

OECD Territorial Reviews Bergamo, Italy

TERRITORIAL ECONOMY



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OECD Territorial Reviews

Bergamo, Italy



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Publié en français sous le titre :
EXAMENS TERRITORIAUX DE L'OCDE
Bergame, Italie

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Foreword

The globalisation of trade and economic activity is increasingly testing the ability of regional economies to adapt and exploit or maintain their competitive edge. There is a tendency for performance gaps to widen between regions, and the cost of maintaining cohesion is increasing. On the other hand, rapid technological change, extended markets and a greater demand for knowledge are offering new opportunities for local and regional development. Yet this calls for further investment from enterprises, reorganisation of labour and production, upgrading skills and improvements in the local environment.

Amid this change and turbulence, regions are following very different paths. Some regions are doing well in the current phase of the growth cycle and are driving growth. Others are less successful in capturing trade and additional economic activities. Many territories with poor links to the sources of prosperity, afflicted by environmental problems, migration (notably of young people), and lagging behind in infrastructure and private investment, are finding it difficult to keep up with the general trend. At the same time, central governments are no longer the sole providers of territorial policy. The vertical distribution of power between the different tiers of government, as well as the decentralisation of fiscal resources, need to be reassessed in order to better respond to the expectations of the public and improve policy efficiency. All these trends are leading public authorities to rethink their policies and strategies.

The Territorial Development Policy Committee (TDPC) was created at the beginning of 1999 to provide governments with a forum for discussing the above issues. Within this framework, the TDPC has adopted a programme of work that focuses essentially on reviewing Member countries' territorial policies and on evaluating their impact at the regional level. The objectives of the reviews are: *a*) identify the nature and scale of territorial challenges using a common analytical framework; *b*) assist governments in assessing and improving their territorial policies; *c*) assess the distribution of competencies and resources among the different levels of government; and *d*) identify and disseminate information on best practices regarding new practices in governance.

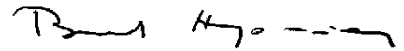
The TDPC Secretariat produces two types of reviews:

Territorial Reviews at the national level. Requested by national authorities, they analyse trends in regional performances and institutional settings, focus on poli-

cies to reduce territorial disparities and to assist regions in developing comparative advantages. They also concentrate on the governance framework, on the impact of national non-territorial policies on subnational entities and on specific aspects of fiscal federalism. The final report analyses conflicting issues and proposes territorial policy recommendations.

Territorial Reviews at the regional level. Requested by subnational authorities (local or regional) with the agreement of national ones, they concentrate on strategies for developing the respective entity. In particular, they identify the role of key demographic, socio-economic, environmental, technological and institutional factors in explaining the performance of regions. They also provide a comparative analysis with regions of the same type using the typology elaborated by the Secretariat.

This Review is based on the Secretariat's study on the Territorial Development Policy of Bergamo by the Territorial Development Policy Committee on 14 December 2000. Further to this examination, the Committee gave approval of the Review for publication.



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Acknowledgments

The project was co-sponsored and co-financed by the Chamber of Commerce, the Province of Bergamo and the OECD. Special thanks are given to Prof. Riccardo Galli.

Socio-economic background information and statistics were provided through reports overseen by Andrea Forti and co-ordinated by Laura Campanini (IRS – Istituto per la Ricerca Sociale, Milan). Other written collaborations include work by: Claudio Calvaresi, Natale Carra, Adriana Castelli, Alberto Castoldi, Sergio Chiesa, Stefano Cofini, Chiara Crepaldi, Francesco Dettori, Ivana Fellini, Massimo Florio, Giovanni Gelmini, Giuliano Oldrati, Alessandro Olper, Renata Perego, Cesare Ravazzi, Manuela Samek Lodovici, Giorgio Strumia, Monica Patrizio and Giovanna Carfora. Assistance was provided by Riccardo Galli and Katia Mereu (SERVITEC), Giuliano Lorenzi (Provincia di Bergamo) and Paolo Longoni (Camera di Commercio di Bergamo).

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Assessments and Recommendations

Bergamo is an intermediate region close to a large metropolitan area.

The Province of Bergamo situated in the north of Italy in the region of Lombardy has three distinct local economies: the city of Bergamo itself and the southern plains that are industrialised; and the mountainous north, which is more rural. In terms of the OECD classification Bergamo is considered an intermediate region. A high percentage of the workforce and the wealth generated in the province are derived from manufacturing sectors. Its proximity to the highly performing metropolitan area of Milan, the capital of the Region of Lombardy, has produced a complex form of integrated but sometimes conflicting economic and social relations.

The Bergamo economy is performing well...

The economy of Bergamo is currently performing well. Productivity is above the national average (index of 104) and unemployment is almost non-existent. There are substantial outward and inward flows of investment. The economy is export oriented and exports are above the national average. Machinery and traditional sectors show a remarkable capacity to penetrate foreign markets. Outward investments are being made more and more by medium sized companies trying to strengthen their presence on foreign export markets. Moreover, firms are increasingly moving activities abroad. Inward flows are secured by a consolidated presence of multinational companies. There is also a rich social capital of industry, trade and labour associations.

... the manufacturing sector is well diversified, ...

The manufacturing sector has a diversified portfolio that makes it less vulnerable to external shocks. It is highly competitive in machinery, metals, textiles and plastics. Compared to the rest of Lombardy, over the last twenty years Bergamo's manufacturing industry has proportionally lost

fewer jobs. The production supply chains rely on intense and well-established “vertical” co-ordination between firms. There is a diversified structure of firm size where numerous micro-firms and very large companies coexist with a growing number of medium sized firms. The small and medium sized enterprises are flexible and represent a strong entrepreneurial economy. The number of innovative firms is also growing. The abundant availability of immigrant labour from developing countries has contributed substantially to local economic development and allowed many traditional manufacturing sectors to remain healthy.

... work ethic and regional identity are marked...

Bergamo society is driven by a strong work ethic and a sense of provincial communitarism. The cultural attitude towards work might partly explain the longstanding economic success of the province. Individualistic behaviour in Bergamo regards individual decision-making as superior to collective or public action and success is considered to be more likely in the private than in the public sector. In parallel the province has built up a strong identity where individual action is combined with a strong sense of social and cultural responsibility. Decentralisation in Italy is in step with these cultural particularities and may strengthen the province's economic and social capital in the future.

... and the province is endowed with a rich cultural and natural heritage.

The Province of Bergamo is endowed with abundant cultural and environmental assets. Its geographical position, encompassing mountains as well as plains, gives it a diversity that is almost unparalleled. The province offers a vast cultural patrimony that includes ancient buildings, art collections and frescoes, and has several cultural institutions. Some landscapes in the mountains and in the foothills are of great beauty, and protected areas cover almost 30 per cent of the province. Its gastronomy is renowned. Also, the bio-diversity of Bergamo is one of the highest in the Po valley/Alpine region. These cultural and natural amenities represent economic potential for tourism and related activities that is not always fully exploited.

However the province shows signs of cultural closeness and of institutional stagnation,...

The Province of Bergamo shows signs of an inward looking society. Strategic contacts with the central government and adjacent regions are limited. Compared to other regions, Bergamo's capacity to lobby the regional and central government is below average. co-operation among public entities and among different social actors is quite

restricted, and provincial large-scale projects suffer from the Not In My Backyard syndrome. The ability of local actors to share development objectives and strategies and, as a consequence, to act together is also limited. Individualism, which for a long time was the positive driving force in the development of the local economy, constitutes today a threat to further development. Finally, the province does not yet fully exploit the new opportunities that decentralisation is providing.

... reveals a certain lack of formal education, and the innovation potential is below average...

The Bergamo society and economy are characterised by a low degree of formal education. Skills are learned mainly on the job, but apprenticeship programmes are not well developed and worker training is insufficiently co-ordinated. The Italian educational system is rigid and allows no easy re-entry points. The potential for collaboration between the education system and the economy is not well developed. The participation of women in the labour market is beneath the average of Lombardy, and unemployment among women is higher than among men. There is a vicious circle between demand and supply of skilled labour. Educational qualifications requested by firms still remain low on average, or concern skills acquired on the job. Formal education is not yet in great demand. Compared to low skilled work, salaries for professionals are not sufficiently attractive. There is a certain mismatch between educational supply and the demand expressed by firms. The rate of innovation is below the regional and national average.

... transport infrastructure and land use planning are inadequate...

Improving transport infrastructure and land use planning poses a perennial problem to the province. These are not well co-ordinated. Intra-as well as interregional public and private transport infrastructures are inadequate and prone to bottlenecks. The priority of road over rail has caused sprawl and environmental problems. The impressive list of road construction projects shows no clear priorities, and local interests often delay their realisation. Public transport projects are rare and not well connected to existing networks. Services for transporting goods are supplied by small and micro firms specialised in the sector. This situation, typical of the Italian "transport system", has also dis-

... and rural and urban amenities are somewhat neglected.

couraged demand for more advanced integrated logistics services. The strategic potential of the existing airport is not fully exploited.

The Province of Bergamo does not sufficiently promote its cultural and natural amenities and does not make a full use of their economic potential. Whereas the city of Bergamo is perfectly conserved, amenities in the province are sometimes threatened by pollution or abandonment. The province may be aware of the value of its local heritage but, apart from some recent efforts, it is hard to co-ordinate players to build a general strategy to combine places, products, activities and amenities in a coherent tourist policy. World-renowned brands from the area, such as San Pellegrino (mineral water) or Taleggio (cheese), could be used for promoting the territory from which they originate.

The environmental situation is delicate but not taken fully into consideration.

Traditionally, economic and institutional actors in the Province of Bergamo have paid very little attention to environmental aspects, and focused essentially on traditional production and economic development. The relative lack of space characterising many parts of the province, the high level of urbanisation and population density, traffic congestion and pollution mainly in the plains and foothills is made worse by an inattentive spatial planning. Today, authorities are more aware of the threat this poses to further development, but a coherent line of intervention is not yet visible.

Bergamo is closely linked with the Milan metropolitan area...

In many ways the Province of Bergamo benefits from its closeness to Milan. The manufacturing industries of Bergamo take advantage of Milan's important position as a gateway to world markets. Milan imports labour from Bergamo and exports financial and other types of services to the province. Recent research on indicators of specialisation in innovative areas confirms the complementary nature of this relationship (see Campanini, 1999). The province suffers from a distinct deficit in terms of identifying or pursuing opportunities. This deficit is mainly due to the difference in the "weight and capacity" of the two cities in exercising political influence in the national and the regional governments and in successfully competing for

investments mainly for transport infrastructures education (including higher education) and training opportunities.

... this closeness is an opportunity...

Closeness to Milan provides Bergamo with potential access to global markets by circulating its goods and assets in vast and diverse information and business networks. There are opportunities to be exploited. For example, Bergamo could host some of the international trade fairs based in Milan. It could make long term investments in the development of university facilities. Companies with their headquarters in the metropolitan area of Milan have started to move into the province of Bergamo and could support this trend. It could become an attractive alternative location for foreign investors by substantially improving its transport infrastructures and the quality of its human resources and life in the province.

... but it also presents a risk of satellitisation.

If Bergamo is to maintain its competitiveness it cannot content itself with being a traditional manufacturing enclave playing a background role in the development of international supply chains. If Bergamo remains on the sidelines of the university system research and communication and services networks the costs of being close to Milan would in fact end up being greater than the benefits. Bergamo must find its regional comparative advantages and make the necessary material and educational investments.

Regional benchmarking is a tool for assessing best practices. Regions used as a benchmark for Bergamo show, that...

Regional benchmarking is used as a tool for comparing and assessing regional best practices. Three functional regions: Providence (US), Coventry (UK) and Akron (US) have been chosen as a benchmark for the Province of Bergamo because of their similar socio-economic features, including the factor of being close to a larger metropolitan system (Boston, Birmingham and Cleveland, respectively). These regions had to overcome major economic crises from which they recovered successfully. Strategies implemented to enhance their regional competitiveness focused on efforts in education, infrastructure and diversification into other than industrial activities essentially the arts, entertainment and tourism. The institutional background of the country also proved to be crucial for the rules and mechanisms of competitiveness and the choice of development policies.

Assessments and recommendations: Summary presentation of the benchmark regions

	Major development problems	Strategies and policies	Role of institutional background	"Closeness factor"
Providence	<ul style="list-style-type: none"> - Traditional industries - Reliance on low-skilled labour force - Scarcity of physical space - Inner city decay and urban brownfields 	<ul style="list-style-type: none"> - Close ties between education and businesses - Urban environmental renewal - Diversification into arts and entertainment - Improved rail connections 	<ul style="list-style-type: none"> - Decentralised framework allows local governments to have tailor made policies - Strong intra-region co-operation, development council - Monitoring system to assess policy performance 	<ul style="list-style-type: none"> - Lower wages and lower rents attract new firms - Providence airport as a way to avoid crowded Boston airport - Providence becomes Boston's arts and entertainment centre
Coventry	<ul style="list-style-type: none"> - Low industrial value added and low level of competitiveness - Low skilled labour force, shortage of high skills - Insufficient transport infrastructure - Lack of greenfields, contaminated brownfields 	<ul style="list-style-type: none"> - Brownfield recovery, environmental clean up - Businesses strongly involved into education and knowledge transfer and spin-offs - Tourism, cultural heritage of the city 	<ul style="list-style-type: none"> - Ongoing decentralisation allows more partnerships on functional grounds - Increasing number of government levels makes co-ordination of development policies difficult 	<ul style="list-style-type: none"> - Coventry is closer to Birmingham airport than some parts of Birmingham - "Sucking effect": Birmingham attracts leisure tourism, but Coventry may cover niche markets (rich cultural heritage)
Akron	<ul style="list-style-type: none"> - Deficiencies in the level of working skills - Inner city decay, urban sprawl - No co-ordinated land-use policy - Functional and jurisdictional regions do not correspond 	<ul style="list-style-type: none"> - Efforts to introduce high-tech production processes - Business sector co-ordinates education and technology transfer activities - Local wage tax slows down inner city decay 	<ul style="list-style-type: none"> - Local governments are strongly competing for businesses and tax income - Regional co-operation works on selected projects (<i>e.g.</i> a new airport) 	<ul style="list-style-type: none"> - Cleveland tends to dominate regional bodies, therefore reluctance of smaller cities to co-operate on a regional level. - Sub-regions within the region specialise into certain activities

... a good public and private transport infrastructure needs to be well co-ordinated with land use planning...

Transport infrastructure is a perennial precondition for development. Many business location decisions are based on the existence of good infrastructure and, *vice versa*, some regional development problems are related to insufficient transport links. However, transport infrastructure need not mean roads or airports; in one region it was improved rail connections that triggered economic success. In some cases, good co-ordination between transport and urban/land-use planning in order to reduce bottlenecks and environmental impacts proved to be essential.

... “intermediate” education and research contributes most to regional development...

Investing in education and training of the labour force is a crucial prerequisite for economic success. To be competitive in the long run, regional businesses depend on high skilled workers. However, it is not education per se that is decisive, but its links to the business sector. Public and private sector organisations have to collaborate very closely not only to develop needed knowledge, but they also have to be able to transfer it to the regional economic fabric. In this respect, it is “intermediate” rather than “top” education and research that contributed most to development.

... “High tech” industries not necessarily contribute most to economic growth...

High tech is music to politicians’ ears worldwide. However, none of the benchmarks is a “high tech region”. High tech consists of products as well as processes. The industrial recovery and sustainable success of the three regions are not based on industries like biotechnology, semi conductors or computer factoring, but on the use and permanent adaptation of advanced technologies for manufacturing traditional goods.

... and that the economy has to be diversified towards culture, entertainment and tourism...

Manufacturing is not the only sector that provides regional revenues. The benchmark regions diversified actively into entertainment and tourism. The discovery and renewal of the cultural heritage and the promotion of the arts and entertainment not only strengthen regional awareness and cultural identity in the local population they can also be a source for economic development by creating jobs and deriving income from both tourists and residents.

Regions use proximity to a metropolitan area to their advantage.

The regions used their proximity to a metropolitan area mostly to their advantage. They offered cheaper rents and lower wages. They promoted their airports as an alternative to the crowded metropolitan ones. Some of the benchmark regions established themselves as chic arts and entertainment centres for metropolitan people. These regions did not try to compete with the nearby metropolis but to complement it and they specialised into niche markets.

The institutional framework plays a crucial role for inter- and intra-regional competition and co-operation.

The institutional and political organisation of the regions played a crucial role. This was especially true for the distribution of competencies and resources, as well as for co-operation and collaboration on the territory. In this respect, the US regions provide interesting insights. Their dynamism and success is based on a decentralised environment where public entities have considerable own resources and responsibilities. Public policies are shaped by competition among local governments for residents and businesses. Regional co-operation across firms or jurisdictional boundaries takes place on functional grounds and on the basis of selected projects, such as a regional education initiative or large regional infrastructure projects. There is no encompassing co-ordinating development agency, and upper level government interference is confined to development issues that are clearly above local concern. The US cases therefore not primarily outline a successful industrial reconversion, but demonstrate an interesting territorial governance environment towards which Bergamo and all other Italian provinces are slowly moving.

The following recommendations are based on the vision that Bergamo can strengthen its role as a leading province in Italy.

In order to do this...

The Province of Bergamo can remain one of the leading provinces in Italy for a long time. The ongoing Italian reform towards decentralisation and federalism provides it with the political and economic power and resources to do so. The province expands its economic future with a broad range of products that are competitive, produce a large value added, and are little vulnerable to external shocks. The economy does not rely on manufacturing alone but increasingly on the arts, entertainment, gastronomy and tourism. Bergamo's transport systems are fast, reliable and comfortable, and well co-ordinated with spatial and land use planning, so that their costs and environ-

mental impacts remain manageable. Education and research institutes provide that province with well-educated and open-minded people who are able to assume leadership, take initiative and induce a spirit for opening up towards the rest of the world. The province's rich natural and cultural heritage – of which it is proud – is used as a tool for promoting sustainable development, not only by tourists but also by residents, some of which have moved to Bergamo because of the region's growing environmental quality. To make this vision a reality, we make the following recommendations.

... skill levels and innovation potential should be increased...

The economic and education systems of Bergamo are at a crossroads. The traditional ways of learning and acquiring skills that worked well in the past no longer seem adequate to guarantee sustained growth in the future. Some changes in the education and training systems will be vital for the future development and capacity to innovate of Bergamo's economy. None of the other reforms or new recommended policies will be effective without a workforce that possesses the skills, knowledge, and ingenuity to exploit potential economic advantages. If the province is to move toward higher value-added and knowledge-based processes and industries, the non-manual skill content of work is likely to increase, making formal, codified knowledge even more important. The province should develop its educational system towards a philosophy of "intermediate specialisation". Given the closeness of Milan with its many excellent national education and research institutions, the Bergamo educational system should specialise in the demands of the local economy and concentrate on applied research and innovation engineering.

... by creating avenues for re-entry into formal education...

Adults should be given the chance to re-enter the formal educational system to acquire new or additional credentials, as is done in other industrialised countries. This could start with a small number of programmes at the University of Bergamo, providing access for mature applicants. These programmes should then eventually be integrated into the educational systems, as has been done in the US, UK, Ireland or Switzerland.

... by making formal education more accessible to working people...

New and alternative forms of education and training that allow workers to continue their education while working, or that involve only short interruptions, should be reinforced and improved. Examples include evening or weekend classes, accelerated/fast track programmes that mix work with school, and Internet based programmes. It is vital, however, that employers encourage continuing education by offering incentives to employees to complete their studies in the form of flexible working hours, financial rewards or support for completion, or promotion opportunities.

... attracting women to non-traditional occupations...

Develop schemes to recruit more women into scientific and technical programmes. This is a long-term goal that will require support from families and communities. It may be easiest to begin with new technical occupations, such as information technologies, which have not yet developed a strong gender based identity.

... by better co-ordinating training options.

The Province of Bergamo should create a “one stop shop” for employers to help rationalise the various training programmes. This would minimise duplication and maximise quality, helping employers to assess their training needs and make optimal choices. The “shop” should also facilitate the formation of local skill alliances, which would bundle training for groups of companies and thus reduce companies’ unit costs (these alliances are already forming in some places).

... by strengthening links between education and the economy...

Rely more on employer demand to drive the selection and content of programmes and the curriculum of vocational and technical programmes. A strategic planning process that involves schools, industries, labour, and government might produce a skill development system that more effectively contributes to economic development. An entity similar to Great Britain’s Learning and Skills Councils or the Workforce Investment Board in the US could co-ordinate linkages and help ensure that the schools are responding to long-term demand.

... by improving the image and status of vocational and professional educational programmes...

“Magnet (secondary) schools” in certain critical fields such as ICT or advanced manufacturing can help make industrial careers more attractive. Benchmarks for such programmes are in Germany Austria and Denmark where vocational training meets high educational standards. One approach might be to require all students to have some

form of workplace experience in order to graduate. Another would be to establish international exchanges to promote such programmes. In all cases more training for career counsellors is needed and the academic portions of the vocational programmes which are now perfunctory must be strengthened. Externships for teachers and counsellors to work for certain periods in industry could also be provided.

***... and
by developing
new curricula.***

Manufacturing will not be the only source of revenue in Bergamo in the future. Services will play an ever-increasing role in generating income. One area where Bergamo could excel is tourism, another is design and architecture. Bergamo has definitely a potential in these two sectors but does currently hardly exploit it. Local authorities should examine the possibility of setting up specific schools, or curricula within existing schools, devoted to these sectors. Investments in the respective curricula could boost the development of those economic activities and further promote the unique image of Bergamo. Conversely, close collaboration between these educational institutions and the respective local business fabric has to be secured early on.

***Land use planning
and transport
infrastructure
should be
improved...***

The impressive economic performance of the Province of Bergamo over the last decades has led to an excessive use of land, to considerable urban sprawl and to pressures on the environment. The degree of infrastructural congestion that has been reached is now seriously threatening the smooth functioning of the local economy. The situation is worsened by spill over effects from the neighbouring metropolitan area of Milan. The long absence of a clear spatial planning strategy and an insufficient road and public transport network has led to unsustainable traffic congestion. In this respect, the fragility and inadequacy of the passenger and goods transport systems of the Province of Bergamo and its irrational spatial growth are perceived as a major barrier to the province's future development. Despite consensus among business and government leaders to better balance spatial and infrastructure planning, economic growth, and future quality of life, progress has been very slow. The principal economic and political actors of Bergamo should pay more attention to external relations

and they should make a greater effort to improve internal co-operation with respect to transport and land use issues.

***... by better
co-ordinating
transport and land
use plans...***

All infrastructural projects, road or rail, have to be carefully evaluated and selected according to priority. Infrastructural projects reveal their potential only if they have been conceived and elaborated in connection with each other and with land use planning. Environmental impacts of new infrastructures should be carefully assessed. The road network has to be developed in co-ordination with public transport, taking into account financing and traffic demand instruments. Otherwise, newly built roads will only attract additional traffic and offer no relief from current congestion problems. Using integrated scenarios that consider the potential impacts of projects on land use and induced mobility could be instructive. The benchmark could be a city like Zurich, which, even if significantly larger, has more or less been the model for the above proposal.

***... by reinforcing
railways and
public transport...***

The Province of Bergamo should develop a modern public transport system. The key element of such a system could be copied from Swiss or German *S Bahn* experiences. It should consist of a light rail backbone such as a West East, North South cross through Bergamo and would link Milan to Bergamo, the airports and the valleys. With the exception of the airport link, the double track Bergamo-Treviglio and eventually an extension of the network to the southern plain, this would not involve important infrastructure investments. The concept should integrate the existing plans for light rail links to the valleys and a metropolitan line. An important part of such a strategy would be to build up an offer of competitive services in terms of frequencies and connections, tariffs and modern rolling stock. Apart from this, the province might consider the potential benefits of improving a public transport “spider” linking Bergamo to other cities with similar functions in the network (Como, Lecco, Brescia and Cremona). In order to improve service quality, the province of Bergamo should make maximum use of institutional innovations, such as free third party access to

infrastructures, *i.e.* tendering rail services to private contractors. The implementation of such a strategy would have to comprise a master plan:

- a) A political strategy that would, on the regional level, raise awareness of opportunities.
- b) Setting priorities and realisation of missing infrastructure links.
- c) A definition of the service levels desired by the provincial authorities.
- d) A tendering of single elements, or whole packages, to private operators in public/private partnerships.

... by evaluating Bergamo airport as a strategic base for further development...

For a territory the size of Bergamo, an airport with the connections it would offer could serve as a strategic base for various development strategies. Good ground access to the airport, which should include a direct rail link to the city of Bergamo and to Milan, would provide various opportunities. The airport strategy should define the role of the airport in the regional system, and would have to evaluate the options of a feeder to Milan (Milan East), a freight hub (DHL) or an “autonomous” regional aviation airport. Such an evaluation would obviously also have to consider the role to be played by the airport of Brescia.

... by fostering intermodal freight transport systems...

The transport problem also has a freight dimension. This concerns not only transit but also local provision. The domination of road transport today is due to the lack of competitiveness of rail bound services. This has resulted in a congested road network and air pollution problem. At present, the most discussed solution is intermodal freight transport. This would not only mean promoting the Montello terminal, but also implementing the same competitive tendering procedure, as for passenger transport, in order to attract efficient providers of intermodal services. As far as local freight distribution is concerned, rail cannot play a significant role. But it would be extremely interesting for Bergamo to copy City Logistics systems implemented in some European cities, *e.g.*, Nürnberg, with success. Such a strategy seeks to bundle transports in an agglomeration in order to avoid excess mobility of a large number of not fully loaded small vehicles.

... by developing a common vision of provincial sustainable development between leading actors.

Leading actors in the province should develop a new vision for sustainable territorial development and principles of implementation. This should be a succinct memorandum guiding future incremental action of the various actors in the region and sub regional territories. This vision should be easy to understand and easy to communicate to the public. A series of thematic strategies could be initiated, which centre on a theme of particular regional relevance and combine employment policies with infrastructure development or educational and environmental objectives.

The cultural and natural heritage should be more valorised...

The Province of Bergamo has a valuable heritage of art culture history and natural attractions on which to build a major tourism industry. Yet the tourism sector in Bergamo is underdeveloped. Strengthening this sector has implications for education and training and labour markets. Moreover given the scale and layout of the city of Bergamo excessive or fast growth could further degrade the environment and so may not be desirable. As long as the production economy is strong controlled slow growth in the development of tourism may be a more desirable strategy. The following recommendations advocate the adoption of a comprehensive but targeted approach using support measures to stimulate tourism.

... by setting up a legal and institutional support framework for tourism...

In regions where tourism is or is set to become an important economic sector overall development policies and strategies must mesh with the priorities and objectives set for tourism. As a consequence the various government bodies dealing with the development of tourism should come together to share responsibilities work in partnership and set up interdisciplinary committees or boards.

... by supporting human resources...

Tourism is a service sector where the direct relationship between customers and staff is a key factor and the quality of its human resources increasingly represents a crucial competitive advantage. The government contribution should therefore consist of providing significant support to help the tourism sector in the framing and implementing a "human resources development plan" for tourism. Action should include training in business management tourist planning application of information tech-

nology economic and environmental impact analysis and management of the natural and cultural heritage.

... by designing a tourism strategy around the city of bergamo...

The anchor point of any tourism strategy should be the rich cultural heritage of the city of Bergamo. The city offers an immense opportunity as it combines a scenic city historical buildings art literature paintings and music constituting a heritage on which to build dreams and myths. In concrete terms such a strategy would require organising tourism packages itineraries guided tours and combining offers with other cities of the “foothill chain”, etc. But above all it should integrate events. The province and the city of Bergamo should together reinforce this strategy exploiting at maximum the PR impact of expositions and events created at the Accademia Carrara. A case to be cited as best practice might be the city of Parma, which has at least from the perspective of a simple tourist implemented some of the above elements. As Parma is comparable in size and heritage to Bergamo it might indicate just how far such a strategy can be copied and improved.

... by promoting integrated thematic strategies for tourism development...

In addition to the strategy just cited for Bergamo, a series of thematic touristic strategies should be initiated that are centred on the province's special attractions. Such integrated strategies could link existing activity patterns in the province, such as agriculture or industry, in an effort to attract new visitors from the outside. Some examples are:

- a) An integrated cultural development strategy for the industrial valleys. This strategy could combine efforts to maintain the industrial heritage of the valleys with cultural development and job creation in private cultural production and services. It could be the first step in a new provincial tourism master plan.
- b) A few theme-specific long distance trails crossing the whole province and linking its most important cultural landscapes or ancient church buildings.
- c) Spas and rural tourism: upgrading the spring of San Pellegrino with the help of the well-known mineral water brand and integrate it into a strategy of rural, “wellness” and leisure tourism.

... by creating a rural development office within the provincial government...

This office should include agriculture, tourism, environment, and industry. Its first task ought to be to formulate a provincial plan for rural development that establishes a short and long-term strategy for sustainable growth and tourism. The strategy should assess physical infrastructure and transport needs, including Internet access, environmental concerns, the future of agriculture and forestry, and realistic expectations for its manufacturing base. It should particularly focus on the opportunities and limits of rural tourism in the area. This might be even more effective if conducted jointly with adjacent provinces, such as Sondrio for co-ordinated mountain area development.

... and by enhancing amenities and developing incentives for their preservation.

The province boasts a diversified landscape with natural parks, mountains in the interior and numerous historical sites. However, until now these amenities draw not in many people from the outside. The public authorities should play a key role in protecting and valorising these sites. This role should concentrate on giving economic incentives for the preservation and sustainable exploitation of natural and cultural amenities, including regulations and monitoring mechanisms. Public authorities should regulate the development of facilities that could degrade or destroy components of the natural environment. Additional road infrastructure should be carefully assessed. Zoning or enforcing existent bylaws for protecting natural areas should be a priority since these areas, if properly managed, offer the greatest long-term opportunities for leisure activities and tourism.

Intra regional cohesion and co-operative decision-making should be increased...

The province of Bergamo is going through a phase in which it is reconfiguring its forms of governance. The process of decentralisation in Italy has brought the province a number of new responsibilities and resources. Administrative deconcentration has been replaced by real decision making power and unconditional grants and own tax revenue has replaced conditional subsidies from the central government. The province now disposes of a more flexible background to develop its own regional identity and to appear on the political map of Italy. However, assessments show a region that is not yet fully prepared for assuming

these new opportunities. The following recommendations therefore focus on how to cope with and govern the decentralisation process, and draw the greatest benefit from it.

... by creating a regional identity...

Develop a double strategy of internal identity building and external awareness. Sharpen the profile of the province and develop a common regional vision for the future. Explain to the outside world, such as potential investors or residents, that Bergamo is more than a wealthy (sub) region in the metropolitan area of Milan. Elaborate a "regional strategy plan" which is a concise policy paper containing a common understanding of regional problems, a corridor of opportunities and future policy principles. To this end, appoint an *ad hoc* group of regionally committed, although independent, personalities across the political and ideological strata of the region, and ask them to produce such a vision for the region and the related guidelines for action. Another way may be to seek the formation of an independent regional alliance (see below).

