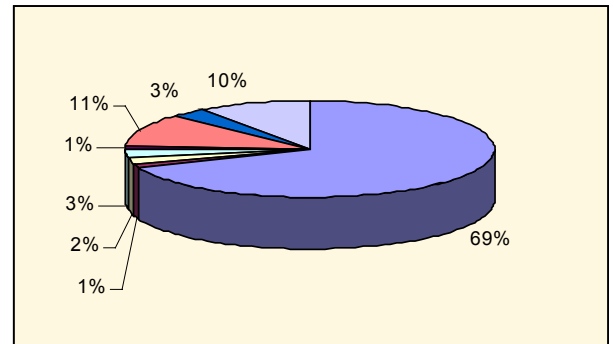
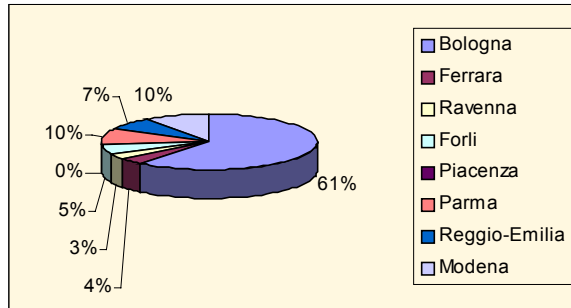
Based on 1996 Industrial Census Data, Istat

Figure 1 – Mechanical Engineering by Province in Emilia-Romagna



Source: Based on ISTAT Industrial Census Data 1971, 1981, 1991, 1996

Figure 2 - Number of Firms by Size Category in Bologna over time.



Source - Curti and Grandi (1997)/ISTAT 1991 Industrial Census

Figure 3: Geographical distribution of Firms (First Chart) and Employment (Second Chart) in the Packaging Machine Industry in Emilia Romagna by Province.