... by promoting local partnerships...

Promote a spirit of horizontal collaboration and networking among public and private partners within the province. Create financial or administrative incentives for intermunicipal collaboration or public/private partnerships for public service provision or for land use planning. Show the municipalities and other partners the benefits of working together. Develop guidelines and give advice for the internal structure and functioning of these partnerships.

... by identifying catalytic projects for intra-regional co-operation...

Specify a number of projects that trigger intra-regional identity building and intra-regional co-operation. Concentrate on projects that simultaneously show and require a spirit of regional co-operation. Examples of encompassing projects that centre on a topic of particular regional relevance and combine employment policies with infrastructure development or educational and environmental objectives could be:

- a) *Environmentally sound logistics*. An environmentally sound logistics concept for the transportation corridor from Milan to Brescia that cuts through the province of Bergamo. Such a strategy could yield ideas

and projects for developing environmentally sound logistics, an area that will receive much attention in the future.

- b) *Industrial tourism and cultural industries.* An integrated cultural development strategy for the industrial valleys. This strategy could combine efforts to maintain the industrial heritage of the valleys with cultural development and job creation in private cultural production and services. It could be the first step in new provincial tourism master plan.
- c) *A centre for applied federalism.* A centre for applied research and development on matters of decentralisation and federalism. This centre could provide practical project-based solutions (administrative, financial and political) to different local or regional bodies that need to tackle the decentralisation process in Italy. With the “first mover advantage”, the centre may eventually extend its activities to other Italian regions.

... by developing a provincial “foreign policy”...

Develop an explicit foreign policy to increase awareness of the region and add an easily marketable component to the international profile of the region. Use actively the global networks of residents, family links, alumni, key cultural and economic actors and regionally rooted enterprises, such as “Brembo”, that have different kinds of economic, cultural or emotional links to the region. Use new communication technologies, such as a global “Bergamo Net”, that enables easy communication within this network. Make use of this network to enhance the visibility of Bergamo and to promote its interests abroad.

... by creating a “Bergamo Regional Alliance”...

Identify a group of key individuals rather than representatives of established institutions in the public, private and Third sector to form an independent Bergamo Regional Alliance. The mission of such a Regional Alliance would be to moderate the process of territorial development in the province independent from day to day administrative tasks and political considerations. Chaired by a visionary, flexible, competent and regionally respected personality, and supported by a small group of communicative generalists,

this Regional Alliance could be the engine of regional inspiration and innovation. It could target special themes such as knowledge industries, integrated tourism, federalism, internationalisation, raise the awareness among regional actors, organise support from all tiers of decision making, and identify catalytic projects for policy implementation. Being independent from established institutions and their traditions and networks, the Regional Alliance may have a chance to overcome regional inertia and insignificance.

***... by
strengthening the
steering capacity
of the Provincial
government.***

In order to overcome present development constraints, it might be necessary to strengthen the steering capacity of the Provincial Government through raising the influence of the Department of the Presidency. Subjected to fragmented decision making processes, the province needs a strong regional institution that lobbies for its interests at decision centres in Milan, Rome and Brussels (it could be useful to open a bureau at EU level). This institution should be committed to removing constraints in the national regional provincial relationships, and support inter-municipal initiatives for territorial development. It is this enabling rather than controlling or development role that the pro-vincial government should take over.

Part I

**SOCIO-ECONOMIC OVERVIEW
OF THE PROVINCE OF BERGAMO**

Human Geography

1. Settlement, accessibility and infrastructures

The province of Bergamo is situated in the middle of the (northern) Italian region of Lombardy, less than 50 km from Milan. It has a surface area of 2 722.86 sq. km, of which 64 per cent is mountain, 12 per cent foothill and the remaining 24 per cent plain. Three uniform belts can be identified from the physical geography of the province: the northern mountain belt, the central foothill belt, and the southern plain belt.

Among Italian provinces, Bergamo ranks twelfth in population – with an officially resident population of 949 862 inhabitants in 1997 – and actually has more inhabitants than five Italian regions. Population density is high, especially considering the mountainous nature of the area: 348.8 inhabitants per sq. km on average, with a peak of 871.1 inhabitants per sq. km in the central belt.

There are 244 *comuni*¹ (hereafter referred to as “municipalities”) within the province. They are generally small in size and have a small population. Their average surface area is 11.6 sq. km, and the only municipality with more than 50 000 inhabitants is the city of Bergamo (117 619), which is the capital of the province.²

Commuting in the province is exceedingly common, both internally (*i.e.*, from the valleys to the central belt) and to the Milan area. Approximately half a million people travel to work or school, and some 200 000 tonnes of goods are transported each day. Around half of the 47 000 commuters who travel to work outside the province (37 000 to Milan) use public transport. Considerably fewer people commute to the province (20 000) and 70 per cent travel by automobile.

Roads

Transport to the regional capital Milan and, more in general, all transport across province borders, is along the A4 motorway, west to Piedmont/France, Bologna/Southern Italy, Como/Switzerland, and east to Venice and the Brenner Pass towards Austria. This represents the cornerstone of transport for Bergamo, as for almost the whole of northern Italy. With more than 120 000 vehicles per day,

the Bergamo-Milan stretch of the A4 is considered to be the most congested motorway in Europe – 100 000 vehicles per day pass through the toll gates of the province alone – and it is in second place for the number of accidents. Heavy goods vehicles constitute 25 per cent of the traffic. Other transport across provincial borders uses a road system that is almost always inadequate; for example, all the bridges across the river Adda date from before the Second World War. The traffic on these roads is of the same quantity, density and composition as that on the A4 motorway, and it is showing the same level of growth. The inter-urban road network in the province extends for a total of 1 570 km.

Railways

Two railway lines connect to the regional capital: the Bergamo-Treviglio-Milan line and the Bergamo-Carnate-Milan line, both with travel times of around one hour. The second line also connects Lecco and the Brianza region, and Brescia to the east. Except for the Bergamo section of the Turin-Milan-Venice-Trieste line, all local railway lines are single track. The only direct rail services that cross regional borders are two daily high-speed Eurostar trains to Rome. Only five per cent of the over 40 million tonnes of goods transported per year are moved by rail.

Airports

The Bergamo (*Orio al Serio*) airport has undergone intense development. The number of passengers has doubled to well over one million per year since the opening of Malpensa 2000 and the decline of Milan-*Linate*. Goods traffic is heavy and increasing (almost 90 000 tonnes, +17%, in 1999), relying essentially on courier flights. The importance the Bergamo airport will have, however, depends on decisions by SEA, which runs all Lombard airports, except *Montechiari* (Brescia airport), and on its connections with other airports, which are currently lacking. Malpensa is about two hours from Bergamo by road, and the railway is practically unused since there is at present no direct line to the airport.

Other infrastructures

The index for so-called “social” infrastructure (health, education, welfare, etc.) in the province of Bergamo is lower (86.5) than the national average, even though it is in line with the whole of the Italian alpine foothills area. The healthcare system is centred on eight major hospitals, which benefit from continuous investments to improve services. At the beginning of April 2000, a planning agreement was signed by the Minister of Health, the President of the Region of Lombardy and the Mayor of Bergamo for the construction of a new hospital in Bergamo.³ This agreement was particularly important because it involves an investment of ITL593 billion, 415 billion provided by central government and 135 billion by the

Region of Lombardy (ITL1 billion = US\$445 500). The final design specifications are currently being drawn-up and work is scheduled to begin by 2002.

New trade fair facilities are also planned in Bergamo. They will be built by a company in which the Bergamo Chamber of Commerce holds a controlling interest, together with other local authorities. A recent planning agreement was signed involving an investment of ITL 40 billion, with the Region of Lombardy contributing nine billion. The trade fair facilities will occupy a total surface area of 170 000 sq. m., with a block for offices and stands, and an indoor exhibition space of 12 000 sq. m. that can be doubled if necessary.

Finally, the province does not suffer from great deficits with regard to other economic infrastructures. Energy (gas and electricity) is adequate, and water supplies to date are sufficient. Despite its poor transport infrastructures, the province is indexed at 105.8 (Italy = 100) for infrastructure provision, but this is considerably lower than Milan and Como.

2. Demographic trends

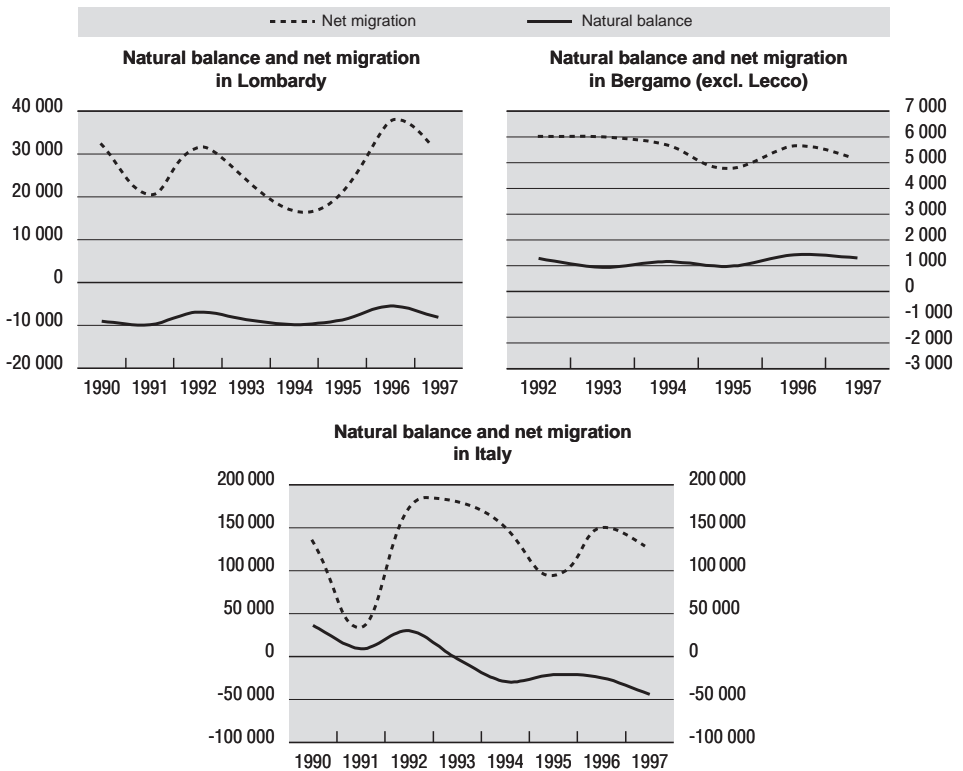
Population growth

Population growth in the Province of Bergamo is positive both in terms of birth-death rates and net migration. This trend is stable. During the 1990s, the number of total inhabitants increased by 4.4 per cent, from around 910 000 in 1991 to 950 000 in 1997, compared to a regional growth average of 1.5 per cent and to a national average of 1.4 per cent. In order to better examine Bergamo's demographic changes, the factors of the total net increase⁴ were broken down into those due to natural causes and those due to migration:

- The natural net increase⁵ was positive for all the years considered (as opposed to what occurred during the same period in Italy and Lombardy – Figure 1). This was due to a birth rate that was higher than regional and national averages and to a more favourable death rate. Furthermore, the natural net increase was higher in the last two years of the period considered as compared to the beginning, rising from 1 280 in 1992 to 1 314 in 1998.
- As concerns net migration, an analysis of local authority residence registers listing entries and departures due to migration shows the province's strong capacity to attract people (Figure 1). In fact, according to local authority residence registers, net migration in 1997 (both from within Italy and across international borders) was positive at 5.5 per cent of total residents (as compared to 3.9% for Lombardy and 2.2% for Italy).

Compared to Lombardy and the country as a whole, the birth rate for the province of Bergamo⁶ is also decidedly higher (Figure 2), and it is progressively increasing (+0.27% since 1990). An analysis of the total fertility⁷ rate shows that the

Figure 1. Net population change, 1990-97



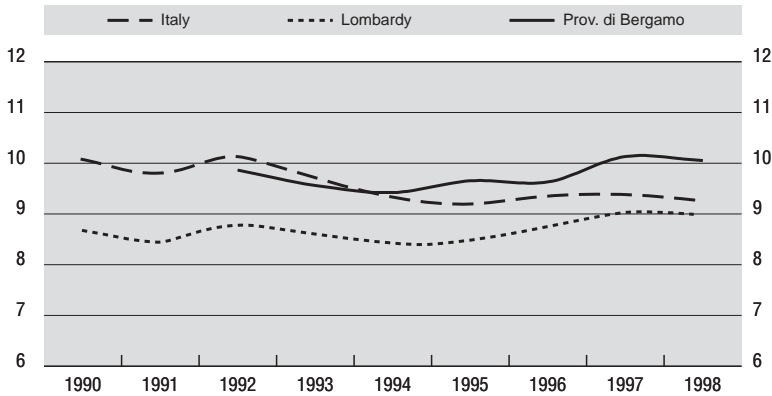
Source: ISTAT.

average number of children per woman fell in the province from 1.57 in 1980 to 1.14 in 1994, well below the zero growth threshold. The trend is more or less in line with that found at a regional level. This fall in the fertility rate has been accompanied by an increase in the average age at which mothers give birth.

Population change

Of the 244 municipalities composing the province of Bergamo, 55.3 per cent belong to mountain communities. In the period between the last two censuses (1981-1991), these municipalities progressively lost inhabitants to

Figure 2. **Birth rate, 1990-98**
Live births for 1 000 inhabitants



Source: ISTAT.

municipalities on the plain and in the foothills (see Table 1 below). Migration has been essentially to small and medium sized municipalities, with 1 000 to 5 000 inhabitants, the only exception being Dalmine which grew rapidly due to its strong industrialisation.

Table 2 breaks down population trend figures into natural population changes and migratory increases. The highest negative changes were recorded for the municipalities of Bergamo and Valle di Scalve. The highest negative net migration

Table 1. **Migration trends within the Province of Bergamo**

	Municipalities number	Average population 1998	% change 1981-91
Mountain	118	1 769	-1.2
Foothill	41	4 890	9.0
Plain	82	4 678	11.0
Bergamo	1	117 193	-6.9
Dalmine	1	20 857	10.1
Treviglio	1	25 269	-3.2

Source: ISTAT, *Censimenti*, Statistics Office of the Region of Lombardy.

Table 2. Population trends, 1981-91

District	Natural change 1981-91	Migratory change 1981-91	Total change 1981-91	Number of municipalities
Bergamo	-3.3	-2.6	-5.9	1
Valle di Scalve	-0.6	-5.3	-5.9	4
Valle Brembana	-1.5	-3.3	-4.8	38
Treviglio	-1.6	-1.6	-3.2	1
Alto Sebino	-0.4	-0.1	-0.5	10
Valle Seriana Superiore	0.5	-0.6	-0.1	20
Monte Bronzone and Basso Sebino	1.0	1.5	2.4	12
Valle Imagna	1.2	1.9	3.0	17
Valle Seriana	1.2	3.4	4.6	18
Valle Cavallina	1.4	3.7	5.1	16
Dalmine	3.1	7.0	10.1	1
Plain	3.9	6.4	10.3	106

Source: ISTAT, *Censimenti*, Statistics Office of the Region of Lombardy.

was recorded for the Valle di Scalve and Valle Brembana, while the highest negative natural change was recorded for the municipalities of Bergamo and Treviglio. The greatest poles of attraction were Dalmine and the plain as a whole.

Changes in the age structure of the population

In addition to a progressive increase in the resident population, two other significant changes emerged from the analysis of the population structure of the province of Bergamo. Table 3 shows a substantial decline in the younger age bands and considerable increases among the older generations. A comparison with indexed data for Lombardy and Italy shows that the province is at the moment younger than other provinces in Lombardy, but has been ageing much more rapidly over the last 17 years.

Figure 3 shows these changes even more clearly. The age index⁸ gives the number of elderly persons per 100 young persons. While in 1981 there were 51.6 elderly persons for every 100 young persons, by 1991 the figure for the elderly had increased to 86, and to 108.7 in 1998, though still remaining below the total for Lombardy (139.2) and for the country as a whole (128.3).

Immigration

The province of Bergamo constitutes a strong centre of attraction for migrants, both from within Italy and abroad. The observed demographic changes, the large drop in the fertility rate and the simultaneous increase in both absolute and relative numbers of the elderly have contributed to create a context that is favourable

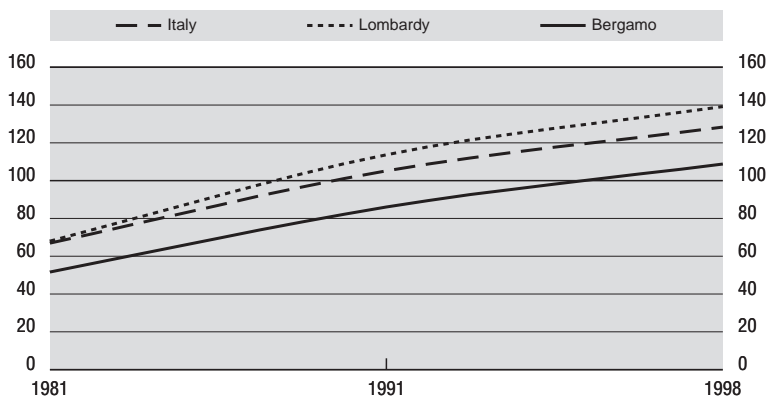
Table 3. Age structure of the population, 1981-97

1981 = 100

	1981	1991	1997
Province Bergamo			
Resident population	100	104.1	108.7
Children < 5 years	100	82.5	85.4
5-14 years	100	71.3	66.1
15-24 years	100	98.5	82.4
25-34 years	100	116.0	125.5
65 years and over	100	123.4	151.6
75 years and over	100	158.6	181.4
Lombardy			
Resident population	100	99.6	101.1
Children < 5 years	100	80.0	82.9
5-14 years	100	65.4	59.4
15-24 years	100	99.2	78.4
25-34 years	100	109.9	118.7
65 years and over	100	115.3	135.4
75 years and over	100	145.9	159.6
Italy			
Resident population	100	100.4	101.8
Children < 5 years	100	81.8	79.5
5-14 years	100	71.4	65.5
15-24 years	100	100.0	83.1
25-34 years	100	112.0	118.9
65 years and over	100	116.2	133.9
75 years and over	100	141.3	156.7

Source: ISTAT.

Figure 3. Elderly index, 1981-98



Source: ISTAT.

Table 4. **Non-European immigrants with stay permits, 1994-98**
Percentage of resident population

	Italy	Lombardy	Province of Bergamo
1994	1.36	1.97	
1995	1.44	2.15	
1996	1.64	2.03	2.39
1997	1.86	2.39	1.63
1998			1.91

Source: Police Prefecture of Bergamo, Provincial Observatory on Immigration, Ministry of the Interior.

to immigration (Table 4). The contraction of the workforce resulting from a decrease in the numbers of people of working age, a greater demand for services (*e.g.*, care-giving) and for non-qualified jobs that don't appeal to local people anymore have also created conditions that foster increased demand for immigration.

According to Italian National Statistics Office (ISTAT) figures, the province of Bergamo is in tenth place for the number of resident foreigners, with an increase in this number of 84.4 per cent between 1993 and 1998. According to CARITAS⁹ in Rome, 1 919 stay permits were issued in the province in 1998 alone. Furthermore, for the same year it was estimated that there were a total of 22 266 foreigners with stay permits in Bergamo, 20 266 of which were from outside the European Union; and 8 140 of which were female.

3. Wealth and territorial disparities

In 1997, per capita GDP for the resident population of the province of Bergamo was over 34 million lire (17.000 Euro) making it the 35th richest province in Italy, ten per cent above the national average and 14 per cent above the European average. The analysis performed by the Istituto Tagliacarne (shown in Table 5) also points to this favourable situation in the province.

Table 5. **Disposable income, consumption and savings estimates, 1998**
Thousands of ITL

	Disposable income per capita	Consumption per inhabitant	Savings per capita
Italy	25 600	22 300	3 300
Lombardy	31 100	26 300	4 800
Province of Bergamo	28 000	23 600	4 400

Source: Istituto Tagliacarne.

Even though there are no official statistics available on wealth and GDP at the municipal level, estimates published for 1991 by the Istituto Tagliacarne indicate that the province of Bergamo appears to have the largest per capita income gap in Italy. The top ten municipalities have per capita incomes almost ten times higher than those at the bottom. This is due to the different types of economy and the geographical differences between the richer areas in the south and centre and the poorer mountain areas in the north of the province.

In the valleys, the mountain economy is quite weak and coexists with some old industrial districts that are often in decline (along the major rivers and close to the plain). The central zone is richer, more densely populated and more industrialised, with the sole exception of the city of Bergamo. In fact, the proportion of workers employed in manufacturing industries in the provincial capital is one of the lowest in Italy (in 99th place), despite the city being in second place for secondary sector employment. Only in recent years, and clearly lagging behind other cities, Bergamo has begun to acquire a distinct service industry vocation. The plain in the south has a large industrial area, especially towards Milan, and an agricultural area that is still economically important.

Table 6. **The geographical belts, 1996**

	Valleys	Central belt	Plain
Resident population	237 259	481 396	28 855
Surface area	1 717	501	613
Density	138	962	471
Activity rates	34.4	45.6	34.2
Employment rates by sector			
Agriculture	2.3	0.9	3.7
Industry	55.7	45.7	52.5
Services	42.0	53.4	43.8
Unemployment rates	4.0	3.0	5.8

Source: ISTAT (1996): *Sistemi Locali del Lavoro*.

In reality, the income indicator tends to exaggerate these differences. In fact, the data on the three areas – mountain, foothill and plain – shows greater wealth and a capacity to produce income in the foothill belt where the presence of the city of Bergamo and its hinterland has a positive effect on the economy. Although estimates for the mountain belt are lower, these differences cannot be considered to be significant, one reason being that the mountain belt has a more fragmented

economy. For example, the large number of dwellings used for tourist accommodation produce an income that is often difficult to measure.

Another picture of the level of wealth in the province of Bergamo can be obtained through an analysis of the standard of living of the resident population using three different indicators: *Gross Domestic Product*, as an indicator of the productivity and overall wealth of the province; *disposable income*, as an average indicator of the economic means of the population; and *household savings and consumption* to evaluate and weight the actual value of disposable income. However, when more careful consideration is given to these average figures, the populations of the smaller municipalities (particularly those with populations of up to 500 inhabitants) appear to be more disadvantaged. This difference could be explained again by the fact that smaller municipalities are mainly located in mountain areas.

Gross Domestic Product. GDP data can situate the Province of Bergamo on a map of economic “poverty” and “wealth” of Italian provinces. The province had a per capita GDP of ITL 34 million in 1997. This figure made it the 35th richest Italian province, with an index of 110 (Italy = 100) for Italy, and of 114 (Eur 15 = 100) for the European Community of 15. On the basis of UPITEL data, in 1986, 13 local authorities out of 244 had a per capita GDP higher than the EU average, accounting for 3.1 per cent of the total population of the province. However, 94 local authorities, accounting for 173 931 persons and 18.2 per cent of the population, had a GDP below 75 per cent of the average EU GDP in 1996.

Disposable income. Due to the geographical disparities within the provincial borders, data on disposable income with respect to location are particularly interesting for Bergamo. Table 7 shows a detailed analysis carried out on groupings of

Table 7. **Disposable income per capita and per household**

Thousands of ITL

Population by settlement size class	Disposable income per capita		Disposable income per household	
	1991	1993	1991	1993
Up to 499	17 400	18 776	42 553	44 748
500-999	17 656	20 661	47 183	54 403
1 000-2 499	21 330	21 243	57 365	62 769
2 500-4 999	21 087	23 486	61 767	66 982
5 000-9 999	21 659	25 123	64 473	70 188
10 000 and over	23 204	22 940	64 790	63 416
Bergamo	29 064	29 149	74 344	69 615
Italy	22 486	24 222	63 606	66 702

Source: Istituto Tagliacame.

Table 8. **Household consumption, 1994**

Thousands of ITL

Population by settlement size class	Consumption per household	Consumption per inhabitant
Up to 499	42 847	18 258
500-999	41 277	15 980
1 000-2 499	44 780	16 418
2 500-4 999	47 554	16 845
5 000-9 999	48 113	17 092
10 000 and over	49 825	18 476
Bergamo	58 176	24 261

Source: Istituto Tagliacarne, ISTAT.

municipalities with different size populations for the years 1991 and 1993. According to this, local residents of small municipalities (up to 1 000 inhabitants) appear to be disadvantaged compared to residents of bigger municipalities. The disadvantaged position of small municipalities is confirmed by the income figures for households. While the average annual household income for the province is around ITL 67 million, that for municipalities with 500 to 1 000 inhabitants is approximately 54 million, and for municipalities with less than 500 inhabitants it is 45 million.

Household savings and consumption. Table 8 indicates consumption by household and by inhabitant in 1994 for the same groupings used in Table 7, and illustrates the data on disposable income for demographically different parts of the province. The data shows a decidedly higher figure for average consumer spending in the city of Bergamo (around ITL 24 000 000) than for all the other parts of the province. The figure varies between 16 and 18 million lire per capita for all the other municipalities. These tables indirectly confirm the disadvantaged position of municipalities with small populations.

Notes

1. The term *comune* (plural “comuni”) refers to the smallest unit of local government in Italy. It performs a similar role to that of the “*commune*” in France. In the United Kingdom it corresponds to the role of both urban and district councils, as well as town and village councils. Now generically termed “municipalities”, it is commonly used in the UK to refer to both the administrative and the geographical unit, just as the term *comune* is used in Italy.
2. Bergamo is one of the smallest provincial capitals in Italy (it is in 95th place out of 103), with a ratio of one resident in the city to 12.4 in the province.
3. The new hospital will occupy a total surface area of 800 000 sq. m. with an indoor area of 329 000 sq. m. and will have 800 beds.
4. Indicates the rate of population turnover.
5. Absolute difference between live births and deaths.
6. The number of births per year as a percentage of the resident population.
7. The ratio of live births to women of child-bearing age: average number of children per woman of a fictitious generation of all women of child bearing age of between 15 and 49 years in a given year and therefore belonging to 35 different year groups.
8. Number of persons over 65 years as a percentage of those under 14 years.
9. Immigration Statistics Dossier on Interior Ministry data.

Economy in General

1. Economic and production structure

Manufacturing and service industries

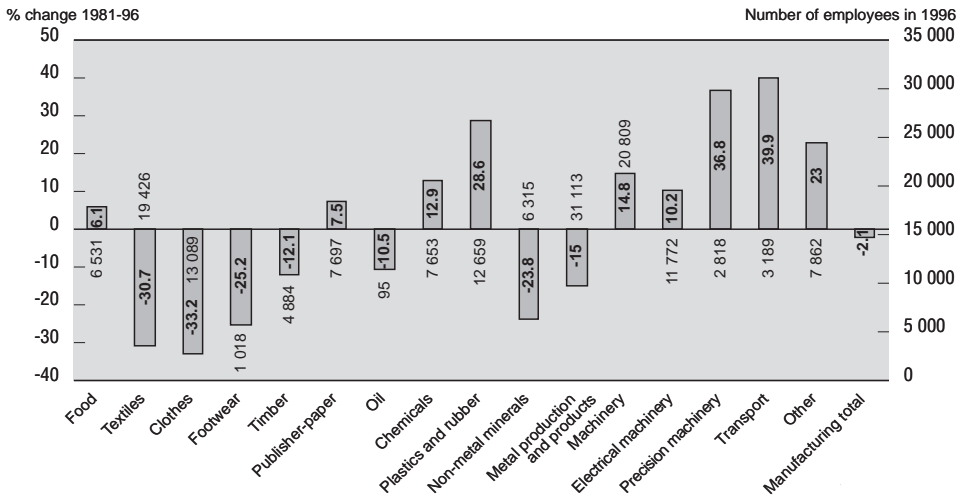
The province of Bergamo is a traditional, heavily industrialised area mainly specialised in manufacturing (oriented toward production with low to intermediate technological content) and construction. A considerable proportion of provincial output is produced by very small firms and craftsmen,¹ which account for a high percentage (20%) of total added value, higher than that found in other provinces in Lombardy (13%), and in Italy (12%). The structure of the manufacturing industry in the province is concentrated in metallic products, machinery, textiles, clothing, rubber and plastics, and electrical machinery, which together account for almost 70 per cent of the workers employed in the province.

Over the last 20 years, the provincial economy as a whole was only slightly affected by the general process of deindustrialisation that occurred in Italy. Between 1981 and 1996 employment fell by only 2.7 per cent while the drop in Italy was 16.6 per cent and in Lombardy 19.9 per cent. On the contrary, the Bergamo economy has enlarged and strengthened its specialisation pattern. Sectors that declined in terms of employment were clothing (-32%), textiles (-30.7%), footwear (-25.7%) and non-metallic minerals (-23.8%); while sectors that strongly expanded were transports (+39.9%), precision machinery (+36.8%), and rubber and plastics (+26.8%) (Figure 4).

In 1996, there were 66 000 firms and 70 000 local units of production operating in Bergamo, employing a total of 318 000 people. Of these:

- Nineteen per cent of local units operate in industry,² excluding construction. They account for 50.2 per cent of total employment (43.2% in Lombardy and 36.7% in Italy). Manufacturing alone produces over half the province's total wealth (50.4% in 1997) while in Lombardy it generates only 37 per cent of total value added and 28.7 per cent in Italy (Figures 6 and 7).

Figure 4. Employment state and change, 1981-96



Source: IRS.

- The construction industry accounts for 20.2 per cent of local units of production. The province has specialised in this sector since 1981 and in 1996 it accounted for 12.3 per cent of employment (4% higher than in Lombardy and 2.6% higher than in Italy).
- Approximately 60 per cent of local units of production operate in service industries, accounting for 37.4 per cent of total employment (Figure 8). Service industries provide a smaller proportion of employment in Bergamo than in Lombardy and Italy (48.5% and 53.6% respectively) due to the weight of the manufacturing sector. But if one looks at the number of people employed in service industries compared to the resident population, a more accurate picture emerges. The number of people working in services per 100 inhabitants is in line with figures for the country as a whole: 12.8 in Bergamo and 12.9 in Italy, but lower than in Lombardy (16.4).

Productivity in industry and services in the province is only a little higher than the national average: with a base line of 100 for non-agricultural production, Bergamo is indexed at 104.6 and Lombardy at 110.5. Productivity in industry alone is a little lower (Bergamo is indexed at 103.7 and Lombardy at 113).

Agriculture

The geography of the province, characterised by considerable differences in altitude and a strong predominance of mountain areas, has resulted in an agricultural system distinguished by many small and very small farms. Agriculture on the plain is modern and competitive, based heavily on intensive cattle raising for dairy and meat, pig farming and cultivation of cereals. In the hill belt, production concerns mainly tree crops, vineyards, fruit and olives, flowers and vegetables, while in the mountain areas it is mainly devoted to dairy farming with limited, but quality, traditional cheese production.

Over recent decades, agriculture in Bergamo has undergone the same profound changes as Italian agriculture. Despite considerable development in post-war years, Italian agriculture has lost much of its economic and social importance. Employment in agriculture has dropped from 43 per cent to the current six per cent, while its economic importance has fallen to as little as 3.5 per cent of GDP. The high degree of industrialisation in the province of Bergamo means that agriculture plays a more modest role economically than in Italy as a whole, accounting for 1.4 per cent of total added value and around two per cent of employment (Figures 5, 6, 7, 8 and Table 9).

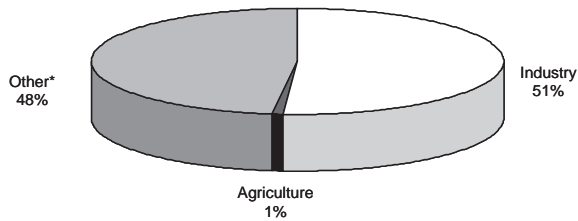
2. Competitiveness

The economy of the province of Bergamo is highly competitive. The volume of exports, totalling almost ITL 14 000 billion in 1998, accounts for 11.75 per cent of regional exports; the quota of regional exports increased constantly between 1989 and 1996, and this trend has only been interrupted in the last two years (Figure 9). At the national level, the province is in fifth place for international trade, accounting for 3.4 per cent of total exports. Table 10 confirms the good performance of the province, showing also a positive balance between imports and exports (for every lira spent on imports Bergamo earns ITL 1.7 from exports).

At the sector level, metal production and machinery accounted for more than 42.3 per cent of the province's total exports in 1999, with a substantial proportion of these accounted for by agricultural and industrial machinery, followed by textiles, leather goods and clothing (16.4%), and chemical products (12.7%) (Table 11).

An analysis of trends in trade specialisation between 1985 and 1999 shows that the economic model has partly become more specialised and has partly widened its range of products (Table 12 below).³ Rubber and plastics, machinery, textiles and clothing, metals and non metallic minerals are all areas in which Bergamo has been traditionally competitive on foreign markets, and in recent years these sectors have further strengthened their position, recording a higher increase in exports than Lombardy and Italy. One of the greatest areas of specialisation is

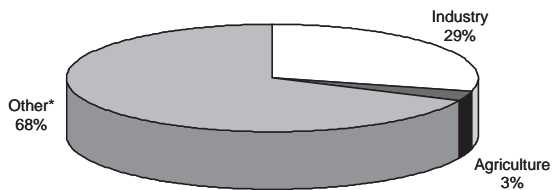
Figure 5. GDP by economic sector in Bergamo, 1997



* Other includes trade, tourism, transport, communication, credit and insurance services.

Source: *Atlante della competitività delle Provincie*, 1999.

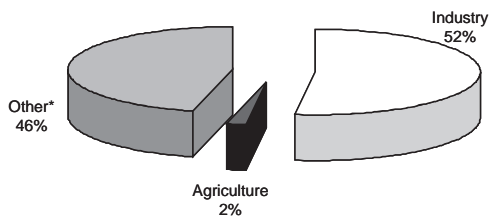
Figure 6. GDP by economic sector in Italy, 1997



* Other include trade, tourism, transport, communication, credit and insurance services.

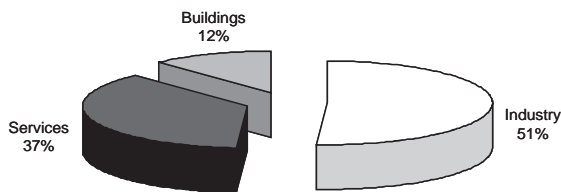
Source: *Atlante della competitività delle Provincie*, 1999.

Figure 7. Employment by economic sector in Bergamo, 1997



* Other include trade, tourism, transport, communication, credit and insurance services.

Figure 8. Employment distribution in Bergamo, 1997



Source: Census data.

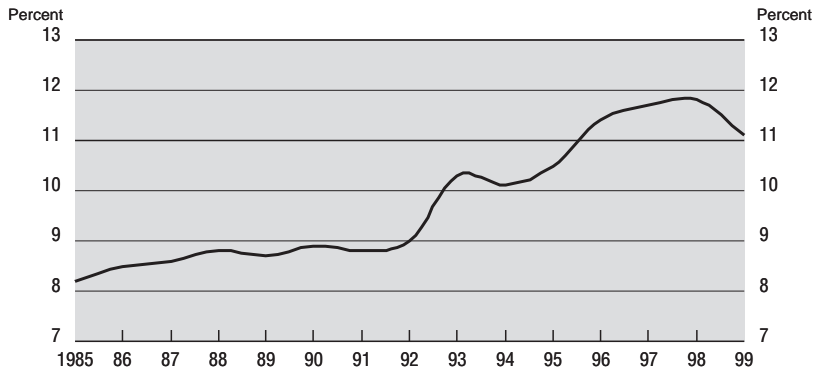
Table 9. Main indicators of agriculture in Bergamo

	Bergamo	Lombardy
Geography and land use		
Area in sq. km	2 723	23 861
Plain	24.7%	47.0%
Hill	11.8%	12.4%
Mountain	63.5%	40.5%
Agriculture and Forestry area in 1997, hectares	214 280	1 591.22
Agriculture area	107 830	1 099.55
Forestry area	78 300	513 537
Population		
Inhabitants in 1998	956 181	9 028.91
Rural population in 1990*	59 056	347 127
Employment		
Employed in 1998	402 000	3 752.00
Agriculture	2%	3%
Industry	51%	41%
Services	47%	56%
Rural activity	7.5%	4.6%
Plain	5.6%	1.6%
Hill	5.2%	3.5%
Mountain	14.9%	13.6%
Unemployment	3.8%	5.8%
Production		
Value added in 1995, ITL billions	28 377	298 290
Agriculture	1.4%	1.9%
Industry	58.5%	46.8%
Services	40.2%	51.3%

* Rural population is defined as working population with a direct connection with farming.

Source: Istituto Tagliacarne, ISTAT.

Figure 9. **Bergamo's quota of regional exports, 1985-99**



Source: ISTAT.

Table 10. **Trade balances and import and export change, 1989-98**

	Trade balances Constant billions ITL			
	1989	1992	1995	1998
Bergamo	2 145	2 656.33	4 677.90	5 241.24
Lombardy	-21 854	-19 744.46	-10 919.51	-19 963.37
Italy	-22 790	-16 058.27	44 376.62	44 694.63
	Exports change Percentage change			
	1989-92	1992-95	1995-98	1989-98
Bergamo	1.2	54.7	14.6	98.8
Lombardy	8.2	29.3	5.0	46.9
Italy	8.3	35.5	8.2	58.7
	Imports change Percentage change			
	1989-92	1992-95	1995-98	1989-98
Bergamo	7.0	43.7	16.2	78.6
Lombardy	4.4	15.6	11.9	35.0
Italy	5.2	13.0	9.2	29.8

Source: IRS.

Table 11. **Bergamo's exports by sector, 1985-99**
In percentage of total exports

	1985-90	1990-95	1999*
Agriculture	0.1	0.1	0.1
Energy	0.1	0.0	0.0
Ferrous and non-	5.5	6.4	5.2
Non-metallic	2.6	2.2	2.3
Chemicals	12.6	11.8	12.7
Metals and machinery	43.7	44.0	42.3
Metals	6.0	5.7	5.4
Agriculture and industry machinery	27.2	25.8	24.0
Office machinery	1.3	2.7	2.7
Electrical	9.3	9.9	10.1
Means of transport	5.6	5.9	8.2
Motor vehicles	2.3	4.3	6.3
Food	1.3	1.6	1.4
Meat	0.4	0.3	0.2
Textiles, leather, clothing	16.9	16.6	16.4
Textiles and clothing	15.4	15.4	15.7
Leather and footwear	1.5	1.2	0.7
Others	11.6	11.4	11.3
Timber and furniture	2.6	2.0	1.5
Paper and printing	2.0	2.6	2.8
Total manufacture	100.0	100.0	100.0

* Data refer to the first semester 1999.

Source: IRS.

Table 12. **International specialisation in Bergamo, Lombardy and Italy, 1985-99**

	Lombardy				Italy	
	1985	1990	1995	1999*	1990	1999*
Ferrous and non-	0.87	0.91	1.14	1.06	1.14	1.44
Non-metallic	1.57	1.38	1.33	1.43	0.55	0.57
Chemicals	1.16	0.91	0.94	0.92	1.26	1.31
Petrol chemicals	1.18	0.86	1.05	1.17	0.00	1.92
Metals and machinery	0.99	1.03	1.00	0.95	1.24	1.14
Metals	0.87	0.97	0.68	0.72	1.32	1.03
Agriculture and ind. machinery	1.21	1.38	1.29	1.14	1.52	1.28
Office machinery	0.24	0.25	0.72	0.65	0.29	0.74
Electrical materials	1.05	0.79	0.82	0.78	1.08	0.97
Means of transport	0.81	1.07	1.15	1.20	0.65	0.72
Motor vehicles	0.12	0.82	1.17	1.24	0.50	0.81
Food	0.64	0.63	0.51	0.48	0.32	0.32
Meat	1.11	0.72	0.35	0.45	0.00	0.33
Textiles, leather, clothing	1.08	0.93	0.99	1.18	0.87	1.04
Textiles and clothing	1.22	1.00	1.07	1.28	1.17	1.42
Leather and footwear	0.50	0.58	0.44	0.45	0.25	0.14
Others	0.89	1.09	1.01	1.00	0.99	0.83
Timber and furniture	0.95	1.08	0.84	0.70	0.78	0.45
Paper and printing	0.91	1.10	1.22	1.29	0.97	1.10
Total manufacture	1.00	1.00	1.00	1.00	1.00	1.00

* Data refer to the first semester 1999.

Source: IRS.

machinery for the textile industry; Bergamo is the top-exporting province, accounting for approximately one fifth of total national exports.

As regards the markets towards which the province of Bergamo exports, they are mainly western European markets, which absorb a higher proportion of Bergamo exports – some 66 per cent in 1998 – than of total Italian exports.

3. Enterprise creation

The creation of new enterprises in Bergamo seems to be only marginally affected by general economic trends. The index tends to remain virtually constant with only modest fluctuations, while the gross rate of new business registrations for Italy and Lombardy shows greater fluctuation. Only in the last few years has the rate of business creation somewhat diminished (a trend that will be assessed in the special chapter on education and innovation). Over 50 000 new enterprises were created during 1991-1999, with 47 000 closures. The capacity to generate new enterprises is lower in the province of Bergamo than at the national and regional level. The gross rate of new registrations for the period mentioned was between 7.8 per cent and 8.9 per cent, one per cent point less than in Italy and 0.5 per cent point less than in Lombardy.

The lower rate of new enterprise creation in Bergamo is attributable in the first place to the low rate of unemployment, which structurally characterises the province. It implies less self-employment as an expedient for escaping unemploy-

Figure 10. **Net rate of total enterprise creation, 1991-99**
Per cent

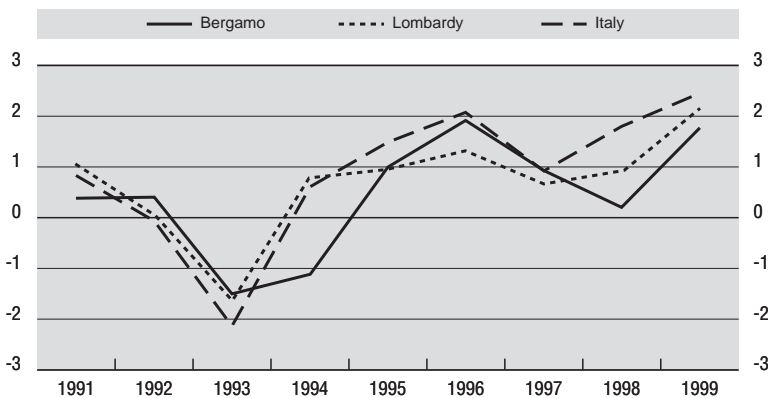
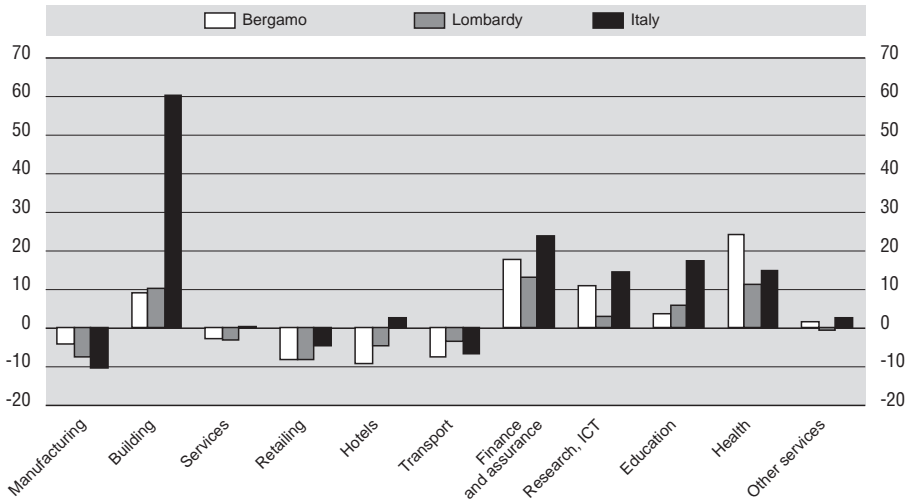


Figure 11. **Net rate of sectoral enterprise creation, 1995-99**
Per cent



Source: CERVED.

ment, and it is the weaker motivation to be self-employed that makes the gross new enterprise rate in Bergamo only marginally subject to cyclical phenomena. The strong degree of industrialisation in the province, which makes it difficult to enter markets that may be saturated, is another factor. In addition, statistics do not include the considerable number of new entrepreneurs who carry on family businesses. In this case no new company is registered, even though handing over a business from parents to children is often accompanied by substantial changes in organisation and management.

Notes

1. The Italian term here is *artigiano*. It is legally defined as a firm of no more than nine employees and where the owner spends at least 50 per cent of his working hours doing manual work in the workshop of the firm. It has been translated throughout the report by the terms: craftsman, craftsmen, and craftwork. The work must be manual but can include a wide range of products and services, including automobile repairs, construction work and manufacturing.
2. Industry is intended in the strict sense as: mineral oil and gas extraction, manufacturing and electricity, gas and water.
3. The degree of specialisation is given by the ratio between the percentage of total exports for a given export in the province and the percentage of total exports for the same export in Lombardy/Italy. A value higher than one indicates specialisation while less than one indicates non-specialisation.

Labour Market

I. Current situation and trends

The structure of employment in Bergamo shows its typical industrial vocation: in 1999, 53 per cent of employed people worked in industry compared with a regional average of 43 per cent. Over the last decade, the general shift from traditional industry towards expanding service industries that occurred both at the national level and in Lombardy, followed a different pattern in the province of Bergamo. First, the change was much slower (and it is still developing). Second, growth in services accompanied employment growth in industry, which is the opposite of what happened in Lombardy and Italy. This trend was so important that demand forecasts for 2000 expect industry to generate approximately 60 per cent of total demand for labour, and that services to industry will generate a quarter of the demand in service industries.

One general reason for continued expansion of the employment base in Bergamo could be the existence of a solid manufacturing sector, capable of absorbing new workers and creating demand for services. In particular, between 1993¹ and 1999 the province's labour market structure experienced significant growth in employment, which produced an expansion of the female labour force, while male employment remained basically stable. This sustained increase in the supply of female labour did not lead in the medium term to growth in total unemployment.² On the contrary, unemployment fell from 3.5 per cent in 1993 to 2.9 per cent in 1999. This is significant if one considers that the situation has worsened at the national level over the same period (from 10.2% in 1993 to 11.4% more recently).

Another important trend is a growing reliance on workers from countries outside the European Union. In 1998, they accounted for 7.6 per cent of new workers in the province. This figure increased to 8.7 per cent in the first nine months of 1999 and, according to forecasts, non-EU workers will satisfy 22 per cent of the demand for labour in 2000, filling jobs that do not "appeal" to the local labour supply.

Table 13 below, gives a more detailed view of the labour market of the province of Bergamo compared to Lombardy. For 1999, it shows:

- a much lower unemployment rate (2.9% against 4.8%);
- a higher young participation rate (64.3% against 63.6%);³
- a higher employment rate (62.4% against 60.5%).⁴

Table 13. Participation, employment and unemployment rates, 1999

	Participation rates*	Employment rates*	Unemployment rates*
Bergamo			
Male	78.1	77.0	1.4
Female	50.1	47.4	5.4
Total	64.3	62.4	2.9
Lombardy			
Male	75.1	72.8	3.1
Female	51.8	48.0	7.4
Total	63.6	60.5	4.8
Italy			
Male	73.5	67.1	8.8
Female	45.8	38.6	15.7
Total	59.7	52.9	11.4

* Computed on working population aged 15-65.

Source: ISTAT, Forze di Lavoro.

Despite this positive picture, the labour market of the province of Bergamo is marked by strong contradictions:

- While for many years there has been an unemployment rate that may be defined as frictional, there has always been a general low propensity for women to enter the labour market.
- Demand for labour has traditionally been oriented towards workers with low educational qualifications, even if the trend over the last five years shows a rise in educational levels. The percentage of people with high school diplomas increased by 27.4 per cent between 1993 and 1998, and those with university degrees by 73.2 per cent; the number of people in the workforce with a compulsory school leaving certificate, senior high school diploma or university degrees is also growing.
- Rather low levels of education and training in the active population have always accompanied the economic success of the province and this has not prevented the province from producing technological innovation.
- The high mobility and flexibility characterising the labour market of the province of Bergamo leaves ample room for phenomena like hidden or black market labour to develop.

2. Particular characteristics

Alongside the strong concentration of employment in industry in Bergamo, stable levels of employment and the ability of the local economy to keep unem-

ployment low, there are also critical factors connected with the supply and demand side of the province's labour market.

Compared to the region, the first distinguishing factor is Bergamo's entry and exit patterns to the market: entry and exit from the market is at a younger age in Bergamo, especially for women. In fact, the employment structure in the province shows a clear preference for younger workers, and their proportion has grown over the last five years: workers between the ages of 15 and 24 accounted for 15.2 per cent of total employment in 1998 compared with 11.9 per cent in Lombardy. The preference for younger workers is probably the result of a combination of two factors: a definite demand for unskilled workers and the opportunity to exploit tax incentives for taking on trainees (*contratti di formazione-lavoro*) or apprentices. 37.7 per cent of new workers are employed under these two special types of employment contract.

The second (related) factor is the level of education of the labour supply, which is on average lower in the province than in Lombardy and Italy. The percentage of workers with an educational qualification higher than a compulsory school leaving certificate was only 42.2 per cent in Bergamo in 1998, against 51.5 per cent in Lombardy and 49 per cent in Italy. On the one hand workers in Bergamo enter the labour market at an earlier age, interrupting their education, while on the other, families do not make medium-term investments in education since the economy offers good job opportunities even with little education and training. The weak point in the labour force structure lies above all in the low percentage of workers with a high school diploma; the percentage of those with a university degree is not so significantly different from the national and regional averages. Employers in Bergamo complain that they are unable to find 40.5 per cent of the personnel they need – above all skilled and experienced factory workers (59.5%) – because candidates do not have the necessary qualifications and experience. Nevertheless, labour demand forecasts for 1999-2000 show that companies in Bergamo are still most interested in workers with low levels of education (42.3% of persons entering employment have a compulsory school leaving certificate). This two-edged demand shown by the data clearly outlines a conflicting or ambiguous situation on the supply side.

The third factor is a significant fall in the percentage of workers in the labour force over the age of 50. This can be explained by industrial restructuring and conversion undertaken at the beginning of the 1990s, which were accompanied by massive income support welfare measures such as CIGS and mobility benefits.⁵ These obviously functioned to supplement pensions, causing a substantial number of workers to flow out of the "official" labour market and into forms of hidden economy.

The fourth factor is an increase in new and different types of employment. In 1999, more than 60 per cent of all new workers on employment registers in Bergamo entered into part-time and fixed-term employment contracts while during

Table 14. Average annual gross income per activity, sector and qualification, 1998

ITL

	Senior managers	Office staff	Manual workers	Apprentices
BERGAMO				
Energy, gas and water production	136 453.0	44 506.0	41 502.0	11 219.0
Mineral extraction, chemicals and synthetic	182 987.0	50 776.0	37 741.0	16 837.0
Metals, machinery and means of transport, electrical and electronic machinery	160 246.0	44 897.0	33 562.0	16 825.0
Food, beverages and tobacco production, textiles and clothing production, leather and footwear production, timber and products in wood (excluding furniture), paper, printing and publishing	160 529.0	42 849.0	28 733.0	17 152.0
Construction industry	112 927.0	34 303.5	28 775.0	17 088.0
Wholesaling, retailing and repairs, hotels, tourist villages, restaurants, bars and canteens	155 949.0	32 005.5	28 204.0	14 948.0
Transport, travel agents, postal and telecommunications service	139 822.0	32 064.7	27 700.0	12 750.0
Banking and financial activity, insurance, advanced services to businesses, operational services				
Businesses, other services to businesses, services to persons	223 803.0	53 176.7	21 584.0	13 340.0
Public and private services	146 087.0	28 846.0	18 701.0	12 292.0
TOTAL	167 391.0	41 835.0	30 147.0	16 275.0
LOMBARDY				
Energy, gas and water production	152 645.0	52 157.0	43 347.0	11 219.0
Mineral extraction, chemicals and synthetic	177 912.0	51 571.0	37 360.0	16 776.0
Metals, machinery and means of transport, electrical and electronic machinery	166 887.0	51 313.0	34 494.0	16 816.0
Food, beverages and tobacco production, textiles and clothing production, leather and footwear production, timber and products in wood (excluding furniture), paper, printing and publishing	163 926.0	47 777.0	31 609.0	16 414.0
Construction industry	172 182.0	45 165.0	29 615.0	16 439.0
Wholesaling, retailing and repairs, hotels, tourist villages, restaurants, bars and canteens	159 516.0	36 788.0	29 167.0	15 136.0
Transport, travel agents, postal and telecommunications service	190 298.0	39 003.0	28 197.0	14 384.0
Banking and financial activity, insurance, advanced services to businesses, operational services				
Businesses, other services to businesses, services to persons	208 033.0	48 076.0	28 915.0	12 711.0
Public and private services	212 787.0	50 094.0	18 790.0	12 602.0
TOTAL	155 222.0	37 312.0	28 954.0	15 714.0
ITALY				
Energy, gas and water production	214 575.0	59 721.0	50 871.0	21 534.0
Mineral extraction, chemicals and synthetic	175 451.0	52 503.0	34 838.0	16 202.0
Metals, machinery and means of transport, electrical and electronic machinery	165 230.1	45 976.0	32 315.0	15 946.0

Table 14. Average annual gross income per activity, sector and qualification, 1998 (cont.)

ITL				
	Senior managers	Office staff	Manual workers	Apprentices
Food, beverages and tobacco production, textiles and clothing production, leather and footwear production, timber and products in wood (excluding furniture), paper, printing and publishing	166 021.6	42 311.0	27 697.0	15 626.0
Construction industry	142 110.4	37 672.0	25 867.0	15 035.0
Wholesaling, retailing and repairs, hotels, tourist villages, restaurants, bars and canteens	176 094.0	34 096.0	26 158.0	14 970.0
Transport, travel agents, postal and telecommunications service	198 748.0	49 356.0	31 968.0	13 784.0
Banking and financial activity, insurance, advanced services to businesses, operational services to businesses, other services to businesses, services to persons	210 468.0	50 606.0	20 544.0	12 974.0
Public and private services	194 612.0	35 147.0	21 714.0	12 498.0
TOTAL	176 108.0	43 337.0	28 566.0	15 096.0

Source: IRS.

the first half of that year, fixed-term employment contracts accounted for around seven per cent of all new employment contracts in Lombardy. New atypical forms of “quasi” employee/consultancy⁶ work are also increasing. At the end of 1999, 33 735 persons were registered in the special national insurance pension funds for these workers (of which 31 000 were actually of the “quasi” employee type), accounting for 8.7 per cent of those registered with the National Insurance Office in Lombardy. This phenomenon, known as “collaboration”, is highly concentrated geographically. A quarter of those registered with the National Insurance Office in this category in Italy are registered in Lombardy, and Milan accounts for half of those in Lombardy. The figure for Bergamo seems on the whole to be in line with that for provinces with similar socio-economic characteristics as Bergamo.

The fifth factor is that the importance of manufacturing for employment and of labour with low educational qualifications in Bergamo seems to have a direct impact on wage levels. Considering only ordinary employees, the most recent (1998) administrative data (INPS) shows that average annual gross income in the province is on the whole higher than in Lombardy and the rest of the country. Even apprentices in Bergamo earn higher gross income than the average for Lombardy and the country as a whole. On the other hand, wages for senior managers and office staff are lower, and there are considerable differences in wages between sectors. Compared to the country as a whole, manual workers in the province receive higher average earnings in all industrial sectors while earnings are lower in some service sectors.

3. Unemployment

As already stated, the unemployment rate in Bergamo is very low (2.9%) even when compared to the already low figure for Lombardy (4.8%). Unemployment has been falling since the mid-1990s (Figures 12 and 13), although the number of registered unemployed is growing. These trends can be explained in the light of participation indicators. Part of the potential labour supply is activated and passes from a state of “hidden” unemployment to official unemployment when the labour market is on the upturn and is therefore quickly absorbed by the demand for labour. This phenomenon could be interpreted as a sign of a new capacity of the local economy to draw on potential labour as compared to the traditional difficulty of the Bergamo labour market to make “hidden” potential employment emerge.

Figure 12. Unemployment rates by gender, 1993-99

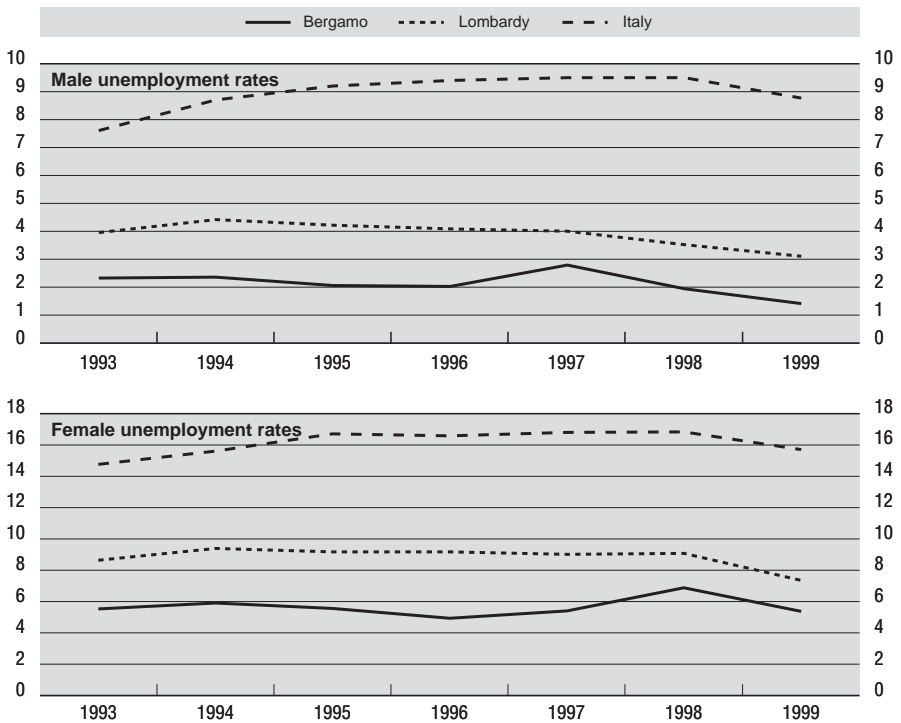
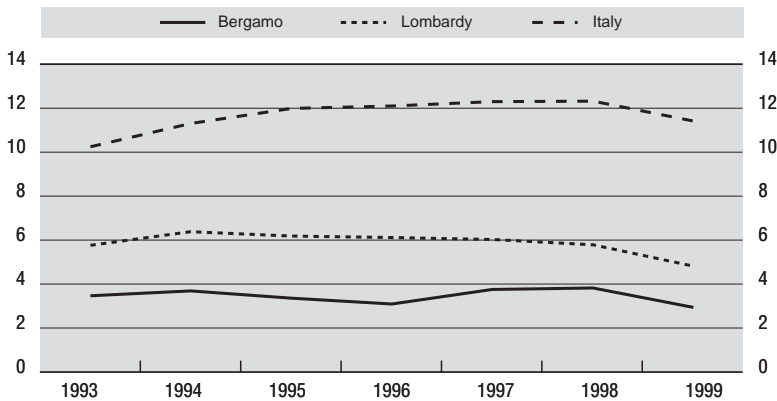


Figure 13. Total unemployment rates, 1993-99



Source: ISTAT, Forze di Lavoro.

The first characteristic of unemployment in Bergamo is that it is female. In 1999, about 70 per cent of 13 000 unemployed were women (compared with an average of 62% in Lombardy). Second, the percentage of unemployed under the age of 30 (approximately 55% in 1998) appears critical. Even though it is similar to the figure for Lombardy, it should be noted that the percentage of young people in the workforce is much larger in Bergamo than in the rest of the region. In this case, too, it is women who are more penalised: women under 30 account for 76.7 per cent of young job seekers in Bergamo, and this percentage is constantly increasing. The situation of women with senior high school diplomas in Bergamo seems to be particularly critical compared to the rest of Lombardy: they account for almost 30 per cent of unemployment in the province.

The labour market in the province of Bergamo has difficulties in creating job opportunities for new potential female workers, especially if they are young with a medium level of education. If one looks at the type of unemployment, rather than the characteristics of the unemployed, there is a greater percentage of unemployed (men and women) with previous work experience in Bergamo than in Lombardy (50% against 45.7% in 1998). Employment registers data, though not strictly comparable, also shows this growing trend (they now account for approximately 80% of those people registered). In short, the Bergamo labour market does not seem to present problems for first-time male job seekers, but it does present problems in giving work to those who have lost jobs and to women.

Notes

1. The change to standard EU calculation of labour force figures that was introduced in 1992 does not permit valid comparisons of figures before 1993.
2. Also due to the growth of the economy in general.
3. Calculated on a population of working age between 15 and 65 years.
4. Calculated on a population of working age between 15 and 65 years.
5. *Cassa Integrazione Guadagni Straordinaria* (CIGS) is an income supplement for workers in medium or large-size industrial and commercial firms temporarily laid off or made redundant due to restructuring or crisis. Mobility benefits (*mobilità*) is an insurance unemployment benefit scheme set up in the early 1990s for workers hit by mass redundancies due to restructuring, re-organisation or conversion of the company.
6. These special types of employment termed “co-ordinated and continuous relationships, but not subordinate” were not subject to administrative regulation until 1996 when a compulsory pension scheme was set up: the entity of the phenomenon has therefore been visible only for a short time.

Chapter 4

Economy by Sector

1. Industry

Various indicators show the maturity and soundness of industry in the province of Bergamo. As opposed to Lombardy and Italy, manufacturing firms in Bergamo have increased in size over the last twenty years. Their average size (12.6 workers) is now in line with that of Lombardy (12), and it continues to remain higher than the figure for Italy (9.1). While SMEs in the province account for 75 per cent of total employment, in line with Italy as a whole, the percentage of people employed in “micro enterprises”¹ is considerably lower than in Italy and Lombardy (Table 15). In the province of Bergamo, micro enterprises have been growing since 1981 and have often passed the threshold of 10 workers.

Table 15. **Manufacturing firms by size, 1996**

Size band Number of workers	Number of firms			Percentages		
	Bergamo	Lombardy	Italy	Bergamo	Lombardy	Italy
1-9	9 230	91 542	456 806	73.8	78.1	82.9
10-49	2 837	22 048	82 982	22.7	18.8	15.1
50-249	387	3 033	10 011	3.1	2.6	1.8
250 or more	60	531	1 442	0.5	0.5	0.3
Total	12 514	117 154	551 241	100.0	100.0	100.0
	Number of employees			Percentages		
	Bergamo	Lombardy	Italy	Bergamo	Lombardy	Italy
1-9	28 623	268 083	1 215 587	18.2	19.4	24.9
10-49	53 680	414 961	1 550 227	34.2	30.0	31.7
50-249	38 207	301 428	974 625	24.3	21.8	19.9
250 or more	36 660	398 167	1 147 125	23.3	28.8	23.5
Total	157 170	1 382 639	4 887 564	100.0	100.0	100.0

Source: IRS.

Groups of companies constitute an important part of the economic landscape in Bergamo. An IRS survey² found that almost 60 per cent of the companies surveyed, accounting for 80 per cent of the labour force, belonged to a group of companies. This percentage was higher than for Italy as a whole.³ Although in 30 per cent of cases the groups are quite small with a relatively simple organisational structure, co-operation in outsourcing parts of the production process for supplies is widespread and constitutes an important source of innovation and of improving the quality of products.

While in Italy and Lombardy the number of large-size companies fell both in absolute terms and as a percentage of the total, in the province of Bergamo their number is increasing. In 1981, there were 49 companies with more than 250 workers, and in 1996 there were 60.

Geographical location indicators give a further sign of the relatively strong position of Bergamo companies. The number of companies with more than one establishment is increasing. In 1981, five per cent of companies operated from more than one local unit, while in 1996 this figure had increased to 6.8 per cent (+37%).

Internationalisation of the Bergamo economy has increased at a sustained rhythm since the second half of the 1980s. An analysis of figures for 1998 shows that both the presence of foreign capital in the province and investment by Bergamo companies abroad constitute an important part of the province's economic reality. Local companies have demonstrated a high capacity to internationalise production, making use of their technological and managerial capabilities. In 1998, there were 28 Bergamo multinationals (20 of these were "small" multinationals with fewer than 500 workers) with holdings in a total of 77 foreign companies.

Foreign investment in the province complements the native structure of Bergamo industry. There are 95 foreign-owned/partially foreign-owned production plants in the province with a labour force of almost 16 000 people, accounting for 11 per cent of employment in industry. The sectors in which foreign companies are strongest are not those in which Bergamo is specialised. The sectors that attract most foreign investment are office machinery (90%), chemicals (45%), metal products and machinery (43%), electrical equipment and machinery, and transports (29%) (Table 16).

In the sectors in which Bergamo specialises, innovation is both significant and on the increase. An analysis of patenting activity shows that for 1994-1998 Bergamo was the second most important centre in Lombardy for innovation, both in absolute terms and in terms of average innovation per company: the province holds 6.3 per cent of Lombard patents. A combined analysis of different indicators identified 205 innovative companies concentrated in the following sectors: machinery (22% of all innovative companies, including numerous manufacturers of textile machinery), metallic products (13.2%), medical and precision instruments (12.7%), and rubber and plastics (11.7%). Nevertheless, the closeness to Milan has in part

Table 16. Bergamo plants in partly or totally foreign owned companies by sector

ATECO91	Plants		Workers		% foreign workers
	Number	%	Number	%	
14 Mineral extraction	2	2.1	3	0.0	n.d.
15 Food and beverages	5	5.3	947	5.6	15
17 Textiles	2	2.1	579	3.4	3
18 Tailoring of clothing; preparation and dyeing of furs	4	4.2	1 023	6.1	8
21 Manufacture of paper-pulp, paper and paper products	2	2.1	111	0.7	4
22 Publishing, printing and reproduction of recorded material	2	2.1	804	4.8	16
24 Manufacture of chemical products and synthetic and artificial fibres	22	23.2	3 413	20.3	45
25 Manufacture of rubber and plastic articles	8	8.4	604	3.6	5
26 Manufacture of products made from non metallic minerals	7	7.4	647	3.8	10
27 Production of metals and alloys	6	6.3	3 147	18.7	43
28 Manufacture and processing of metal products excluding machinery and plant	7	7.4	301	1.8	1
29 Manufacture of machinery and mechanical equipment including installation, fitting, preparation and maintenance	11	11.6	1 174	7.0	6
30 Manufacture of office machinery, processors and computer systems	1	1.1	329	2.0	90
31 Manufacture of electrical machinery and equipment N.C.A.	7	7.4	2 932	17.4	29
32 Manufacture of radio and television sets and communication equipment	2	2.1	305	1.8	21
33 Manufacture of medical equipment, precision instruments, optical instruments and clocks and watches	2	2.1	118	0.7	4
35 Manufacture of other means of transport	2	2.1	326	1.9	29
36 Manufacture of furniture; other manufacture sectors	3	3.2	62	0.4	1
Total	95	100.0	16 825	100.0	11
Traditional sectors	12	13.0	2 190	13.0	4
Sectors of high economies of scale	53	56.0	8 906	53.0	12
Specialist sectors	17	18.0	3 054	18.0	15
Hi-tech sectors	13	14.0	2 675	16.0	34
Total	95	100.0	16 825	100.0	11

Source: IRS.

affected the local scientific community and the local innovation process. In this respect, Lombardy constitutes the most innovative regional system in Italy. Within the region, most innovation is concentrated in the province of Milan. Until the late 1990s the leadership of Milan in this area had a crushing effect on Bergamo, and only very recently have local institutions begun to pay more attention to competitiveness and innovation.

Table 17. **Manufacturing local units and workers**

	Local units			Workers in local units		
	1981	1991	1996	1981	1991	1996
Absolute values						
Bergamo						
Traditional sectors	6 271	6 468	6 037	64 156	63 228	57 309
Sectors with high economies of scale	5 205	5 228	5 195	75 443	70 478	71 941
Specialist sectors	899	1 217	1 351	15 211	18 822	20 258
Hi-tech sectors	624	853	922	5 467	7 344	7 799
Total	12 999	13 766	13 505	160 277	159 872	157 307
Lombardy						
Traditional sectors	58 736	50 520	46 196	522 166	445 719	385 486
Sectors with high economies of scale	45 871	49 129	49 130	647 893	563 341	529 164
Specialist sectors	18 832	16 052	17 270	217 517	200 504	194 036
Hi-tech sectors	11 207	12 308	13 470	207 868	171 035	162 714
Total	134 646	128 009	126 066	1 595 444	1 380 599	1 271 400
Italy						
Traditional sectors	378 518	338 687	323 520	2 375 710	2 172 026	1 980 738
Sectors with high economies of scale	181 744	172 292	178 508	2 440 891	2 004 946	1 913 605
Specialist sectors	37 735	39 790	46 148	602 233	580 492	564 501
Hi-tech sectors	24 356	40 648	42 934	413 022	453 023	396 933
Total	622 353	591 417	591 110	5 831 856	5 210 487	4 855 777
Percentage distribution						
Bergamo						
Traditional sectors	48.2	47.0	44.7	40.0	39.5	36.4
Sectors with high economies of scale	40.0	38.0	38.5	47.1	44.1	45.7
Specialist sectors	6.9	8.8	10.0	9.5	11.8	12.9
Hi-tech sectors	4.8	6.2	6.8	3.4	4.6	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Lombardy						
Traditional sectors	43.6	39.5	36.6	32.7	32.3	30.3
Sectors with high economies of scale	34.1	38.4	39.0	40.6	40.8	41.6
Specialist sectors	14.0	12.5	13.7	13.6	14.5	15.3
Hi-tech sectors	8.3	9.6	10.7	13.0	12.4	12.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Italy						
Traditional sectors	60.8	57.3	54.7	40.7	41.7	40.8
Sectors with high economies of scale	29.2	29.1	30.2	41.9	38.5	39.4
Specialist sectors	6.1	6.7	7.8	10.3	11.1	11.6
Hi-tech sectors	3.9	6.9	7.3	7.1	8.7	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: IRS.

High-tech sectors are generally weak.⁴ They employ only five per cent of the labour force compared to 13 per cent in Lombardy and eight per cent in Italy (Table 17). Both inward and outward flows of investment in the province in high-tech sectors are very limited and lower than those for Italy. The very small number of Bergamo companies in sectors like information technology, telecommunications, electronics, pharmaceuticals and fine chemicals has undoubtedly limited the ability of the province to internationalise and attract foreign companies in these specific sectors.

2. Service industries and tourism

The services sector has developed considerably in Bergamo over the last 20 years. Employment by local units in the sector increased by 35 per cent between 1981 and 1996, much more than in Italy (15%) and in Lombardy (25%). Expansion in the service sector was particularly intense during the 1980s and then began to slow during the first half of the 1990s. As a whole, this sector created 31 000 new jobs (an increase from 88 000 to 119 000 jobs) between 1981 and 1996. The greatest expansion occurred in real estate, rental, information technology, research, professional and business services, where employment almost tripled with a net increase of 17 000 jobs. Financial and banking services also expanded considerably (+3 000 jobs, an increase of 46%), as did wholesaling and retailing services (+5 000 jobs).

Tourism in Italy represents an important economic sector, generating a direct turnover of ITL 134 thousand billion, 6.5 per cent of GDP. Although the tourism business is concentrated in the northern regions of Italy – 53.2% (see OECD, 2000a) – this sector is not fully exploited in the province of Bergamo. Yet the province is home to a rich variety of amenities, ranging from wilderness and mountain landscapes to historical monuments and a rich cultural tradition.⁵ A growing interest in nature and cultural heritage has only recently encouraged local policy-makers to consider tourism – in particular cultural tourism – as an option for reviving the city of Bergamo and its province.

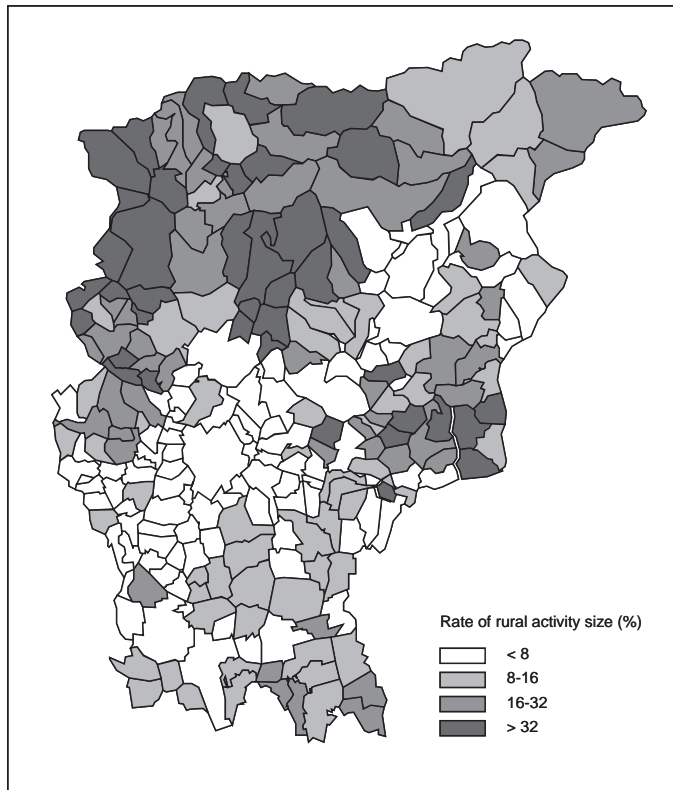
As a start, the University of Bergamo has set up two masters degree programmes on tourism: one on cultural tourism and the other on tourism management. Another recent initiative – organising a yearly cultural event in the city of Bergamo – was developed by the Chamber of Commerce of Bergamo and other local institutions. The first such event, which was an exhibition on Lotto in 1999, demonstrated that significant events could draw a great number of visitors to both the city of Bergamo and municipalities in the province. This success persuaded the city authorities to continue in the same direction. Another exhibition, on *Caravaggio*, and on XVIIth century painters was set in 2000, while an exhibition on

Evaristo Baschenis was set up for November 2000 at the Metropolitan Museum of New York to promote the cultural image of the province of Bergamo.

3. Agriculture

The “rate of rural activity”,⁶ measured using the last census figures, shows the importance of agriculture in the province of Bergamo. On the plain and in the hills, around five per cent of the active population works in agriculture but this percentage increases to 32 per cent in certain mountain areas, with a provincial average of 15 per cent (Figure 14). This is one per cent lower than the regional average (16%).

Figure 14. Rates of rural activity in Bergamo’s municipalities



An idea of the structure of the farming industry in the province can be obtained from the analysis of farms⁷ by altitude. The census counted an astounding 23 127 farms, with the clear majority (47%) in mountain areas. In addition to being a little out-of-date, this data does not properly reflect the reality of the province in terms of production, especially if part-time and small-size farms are considered. In this case, a more precise estimate of the actual number of productive farms in the province can be obtained from the number of applications for CAP contributions, which indicate about 8 000 production units, of which 6 000 are located on the plain.

Table 18. Farms by altitude and type

Altitude	All farms		Farms with agriculture area		Farms with cattle		
	Number	Hectares	Number	Hectares	Number	Heads	Of which cows
Mountain	11 020	122 664	9 731	50 972	2 557	26 351	12 432
Hill	5 599	19 148	5 212	10 993	1 062	13 402	4 668
Plain	6 508	46 713	6 430	43 506	2 217	137 466	53 435
Total	23 127	188 526	22 766	113 042	5 836	177 219	70 535

Altitude	All farms		Farms with agriculture area		Farms with cattle		
	%	% area	%	% area	%	% heads	% cows
Mountain	47.6	65.1	42.7	45.1	43.8	14.9	17.6
Hill	24.2	10.2	22.9	9.7	18.2	7.6	6.6
Plain	28.1	24.8	28.2	38.5	38.0	77.6	75.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ISTAT (1999): *Quarto Censimento Generale dell'Agricoltura*.

The agricultural output of the province of Bergamo for 1999 was estimated at ITL 670 billion at current prices (Table 19 below). Recent trends show an annual increase of 2.8 per cent during 1993-1999. Livestock production accounts for approximately two thirds of final agricultural output, divided equally between dairy and meat (cattle, pigs and poultry) which, are the main lines of agricultural production in Bergamo.

Food and agricultural production is considerably varied. The wide variation in altitude in the geography of Bergamo (plain, hill, and mountain) allows for a large range of production, spanning traditional local cheese and intensive horticultural, wine and olive oil production.

Table 19. **Final agricultural output, 1993-99**
Millions of ITL

	1993	1996	1999	% increase 1999	% average variation 1993-1999
Vegetable output	106 216	139 962	175 350	26.1	10.8
Cereals	21 852	18 465	30 050	17.1	6.3
Horticultural and flower production	76 548	109 344	132 000	75.3	12.1
Arboreal produce	7 816	12 153	13 300	7.6	11.7
Livestock output	466 955	537 509	495 550	73.9	1.0
Dairy	200 765	219 140	224 219	45.2	1.9
Meat	212 947	239 498	207 135	41.8	-0.5
Egg	50 873	76 273	61 226	12.4	3.4
Other	2 370	2 598	2 970	0.6	4.2
Total agricultural output	573 171	677 471	670 900	100.0	2.8

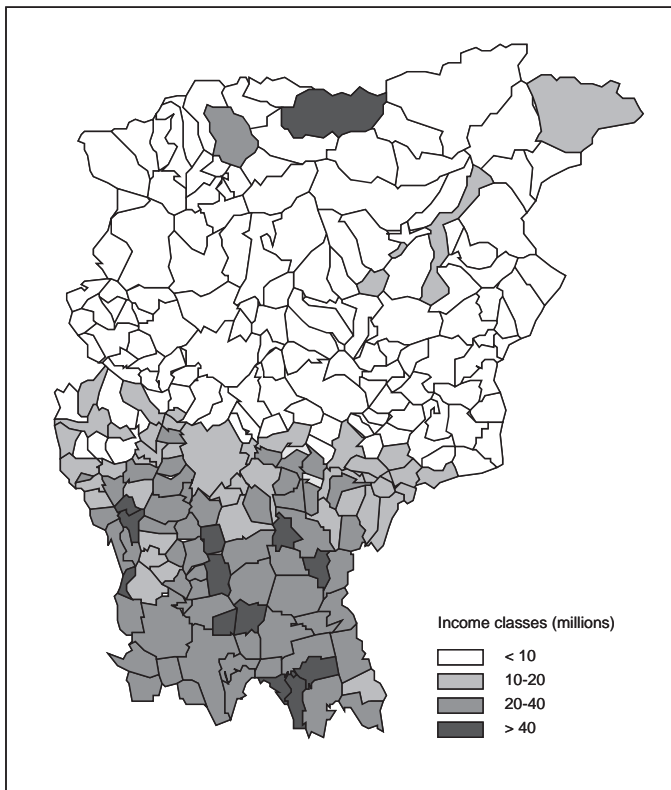
Source: D. G. Agricoltura, Regione Lombardia; Bergamo Chamber of Commerce.

Specific consortiums and quality labels have been set up to guarantee standards, certify products and protect and enhance local products. These are *Denominazione di Origine Protetta* (DOP – Protected Origin) concerning general agricultural products, and *Denominazione di Origine Controllata* (DOC – Controlled Origin) and *Indicazione Geografica Tipica* (IGT Geographically Typical Indication) mainly concerning wine production. In addition, the local Chamber of Commerce has created a specific mark of origin – “Bergamo – city of a thousand flavours” – to identify the main traditional agricultural and food products of the province that deserve recognition and should be maintained because of their characteristics, taste and feel.

Disparities exist in earnings between mountain farming and farming in the rest of the province. This is confirmed by Figure 15 which, on the basis of 1991 census data, shows the average income per-worker in agriculture for different municipalities in the province. The figures point out that for almost all mountain municipalities, average per-capita income from agriculture is very low – less than ITL 10 million per annum – which is insufficient to remunerate the work of the family farm. In these areas agriculture is considered mainly as a supplementary activity, at least as far as income is concerned. The picture changes considerably in the hill and plain areas, where average per-capita incomes reach much higher levels (between 20 and 40 million lire per annum, often more).

The development of a co-operative movement has been quite limited. There are approximately 26 co-operatives in the province, 20 of which are distinctly in the farm sector and 15 of these operate in the milk-dairy sector. There are also two wine co-operatives and other co-operatives operating mainly in the horticultural and organic food sectors.

Figure 15. **Gross agricultural income in the local authorities of Bergamo**
Per production unit



Note: The index is an indicator of the agricultural income per employee. To calculate the index, 275 working days were computed according to EU standards.

Source: ISTAT and INEA data.

Notes

1. Micro enterprises are defined as firms with fewer than 20 employees.
2. Report on the Bergamo Economy 1994-1995.
3. Surveys carried out by the Bank of Italy and by Mediocredito Centrale.
4. According to Pavitt classification.
5. Amenities are distinguished from more ordinary features of the countryside because they are recognised as having specific societal or economic value. These are places and traditions from which individual communities or society at large derive utility. It is this utility and corresponding value that allows amenities to be considered as important resources for development. The demand for these amenities is increasing as rising incomes give city-dwellers both time and money to enjoy amenities found in the countryside. See OECD (2000*b*): *Cultivating Rural Amenities*.
6. It measures the proportion of the rural population of working age that has a direct connection with farming as a percentage of the total resident population of working age (this excludes persons under the age of 15 years).
7. The term farm here is used to include all types of agricultural production units.

Conclusion

From the evidence collected emerges the picture of a rich, heavily industrialised and functioning province that has been only marginally touched by the economic recessions and transformations of the late 1980s and 1990s. The GDP per capita is higher than in Italy and unemployment is low for European standards. The province is an important exporter of manufactured goods and is also competitive on the internal market. This wealth has been consolidated over the past 50 years due to a competitive edge of Bergamo's traditional industry that is reinforced today by foreign direct investments in some new key sectors. The industrial system in Bergamo has gradually become more robust and mature in its traditional areas of specialisation. Those sectors in which the province has traditionally specialised have so far managed to maintain high levels of competitiveness due above all to intense customer-supplier relationships and a certain capacity to innovate. The high degree of industrialisation in the province of Bergamo (more than 50% of the workforce in 1997 as compared to an Italian average of 30%) means that agriculture and tourism play a more modest role. The agricultural system in the province is generally quite dynamic and it is characterised by the presence of small and very small farms. Part-time farming is very common. Significant income disparities exist between the poor mountain farms and the rich, highly industrialised farms situated in the hills and in the plain. The province of Bergamo has interesting and valuable natural and cultural assets, but only recently have public authorities started to consider the tourist sector as a way to foster local development. Some pilot projects have been successfully implemented showing that tourism could become an additional source of income for the province.

But when taking a closer look some disturbing elements emerge. The region has the largest intra-regional income gap in Italy, the service sector is relatively underdeveloped, the intensity of enterprise creation is low, export shares have been stagnating in the last few years, high tech is not very developed, and human capital is scarce. The province is highly industrialised but industrial production is heavily biased towards low skilled labour inputs. Rather than being based on interaction in a network of productive competencies, the industry's basic asset seems to be a hard-working, little-educated, male workforce. Moreover, the region suffers from serious infrastructure bottlenecks, above all in transport, and from a

lack of training and human capital development policies. The labour market presents problems for those who have lost jobs and for women. If we add a distinct deficit in terms of identifying opportunities and a certain “satellite” situation with respect to Milan, a number of reforms are required to maintain competitiveness in the globalised economy.

Table 20 summarises the economic strengths and weaknesses of the province of Bergamo.

Table 20. **Strengths and weaknesses of the Bergamo economy**
Strengths

Strengths	Weaknesses
<ul style="list-style-type: none"> – Robust industry structure – Export orientation – Specialisation in construction – Low unemployment – Work ethic – Cultural and natural assets 	<ul style="list-style-type: none"> – Human capital – Female unemployment – Transports infrastructure – Innovation / technology – Co-operation / governance – Pollution

Part II

MAIN POLICY ISSUES

Spatial Planning and Transport Infrastructure

Introduction

With respect to infrastructure and land use, the province of Bergamo suffers from its own success. The impressive economic growth of the last decades and its uncontrolled urban and industrial expansion has led to a diffuse overuse of land, to considerable urban sprawl and to pressures on the environment. The degree of infrastructural congestion, especially in the hills and plain of the province and in the two industrialised valleys, poses a serious threat to the smooth functioning of the local economy. The situation is worsened by spillover effects from the neighbouring metropolitan area of Milan. The reasons for this unsustainable traffic congestion are first the absence in the past of a clear spatial planning strategy, and second an insufficient road and public transport network. Rail transport development in particular has been neglected in the province for a long time resulting in a provincial network that is now both inadequate and badly connected to the main national and international lines.

With the increasing de-localisation of companies and consolidation of suppliers by large final product manufacturers, and growing demand for just-in-time deliveries, the quality of places and the capacity to move people and goods are considered more and more important for local economies. With increasing congestion and the delays this causes, the infrastructural inadequacies of the province of Bergamo represent a severe disadvantage and a handicap to compete effectively with other regions in attracting business. As stated in the European Commission's first report on cohesion (1996) coherent spatial and transports planning is a key factor in reducing territorial disparities and in strengthening economic development and social cohesion. In this respect, the fragility and inadequacy of the passenger and goods transport systems of the province of Bergamo and its irrational spatial growth are being widely viewed as one of the major barriers to the province's future development.

Despite an apparent consensus among business and government leaders to balance spatial and infrastructure planning, economic growth, and future quality of life, only very limited progress has been achieved. Current policy making is still

paying little attention to external relations of the principal provincial actors, and the lack of internal co-operation between the different levels of public administration. Valuable projects have often met with resistance due to local interests with a too narrow perspective. Decisions on land use appear to be insufficiently co-ordinated with transport infrastructure, and the current policy is still mainly focused on developing road infrastructure, deflecting from more sustainable solutions to congestion such as a shift towards rail transport.

1. Spatial and transport policies in the province of Bergamo

Land use and spatial planning

The hill and plain districts of the province of Bergamo are heavily exploited with 13 per cent of the area being urbanised. The mountainous part has limited availability of land, and certain valleys are heavily exploited with urban and industrial estates. Land used for agriculture purposes also covers an important part of the province. Given this geographic and economic setting, land use policies are of particular importance for the economic and social development of the territory of the province. In particular, proper planning and co-ordination can have a determining effect on demand for land.

Table 21. **Land use: typical ratios**

	Area sq. km	% of total area	Inter-local use % of total urban area	Residential use % of total urban area	Tertiary use % of residential use	Industrial use % of residential use
Mountain	173 829	8.0	38.0	39.0	1.6	20.4
Hill	32 431	23.9	5.0	57.1	3.1	30.4
Plain	67 847	20.2	5.0	47.4	4.5	54.5
Total	274 107	12.9	18.0	46.2	3.1	36.6

Source: Provincia di Bergamo (1999): Urban Planning Instruments.

Instruments for managing spatial planning in Italy refer to a national law that dates back to 1942 and are used together with specific instruments for determined areas (*i.e.*, socio-economic, urban, and agricultural development plans for mountain communities, etc.). Local authorities and municipalities in particular are in charge of spatial planning through urban and country planning instruments. Land use policies are implemented through regulatory plans managed by local authorities. These plans take into account the specificity of the local territory, including traditional

activities and local interests. However, local authorities are not required to co-ordinate between them and it is only through the goodwill of individual people that co-operation can develop. The region of Lombardy, which had the task to supervise town and country planning, traditionally performed mainly a bureaucratic type of supervision. Mountain communities that have certain co-ordination power, also tend to play down their role. More recently the supervision for spatial planning has been devolved from regions to provinces. This reform is requiring the formulation of so-called provincial plans, which integrate specific “sector plans”, “area plans” and “territorial pacts” (see Chapter on Territorial governance).

In this scenario, local authorities in the province of Bergamo have often showed scarce co-ordination in formulating their own regulatory plans and scarce co-operation in implementing them (Box 1). Further, drawing up the required provincial plan has

Box 1. The example of “Zingonia”

At the end of the 1950s, the architect Zingone and his company (Zingone Iniziative Fondiarie SpA.) presented a project for a new town. “Zingonia” was supposed to contain 50 000 inhabitants and it was supposed to provide first class services and amenities maintaining traditional environmental, human and aesthetic values. The plan specified the land to be used for industry, housing, and service industries. It also made provisions for a variety of public services such as schools, shopping malls, entertainment and sports centres. As for transport infrastructure, the plan foresaw two metropolitan lines connecting Zingonia to Bergamo and Milan. A canal port was also proposed by the Region.

The construction of factories and residential blocks began in 1965. Public authorities were supposed to follow the plan with a series of co-ordinated actions. The municipalities of Boltiere, Ciserano, Verdello and Verdellino were to form a consortium and the province and region were supposed to intervene and help in planning the services for which they were responsible. This did not happen and the Zingonia was built diverging from the initial plan. Transport services connecting it to the rest of the province were never provided. Services (education and entertainment) were never developed as specified in the plan. The industrial areas were almost completely built during the first few years, but without any services. The “equilibrium” that Zingone had planned was never realised. These deficiencies caused obvious and serious difficulties for companies that had located there. The town began to decline, attracting only low profitable firms.

It is now difficult to establish the causes. Nevertheless it could be said that the lack of co-operation between actors started a downward spiral of decline causing the original plan to be abandoned. Only recently, a co-ordination mechanism among the five municipalities of the Zingonia area has been set up to identify a “strategic agenda” of common actions.

Box 2. The example of the community of Isola Bergamasca

At the beginning of the 1960s the municipalities of *Isola* proposed forming an administrative community. In June 1964 the association of *Comunità dell'Isola Bergamasca* was established. The community played an important role in unifying the actions of its municipalities, providing guidelines and co-ordinating spatial and economic development policies. Numerous consortiums of municipalities arose from that association to deal with issues such as water management, waste, communications, etc. The community then directly created an independent company, ECOISOLA, to manage environmental problems. Unanimous approval by the municipalities composing the community is required for any decision. However, a new statute, which would allow a majority vote for environmental and spatial policy issues, is currently under consideration.

run into difficulties, and it has not been completed yet.¹ Also, the province of Bergamo has not yet made use of the new power it has acquired through the process of decentralisation that is occurring in Italy, thus failing to take immediate advantage of the new possibilities this offers. In reality, the creation in the early 1960s of a voluntary consortium between the authorities of *Isola Bergamasca* is considered as the most valuable – but almost unique – example of the type of effective co-operation that would be required in the province of Bergamo (Box 2).

Transport policies and regulations

The whole road and rail transport network of the province of Bergamo requires extensive modernisation, both with respect to internal connections and its integration with national and international axes. Principal problems related to road mobility concern, internally, the areas surrounding Bergamo and access to the mountain valleys. Externally, they concern connections with other provincial capitals and Milan. Road congestion is not only related to the condition of the transport system in the province. Two other important causes are spillover effects from the highly congested neighbouring metropolitan area of Milan and the location of the province of Bergamo itself: right in the middle of one of the most heavily travelled axes in Europe – the east-west transport axis in northern Italy. Railways in the province are even in a worse situation. They operate at full capacity (over 20 000 passengers per day on the Bergamo-Milan line) and they are old, often in bad condition and unreliable as far as time schedules are concerned.

In order to overcome this deficit, at the end of the 1980s the province of Bergamo participated in the design of the so-called “Regional Major Road Transport Plan”. This strategic plan identified a series of projects that were necessary

for improving the entire transport infrastructure of the region and province. Many of those projects have been completed, but some are still under discussion or not entirely finished. In 1995, the “General Revision of the Provincial Plan for Local Public Transport Services” was drawn up to complete the local transport framework.

Soon after the plan was drawn up, a new Law – No. 59/1997 – came into force bringing important changes and resulting in a necessary strategic revision. In fact this law assigned responsibility for local transport, state railways, and private concession railways to regions and municipalities. The implications of this law were of extreme relevance. It implied *a)* subsidiarity, cost-effectiveness and co-operation in implementing transport policy in order to ensure full local autonomy; *b)* regulation and organisation of transport services of regional and local interest;² the end of monopolies in the management of transport services; *d)* the separation of functions between the regulator (planning authority) and the regulated (service operator); and *e)* the liberalisation of access to and use of railway infrastructures by third parties.³ The successive legislative Decree 422/1997 and the Regional Law 22/1998 pushed for further decentralisation, giving the actors involved more clearly defined roles: *a)* to the region and the province responsibility for general strategies and co-ordination; *b)* to municipalities responsibility for organising local transport services;⁴ *c)* to transport operators the responsibility for providing services according to the terms of their contract with the client authority. This new legislation governing responsibilities and service organisation – not only in transport but also in health, education, etc. – permitted co-ordination across provincial borders using instruments such as area plans or territorial pacts (see the chapter on decentralisation and governance), and called for a better integration between road and rail transport systems.

Actions implemented in order to fill the gap in the transport infrastructure system of the province of Bergamo can be roughly divided into two different streams:

- *Projects of provincial importance.* These projects rely on an “internal” process of decision-making. The most relevant projects include: the Bergamo outer ring road, which is part of the *Major Road Transport Plan* decided at the end of the 1980s, the last part of which is still not finished. However, thanks to a recent agreement between the state and the region to provide the necessary funding, the project is going to be shortly completed. Other projects include the Tram delle Valli, a light inter-municipal-rail connecting Bergamo to the valleys of the north, and the Bergamo Montello multimodal freight terminal both of which require approval from the national government.
- *Projects of national importance.* These projects imply major involvement and co-ordination from the state, the region and eventually from other prov-

inces. Some of these projects are in the realisation phase, others were (and still are) under consideration, waiting for a decision. All of them have accumulated such severe delays in the past that they could lead to “financial congestion” if implemented together all at once. Projects in the Regional Major Road Plan include: the *Pedemontana* route, which was meant to connect Bergamo to Lecco, Como and Varese and which was cancelled and substituted in the new Regional Plan with the *Pedegronda*, similar to the previous route but running further south and closer to Milan: and the *Direttissima* Milan-Brescia motorway (as an alternative to the overcrowded and dangerous A4). Concerning railways, major projects to restore the national and international connections include doubling the Bergamo-Treviglio line, and the modernisation of the northern line linking Bergamo to Malpensa airport (Milan), and to the other provincial capitals in northern Lombardy.

Finance required to implement these projects is estimated to be between ITL 3 400-3 600 billion. For comparison, the annual current income of the region of Lombardy is around ITL 1 200 billion. This shows the clear need for provincial and regional decision-makers to set up a strategy that sets clear priorities. Special mention should be made of the *Direttissima* motorway. Financing for this project was awarded to BREBEMI SpA., a private contractor formed by the Chambers of Commerce and Provinces of Bergamo, Brescia and Milan and other organisations. This may be one of the best examples of a functional partnership created through inter-provincial co-operation and between private and public actors.

2. Project implementation

Administrative obstacles

Implementation of projects in the province of Bergamo, as well as in the majority of OECD countries and regions, is often threatened by unnecessary, complex and inefficient bureaucratic and administrative procedures that, especially when infrastructure projects are concerned, jeopardise the consistency of spatial planning policies. A non-comprehensive list of these threats include:

- *Unclear legislation usually subject to continuous amendments.* This is the case, for example, of the continuous stream of the so-called “Merloni” laws concerning the transparency of contract tendering. This often causes appeals to the Regional Administrative Courts (T.A.R.) with the usual consequence of stopping the project concerned.
- *Slowness of the Regional Administrative Courts.* These courts, already slow by nature to respond to cases, also have to deal with decisions taken by the Council of State, which often holds up projects for years. An example of projects that have been held up for a long time is the construction of a tun-

nel in Villa d'Adda in the province of Bergamo. The project was approved and funds were allocated in 1997. The process to obtain the necessary modifications to the regulatory plans of the municipalities concerned, the relative approvals by the Region of Lombardy and waivers of Adda Park planning regulations took two additional years. Other delays were added due to proceedings in the Regional Administrative Court over awarding contracts. Work finally started at the beginning of 2000.

- *Slowness of other government bodies in performing their functions.* Projects often require numerous authorisations from bodies that are “not directly concerned” (such as the Ministry of Arts, the Ministry of Environment, the State Railways, etc.).
- *Conflicts between different government institutions.* Each institution tends to view a problem in different terms, according to its own area of responsibility. When a large number of institutions are involved in making a decision, the probability of these differences having a negative effect increases. An example is the successful, but far too long, process to identify the location of new buildings for the University of Bergamo, which has been suffering from lack of space for a long time. What should be noted is that every solution that was proposed by one organisation faced strong opposition from the other ones.
- *Conflicts or dysfunction resulting from the management by national government of major projects.* All major infrastructure projects in the province of Bergamo have always been managed directly by central government or through ministerial agencies. This has led to a series of difficulties that can be summarised as follows: *a)* little attention paid to low-cost projects and investment concentrated on medium- to large-size projects; *b)* inability to manage large numbers of projects simultaneously; and *c)* slow complicated administrative procedures, that often were not transparent.

Difficulties in project implementation: the Interporto of Montello

A number of the described transport infrastructure projects have faced institutional or bureaucratic opposition regardless of which level(s) of government(s) were involved. As often happens in the process of decision-making in Italy, the major ingredients of success are a strong will of co-operation and collective bargaining between the actors involved. With these ingredients, projects can be implemented in the province of Bergamo in a reasonable time span and without causing problems.⁵ Otherwise problems do arise, as outlined by the following cases.

At the beginning of the 1980s in Bergamo, as in other Italian provinces, there was a necessity to create new intermodal freight structures. The project took shape after some studies had been done and with the interest of public agencies and private investors. The area of Montello was chosen. The project was inserted

in the Regional Logistic Plan that foresaw only two new intermodal freight terminals. One in Lacchiarella, which was abandoned, and a secondary terminal in Montello.

The relevant points of the case are that it took more than ten years before the plan arrived at the financing and possible execution phase. The institutions involved were multiple and at several levels (ministries, the region, the province, the Chamber of Commerce, state railways, municipalities, etc). There was no agreement on objectives between the several institutions and agencies. The society constituted for the realisation of the freight terminal, SIBEM SpA., was formed by a public-private partnership but it lacked the participation of transport and other relevant associations. The project was conceived at the top without any involvement of the municipalities on whose territory it was to be developed; of the three municipalities that were implicated, only one accepted the terminal, the others tenaciously opposed it. The plan was complex, linked to other projects driven by different purposes, in particular to the new Regulatory Plan of the city of Bergamo and to plans related to the recovery of brown-fields (railway depots and related abandoned industrial sites). Numerous agencies that were not directly interested in its realisation had to authorise the terminal and the necessary financing for its realisation was only partially promised.

Opposition to the freight terminal arose for the following reasons: insufficient reliability of the company SIBEM; the plan of the terminal did not respect the standards for the length of the railways, nor the dimensions of the facilities; moreover, it did not foresee additional space for further possible expansion. The opposition of the municipalities of Albano S. Alessandro and San Paolo d'Argon appeared to be impossible to overcome.

In the meantime, in 1995 the national laws for the construction of intermodal structures and for their financing went into effect, making the financing of the terminal possible. Due to certain time constraints the provincial administration was obliged to rapidly develop (only a month after being elected) an alternative plan to Montello, and without being able to negotiate it with the other agencies. The provincial administration started to look for new possible locations. Solutions were found in the area of Zingonia. This time the project was discussed with municipal administrations to decide which territory would be appropriate, and it was also discussed with the neighbouring administrations, obtaining their approval before proceeding. This time the proposed solutions fulfilled all the required standards and the available space was bigger than in Montello, offering a possibility for future expansion. Nevertheless, all the other institutions and organisations refused to consider the plan of the province and the fight became political, without any possibility for mediation. The municipality of Bergamo marshalled opposition to the provincial plan because it feared that the new *interporto* could

jeopardise its own City Regulatory Plan, which foresaw the development of the city to the south.

Another example, the construction of a “roundabout” in Dalmine, outlines the type of problems that may arise even when implementing micro projects. The crossroads at the junction of the provincial road from Dalmine to the state road from Bergamo to Milan and the access road to the motorway tollgate, constitutes a source of serious traffic problems for the province of Bergamo, with traffic flows of around 60 000 vehicles per day. A long-term project for this crossroads (part of the Bergamo West Outer Ring Road project) involved doubling the carriageway and the construction of a new tollgate. Since the implementation of this plan was taking a long time, the province of Bergamo planned and financed the construction of a roundabout that was to be a quick and temporary solution. Although the municipality of Dalmine had no formal powers over provincial and state roads, it was necessary to obtain permission from Dalmine for this project. The municipality opposed it and proposed a bigger and more complicated project. The difference in costs and time schedules forced the province to abandon its own project, and thus wait for the implementation of the long-term project.

Other examples concerning the implementation of projects of national importance include:

- The project for doubling the Treviglio-Milan railway line. The region of Lombardy approved the final project in 1985. A few municipalities immediately appealed to the Regional Administrative Court against the Presidential Decree of the Republic that authorised the project. In 1986 a joint Senate-Chamber of Deputies commission was set up by a further Presidential Decree of the Republic. It was not until 1997-98 that a planning agreement was reached. The work should now be completed in 2010.
- The *Direttissima* motorway. After finding a modern way to solve the problem of funding as previously described, the project was stopped for a long time before obtaining the necessary concessions from the central government. Also, some of the municipalities that were involved claimed bigger compensation, which caused some minor problems.

3. Planning priorities, co-ordination and co-operation

Need for planning and co-ordination

The province of Bergamo has shown shortcomings in its planning capacity. If this situation persists it could become a serious constraint to an efficient development of its territory. The province, which is officially responsible, has so far not fully succeeded in playing a leadership and a co-ordinating role, and often has not been able to obtain support from the region or from other institutionalised actors

of the province. The lack of a general vision and of co-ordinated planning is itself caused by a general perspective focused more on identifying land to build on than on identifying harmonious lines of long term development. Solutions are often sought only in a narrow cause-effect context and interrelations between spatial systems are often ignored. For example, solutions to congestion on the A4 motorway were sought initially in terms of the construction of a “fourth lane”, and afterwards the construction of additional motorways was considered.

A “general long-term mobility plan” for the province of Bergamo is needed in order to allow co-ordination with other projects (for example with urban plans). Such a plan should be complemented by integrated policies which encourage innovations that reduce the need for passenger and goods transport (*i.e.* IT systems for administrative matters and logistic, etc.). Formal mechanisms or institutions where different parties can come together to hammer out differences and draw up plans are also needed. Actors that have taken initiatives to start a unified planning process at the provincial level have encountered many difficulties in trying to overcome widespread localism and fragmentation of powers. The degree of difficulty in decision-making is such that the process of preparing and implementing each project has to be managed individually without any co-ordination.

Need for creating consensus

The location and implementation of large projects in the province of Bergamo is irrational not only because of scarce and uncoordinated land use planning, but also because of the inability of the principal political and economic actors to push decisions through. There is a NIMBY (“Not In My Backyard”) syndrome that is driven to the extreme. This syndrome can on one hand be explained by cultural factors: a very rich province but with a relatively low degree of education, where actors have a very narrow local vision (“provincialism”) and a limited sphere of action. On the other hand, if one assumes that behaviour is less driven by cultural idiosyncrasies than by the institutional frameworks, then the excessive legal veto rights of small interest groups might well explain provincialism. In times of a strong central state this might have been a corollary to protect individuals, but now that much power has been decentralised, it hampers the implementation of plans which have been elaborated by and in favour of local people. In fact, the need for refined politics of consensus probably calls for stronger co-ordinating efforts of intermediate level governments in order to attenuate the veto powers of small groups and to achieve a more balanced representation of interests.

The incapacity to create consensus to support policies, above all when inter-municipal infrastructure projects are concerned, bears the danger of increasing more centralised management of projects and lack of consultation. One anomalous but negative example is the Pedegronda project, where the region of

Lombardy consulted directly with local authorities, bypassing the provinces concerned and ignoring their role of co-ordinating and representing the communities' needs as a whole. Another example is the Montello multimodal freight terminal, where the provincial government took decisions alone and then presented them to the communities concerned, asking for approval. This obviously may cause considerable opposition and conflicts. If these cannot be overcome, then alternative solutions are identified which are merely based on the possibility of success, thus jeopardising any rational planning.

This is the reason why many infrastructure projects have been implemented and are concentrated only in those few municipalities that are willing, for various reasons – be it a sense of responsibility or self-interested complacency – to accept upper level decisions. For example, the Pedegronda motorway junction, a new waste incinerator, the Faculty of Engineering and the Technology Park, are all concentrated in Dalmine where there already is a big steelworks. At Orio al Serio there is the airport, a big commercial centre, a wholesale distribution centre, and a motorway that passes nearby. At Curno there is an incredible concentration of large retail outlets and a multiplex cinema. This phenomenon of concentration bears an urbanistic risk since it could lead to a certain degradation of the area in the future.

In short, in the province of Bergamo there is a lack of mediators. co-operation is not easy to implement. The decisions made often constitute zero sum games. There may be agreement on objectives, but hardly on solutions. The authoritarian path was often attempted, but it systematically fails, making the development of processes very complicated. The successes obtained in the last few years (Servitec, Ateneo, Fiera Nuova, as well as the *Direttissima* Brebemi) are related to a new approach that is emerging among local actors to develop inclusive strategies and to build positive sum games.

Need for functional relationship with the central state

Today, in modern states, a chronic lack of funds for major infrastructure projects is often the major cause of a conflicting situation between lower levels of administrations and the national central government. The province of Bergamo is not exception. In fact, a common claim made by the province is that investments in Bergamo by the national government are substantially lower than in other parts of Italy. The province perceives itself as unable to obtain funding for the construction of infrastructures such as railways and roads considered important for local development. The province complains also that the central government often refuses to give concessions even for those projects that are entirely funded on a private basis. However, the feeling that national agencies are paying too little attention to the province seems to be only a perception. Examination of tables on

road investment, compared with other provinces without a special statute,⁶ shows that state investment for Bergamo is not significantly lower than the average in Italy and that this claim is not therefore justified. There is no evidence of a disadvantage in the general amount of funding for infrastructure directed towards the province of Bergamo.

However, it is true that central government agencies that are responsible for infrastructures (ANAS – for national roads, and the State Railways) often pay little attention to community needs. By applying a typical top-down approach, they tend to ignore basic local needs, creating inefficiencies and tension between citizens and local administrations. Moreover, state agencies tend to have a policy of concentrating on major projects such as the high-speed project for the state railways and projects requiring EEC tendering procedures. These projects require much more funds, time and endurance. The real disadvantage seems therefore to be the limited local ability of getting small but crucial things for provincial development done, caused also by a lack of continuous lobbying with upper levels of government.

Conclusions and recommendations

The province of Bergamo suffers from infrastructural inadequacies that threaten its future economic development. Although some important projects, mainly road-related, have been achieved or are under construction, some other projects have been waiting to be completed for decades, being blocked either by bureaucratic procedures or by opposition from vested interests at the municipal level. Although all relevant actors agree that a good transport infrastructure is crucial to meet the new requirements of just-in-time production, the ability of provincial actors to co-operate on infrastructure projects so far has been limited but is slowly improving. Also, the capacity to lobby at the regional and central government level and to sustain the complex procedures of approval and implementation of selected projects important to the province appears to be below average. Clear priorities on the long list of infrastructural projects are lacking in the province. Local actors seem to be mostly concerned about the implementation of existing plans for the extension of the road network, even if some of these plans seem to be outdated. Congestion-related pricing of infrastructure as an alternative to network extension, for example, has never been envisaged. Integrated land use and transport network plans that could co-ordinate territorial activities and channel transport needs have not been truly developed. Possible environmental implications for air, soil and water that infrastructural projects would entail have hardly been taken into account. Public transport and the need for better regional railway infrastructure plays an increasing role in provincial plans, but the network that is planned is somehow isolated and incomplete, *e.g.* it lacks an extension to the south of the province.

While authorities in the province of Bergamo have produced some interesting projects, these projects do not seem to be explicitly based on an integrated transport plan. What is needed is an evaluation of the various projects in view of their contribution to the development of the province. This would also imply basing the argument on a clearer picture of the spatial context in which Bergamo is set. As province with a specific morphology (closeness to a metropolitan area, mountain valleys), a well developed but congested road network and an underdeveloped rail system, Bergamo will have very specific transport problems that can only be resolved if based on an analysis of future demand for transport. An identification of the critical nodes in the transport system is needed, as well as a presentation of the main road transport flows and scenarios for future evolution.

Recommendations

Co-ordinate transport and land-use plans: All infrastructural projects, road or rail, have to be carefully evaluated and selected according to priority. Infrastructural projects reveal their benefits only if they have been conceived and elaborated in connection with each other and with land use planning. Environmental impacts of new infrastructures should be carefully assessed. The road network has to be developed in co-ordination with public transport, taking into account financing and road-pricing instruments. Otherwise, newly built roads will only attract additional traffic and offer no relief from current congestion problems. Developing integrated scenarios that consider the potential impacts of projects on land-use and induced mobility could be important. The benchmark could be a city like Zurich, which, even if significantly larger, has more or less been the model for the above proposal.

Reinforce public transport: The province of Bergamo should develop a modern public transport system. The key element of such a system could be copied from Swiss or German *S-Bahn* experiences. It should consist of a light rail backbone such as a West-East, North-South cross through Bergamo and would link Milan to Bergamo and the airport to the valleys. With the exception of the airport link, the double track Bergamo-Treviglio and eventually an extension of the network to the southern plain this would not involve important infrastructure investments. The concept should integrate the existing plans for light rail links to the valleys and a metropolitan line. An important part of such a strategy would be to build up an offer of competitive services in terms of frequencies and connections, tariffs and modern rolling stock. Apart from this, the province might consider the potential benefits of improving a public transport “spider” linking Bergamo to other cities with similar functions in the network (Como, Lecco, Brescia, Cremona). The realisation of this backbone would only help to solve mobility problems if integrated in an intermodal concept. Apart from the direct access to the airport, this would imply on the one hand a strategy for park and ride facilities (road link) and on the

other an interlinkage with local public transport in the city of Bergamo. In order to improve service quality, the Province should make maximum use of institutional innovations such as free third party access on infrastructures, *i.e.* tendering rail services to private contractors. The implementation of such a strategy would have to comprise a master plan: *a)* a political strategy to convince the regional level of the opportunities this would offer; *b)* a realisation of the missing infrastructure links; *c)* a definition of the service levels desired by the provincial authorities and *d)* a tendering of single elements or the whole package to private operators like *e.g.* the Ferrovie Nord Milano (third party access) in public private partnerships.

Evaluate Bergamo airport as a strategic base for development: For a territory the size of Bergamo, an airport with the connections it would offer could serve as a strategic base for various development strategies. This airport has to be considered an asset for dynamic growth not only of the economy as a whole but more specifically for the service sector and tourism. An issue to consider is how the airport may be used as an alternative to the congested overland transport lines to Milan Malpensa Airport. The lack of access to this international hub is particularly limiting for industries that either require frequent business travel or just-in-time deliveries. Bergamo's proximity to Milan could be exploited further if these transportation issues are resolved. In the US, transportation hubs are becoming increasingly critical for economic development, and some smaller airports located close to large metropolitan areas have successfully opened niche markets or offered an alternative to the congested or inaccessible metropolitan airports. In short, opportunities are to be found in systematically developing ground access to the airport. This should include a direct rail link both to the city of Bergamo and to Milan. Access problems have to be resolved and a competitive airport strategy has to be implemented if Malpensa type problems are to be avoided. The airport strategy should define the role of the airport in the regional system, and would have to evaluate the options of a feeder to Milan (Milan-East), a freight hub (DHL) or an "autonomous" regional aviation airport. Such an evaluation would obviously have to consider also the role to be played by the airport of Brescia.

Foster intermodal freight transport: The transport problem also has a freight dimension. This concerns not only transit but also local provision. The domination of road transport today is due to the lack of competitiveness of rail-bound services. This has resulted in a congested road network and air pollution problem. At present, the most discussed solution is intermodal freight transport. This would not only mean promoting the Montello terminal, but also implementing the same competitive tendering procedure as for passenger transport to attract efficient providers of intermodal services. As far as local freight distribution is concerned, rail cannot play a significant role. But it would be extremely interesting for Bergamo to copy City Logistics systems implemented in some European cities, *e.g.* Nürnberg, with success. Such a strategy seeks to bundle transports in an

agglomeration in order to avoid excess mobility of a large number of not fully-loaded small vehicles.

Develop a common vision of sustainable provincial development: Leading actors in the province of Bergamo should develop a new vision for sustainable territorial development and principles of implementation. This should be a succinct memorandum guiding future incremental action of the various actors in the region and sub-regional territories. This vision should be easy to understand and easy to communicate to the public. A series of thematic strategies could be initiated, which centre on a theme of particular regional relevance and combine employment policies with infrastructure development or educational and environmental objectives.

Notes

1. In 1994, the province hired some experts who produced a “Direction Document”. In the period 1997-1998 consultations were held between the province, the Chamber of Commerce and the *Unione Industriali* to define the targets of the plan, but an agreement was not reached.
2. However, they may be implemented either through private concession or according to the provisions of Articles 22 and 25 of Law No. 142/1990, and to the principles of competition and public service contracts in accordance with Articles 2 and 3 of EEC regulations No. 1191/69 and No. 1839/81).
3. Consequent to application of EEC directives 440/91, 18/95 and 19/95.
4. They may be contracted out to transport operators, by appropriate tender procedures.
5. For example, the creation of the Pole for Technological Innovation POINT in Dalmine was relatively easy for the following reasons: very few institutions and agencies were involved, and they were coherent in their action. There was no need to demand authorisation since no third organisation had an opportunity to interfere in the project. Its development was simple and involved only two levels: the public level for real estate investments; and a private-public partnership for management. Finally, the private-public capital company was mainly constituted by non-profit organisations.
6. Of course there is a real disadvantage if we compare Bergamo to other provinces with special statute like the Province of Bolzano or the Province of Trento that, due to their special fiscal arrangement with the central state, receive nearly ten times the amount of resources of Bergamo per capita for infrastructural investments. This is the main reason for the battle of Lega Lombarda in favour of a larger autonomy of the richest northern regions.

Education, Innovation, and Economic Performance

Introduction

The economy of the province of Bergamo, as set out in the introductory chapter, is performing well. The industry is competitive and, seen from an Italian and international perspective, unemployment is very low; some evidence even indicates problems of labour supply shortages. The economy is based on sound and highly competitive manufacturing. The range of products is very diversified and robust, and not too much concentrated on specific products prone to strong cyclical movements with respective undesirable impacts on the labour market. Production is based on a network of small companies whose strong point is supplying medium and large companies. The labour force is highly flexible and entrepreneurship-minded.

All the same, some clouds are appearing on the bright sky over Bergamo and its economy. The productivity of the Bergamo economy is indexed at 104.6 of the national average, compared to Lombardy at 110.5. In the industrial sector (the province's core activity), the productivity of Bergamo is only 103.7 compared to 113 of Lombardy. Although from a national perspective the Bergamo economy is performing well, in the somewhat more relevant regional perspective, the province is lagging behind. The economy, particularly the manufacturing sector, shows signs of a labour intensive production pattern that is oriented toward traditional products with a limited ratio of high technology. The labour market primarily depends on low-skilled workers. Women participation is low, which means that a whole sector of resources and capabilities is insufficiently exploited. Finally, the rate of enterprise creation is, compared to the Italian standard, a little lower.

Some of the features of the Bergamo economy are related to the particularities of educational attainment in the province. The strongest impact results from the low percentage of workers with an educational qualification higher than a compulsory school leaving certificate (only 42.2% in Bergamo in 1998, against 51.5% in Lombardy and 49% in Italy). The business sector at present is markedly inclined towards using a low-skilled labour force. Future demand does not show strong signs of change. Labour demand forecasts for 1999-2000 show that companies in

Bergamo are still most interested in workers with low levels of education. In general for firms, as well as for workers, short-term income objectives still take precedence over long-term objectives such as investment in education and training. As a result, what limits the structure of the labour force in Bergamo is above all the low percentage of workers with a high school diploma.

The following chapters of this part of the report are built around the triangle of education and innovation, the labour market, and economic performance. They try to show that an increase in formal education is an essential condition for keeping the economy on a sustainable development path. They are based on educational research whose results show that higher levels of formal education lead to a higher level of innovative activities and higher economic growth. They present possible incentives for both the business sector and the labour force to invest more in higher education. They also propose measures to narrow the gap between the educational sector and the business sector so that the Bergamo economy can better exploit its human resource potential.

1. Education and economic development: some recent findings

The OECD Centre for Educational Research and Innovation has done extensive research on the contribution of learning and education to regional economic performance, on how so-called “path-dependencies” may slow down regional learning and regional innovation, and on how policy-makers may unlock these “path-dependencies”. The research, which was conducted in close collaboration with the Territorial Development Service of the OECD, is being published under the title “Cities and regions in the new learning economy”. The following section draws mainly on the analysis and conclusions of this document. It should be noted that in this context the term “individual learning” means the personal acquisition of knowledge, skills and information (*i.e.*, going to school). “Organisational learning” means the “amplification of individual learning within an organisation” (*i.e.*, R&D activities within a firm), and “innovation” is understood as new creations with economic significance (*i.e.*, innovations that increase the quality or lower the price of products or production processes).

Learning and economic growth

Individual learning

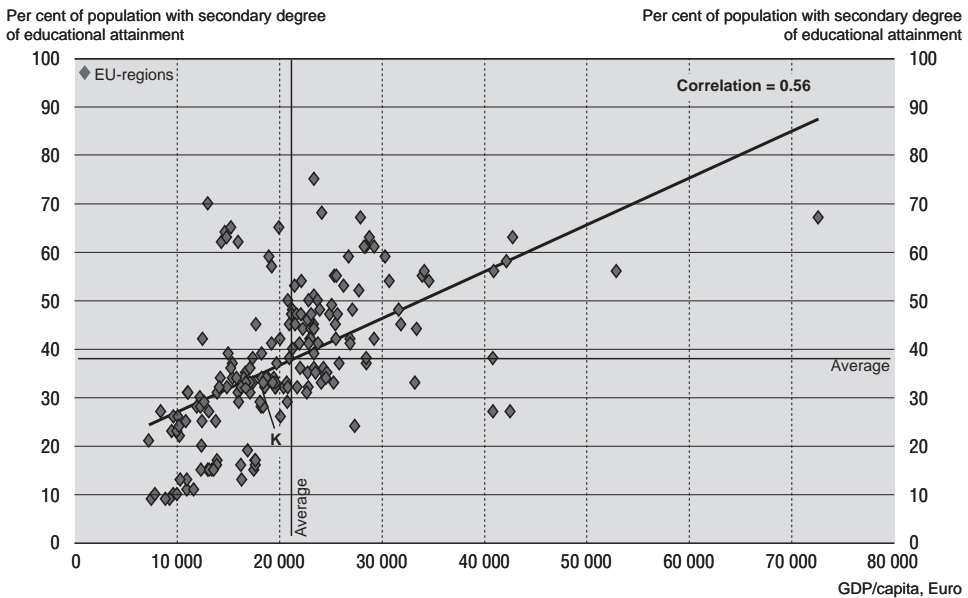
One of the central questions for regional development is whether and to which degree education and learning contribute to long-term economic growth on the territory. The general answer to this question is clearly that it does. A correlation analysis for 18 EU regions as well as an in-depth analysis of five regional case studies (the regions of Jena in Germany, Vienne in France, Öresund in Denmark

and Sweden, Andalusia in Spain and Kent Thames-side in the UK) show that education is important for regional economic performance (Figure 16 for secondary education).

First, the correlation between education and economic performance is stronger for secondary education than for the tertiary level. This must be interpreted as a sign that upper educational levels are important to regional economic performance, but that secondary education is the most relevant to firms. For a *specific region* therefore, the positive economic results of university training do not always affect the region in which the relevant skills are registered. This is because universities are usually well connected outside the region in which they are located. The fact that students and labour are mobile – universities receive students from outside the region and university graduates find jobs outside the region – blurs the correlation between university training and regional economic development.

Second, the impact of tertiary education greatly depends on the framework in which learning is embedded. The influence of (formal) education depends on the

Figure 16. Correlation between secondary attainment and economic performance



Source: OECD (2000c).

industry structure, the curriculum of its universities and the degree of co-ordination between education and industry. Some regional economies may be less based on formal skills. For instance, in the region of Andalucia, whose industrial structure is dominated by tourism services and agricultural production, secondary and tertiary education is less relevant because the region currently functions at a relatively low skill base. Tertiary level education remains, of course, very important, especially to certain forms of innovative capability. Nevertheless, unless there is a “good fit” between the forms of educational attainment which are characteristic of a region and its industrial structure and patterns of work organisation, the impacts of the former on regional economic performance are highly constrained.

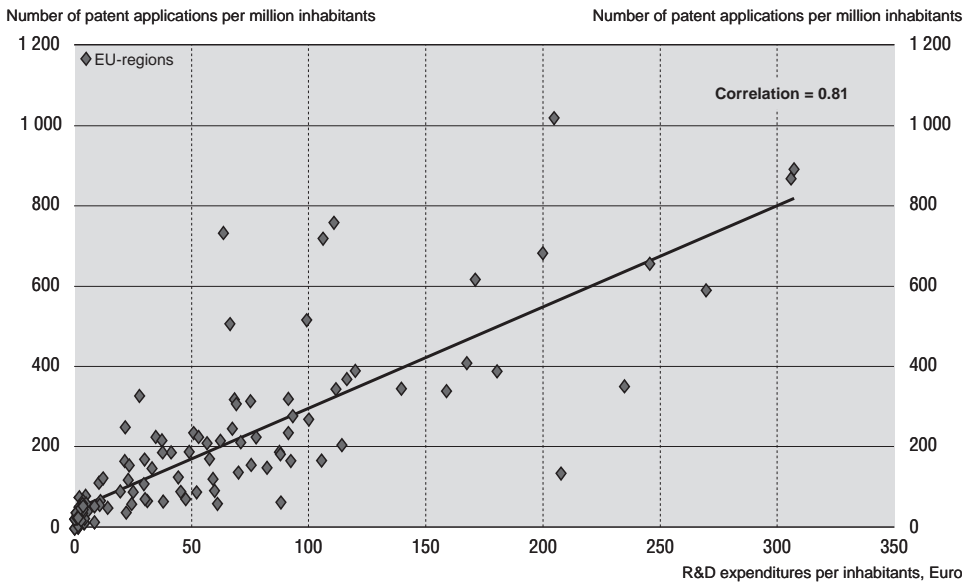
Third, regions with a high level of educational attainment differ in their ability to profit from individual learning. For example, of the region examined, Jena has the highest level of secondary and tertiary education, but very low GDP per capita. Local educational content plays a part in this performance. In particular, the region places little emphasis on providing local firms with managerial or marketing competencies. The region of Vienna has an average level of education, ensured to some extent by the French national curriculum, but it has itself made huge investments in the local university and in ICT skills; however, it still has below-average GDP per capita. On the other hand, the Øresund region profits from its high educational level and seems to create useful resources for industry through individual learning. These regional case studies show clearly the importance of a *good co-ordination* between local industry and formal education.

Organisational learning and innovation

The positive influence of individual learning on GDP per capita is an indication that skilled and highly skilled labour contribute to the performance and growth of firms in terms of turnover and employment, and hence to economic regional growth. It should however be made clear that it is not individual learning per se that matters for regional performance, but that it is individual skills in firms through organisational learning that creates growth.

First, research shows the importance of patents and R&D expenditure as measures of organisational learning. Although these neglect important elements of unpatented firm-level processes and product innovations, they clearly indicate that firm-level organisational learning is important for economic performance (Figure 17). The analysis shows, for instance, a significant correlation between the number of patent applications per million inhabitants and GDP per capita. This would indicate that firm-level innovations – as measured by patents – are the foundation of firm growth and regional economic prosperity. Although the methodology to define the direction of influence is complex, it seems reasonable to con-

Figure 17. Correlation between R&D expenditure and patent applications



Source: OECD (2000c).

clude that there is, in fact, a correlation at regional level between R&D, patents, economic growth and increased investment in R&D.

Second, the regional case studies also suggest that wealth may be created in many ways, “high-tech” industry being only one of them. Formal R&D resulting in patented firm-level innovations is only one possibility, and it does not always create economic growth. The region of Vienne, for example, has a medium-high GDP per capita compared with the other regions studied and, despite a recent increase in the number of its patent applications, their number is still fairly low. Relative to the EU average, Vienna seems to profit more from its few patents than other regions or to profit from non-patented knowledge. Even if the region has relatively high investment in R&D compared with the other regions, its wealth-creating industrial activities – even if they are learning activities – take place outside R&D departments and are based on non-university skills.

Third, firms within a region may apply for many patents and still not be much better off than firms in regions with less patenting. This is the case of the Øresund

region, which has some high-tech firms, the type of industrial activity that at world scale creates the most growth. However, certain high-tech activities may become extremely vulnerable to world market developments, and many firms' profits are low owing to high R&D costs. High-tech growth is often concentrated in a few firms, and in many EU regions, including Øresund, "low-tech" industries contribute more to growth. High-tech may, but it needs not, be a source for regional economic growth.

Individual learning and organisational learning

The crucial question of course is how individual learning and organisational learning are related. To what degree does individual learning and formal education contribute to organisational learning and to innovative activities and hence to regional economic performance? Which level of education provides most to organisational learning and R&D activities in a region?

First, as shown before, the correlation between tertiary education and economic performance is higher at national than at regional level. This means that the effect of tertiary education may not be reflected in regional economic performance, because highly skilled workers are relatively mobile and may work outside the region. Regional investments into high prestige educational institutions do not necessarily enhance economic development within the regional borders.

Second, an explanation is still needed for regions without significant labour inflows and outflows. A reasonable interpretation would be that not all university education is relevant for organisational learning in firms. Many graduates go into administration and services, or, if employed in industry, are involved in administrative rather than learning activities. The region of Jena, with its huge pool of university-trained workers who do not contribute to organisational learning or regional economic growth, is an example. Andalucía, with a higher level of tertiary education than Vienna, but with significantly fewer patent applications per million inhabitants, is another. For regions investing in education it is therefore important to invest into activities that in the future contribute directly to learning activities within firms or organisations.

Third, secondary education is strongly correlated with GDP per capita. Obviously, some firms that create economic prosperity thrive on intermediate rather than high-level skills. The performance of firms – their export competitiveness and growth – may depend on low-skilled labour, which allows them to produce cheaply relative to competitors. This depends in turn on the cost of labour with secondary education, which again depends on regional labour markets. Further, the positive correlation of secondary education with GDP per capita means – assuming that the rise in GDP is in part distributed to workers – that using workers with secondary education would not necessarily be a cost advantage for firms.

Again, secondary education is likely to contribute to another type of organisational learning, namely non-patented knowledge. “Learning-by-doing”, with the participation of workers with secondary education, can add largely to the firm’s unpatented knowledge base.

Education and “path-dependency”

What is “path-dependency”?

The economic fortunes of regions change. Whereas economic decline often happens organically and sometimes rapidly, owing to external markets or political change, regaining economic growth through internal regional change can require much political intervention. Political intervention in these regions should be concerned with learning as *adaptation* to a learning region. However, the industrial and institutional structure of a region may impede such adaptation to a path of sustained economic growth. This is path-dependency. The following sections explain a little further the problems of path dependency and how to overcome them.

The “path-dependency” of industry structures

First, industry structures – economic sectors and organisational features such as firm size – are major sources of regional “path-dependency”. This affects the potential for learning. The case studies indicate that *at regional* level, it is sometimes beneficial to move away from existing sectoral knowledge bases. The case studies show that if old industries are gone, it is necessary to attract and create new firms in new industries, which in turn necessitates the retraining of workers. The case studies show that industry structures can be changed and that it is particularly feasible to influence the service sector. The case studies also indicate that the manufacturing sector is much more path-dependent than the service sector. Creating manufacturing jobs – particularly knowledge-intensive ones – is more difficult than creating jobs in tourism or retailing. Concerning sectoral change, many regional policy-makers focus on high-tech industries. However, in all case studies, the new high-tech firms have been SMEs with a small local effect in terms of employment or systemic traded networking.

Second, in most regions, individual and organisational learning need not be aimed at moving away from a sector, but at upgrading it. There is huge export and growth potential in many sectors, including traditional and low-tech sectors, if firms’ competencies and production technologies are brought up to date. In fact, the case studies may suggest that it is a questionable political strategy to seek to introduce knowledge or promote sectors that are politically more conspicuous (for example, high-tech knowledge and sectors) but which contribute to regional growth only marginally or at the expense of existing industries with growth potential.

Third, the case studies offer a regional analogy to a notion that is increasingly accepted in the economic theory of the firm, that *it may be advantageous to focus on core competencies*. The degree to which a particular sector can come to dominate a regional economy (in terms of exports and employment) depends on a combination of the regional economy's size and the growth potential and investment demands of different sectors. For example, a relatively large region such as Øresund, even with a higher endowment of public research and education, cannot make pharmaceuticals the region's dominant sector. Large regions may, however, realise economies of scope with a diversified industry structure and (sometimes unexpected) synergy between sectors. A smaller region, on the other hand, may specialise in a few related sectors, and thus – if there are market opportunities – achieve considerable economies of scale. Public resources, such as education and public R&D, create high value for specialised regional economies, because many regional firms have similar resource demands. The limits to regional specialisation are of course the stronger vulnerability of the regional economy to external shocks.

Learning and regional policy making

The overall conclusion to the case studies is that regional policies are crucial for stimulating individual and organisational learning. Both changing the industrial structure and institutional “unlearning” – changing the practices and knowledge bases of individuals and organisations in the region – are issues that can fruitfully be addressed by efforts at a relatively high and strategic level. The main areas where regional policy can actively provide strategies for enhancing learning capacities are individual and organisational learning.

Individual learning

Large regional public and private investment may be necessary to provide education tailored to the demands of regional industry. For example, when university education does not fit the local industry structure or new focus areas of industry, a local policy for educational focus is needed. For on-the-job training, public authorities must often provide not only targeted courses but also significant incentives to achieve upgrading. To boost individual learning, policy makers not only have to provide education but also encourage people to seek it.

Organisational learning

A general conclusion is that policy makers are among those able to co-ordinate several policy areas and thus increase organisational learning by matching regional education and public R&D to industry, while providing supporting investment in transport and communications infrastructure, welfare and culture. Technological parks may stimulate the emergence of new high-tech sectors, by functioning as

Box 3. Principles for learning cities and regions

Inputs to the learning process

- Ensure that high-quality and well-resourced educational provision is in place, on which effective individual learning throughout people's lives can be developed.
- Co-ordinate carefully the supply of skilled and knowledgeable individuals through education and training and the demand for them within the regional economy, so that the full benefits of individual learning may be reaped through its effects on organisational learning.
- Establish appropriate framework conditions for the improvement of organisational learning, both within firms and between firms and other organisations in networks of interaction, and demonstrate to firms the benefits of these forms of learning.
- Facilitate effective organisational learning not simply for a pre-selected set of conventionally defined high-tech sectors, but across all those industries and services within the regional economy that have the potential to develop high levels of innovative capacity.
- Identify very carefully the extent to which the resources currently available to the region (existing industries, educational provision, research facilities, positive social capital and so forth) constitute an impediment to economic development ("lock-in") or may usefully contribute in developing innovative strategies for the future.
- Respond positively to emergent economic and social conditions, especially where this involves the "unlearning" of inappropriate practices and bodies of knowledge (including policy makers' own) left over from the regional institutions of previous eras.

Mechanisms of the learning process

- Pay close attention to mechanisms for co-ordinating policies across what have generally been separate departmental responsibilities (for industrial development, R&D, science and technology, education and training and so forth) and between different levels of governance (regional, national and supra-national).
- Develop strategies to foster appropriate forms of social capital as a key mechanism in promoting more effective organisational learning and innovation.
- Evaluate continuously the relationships between participation in individual learning, innovation and wider labour market changes, especially with respect to the social exclusion of groups within the regional population.
- Ensure that the regional strategy for learning and innovation is accorded legitimacy by the population of the region to be transformed.

incubators for new firms or attracting firms from outside. However, past experiences reveal that such parks are often of limited value for economic growth and exports. Universities prove to be a crucial area for policies related to organisational learning, by virtue of their provision of public R&D rather than their educational offerings. These policies have to be completed by those enhancing technology transfer from the educational sector to the economy.

Policy principles for “learning regions”

Ten policy principles have emerged from the work on the contribution of education and innovation to the economic and social development of a region (Box 3).

2. Education, innovation and economic performance in the Province of Bergamo

Educational supply

Bergamo disposes of a large number of educational institutions. The University of Bergamo has faculties of Economics and Commerce, Foreign Languages, Literature and Engineering. Besides the University, there are a number of education and research institutes such as the National Academy of Finance, a few sections of the University of Milan, the National Research Council Georesources Centre, the Mario Negri Pharmacological Institute, the National Institute for Cerealiculture, and the heart surgery school of the Gavazzeni Clinic (Table 22). The supply of senior high school education grew considerably during the 1990s due above all to

Table 22. **Education supply in senior high schools**

	1980/81				1995/96			
	Schools	Class rooms	Pupils	Teachers	Schools	Class rooms	Pupils	Teachers
Professional Institutes	21	271	5 487	605	20	456	6 493	
Technical Institutes	48	751	15 402	1 558	50	1 194	18 118	
Primary Teacher training schools								
3 years courses	2	23	394	29	2	35	367	
4 years courses	7	107	2 367	193	7	182	3 392	
Scientific <i>Lycées</i>	12	183	3 441	282	16	391	6 837	
Classic <i>Lycées</i>	9	95	1 664	161	7	123	2 047	
Modern <i>Lycées</i>	4	38	728	53	5	63	477	
Art Institutes	1	11	81	14	1	14	151	
Art <i>Lycées</i>	2	44	564	119	3	78	1 275	
Total	106	1 523	30 128	3 014	111	2 536	39 157	3 404

Source: ISTAT.

the expanding size of schools. Geographical distribution also has become more balanced as a result of intervention by the provincial administration to create and maintain more educational facilities for easier access by students in remote areas. The province has a sufficient number of educational centres for pupils over the compulsory schooling age.

These structural indicators used by ISFOL (Institute for the Development of the Occupational Training of Workers) show the situation for occupational training:

- The supply, in terms of hours of training per inhabitant, in the province of Bergamo is less than the average in Lombardy; 277 hours for every 1 000 inhabitants puts the province 13 per cent below the average figure of 320 hours.
- Funding per inhabitant (ITL 34 500) is much lower than the regional average (ITL 50 800), placing the province third from bottom for the region.
- The average number of pupils per course is basically in line with the regional figure.
- Widening the education supply of the local university by means of a very careful selection of new degree courses and by starting diploma courses is important; furthermore, university courses should allow students, in accordance with the reform currently underway, to obtain on-the-job work experience and training.

Education and the business sector in Bergamo

Formal education and the labour market

An important feature of the labour market of the province of Bergamo is its limited reliance on formal education and its preference for low-skilled workers, mainly in the industrial sector. Employers seek people with low education levels and apparently have low requirements for retraining. The business sector regards formal education as a cost rather than a benefit factor. Business seems to represent a culture that prefers experience and the tacit knowledge gained on the job to formal education and codified knowledge. There is a widespread belief that more education harms economic opportunities by delaying entry into the labour market. There also is a fear among firms (especially smaller ones) that the more highly educated and qualified young workers are, the more likely they will seek and find employment outside of the region. The low educational level of the labour force is shown in Table 23 below.

The low demand for a skilled labour force on the market sheds its shadow on the structure of formal education in Bergamo. Although in the last few years formal

Table 23. **Employment by educational qualification**
Per cent

Qualification	1993*			1998		
	Male	Female	Total	Male	Female	Total
Bergamo						
No qualification/junior school leaving certificate	23.1	16.3	20.7	14.4	9.2	12.5
Junior high school leaving certificate	47.6	46.5	47.2	46.7	42.9	45.3
Senior high school leaving certificate	22.8	31.4	25.8	27.8	38.4	31.7
Further education qualification	6.4	5.8	6.2	11.1	9.4	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Lombardy						
No qualification/junior school leaving certificate	21.9	17.0	20.0	12.5	10.2	11.6
Junior high school leaving certificate	40.6	37.8	39.5	39.5	32.9	36.9
Senior high school leaving certificate	28.5	36.5	31.5	35.0	44.2	38.6
Further education qualification	9.1	8.7	8.9	13.0	12.8	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

* Includes municipalities in the Lecco area.

Source: IRS.

educational levels have risen, (more than 10% of employment with tertiary education), the overall level of formal education in the province, compared to international standards or even to the Lombardy region, remains beneath the average. Many young people still prefer going into business after compulsory school to the strains of a long-term investment in education that always bears the risk of devaluation. This limited investment in education and training by employers and families may be the greatest current and long-term impediment to economic growth in the province of Bergamo.

The labour market and demand for higher education are highly interrelated, complex, borne by uncertainty, and sometimes path-dependent. In short, employers take their decisions according to the costs and benefits of hiring a certain person holding a certain educational degree, whereas students finishing compulsory school take their decisions on whether or not to follow a formal education by weighing the additional future advantages this may bring, *e.g.*, higher salaries. Education and the labour market, especially in vocational training, therefore always have to be looked at together. Below, the problems of education in Bergamo are considered more carefully.

First, the low level of education in Bergamo may simply be a consequence of the attractiveness of the labour market and the economic wealth and strategies of families. Immediately after the last year of junior high school (15 years) a job can be easily found in the extremely rich fabric of local industry. If an adolescent con-

tinues his/her education, it becomes usually more difficult to find a job close to home. Thus, this appears to be more of a systemic problem in a culture where formal education is not highly regarded by parents. As a result, families have not made strong enough demands for education for their children. The low level of education in Bergamo could therefore be mainly due to traditional behaviour of the society.

Second, the labour market gives higher priority to workers with low levels of educational attainment. Adolescents themselves are greatly attracted by the ease with which they can earn a wage without formal education. Interviews confirmed the analysis that the strong economy is competing with education institutions for young people. This is happening in other industrialised countries as well, but at higher levels of education. Furthermore, the salaries of skilled workers hardly offset the strains of a longer education; according to some sources in the Bergamo business community, the salary for a technical tertiary degree is only about 15 per cent to 20 per cent higher than for a person without a degree. The low pay level for senior management is somewhat confirmed by data showing their wages being beneath the regional average. The low level of education is therefore due to the favourable labour market combined with the low salary mark-up for higher skills.

Third, the low demand for educated people may be related to the structure of the economy. Many businesses show no great interest in highly qualified workers, and many firms do not yet foster higher education, for example, by offering incentives to young people to remain in school. Many employers do not regularly demand or seek workers with diplomas or degrees. Some industries do not at all rely on a qualified workforce and do not demand it. They apparently do not make the connection between skills or qualifications and levels of education. These firms seek less educated workers because they can pay them less. The large numbers of new workers hired through apprentices and tax incentive schemes suggests that costs are very much a factor in hiring practices. The low level of education would then be somewhat path -dependent; it could be explained by an industry structure mainly based on comparatively low unit labour cost.

Fourth, and perhaps most important, there is a striking mismatch between the structure of business demand and the specific qualifications of those holding higher diplomas. For instance, employers complain that they are unable to find 40 per cent of the personnel they seek – above all skilled factory workers and computer specialists (60%) – due to a lack of such personnel and because candidates do not have the necessary qualifications and experience. There seems to be evidence that the schools are not sufficiently responsive to the needs of businesses. Furthermore, businesses seem to use other sources of skill development, such as programmes offered by the industry, artisan associations or chambers of commerce, or the government's dispersed (and uneven) occupational training centres. The (public) formal educational system is not adapted to the needs of the

business sector and hence to the workers. The low level of education in this case would then be due to a clear failure of the public formal education system to meet the needs of the regional economy.

In sum, it is difficult to say which of the four factors (tradition, unattractive pay for skilled workers, industry structure, and mismatch between educational demand and supply) is the main reason for the low demand for education. Some of the reasons even seem to be contradictory, *e.g.*, businesses desperately seeking for skilled workers but not paying them enough. In fact, considering the industry structure and the educational system of the province, each seems to have its share in the problem. However, the picture is changing: The low educational level is now recognised as a problem at an intellectual level by business leaders, and there is a growing awareness expressed by business and artisan association officials that they will need higher levels of education. Furthermore, the statistics show that enrolment into formal education at the secondary, as well as the tertiary, level has increased significantly in the last few years.

Formal and informal education

The relatively low esteem for formal education seems to be due to employers' belief that the tacit skills that are learned informally are more important than codified skills learned in formal education and training programmes, and that these tacit skills are sufficient. This belief is reflected in investments. Employers in the province of Bergamo invest less in training than the regional average. One association executive estimated that only "*half of the companies spend enough on continuous training, and they should invest more*". Further, according to some, the investments in training made by the small firms so important to Bergamo's economy is not enough. There may be a need to build skills alliances or create other new collaborative mechanisms to encourage training and reduce its costs for SMEs.

The success of Bergamo's manufacturing sectors in the past relied heavily on short-term – from an hour to two or three days – education and training that is conducted by industry, artisan, and labour organisations and other intermediaries. Some of these are quite good. Bergamo's Chamber of Commerce and the *Unione degli Industriali*, along with other associations, operate extensive programmes. The Chamber, for example, trained 5 000 people last year, many of them in computer skills; the service company *Servizi Industriali* belonging to the *Unione degli Industriali* offers post-diploma and post-degree courses in entrepreneurial and managerial areas, as well as a variety of management, administrative, production, and IT courses. Each offers a wide range of programmes, from basic to advanced engineering and management skills. In addition, the government operates 12 regional training centres. However, comments indicate that their quality is mixed at best,

that there is little co-ordination or rationalisation of offerings to match local companies' needs, and that many reflect faculty interests more than industry demand.

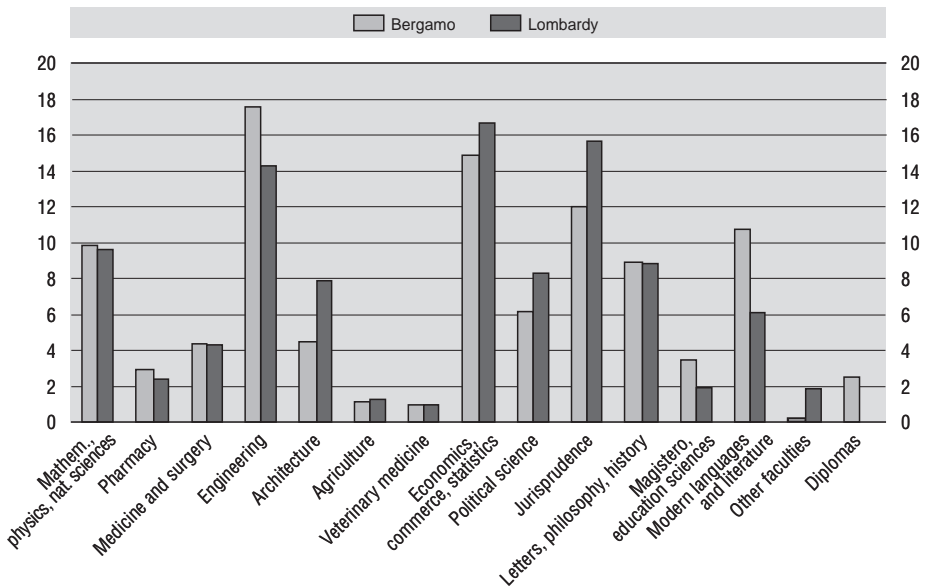
There might be an even stronger reason for Bergamo to rely on more formal education. One attribute frequently cited as contributing to northern Italy's economic success is a social infrastructure that supports and encourages informal learning and knowledge spillover. Bergamo, however, does not have the kind of co-operative environment that encourages the exchange of knowledge, and spillover tends to be unintentional. Further, reliance on tacit knowledge over theoretical knowledge will limit the economy's ability to make the transformation to new information technologies. The new skills cannot easily be learned on the jobs, particularly if they are not currently in use, and they often require formal certification. A recent study of Emilia-Romagna recognises that "*changes in manufacturing enterprises have generated an increasing need for qualified knowledge to improve quality, management capabilities, to manage international markets, to innovate products and business organisation*" and that "*it is difficult for SMEs to absorb all of them internally*" (Allari *et al.*, forthcoming).

Tertiary education and its connection to the business sector

The percentage of tertiary education level degrees in Bergamo is beneath the national average. Only 3.5 per cent of the adult population had a university degree in 1991. This ratio has increased to five per cent today, following the marked increase in university enrolment over the last few years. These increases in enrolment are probably due to expanded programmes at the University of Bergamo. However, in 1992, 27 per cent had a bachelor's degree or equivalent in the US (26% in Australia, 22% in Denmark, 20% in the UK, and 12% in Greece) (see OECD, 1995). Although the percentage with a university education undoubtedly has risen in the past decade, the low numbers do not bode well for the region's plans to expand its high tech sectors. The province is still behind other parts of Italy and competitor regions.

Tertiary education is not primarily important per se; what matters is the adaptation of the curricula to the needs of the local business community. In this respect, the structure of the Bergamo curricula is rather surprising given the industrial base and strong manufacturing tradition in the provincial economy. The following figure gives an overview on the curricula that students choose at the University of Bergamo (Figure 18). (For comparison, enrolments in Lombardy are given). Enrolments demonstrate a high preference for engineering, languages, and liberal arts, and a lower preference for economics, political science, and architecture. Trends in the educational fabric of the province somewhat underline the data. The engineering programme at the University of Bergamo located at Dalmine is quite recent and still small. The school has 28 faculty chairs and offers pro-

Figure 18. Choice of university studies



Source: IRS.

grammes in management, mechanical and, just recently, civil engineering and computer sciences, partially financed by business entrepreneurs.

Another factor is the somewhat restricted international networking of the educational sector. Nearly all of those who do go on to university attend in the region, and there is little evidence of the sort of trans-national mobility that is being encouraged by various EU programmes. Although Bergamo students transfer to other countries through the EU's ERASMUS programme, few international students transfer in, so there are few opportunities for cross-fertilisation of ideas. The province might benefit from an alliance with a mature and well-known university that would offer complementary courses on site and regularly exchange students and faculty. In the US, for example, Georgia Tech operates out of other sites in Europe and in co-operation with other schools.

Furthermore, life-long-learning and the respective interconnection between education and the labour market are not yet particularly easy. In Bergamo, as throughout Italy, there are few "second chance" opportunities to re-enter the edu-

cational system and return to an institution to begin or complete a degree. Although there are many very good training programmes, none awards the credits that would apply towards a recognised and transferable degree. No institutional framework yet exists that is comparable to the community colleges of the US or the Institutes of Technology of Ireland, Further Education Colleges of the UK, or the continuous-education or part-time curricula offered by the various technical schools in Switzerland.

The Italian education system, from primary to university, leaves a certain impression of not being well connected with economic development. The university seems to be quite independent and does not view itself as a community resource or support system for the economy. Attempts to create stronger links have been made, and an intermediary body, *Pro Universitate Bergomensis*, exists since the beginning of the 1990s, but up to now it has failed to produce harmony between the city and university. Education in Italy does not seem to have the same tradition of community service as in other countries like the Nordic countries or the US where schools tend to be more of a resource to the community and more tightly linked to the labour markets. School administrators and counsellors in the province of Bergamo are often not familiar with the technical workplace and thus cannot really advise students.

The Italian public education system, having changed little since the 1950s, is now in the midst of a series of decentralisation and autonomy reforms that are beginning to reach into Bergamo's educational system. The new autonomy given to the universities gives local faculties more freedom to tailor curricula to local needs. Vocational institutes are reducing their occupational specialities from 103 to 17 in order to prepare more flexible employees (Mengali and Russo, 1998). Nationally, curricula have increased their emphasis on basic skills and reduced emphasis on manual skills. Further, the age for compulsory education is being raised to 15 and obligatory training to 18. However, while the reforms may transfer more responsibility for the structure and management of education to the province, according to local officials the content remains centralised in Rome and is not yet as flexible as intended. There is at present a large uncertainty over the scope and the results of the reforms, and fruitful partnerships at the provincial level between economy, society and educational institutions have yet to be developed.

The innovative potential of the Bergamo economy

Innovation and patent application

Educational achievement and the innovation potential of local firms are not necessarily interrelated. The manufacturing sector in the province of Bergamo has

produced permanent endogenous micro-innovations despite low levels of formal education. Even today, Bergamo still has, despite low levels of education compared to other industrialised regions, one of the most successful systems of technological innovation in Lombardy. A survey carried out by the Chamber of Commerce revealed that three of eight firms surveyed (mid-sized and large) declare themselves to be innovators. Measures used include patent applications and investments in R&D. About 200 firms in Bergamo actually document their investments and expenditures for R&D on site, of which 100 in specialised R&D units and 100 as discrete activities within their production operations. Other firms conduct R&D as part of their normal operations, such as solving problems or developing or testing new products, but do not distinguish the costs. In general, provincial firms have done relatively well in process innovation, as evidenced by the numbers of grants for automation and controls. Furthermore, the scale of the regional grant programme to support modernisation is very large compared to similar US state programmes.

However, two problems should be considered. First, as a union official noted, the regional grant programme has been slow in developing and commercialising new products, important to emerging sectors like biotech and software. Second, patent application in a comparative perspective are still rather low albeit increasing. New patents are a crucial measure of innovation. The province has doubled the number of European patents by companies, but only from about 20 to 40 per year. Compared to many industrialised nations this number is still quite low. If the estimate of 40 is correct, it represents about 0.09 patents per 1 000 workers. The average for the US is 0.48, and the most innovative states averages more than 0.80 per 1 000 workers. Officials believe that the low number reflects not a lack of innovation but merely a reluctance to apply for patents. Therefore, the Chamber of Commerce in 1998 initiated a prize for the best patents to spur applications. Since patents allow firms to better exploit the value-added of process and product innovations, patented and therefore protected innovation is to a certain degree a prerequisite for future growth.

Technology services

The distinction between high tech and low tech is in many ways no longer valid. In the future, even a traditional machining company will have to use sophisticated equipment and be expected to become an e-business in order to interface with customers, bid on contracts, and market. Thus, mechanisms to promote technology diffusion are as important to Bergamo's economy as R&D. Since 1995 there has been an industrial modernisation service, which recently integrated with Servitec. Servitec is also pro-active in addressing some of the diseconomies of scale issues by promoting networking approaches among firms.

Discussions about the need for some public sector infrastructure to spur innovation and transfer technologies to SMEs began in earnest in about 1993. Following a study of other science parks, in 1996 local authorities established Point Park in Dalmine near the city of Bergamo and assigned Servitec to manage it. The park also houses three research centres of the University of Milan that moved from the city to Point, a laboratory of CNR, two private R&D companies (biology and microbiology), a national plastics institute, a business incubator that houses ten companies, and the Faculty of Engineering of the University of Bergamo. Point Park and Servitec work well. They provide an adequate forum for co-operation among firms where economies of scale prevail, hence they mainly reduce the cost of technology transfer to small and medium enterprises.

“High tech”: how important is it?

The lack of higher technology industry in Bergamo is viewed as a potential obstacle to continued growth. Without a strong R&D base for such industries, they will be difficult to develop. In the US and in northern Europe, most R&D clusters have developed around major research universities. The recent investments in R&D at Point Park are intended to create a source for high tech industry, and to support technical innovation in local firms, also through a strong involvement of the local University. The prerequisites for sustained high tech growth, mainly a high and well-connected formal education system, are not fully met in Bergamo yet.

In general, high tech partisans have to be reminded that a high tech industry itself is not a guarantee for sustained growth. The enthusiasm with which technology parks have been created in Europe in the past and resources have been devoted to develop high tech industries has subsided. Apparently, creating the critical mass and networks to boost certain industries is very complex and does only partially depend on formal public investment. Furthermore, the case study of the Öresund region has revealed that it was the “low tech” industries which were the driving force for economic development, not the much praised high tech firms which contributed only little to value-added and working places. Experience shows that high tech industries have to match the existing network and production patterns of local firms, as well as of the education system, if they are to be successful. Even with huge investments, there is no magic formula for creating them out of nothing.

Therefore, as for a collaboration of the public and the private sector in the province, it appears to be a better investment to develop the technologies made or needed by its strongest industries. One example is nanotechnology, because it relates directly to the industrial machinery and electronics sectors. In this respect Bergamo, through Point Park, is already hosting the Nanotechnology Development Centre of Milan University. Another example is microbiology, which concentrates

on industrial waste problems and is a potential complementary technology in the current economy. In Bergamo, there already is a laboratory for environmental microbiology and for genetically modified organisms. Fostering those future key industries could be one of the core industrial policies for the province in the future. Biotechnology appears to be a long shot at best, except to the extent that it supports products produced locally such as cosmetics.

Information technologies

Information technologies (IT) – not as a product, but as a process innovation – may be the most important, yet least developed, technology for Bergamo's economy. Without e-commerce/e-business, Bergamo's local suppliers will not be able to meet increasing demands from OEMs, and its final producers will not be able to maintain their market shares or provide the Internet-based services necessary to compete. The economy also lacks a sufficient number of IT service companies to support IT-intensive businesses. Failure to develop this core technology of the new economy will result in Bergamo being on the wrong side of what in America is called the "Digital Divide" between the haves and have-nots. A sufficient support structure in the Province of companies such as network administrators and web designer firms, and software developers is especially important as companies adopt IT and begin to rely on the Internet. The local shortage of support services for IT (although Point's incubators do have some fledgling companies) is due in part to proximity to these services in Milan.

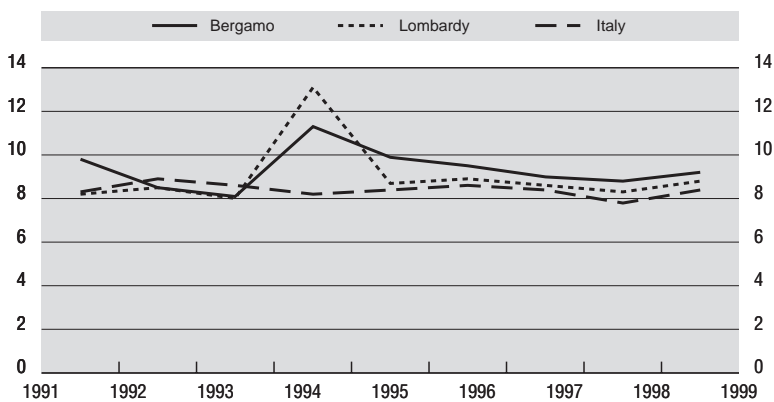
Few Bergamo manufacturers or service companies have made the transition to e-commerce or e-business that is increasingly being required of suppliers and that is becoming necessary to market globally. For example, members of the US National Tooling and Machining Association—mostly small family-owned businesses—are increasingly being asked to respond to bids over the Internet on a very short time line. This is a problem throughout Italy, which "*lags behind other developed countries in the race to the Internet*" (Fuller, 2000). Only the large employers seem well prepared for IT. Although the schools are now better equipped with IT connections, only a limited number of hotels, for example, are set up for Internet services, and there were no Internet cafes observed anywhere in Bergamo. The Banca Popolare di Bergamo and the Chamber of Commerce are in the forefront of the conversion to e-business, and are taking up some of the slack in training the workforce. Chamber of Commerce, Unione degli Industriali, ASCOM and Servitec created recently CEB, a centre devoted to support companies approach to e-business. HP has set up one of its two Internet research centres in Bergamo, the other one being in Finland. However, the public sector, mainly within the education system, ought to take more of a leadership role.

New business creation

The province of Bergamo has a lower rate of new business formation compared to Lombardy and to Italy. Furthermore, the gross rate of enterprise creation has fallen considerably in the last few years (Figure 19). Given northern Italy's reputation for entrepreneurial energy, this is a potential limitation to future growth, particularly when combined with reduced foreign investment. The impression prevails that Bergamo entrepreneurship has no economic development strategy and will continue as in the past. Since the education programmes in Italy, as in most countries, are designed more for employment than self-employment, and since there is some evidence that today's young people are less imbued with entrepreneurial spirit than those in the past, there may be a long-term problem of economic development.

The need for entrepreneurial energy is not only necessary for traditionally industrialised regions, but also for remote areas. It offers an economic opportunity that might discourage young people from leaving when they finish their formal schooling. Furthermore, areas that rely more on their own business are becoming less dependent on public regional transfers. However, there is a clear lack of "political entrepreneurship" in those regions. The *Comunità Montane*, for example, are strongly redistribution-oriented and make no mention of entrepreneurship among its needs or interests.

Figure 19. **Gross rate of enterprise creation in public and private sector services**
Per cent



Source: IRS.

An example of an entrepreneurial education strategy in the US (emulated in other countries) is REAL Enterprises (Rural Education through Action Learning). REAL is a secondary or post-secondary curriculum in which students and teachers plan, design and operate a business venture as a learning device but with the potential of becoming economically viable and creating local jobs. Italy apparently has a very successful similar programme operated by IG SPA (Government Agency Youth Entrepreneurship) and Chamber's *Formazione* is involved in the diffusion of the IG programs in Northern Italy. This programme is intended to develop an entrepreneurial culture among youth. The Banca Popolare di Bergamo has an exclusive nation-wide agreement for the next five years to provide financial assistance to new enterprises developed by participants.

Finally, it should be noted that new businesses are not confined to the industrial sector. The service sector in Bergamo created 31 000 new jobs, representing an increase in employment from 88 000 to 110 000 between 1981 and 1996. The greatest expansion occurred in the categories "real estate, rental, information technology, research, professional and business", where employment almost tripled with a net increase of 17 000 jobs. Financial and banking services also expanded considerably (+3 000 jobs, an increase of 46%), as did wholesaling and retailing (+5 000 jobs). Furthermore, tourism and entertainment, if properly developed, could also create new businesses in the future. It is important to take into account start-up programmes for all kinds of enterprises.

"Intermediate specialisation": education and innovation in a supra-provincial context

It is important to note that proximity to the Milan metropolitan area, with its national and internationally renowned educational institutions, provides the province of Bergamo and its students with access to one of the most innovative and competitive centres of Italy. Around 25 per cent to 30 per cent of Italian research is performed in one of the six Milan universities and in public and private research institutes. Businesses in Bergamo may draw on people educated at these universities or on their research results. With respect to education and training, many areas of the province of Bergamo are closer to the Polytechnic of Milan than to the University of Bergamo, offering strong incentives to study outside the borders of the province. The Bergamo economy therefore need not rely entirely on endogenous educational efforts. The strong educational interdependence between the province and Lombardy should be borne in mind when addressing specific issues for the education sector in the province.

The same holds true for innovation. Innovation need not necessarily be the domain of local firms or the research institutes and universities associated directly with the province. Knowledge about products and processes can also be bought "on the market", at the research institutions of the metropolitan area of Milan, or

even at any place in the world. Firms may use expert knowledge or innovative products and processes from any renowned and specialised source. Since knowledge is spread all over the world, Bergamo society and economy do not, and even should not, rely only on knowledge and innovation provided by sources within the borders of the province. Specialisation in certain economic sectors does not mean a spatial concentration of the knowledge potential for them. In short, using the words of globalisation: the *local* society and economy of Bergamo can base its innovation activities on access to *global* sources of education and knowledge.

Consequently this means that the educational institutions of Bergamo do not have to compete on all aspects and all levels of educational attainment. Furthermore, they do not have to provide the whole economy with all the kinds of innovation results and educated people it may need. Given the closeness of Milan with its research institutes and its high level of educational attainment, there is even less need for a self-sufficient system that provides the Bergamo business sector with all types of education and innovation. Again, it would even be dangerous for the educational sector to be the sole provider of innovation and educational attainment since this could lead to the already mentioned path-dependencies and lock-in effects. However, it is true, and has been confirmed by various research results, that spatial closeness of firms and educational organisations is a prerequisite for sustained growth. This means that it is essential for the province of Bergamo to develop some kind of specialised educational attainment within its borders. Nonetheless, for its final products, the province should rely on the specialisation and comparative advantages of its educational system – and this is the capacity to engineer, absorb and adapt any innovation to meet the needs of the local business fabric.

The organisation of education and innovation in the province therefore has to find an adequate level of specialisation and integration into the local economy. The national educational institutions located in Milan – or even further away – provide solutions for specialised high quality level requirements of the Bergamo economy. Education in Bergamo trying to compete with the Milan institutions would not only lead to costly spatial duplication. It would also increase the gap between education, innovation and its grassroots application in the society and economy of Bergamo. A successful provincial strategy, providing an appropriate level of education, may therefore assume the form of “*intermediate specialisation*”: education and innovation systems that do not compete with, or copy, those of Milan, but offer a large educational and innovative background for the business sector in the province. In this context, the Bergamo educational system would be “specialised” in the specific economic structure and potential of the province, and it would be “intermediate” in the sense that it would be based on applied research, and innovation and the engineering capabilities associated with it. Given that the Italian central state is turning more and more educational preroga-

tives over to regions and provinces, Bergamo will have real discretion to invest into core competencies of its system of education and innovation.

Conclusions and recommendations

In sum, the features and the relationships of education, innovation, the labour market and the economy in the province of Bergamo can be characterised as follows:

- *Educational level*: Educational attainment is low. This is due to a combination of various reasons: a strong traditional aversion of formal education, a labour market that does not reward higher formal education, an industry structure that still relies much on unskilled workers, and a formal education system that is poorly adapted to the needs of the business sector. The Italian formal education system is rigid and does not allow for continuous education. Higher education is not connected to the provincial economy. Tacit skill development opportunities are good and training on the job is very strong, but this kind of training is disparate and not well co-ordinated, and it is not suited for specific skills required for innovation. However, the situation has changed in the last few years given that enrolment in secondary and tertiary education has increased significantly.
- *Innovative potential*: The rate of measurable investment into research and development is low despite a high self-reported rate of innovation. The rate of patents filed is low compared to international standards. Information technologies are not yet widely used. Few high tech industries are present in the province, although this need not be a disadvantage. The political and financial support for R&D is limited. Support of innovation is still mainly directed at the manufacturing, and only marginally to the service sector. The low innovative potential of the economy is most certainly linked to poor educational attainment. Again, the situation is improving since patent application and formal R&D in industrial companies have been intensified in the last years.
- *Business creation*: The rate of creation of new businesses is low compared to Lombardy and even to the rest of Italy. A tight labour market reduces interest in self-employment but increases the probability of success. Female entrepreneurship is low. There are few high tech business start-ups. National programmes to promote young entrepreneurs are active mainly in southern Italy, but have now been extended to northern Italy. Efforts by universities to help academics create their own businesses (spin-offs) are very restricted. Again, the low rate of business start-ups seems to be connected to the education system in the province, which does not strongly promote self-employment.

Recommendations

The economic and education systems of Bergamo are at a crossroads. The traditional ways of learning and acquiring skills that worked well in the past no longer seem to be able to guarantee sustained growth in the future. Some changes in the education and skill development systems in the province are vital for the future development and capacity to innovate of Bergamo's economy. None of the other reforms or new recommended policies will be effective without a workforce that possesses the skills, knowledge, and ingenuity to exploit potential economic advantages. If the province is to move toward higher value-added and knowledge-based processes and industries, the non-manual skill content of work is likely to increase, making formal, codified knowledge even more important.

The province should develop its educational system towards a philosophy of "intermediate specialisation". Given the closeness of Milan with its many excellent national education and research institutions, the Bergamo education system should specialise according to the demands of the local economy and concentrate on applied research and innovation engineering. The province should:

- *Create avenues for re-entry into formal education*: Adults should be given the chance to re-enter the formal educational system to acquire new or additional credentials as is the case in other industrialised countries. This could start with a small number of programmes at the University of Bergamo, providing access for mature applicants. These programmes should then eventually be integrated with the educational systems, as has been done in the US, the UK, Ireland or Switzerland.
- *Make formal education more accessible to working people*: New and alternative forms of education and training that allow workers to continue their education while working or involve only short interruptions should be created. Examples include evening or weekend classes, accelerated/fast track programmes that combine work with school, and Internet-based programmes. It is vital, however, that employers encourage continuing education by offering incentives to employees to complete their studies, in the form of flexible working hours, financial rewards or support for completion, or promotion opportunities.
- *Attract women to non-traditional occupations*: Develop schemes to recruit more women into scientific and technical programmes. This is a long-term goal that will require support from families and communities. It may be easiest to begin with new technical occupations such as information technologies, which have not yet developed a strong gender-based identity.
- *Co-ordinate training options*: The Province should create a "one stop shop" for employers to help rationalise the various training programmes. This could minimise duplication and maximise quality, helping employers assess their

training needs and make optimal choices. The “shop” should also facilitate the formation of local skill alliances, which would bundle training for groups of companies and thus reduce companies’ unit costs (these alliances are already forming in some places).

- *Strengthen links between education and the economy:* Rely more on employer demand to drive the selection and content of educational programmes and the curriculum of vocational and technical programs. A strategic planning process that involves schools, industries, labour, and government might produce a skill development system that more effectively contributes to economic development. An entity similar to Great Britain’s Learning and Skills Councils or the Workforce Investment Board in the US could co-ordinate linkages and help ensure that the schools are responding to demand.
- *Improve the image and status of vocational and professional educational programmes:* “Magnet (secondary) schools” in certain critical fields such as ICT or advanced manufacturing can help make industrial careers more attractive. Benchmarks for such programmes are in Germany, Austria, and Denmark, where vocational training meets high educational standards. One approach might be to require all students to have some form of workplace experience in order to graduate. Another would be to establish international exchanges to promote such programmes. In all cases, more training for employer mentors is needed and the academic portions of vocational programmes, which are now perfunctory, must be strengthened. Externships for teachers and counsellors to work for certain periods in industry could also be provided.
- *Develop new curricula:* Manufacturing will not be the only source of revenue for the province of Bergamo in the future. Services will play an ever-increasing role in generating income. For example, one area where Bergamo could excel is tourism. Bergamo has definitely a potential in these two sectors but does currently hardly exploit it. Local authorities should examine the possibility of setting up specific schools, or broadening existing curricula, devoted to these sectors. Investments in the respective curricula could boost the development of those economic activities and further promote the unique image of Bergamo. Conversely, a close collaboration between those educational institutions and the respective local business fabric has to be secured early on.

Tourism and Sustainable Growth

Introduction

The province of Bergamo is endowed with many tourist attractions. Its geographical position, encompassing mountains as well as plains, give it landscape diversity that is almost unparalleled. The province presents a wide-ranging and diverse cultural patrimony. Architecture, art, historic sites, wines and gastronomy are prevalent features. The main distinguishing characteristic of its cultural heritage are churches and palaces and the works of art that they contain, some of which are world-famous. The province has several cultural institutions. Furthermore, due to the high bio-diversity of the central Western River Po valley/Alpine region, the province has important natural assets that are subject to study by universities and museums. The botanical and zoological diversity of the Lombard Pre-Alps region and the number of its endemic species are among the highest in the central and northern part of Italy. Protected areas cover almost 30 per cent of the surface of the province.

However, these assets are scarcely known to the outside world. Tourism plays a marginal role in the development strategy for the Bergamo economy. Most tourism activities are scattered and isolated. A marketing strategy that could pull together the region's different actors and link its tourist assets is hardly perceptible to an outsider. The offer of tourist infrastructures, such as accommodations or specific transport facilities, is inadequate. Tourism policy should be directed more towards specific urban tourism based on Bergamo's rich cultural heritage, or green rural tourism, using existing natural assets and amenities. There is no visible strategy to link internationally well-known products, such as San Pellegrino mineral water, or Taleggio cheese, to the territory from which they originate. In general tourism, compared to its potential, appears to be clearly under-valued in the province.

Promoting economic growth, while ensuring its compatibility with environmental concerns and safeguarding the local social fabric, is one of the key objectives to be pursued in developing tourism. Tourism can have a marked impact on the economy, and can account for a substantial portion of GDP. Tourism has a

major effect on job creation, being labour -intensive, whatever the level of skills required. It also stimulates activity in many other sectors of the economy, such as transport, construction and food industries. Its growth prospects hold real opportunities. It can also threaten an economy. It can do irreparable harm to the environment and local societies, jeopardising the sector's own development potential. Bergamo has a large tourism potential. The challenge for the province will be to develop it in a way that enables it to contribute meaningfully to sustainable economic and social development.

1. Tourism as a factor of development

Opportunities of tourism

Over the last 25 years the travel and tourism industry has taken its place world-wide as a leading economic sector thanks to its capacity to boost trade and open up regions lagging behind in their development. Some studies indicate that tourism already accounts (directly or indirectly) for one out of every nine jobs in the EU, and is set to generate a 46 per cent increase in employment by the year 2007. This sector's contribution to national economies is also reflected in the tax revenues it provides for public budgets. Tourist projects also have an indirect effect on the development of infrastructure and public services like transport and medical services, which benefit the local population. Tourist revenue can also help enhance and protect cultural and natural heritage.

The EU countries continue to add impetus to this growing phenomenon. They were the prime mover in the development of an industry which now accounts for 5.5 per cent of GDP, six per cent of jobs and upwards of 30 per cent of trade in services, and they are holding their own as the world's premier source market with, in 1997, 17 per cent more services sold to foreigners and 18 per cent more services bought by Europeans abroad than in 1995.

Demographic, social and cultural changes in the main source countries are evident in the increasing number of new niche markets: a growing pensioner population and more single people and childless couples, who are more likely than families with children to head for faraway destinations. Tourist behaviour is changing, too, as witnessed by the growth in demand for destinations not geared to mass tourism and offering genuine quality of service, and also by the widespread interest in nature, culture, adventure and sporting holidays.

On the supply side, distances are shrinking with decreasing prices following the liberalisation of air transport and the advent of new information and communications technologies. The travelling consumer now has more choice and access to better, swifter and more comfortable transport. Long-haul trips are no longer the obstacle they once were. Information technology and new means of communica-

tion, such as the Internet, are enabling small operators, albeit vying for customers with a host of competitors, to get their products quickly and cheaply to the individual traveller, cutting out the middleman and increasing the percentage of the cost that benefits the country visited.

Tourism is now a key sector or is likely to become one in many countries or regions that show potential. Some of those places are already mature destinations with a full-fledged tourist industry on which their economies are highly dependent. A fair number of them are already feeling the adverse effects of untrammelled growth and are having to upgrade their tourism product. Other regions are emerging destinations with a modest but increasing tourist flow. Their success will depend on their ability to manage and control growth. Lastly, potential destinations with little or sporadic tourist activity are seeking to develop their tourist appeal. Unfortunately, the conditions for getting a tourist industry off the ground are not always present.

Threats to the local culture and environment

While global tourist demand is on the increase, the number of destinations and global capacity are advancing even more quickly. To hold on to their market share, the most developed destinations and those most dependent on tourism will have to cope with competition by enhancing quality and by diversifying their products and markets. Emerging and potential destinations will have to find their niche in this competitive market by capitalising on their “uniqueness” and novelty, and by avoiding mistakes made by other destinations.

The development of competitive products is held back by factors such as difficult access, inadequate infrastructure, chronic shortcomings in transport, unsuitability of facilities, an absence of investment funds, rudimentary technology, lack of management know-how and a dearth of skilled staff. Problems encountered by local firms, in particular small businesses, in tapping international services markets, are exacerbated by a lack of a commercial and marketing strategy, made all the more crucial by tight budgets. Political instability, economic difficulties and misguided publicity, can also harm the image of the destination and diminish sector's profits.

European consumers have come to expect certain quality, reliability and safety standards both in respect of the tourist products and the environment in which they are consumed, as is often reflected in Community legislation designed to protect the travelling consumer's safety and legitimate rights. In some cases, as the directive on package tours, the application of this legislation can also affect tourist service providers in host countries outside the European Union. This is a further reason why tourist firms, notably small businesses, should always offer reli-

able services and why the authorities should monitor the conditions in which those services are provided.

If not kept in check, growth of tourism may damage the environment (nature reserves destroyed, biodiversity under threat, water pollution, production of waste); and harm the cultural and social fabric (job insecurity, deteriorating working conditions, prostitution, threat to human rights, impoverishment of culture and traditions, overexploitation and consequent degradation of cultural sites). The concerned heritage runs the risk of being damaged or ruined, leading to a decline in tourism itself. Sustainable growth depends on respect for and development of cultural and natural heritage. The main reason why holidaymakers visit a destination is the availability of natural and cultural resources, which have a pulling power at international level.

Although change can be accepted to a certain extent and although it is considered part and parcel of the development process, tourist destinations have certain limitations in terms of space and what the local society can bear. This can be measured in terms of density of construction, constraints on natural resources or on the percentage of tourists compared with the local population, in a given period. If a certain influx level is exceeded, this may *a)* have a negative effect on the pulling power of the destination, *b)* diminish the quality of life of the local people, *c)* make the cost of public investment in the development of tourism prohibitive.

The size of the tourist influx depends on the extent to which the area visited is at risk environmentally or culturally. Similarly, account has to be taken of the very nature of the tourist activities concerned and how far they meet sustainable development criteria. Account should also be taken of the adverse repercussions of non-sustainable development of tourism on the wider environment beyond the area most directly affected, in particular the impact of transport, notably air transport. If the attractions of tourism which contributed to their development were to disappear owing to a degradation of the areas concerned, these destinations may in the long run suffer more losses than gains.

Institutional frameworks

Although private enterprise is the mainspring of tourism, its sustainable development requires public sector involvement and support in putting in place the necessary legislative framework and regional planning, in co-ordinating the various administrative levels of competence and ensuring co-ordinated action among the various players involved.

Sustainable development of tourism requires the involvement of the public authorities and a structured and ongoing dialogue between all the partners: public sector, private enterprises and civil society. It is the public authorities who shape the environment in which the industry can develop. They have direct

responsibility in a variety of fields such as security, health and the bulk of basic infrastructure. Responsible management of the natural and cultural heritages on which the development of tourism is founded, such as beaches, watercourses and lakes, natural parks, monuments and museums, is also an essential function which the governments must assume with the support and collaboration of enterprises and citizens alike.

Since tourist assets are perishable and large international companies such as airlines, hotel chains and tour operators can always move to new destinations, the short-term economic advantages of untrammelled growth can vanish overnight. If there is no rigorous administration and planning, short-term development can spawn long-term problems. Well-organised public administration is always necessary to ensure optimum impact of tourism. As many different public bodies share responsibility for development, inadequate co-ordination is often the cause of unbalanced growth and a lack of competitiveness, compared with similar destinations. In this respect, the institutional framework is often insufficient. Governments often do not give the matter adequate attention, such as monitor and control the positive and negative impact of tourism. Furthermore, local "owners" of amenities are rarely given any incentives to manage them for medium and long term instead of short-term objectives.

Civil society also plays a role in making a destination a success. For the local population to benefit from tourism, without suffering its ill effects, it is vital to accept tourism and to establish a model of sustainable development that respects its traditions. In conclusion, for the development of tourism to be viable, the industry, the public authorities and civil society must work in concert, taking account of the needs of the market, the needs of the local population and the special features of the destination.

2. Assets and threats for tourist development in the province of Bergamo

Cultural and natural resources

The "Catalogue of natural and cultural attractions in the province of Bergamo" (promoted by the Chamber of Commerce of Bergamo, and drawn up by the University of Bergamo and the National Research Council (CSGAQ, 1999) in co-ordination with Servitec Srl.) lists 1 116 historical, artistic, cultural, natural, and gastronomy attractions. Of these, 108 appear in any tourist brochures and are therefore known tourist resources.

Heritage

Bergamo and its province offer a widespread and diverse patrimony, but the main distinguishing characteristics of its cultural heritage are churches and palaces

and the works of art that they contain. This heritage is quite evenly distributed throughout the province, even if the bigger concentration is located in the city of Bergamo (notably in the Città Alta).

The province also has several cultural institutions, such as: the Museo dell'Accademia Carrara (1 200 works of art), the Angelo Mai Civic Library (600 000 books), the Donizetti Theatre (which has one of the highest numbers of season ticket-holders, in percentage terms, in Italy), the Bergamo-Brescia Piano Festival, and the Laboratorio 80 (one of the most important centres for promoting film in Italy). Other relevant institutions for the cultural fabric of the province are the Ateneo di Scienze Lettere ed Arti, the Teatro Tascabile di Bergamo, and the Fondazione Ravasio which revived the tradition of puppet theatre, etc.

Wildlife, geology and archaeology

Due to the diverse geography of the province, and the high bio-diversity of the central Western River Po valley/Alpine region, the province has important natural assets that are subject to study by universities and museums. The botanical and zoological diversity of the Lombard Pre-Alps and the number of endemic species are among the highest in the central and northern part of Italy. The archaeology and geology of the province are equally significant: its dinosaur fossil and sediment remains are of international importance. Museum-related initiatives are currently in progress, such as the Palaeontology Park near the village of Cene that recently opened. The Lefte and Pianico lacustrine series, in which abundant remains of stone-age lake dwellers were found, are locations of great geological and archaeological interest, attracting international excursions and congresses. The province was once famous for its production of whetstones, now subject to museum-related initiatives.

Protected areas

The Province of Bergamo counts 12 protected areas covering 29.6 per cent of its surface (813 sq. km) (Table 24). They were set up by Regional Laws and do not therefore constitute national parks. Consortiums composed by municipalities, mountain communities and the Province manage them, drawing up joint plans for co-ordinated regulation concerning urban and country landscape, and budgets. These protected areas are divided into:

- Regional Parks. These are areas with uniform environmental protection, cultural and recreational requirements, and are governed by uniform policies for the development of agriculture, forestry and grazing, and for traditional activities designed to encourage the economic, social and cultural growth of the resident communities. They can be divided into river, mountain, agricultural, forest and metropolitan border area parks. There are five such parks in the

Table 24. Protected areas in the Province of Bergamo

Name	Type	Provinces	Area (hectares)
Parco dei Colli di Bergamo	Agricultural and forestry park	BG	4 050.0
Parco dell'Adda Nord	River and metropolitan border park	BG, LC, MI	5 580.0 (total)
Parco dell'Oglio Nord	River and agricultural park	BG, BS, CR	14 170.0 (total)
Parco delle Orobie Bergamasche	Mountain and forestry park	BG	63 000.0
Parco del Serio	River and agricultural park	BG, CR	27 750.0 (total)
Fontanili e dei Boschi	Nature park of inter-local authority interest comprising springs and relics of plain forest	BG	150.0
Boschi del Giovetto di Palline	Regional nature and partial biogenetic reserve containing mountain forest and alpine meadow	BG, BS	4 794.9 (total)
Valle del Freddo	Nature reserve with particular geomorphological phenomena	BG	70.3
Fontanile di Brancaleone	Nature reserve, plain springs rich in invertebrate fauna	BG	10.1
Valpredina	Nature reserve, foothill forest, WWF oasis since 1982	BG	37.0
Boschetto della Cascina Campagna	Nature reserve, relics of plain forest	BG	1.5
Bosco de l'Isola	Nature reserve, woodland bordering the River Oglio	BG, BS, CR	42.0 (total)

Source: IRS.

province of Bergamo (two entirely within the province and three shared with neighbouring provinces). Total land area (812 sq. km.) covers 29.5 per cent of the province and 99 per cent of total protected areas.

- Local parks of inter-local authority interest. These are protected areas of much smaller size, which function to link larger parks. There is only one park of this type in the province (1.52% of protected areas, 0.05% of the province).
- Nature reserves. These are areas specifically destined for nature conservation and the maintenance of eco-systems, and cover a total area of 3.70 sq. km (0.13% of the province). Some of these lie within Regional Parks.

The city of Bergamo

The majority of tourists who come to the province visit the city of Bergamo. The “old town” historic sites (the Santa Maria Maggiore Cathedral, the Cappella Colleoni, the Battistero, the Accademia Carrara picture gallery, etc.), its works of art and beautiful sites make Bergamo an attractive place also for international

tourism. Nevertheless, the potential for tourism in Bergamo is not sufficiently tapped and a major component of urban tourism is the result of business travel.

A survey in 1995 found that only 27 per cent of those interviewed identified the city of Bergamo as an important centre for art and culture, and 29.9 per cent as an interesting place for tourists, while 40.1 per cent perceived it as a business city of some tourist interest, and 2.7 per cent as exclusively a business destination. More recently, during an important exhibition on *Lorenzo Lotto*, another series of interviews was conducted among visitors. The results were quite contradictory: a fair proportion of those interviewed judged the city to be worthy of a 2-3 days visit, but the actual length of stay is much shorter. Moreover, the supply of goods in shops does not seem to satisfy the tourist market. While visitors at the *Lotto* exhibition considered the city as a whole (70%), the museums (60%) and historic sites (65%) of high tourist interest, their judgements were more severe with regard to shopping and the price of local food.

Regional regulations and tourist infrastructures

Regulations

The national and regional legislation that applies to protected and listed areas is perceived by many as too extensive and strict. Although the legislation often provides also for economic development of the concerned areas, it should be pointed out that the “special regime” is often perceived by residents or institutional actors as a restriction on land use. Following is a short list of major regional regulations:

- Framework law on protected areas (Regional Law No. 5, December 1991).
- Protection of the environment with particular regards for lake and river environments (Regional Law No. 3, July 1977 and subsequent amendments).
- Protection of flora in the parks (Regional Law, No. 9, January 1977 and subsequent amendments).
- Protection of nature reserves, regional parks and natural monuments (Regional Law No. 33, November 1983 and subsequent modifications).

Infrastructures

According to the 1999 “provincial annual report” tourist infrastructures in the province include: 318 hotels; 51 eco-tourist centres; 27 alpine refuges plus four huts; 11 campsites of which two on lake Iseo and the others in the mountains; one youth hostel. Road transport infrastructures include a stretch of the A4 Milan-Venice motorway, 420 km of state road, 1 073 km of provincial road and a dense network of secondary local roads. Both tourist accommodation and road transport

Table 25. **Dwellings used for vacations in the provinces of Lombardy**

Provinces	Number of dwellings
Varese	18 004
Como	25 676
Lecco	23 072
Sondrio	31 809
Milan	7 301
Bergamo	50 920
Brescia	44 747
Pavia	10 389
Lodi	623
Cremona	1 571
Mantua	2 177

Source: Census data, 1991.

infrastructures are insufficient for the current tourist demand mainly based on business tourism. In particular, hotel accommodation is quite underdeveloped from the viewpoint both of quality and distribution throughout the province. On the other hand, there are a large number of holiday and country houses, one of the highest in Lombardy (Table 25).

Finally, five popular spas such as San Pellegrino Terme and 21 winter sport centres, equipped with ski schools, complete the tourism offer of the province of Bergamo. The skiing resort groups three locations, offering alpine, cross-country and mountain skiing. This offer is not sufficient even to satisfy local demand. There is a lack of co-ordination and initiatives to compete with other skiing locations of greater attraction in nearby areas. Recent initiatives for new centres, or expansion of existing skiing centres, have often been halted. The environmental costs, which are judged to be high, have not yet been adequately studied.

Strengths and weaknesses for tourist development

The strong points in favour of the development of a consistent tourism strategy are represented by the airport, a rich cultural heritage, and an interesting landscape stretching from the Po plain with the beautiful Adda River and lakes, to the foothills and mountains. However, the impression is that these strong points at present represent opportunities only as they are not really being exploited. The airport seems to serve much more for Milan-East business flights and outgoing tourism than for incoming tourism.

The hotel supply seems in no way adequate for such an attractive city and region, and to outsiders there is no evidence of a marketing strategy. Moreover, con-

siderations on the future development of tourism for the province seem to be based more on traditional attractions oriented towards the valleys and hills. But modern event tourism is linked to larger infrastructures than what the ski regions in the province can offer, and has a definite urban character. Other weak points are a lack of general promotion of tourist resources, such as advertising using CD-ROMs, Internet, brochures, tourist trade fairs, tourist guides, etc. Roads are frequently congested, and public transport services, especially to the valleys, are insufficient. Opening times for visiting places are often too limited and not adapted to the needs of tourists, and there is a lack of qualified personnel sometimes. Further threats to developing tourism in Bergamo are a worrisome environmental situation reflecting the marked industrial character of the province, and the tendency of local (and very individualistic) actors to engage in fierce "competition".

A recent positive experience, an exhibition on *Lotto* (Table 26), demonstrated that significant and well-organised events can draw many visitors to both the city of Bergamo and municipalities in the province. This initiative, the first of its type undertaken in the province, has persuaded the city authorities to continue in the same vein. Another exhibition, on *Caravaggio*, and another on XVIIIth century painters was set in 2000, and an exhibition on Evaristo Baschenis, organised by local authorities and Accademia Carrara with the Metropolitan Museum of New York, was shown in November 2000. This new strategy, developed by the Chamber of Commerce and other institutions to bring important yearly events to the city of Bergamo, has had very encouraging results. Such a strategy should be implemented throughout the rest of the province.

Table 26. Numbers of visitors to the Lotto exhibition

Exhibitions /places to visit/itineraries	Location	Number of days open	Number of visitors
Lorenzo Lotto. The uneasy renaissance genius.	Bergamo	109	164 578
Marquetrv by Lotto. A journey between the Bible and Alchemy	Bergamo	110	33 885
Lotto at Trescore. Images, documents, subjects from the Suardi Oratorio.	Trescore Balneario	110	38 313
S. Maria Maggiore Choir	Bergamo	100	8 435
Guide round places with Lotto connections	Bergamo	109	13 000
The golden ways. Homage to Lorenzo Lotto.	Bergamo	73	20 000
Churches of the city.	Bergamo	109	25 000-30 000
Pinacoteca. Accademia Carrara	Bergamo	109	37 054
Ponteranica itinerary	Ponterancia	110	15 000
Credaro itinerary	Credaro	110	5 000-6 000
Sedrina itinerary	Sedrina	110	8 000
Celana itinerary	Celana	110	5 000-6 000

Source: IRS.

Particular attention should be paid to reorganising transport and setting up tourist information centres in strategic locations for access to the city and province, such as motorways, airports, rail and coach stations. A structured programme of events, maybe inspired by some of the eminent local personalities such as the leader of troops Bartolomeo Colleoni, Pope John XXIII, and the composer Gaetano Donizetti could also be a good way to catalyse attention. This programme should be accompanied by special tourist packages that integrate these events with accommodation and other facilities. Options should include tours covering the whole province, focusing on nature and the countryside, culture and the environment, etc., or theme tours including places of worship, Bergamo caves, or old industrial sites.

The poor exploitation of Bergamo's tourist potential is probably most visible with respect to the decay of San Pellegrino Terme. For an outsider it is hard to understand why such an attraction, offering possibilities for a spa with a grand hotel that could cater to an extremely interesting market is in such a deplorable state. The decision of the province to buy the old building is a welcome turning point, representing the beginning of a policy that aims to use this unique attraction for promoting the province. Such an asset should be part of a new tourism concept. San Pellegrino may be a world renowned brand for mineral water, but a minuscule percentage of water consumers probably know that its source lies in the heart of the province of Bergamo.

Table 27. **Strengths, weaknesses, opportunities and threats of Bergamo's tourism**

Strong points	Weak points
<ul style="list-style-type: none"> – Cultural and natural heritage – Airport 	<ul style="list-style-type: none"> – Hotel supply – Marketing strategy
Opportunities	Threats
<ul style="list-style-type: none"> – Culture and rural tourism – Spa and well being/fitness – Mountains/foothills chain 	<ul style="list-style-type: none"> – Competition – Environment

3. Coherent tourism development

Fostering sustainable tourism

Tourism is a vital part of the national and the local economy. It presents immense growth potential in the coming decades with tremendous benefits such as job creation and income generation. However, there are also considerable

threats to the environment in the broad sense, including the natural, social and urban environment. Tourism used to be perceived as clean, with low resource consumption and free of environmental impacts but this view is now being challenged. Since this sector could be an important means for maintaining the livelihood of a significant portion of the population in Bergamo, the issue of how to manage the development of tourism becomes relevant. The challenge is to develop a tourism programme that will attract visitors and enhance the economic welfare of the host community, while promoting environmental protection and respecting the local heritage and culture. Tourism based on a variety of quality products, reflecting the region's landscape, heritage and culture, could be developed. Bergamo's amenities are diverse, but each one individually cannot compete with the most famous coastal areas, or with the Dolomites, just to give an example.

“Network strategy” is probably the key word for developing the tourist potential in the province. The province has numerous attractions which taken alone may not trigger a critical mass of attraction, but if developed and promoted as a network could constitute an attractive tourist package. Examples of such a network include routes linking historical sites, cultural buildings and monuments, panoramic vistas, hiking paths, ecological areas, etc. The role of these routes is to reveal the unique characteristics of a region to visitors who otherwise could not perceive them by visiting only one or two of its sites. Complementary elements of such routes often include local food offerings and diverse accommodations, such as bed and breakfast facilities or farm hotels. Excellent information panels at each site and informative brochures are also essential. This type of tourism development can generate a number of enterprises: local shops, historical building restoration firms, specialised regional food and wine shops, art boutiques, etc. With all sites and activities attractively presented under a common “Bergamo tourism” roof, visitors would have the option to hike one day on a mountain trail, visit some rural churches the next day, explore the old city of Bergamo on the third day, and go to the thermal spas of San Pellegrino on the fourth day.

Successfully developing a network of rural and town tourist amenities requires a clear vision and careful planning. Since it relies on multiple sites and diverse attractions, it needs the involvement of multiple stakeholders. Partnerships with experts from various fields (education, business, environmental NGOs and others) have to be developed to guarantee that the planning and the implementation phases are successful. Only through such participation can a sophisticated tourism industry, respecting the environment and the social character of the region, be achieved. This partnership would also ensure that the various policies related to the environment, industry, agriculture and tourism are developed complementarily. The sophistication of this type of tourism calls for more training programmes for staff employed in the new businesses. This would ensure that the new jobs created by this industry would be filled by local people and not by entrepreneurs from the outside.

All tourist projects, however, are not necessarily desirable. Each community should examine its characteristics, including its location, to see if developing tourism would be acceptable and sustainable with its socio-cultural, environmental and economic aspects. The use of renewable and non-renewable resources must be planned and managed with a long-term perspective. Social aspects are also key for deciding how to manage the development of tourism since seasonal influx of tourists in an area often causes social disruption and inconveniences for local habitants, traffic congestion, noise etc. Finally, income generated from tourist activities must find its way back into the local community in order to maintain its support.

In deciding to develop specific tourist activities, attention should be paid to establishing some threshold or limits that should not be exceeded. They are:

- The physical carrying capacity (*i.e.*, the absolute number of tourists) that a resource can cope with.
- The ecological carrying capacity, *i.e.*, the level of visits beyond which unacceptable ecological impacts will occur, either as a result of the tourist themselves or the amenities they require.
- The host social carrying capacity, *i.e.*, the level beyond which unacceptable change will occur in the social fabric and lifestyles of the residents.
- The tourist social carrying capacity, *i.e.*, the level beyond which visitor satisfaction drops unacceptably as a result of overcrowding.

Of course all these thresholds need to be monitored to ensure the protection of the tourist activity. Failure to uphold these limits or carrying capacities could adversely affect the continuation of the activity by negatively affecting the tourists' enjoyment of the site and decreasing its overall value.

The need for a co-ordinated strategy

Because of the high level of industrialisation of the province, tourism has never been considered to be an important economic resource for Bergamo. Only recently has tourism received attention from the provincial government and from the business world, but this calls for an overall development strategy.

It is in this light that the Chamber of Commerce and the Province of Bergamo have recently planned to reinforce and co-ordinate institutions currently operating in the tourist sector. Nevertheless, it should be kept in mind that tourism is a complex transversal sector, and that it is essential to set up bodies able not only to exploit the potential of tourism but also to co-ordinate tourism with other economic activities. Relying solely on tourist offices and tourism authorities is not effective in the medium and long term. Project identification requires a focused approach and clearly targeted operations, but a too narrow approach to meet

objectives only produces a surfeit of tourism promotion activities. Too often the objective of developing tourism has been understood as “increasing the number of tourist arrivals”. Therefore, the strategic goal expressed by the Chamber of Commerce of improving the quality more than the quantity of tourists is valuable.

Implementing the strategy

Defining the support framework

Measures should be based on an analysis aimed at identifying shortcomings in terms of competitiveness and the sustainability of possible tourism development, including:

- Tourism’s development level and its integration into the economy at large.
- How the sector’s development compares with the products available, the markets reached and competitiveness in terms of value for money.
- The degree of involvement of the public and private sectors, their level of commitment, reliability and level and method of co-operation.
- The economic, social and environmental impact of the sector’s development and the risks that new development might pose.
- The existence of a viable and up-to-date tourist development strategy and policies aimed at sustainable development.
- Any obstacles to the development of sustainable tourism.

The analysis should also establish the degree of tourism potential, with hard evidence and without raising undue expectations. Tourism is no panacea: although the province is endowed with many attractive sites, not every valley or village has the same potential or capacity to develop a competitive tourism industry that can contribute effectively to the province’s development process.

Targeted programmes

Programmes have to be coherent and tailored to local needs. There is no set model and each operation should be defined in accordance with the different local needs and problems. Operations could:

- Redefine policies and strategies, update and develop regulations and overhaul training systems.
- Create comprehensive schemes focusing on a single facet of tourist development, such as infrastructure, training programmes, quality improvement plans, or establish environment-friendly schemes.
- Develop specific products and markets, *i.e.* a segment-based approach (*e.g.*, cultural, rafting holidays, etc.).

Besides helping to develop infrastructure, the relevant support programmes could address a range of aspects starting with the establishment of policy priorities and strategies. They could be complemented by measures relating, for instance, to access facilities for travellers, the protection of tourist heritage, regulations concerning tourist firms, the development of human resources, the improvement of tourist safety, lifting obstacles to the development and functioning of the private sector and its professional bodies. Support measures at municipality level should be envisaged as part of specific pilot projects.

Involving different players

Tourism depends heavily on other sectors and requires a multidisciplinary and interdepartmental approach to the formulation of policies at government level. It is essential that the incorporation of the objective of sustainability be reflected in the involvement of the authorities responsible for natural and cultural heritage in tourist development policies. Exchanges of information and close consultations between public authorities and private sector associations could produce a form of synergy in defining and implementing policies and strategies that is acceptable to both sides provided there is no clash of interests between them and the beneficiaries. Closer involvement of the beneficiaries in the project design and implementation phases produces a higher degree of "ownership" and cost sharing. These should be principles guiding all types of policies and measures right from the preparation/identification phase. Inter-regional or inter- (intra) provincial co-operation could be useful in developing tourism, in particular when it leads to the exchange of good practice and experience between the partners.

Conclusions and recommendations

The tourism sector in the province of Bergamo is noted as being underdeveloped, with too few shops, too few and too small hotels, and too little marketing of the region while the number of restaurant is high and the quality is excellent. Tourism is a complex and fragmented sector made up of several sub-sectors linked to other sectors of the economy. Developing this sector has implications for education and training and labour markets, *e.g.* hospitality and culinary programmes are quite popular in Ireland's Institutes of Technology or in the Swiss *Hautes Écoles* specialised in *Hôtellerie*. This chapter advocates the adoption of a comprehensive but targeted approach in support measures aimed at stimulating tourism.

Possible obstacles to the implementation of such an integrated strategy might be a lack of co-ordination both within the province and among similar cities in northern Italy. To overcome this obstacle would require a partnership strategy with other destinations that could be sold, or are already promoted, under a common flag. Another serious threat to tourism efforts is the state of the environment.

At present, this seems to be no issue in the province. However, in order to attract tourists and also hi-tech industries, the environment is an essential factor of competitiveness. Transportation and traffic congestion are also cited as barriers to the development of the tourism industry.

The province of Bergamo has a valuable heritage of art, culture, history, and natural attractions on which to build a major tourism industry. However, given the scale and layout of the city of Bergamo, for example, excessive or fast growth could further degrade the environment and may not be desirable. As long as the production economy is strong, controlled, slow growth in the development of tourism may be a more desirable strategy. The regional and the provincial governments, in order to fulfil their planning, administrative and monitoring functions with a view to sustainable development, should perform a number of tasks, such as establishing a legal and institutional framework, supporting the development of human resources, and protecting as well as developing the natural and cultural heritage of the province.

Recommendations

Set up a legal and institutional support framework. In regions where tourism is, or is set to become, an important economic sector, overall development policies and strategies must mesh with the priorities and objectives set for tourism. As a consequence, the various government bodies dealing with the development of tourism should come together to share responsibilities, work in partnership and set up interdisciplinary committees or boards.

Support human resources. Tourism is a service sector, where the direct relationship between customers and staff is a key factor and the quality of its human resources increasingly represents a crucial competitive advantage. The government contribution should therefore consist of providing significant support to assist the tourism sector in framing and implementing a “human resources development plan” for tourism. Action should include training in business management, tourist planning, application of information technology, economic and environmental impact analysis and management of the natural and cultural heritage.

Design a tourism strategy around the city of Bergamo. The anchor point of any tourism strategy should be the rich cultural heritage of the city of Bergamo. The city offers an immense opportunity as it combines a scenic city, historical buildings, art, literature and music, constituting a heritage on which to build dreams and myths. In concrete terms, such a strategy would require organising tourism packages, itineraries, guided tours, and combining offers with other cities of the “foothill chain”, etc. But, above all, it should integrate events. The province and the city of Bergamo should together reinforce this strategy, exploiting at maximum the PR impact of exhibitions and events created at the Accademia Carrara. A case to be

cited as best practice might be the city of Parma which has, at least from the perspective of a simple tourist, implemented a strategy with some of the above elements. As Parma is comparable in size and heritage to Bergamo, it might indicate just how far such a strategy can be copied and improved.

Promote integrated thematic strategies for developing tourism. In addition to the strategy just cited for Bergamo, a series of thematic tourism strategies should be initiated that are centred on the province's special attractions. Such integrated strategies could link existing activity patterns in the province, such as agriculture or industry, in an effort to attract new visitors from the outside. Some examples are:

- An integrated cultural development strategy for the industrial valleys. This strategy could combine efforts to maintain the industrial heritage of the valleys with cultural development and job creation in private cultural production and services. It could be the first step in a new provincial tourism master plan.
- A theme-specific, long distance trail crossing the whole province and linking its most important cultural landscapes or ancient church buildings.
- Spas and rural tourism: upgrading the San Pellegrino site with the help of the well known mineral water brand, and integrate it into a strategy of rural well being and fitness and leisure tourism.

Create a rural development office within the provincial government. This office should include agriculture, tourism, environment, and industry. Its first task ought to be to formulate a provincial plan for rural development that establishes a short- and long-term strategy for sustainable growth and tourism. The strategy should assess physical infrastructure and transport needs including Internet access, environmental concerns, the future of agriculture and forestry, and realistic expectations for its manufacturing base. It should particularly focus on the opportunities and limits of rural tourism in the area. This might be even more effective if conducted jointly with adjacent provinces, such as Sondrio, for co-ordinated mountain area development.

Enhance amenities and develop incentives for their preservation. The province boasts a diversified landscape with natural parks, mountains in the interior and numerous archaeological and historical sites. However, these amenities have not had much success in drawing people from the outside. The public authorities should play a key role in protecting and promoting these sites. This role should concentrate on giving economic incentives for the preservation and sustainable exploitation of natural and cultural amenities, including monitoring mechanisms. Public authorities should regulate the development of facilities that could degrade or destroy components of the natural environment. Additional road infrastructure should be carefully assessed. Zoning or enforcing existent bylaws for protecting natural areas should be a priority since these areas, if properly managed, offer the greatest long-term opportunities for leisure activities and tourism.

Decentralisation and Territorial Governance

Introduction

In the Italian context, the provincial level has traditionally had no significant power. The provinces were mainly executive agencies of the central government serving to implement national policies on the territory. This holds true for the province of Bergamo as well. However, in the last few years Italy has undergone a remarkable decentralisation process that brought important changes to the power of subnational entities. Through the introduction of the so-called Bassanini laws of 1997 and 1999, the central state assigned to the provinces – and hence to the province of Bergamo – a significant number of new powers and competencies, coupled with an increased financial and taxing power. The region of Lombardy has also passed new laws to further devolve decision power to the provinces. The province of Bergamo today disposes not only of the economic potential, but also of the institutional preconditions to shape the spatial, economic and social fabric of its territory and to take important development decisions into its own hands.

The role of the province therefore is changing: Its role will no longer just be responsible for surveillance and implementation, but for actively planning and supporting local innovation. The recent history of Italian provinces is marked to a large extent by moves towards these new forms of administrative action. This is, of course, no simple role because it also implies an important change in the behaviour of all social actors as well as a change in administrative procedures. Much more than in the past, the different social groups on the territory have to collaborate and co-operate in order to elaborate strategic plans and to define the economic, social and environmental future of their territories.

The main challenge for the province of Bergamo is now to make more intensive use of the new opportunities that have opened up. Increasingly, decisions can be made at the provincial level, and decision-makers should not remain in former times when policies affecting the province were decided far away from the provincial centre. The main attitude today is still to rely – not very successfully – on vertical lobbying activities or, more commonly, to oppose collective and public decision-making. Provincial policymakers have to develop coherent public strate-

gies for the future development of the province, and public or public and private actors have to co-operate in order to implement local development projects or to improve public services. The province of Bergamo has to reconfigure its governance system in order to benefit at maximum from the decentralisation process.

1. Territorial governance background

Institutional structure

Italy has four full level governments: the central state, the regions, the provinces and the municipalities. The provincial level is the traditional executive body of the central state on the territory but has acquired more independence in the last few years. The regional level has a tradition in the form of five special regions, which enjoy a more autonomous status within the Italian State. In the last two decades all other regions have gained in importance, an evolution being topped with the first direct election of regional presidents in spring 2000. Today, Italy fits into the category of “regional countries” where regions enjoy a considerable autonomy however not yet fully comparable to the subcentral units of federal countries.

The Province of Bergamo consists of 244 municipalities and eight mountain communities (Valle Imagna, Valle Brembana, Alto Sebino, Basso Sebino and Monte Bronzone, Valle Cavallina, Valle Seriana Superiore, Valle Seriana, di Scalve). The mountain communities are local bodies consisting of several mountain, or partially mountain, municipalities belonging to the same or an adjacent province. Their purpose is to promote the interests of mountain areas and joint management of local authority functions.

The Provincial Administration of Bergamo is organised internally according to the following organisation chart:

- The Department of the Presidency with the General Directorate and the General Secretariat to which the following, among others, are accountable: the Provincial Police Corps, Civil Protection and the Control of Management and Programming.
- The General Services Area, basically in charge of organising and managing human resources, archives and information systems, as well as legal questions.
- The Economic and Financial Resources Area, which deals with budgets, revenues and assets.
- The Public Works Area, responsible for road and transport projects.
- The Economic Development Area, which oversees employment policies (employment centres and the labour market), professional training and eco-

conomic activity (acting in the fields of industry, crafts, commerce, tourism, agriculture and animal farming).

- The Environment Area, which deals with spatial planning, planning for the environment and transport, evaluation of environmental impact and, among other things, managing parks, water courses and lakes and refuse.
- The Cultural Activities and Personal Services Area, which deals with the promotion of culture, entertainment and sports, libraries and cataloguing centres, schools and education and the upkeep and maintenance of property of the province.

The Provinces, and hence the Province of Bergamo, have in the past never had any significant power in Italy. Their responsibilities are limited both by the regions that plan and lay down general policies, and by the municipalities, which directly implement the policies. Nevertheless, for a series of reasons, the institutional significance of the provinces has increased recently. First, the recent “Bassanini” decentralisation reform¹ – discussed below – has widened the responsibilities and prerogatives of the provinces. Second, the provincial level has revealed itself to be the optimal level for policies in the field of economic development, education and training, and spatial planning. These policy areas are too small for a region for reasons of homogeneity, and too large for a municipality for reasons of critical mass and the advantages of having municipal collaboration. With this evolution, the provinces now have the chance to play a policy-making role in various areas.

Structure of financial resources

Fiscal revenues and transfers for the Province

The financial resources that flow into the province of Bergamo can be classified in three categories:

- *Tax revenue*:² taxes and special taxes.³
- *Transfer revenue*: income from current account contributions and transfers⁴ from the regional and central government and the EU.
- *Non-tax revenue*:⁵ income from the supply of goods and services by the province, profits from particular companies owned or partly owned by the province, etc.

The following tables show the composition of financial resources of the Province of Bergamo. The data are compared with the region of Lombardy and the whole of Italy. Since the inclusion of the city and Province of Milan in the total figures for Lombardy could lead to mistaken conclusions concerning the actual finan-

Table 28. **Current account income per capita, 1997**

ITL				
	Bergamo	Lombardy	Lombardy less Milan province	Italy
Tax	38 109	43 271	41 895	35 835
Transfer	77 388	80 306	88 088	121 681
Non-tax	12 393	9 338	11 421	7 686

Source: Unione delle Province d'Italia.

cial resources of the Province of Bergamo, there are – data permitting – two comparative figures for Lombardy, one including and the other excluding the regional capital.

Tables 28 and 29 show that in terms of per capita income, Bergamo has higher levels than the national average for tax and non-tax income, but not for transfers.⁶ This is due to southern Italy pushing up the national average for transfers. The comparison shows the limited effect that transfers to the province of Milan have on the total for the region of Lombardy. Total tax income in Bergamo represents some 14.0 per cent of tax income in Lombardy and 1.8 per cent of national tax income. Most transfers (not shown in the table), i.e., around 85 per cent, stem from the central government, and only around two per cent from the region. This is a stylised fact revealing the remaining large gap between “regionalised” Italy and a federal country. Around six per cent are transfers from European Union programmes.

Table 29 shows that transfers make up for around 60 per cent of total current income. Tax and non-tax revenues account for 29.8 per cent and 9.7 per cent of the total respectively. The percentage composition of current account income for Bergamo is more or less in line with that for Lombardy if the province of Milan is excluded.

Table 29. **Current account income breakdown, 1997**

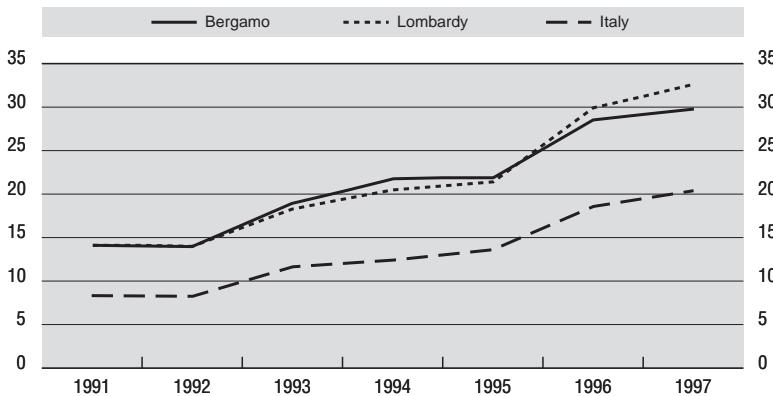
Percentage				
	Bergamo	Lombardy	Lombardy, excluding Milan's province	Italy
Tax	29.8	32.6	29.6	21.7
Transfers	60.5	60.4	62.3	73.7
Non-tax and extra tax	9.7	7.0	8.1	4.6
Total	100.0	100.0	100.0	100.0

Source: Unione delle Province d'Italia.

Evolution of the fiscal autonomy of Bergamo

Figure 20 shows the evolution of fiscal autonomy of the province of Bergamo between 1991 and 1997. Fiscal autonomy is defined as the ratio between tax income and total current income.

Figure 20. **Fiscal autonomy: percentage ratio and trends**



Source: Unione delle Province d'Italia.

The time series 1991-1997 shows the systematic and substantial growth of this indicator. The highest increase between 1993 and 1996 is due to the reforms in local government finance of 1992⁷ and measures taken in 1995 to rationalise public finance.⁸ The figures are basically in line with Lombardy and decidedly higher than the average for the whole country, which shows the sound economic performance of the province of Bergamo, yielding high tax incomes. The Bassanini reforms of 1997 and 1998 will further increase the percentage of own fiscal resources to the provincial level, bringing the fiscal position of an Italian province closer to that of subnational unit of a federal state.

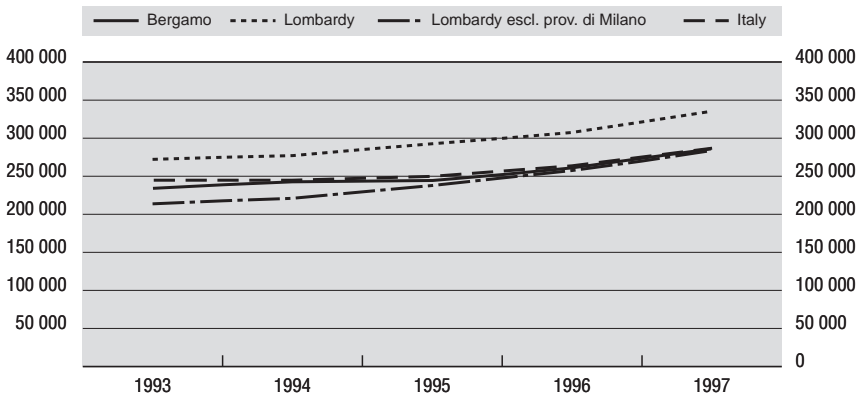
It is further interesting that in the period under scrutiny provincial non-tax income (not shown in the figure) has grown faster than provincial tax income. This shows that the province tends to rely more and more on user fees and other forms of the beneficiaries pay principle, therefore linking more closely the demand for public services to their production and provision.

Taxes for local governments

The local authority tax on property (ICI)⁹ is the most important of local authority taxes in terms of income. The following figure shows the per capita evolution of the local property tax in Bergamo, Lombardy and the whole of Italy.

Figure 21 shows that the level and the evolution of Bergamo per capita income from property tax is in line with the national average, while the figure for Lombardy is higher due to the Milan effect. This is because Milan accounts for more than 50 per cent of the region's income from the local property tax.

Figure 21. **Local property tax change per capita**



Source: Region of Lombardy, 1999.

Reassignment of responsibilities to regions and provinces

The “Bassanini and Bassanini bis Laws” of 1997 and 1998¹⁰ have transferred duties and responsibilities to regions and local administrations in order to allow a maximum possible federalism to be achieved under the condition of “the Constitution remaining unchanged”. By means of “intensive application” of articles 118 and 128 of the Constitution, still substantially not implemented, the two laws attempt to create a maximum decentralisation and autonomy already laid down in the constitution but hitherto not legally implemented. The Bassanini Laws complete the work started in 1977 with the Presidential Decree of the Republic of the 24th July.

Legislative decrees to the Bassanini Laws specify the functions and responsibilities kept by central government and those delegated to regions, provinces and local authorities, dividing the decentralised functions into four main policy areas:

- Economic development and business: crafts, industry, single window for businesses, energy, mining and geothermal resources, trade fairs and commerce, tourism.
- Land, environment and infrastructures: urban planning, regional planning and landscape, public sector residential housing, land registration, protection of the environment, pollution and refuse management, public works, road traffic and transport, civil protection.
- Community and personal services: health, social services, schools, occupational training, culture and cultural heritage, sport.
- Administrative policing and authorisations.

In January 2000, the region of Lombardy passed Regional Law No. 1 on the reorganisation of local administrations in Lombardy in order to implement the above mentioned central government decree. In addition to detailing the individual duties transferred to provinces, local authorities, mountain communities and autonomous operational bodies (chambers of commerce) in terms of the four policy areas listed above, it introduced a number of important new elements with respect to the decree on the Bassanini Laws.

- The first new element was the setting up of the “Regional Conference on Autonomous Bodies”, a permanent body in which local administrations can participate in regional policy making. Members of the Conference include the mayors of the provincial capitals, presidents of provinces, eight mayors of local authorities with more than 15 000 inhabitants, 12 mayors of local authorities of less than 15 000 inhabitants and four presidents of mountain communities. The Conference expresses opinions on important matters such as changes to the regional constitution, regional budgets and finance laws, bills for regional laws on regional planning, etc. It also expresses opinions on regional policies for economic development and planning, and on changes and additions to the Regional Law No. 1/2000 itself.
- The second new element lies in the introduction of new instruments for implementing negotiated regional planning: the *development contract* and the *economic recovery contract*. The first is an agreement between the region, local administrations, business associations, trade unions and public and private bodies interested in economic development policies and the creation of new employment by means of high tech investment projects and increased infrastructures. The second is an agreement between the region, local administrations, autonomous operational bodies, workers representatives and other public and private bodies to implement economic recovery

projects of large social impact. This instrument is for use in areas hit by economic decline or to implement investment projects to absorb unemployment caused by redundancies.

- The third new element is the setting up, in each province, of a Local Authorities and Mountain Communities Conference to discuss and put forward proposals on all matters transferred to provinces in the field of spatial planning.
- The fourth and last new element is the transfer to local authorities of the power to approve urban plans like master and implementation plans. The plans are sent to the province, which checks them for compatibility with the provincial co-ordination plan which constitutes general planning policy and defines strategic planning aims. It is drawn up with the active participation of local administrations and its content must be consistent with the proposals and demands of these bodies.

Since the enactment of the Regional Law implementing the central government decree dates back to 1999 only, it is too early to evaluate the ability of local authorities to transform the opportunities into a functioning reality.

Towards fiscal decentralisation

Article 4 of the Bassanini Law establishes “*the principle of financial and capital provision to meet the costs of performing the administrative functions transferred*”. This principle is intended to guarantee that regions and local administrations receive the funds they need to allow them to perform the functions and duties previously guaranteed by central government. This allocation of financial resources must be performed with full respect for the decision -making autonomy of the recipient, an essential feature for any federal model of government that allows decisions concerning which needs to meet to be decided at local level.

Bassanini Law I laid the foundations for a redefinition of local finances and underlined the need to accompany greater administrative and operational autonomy, and therefore greater local expenditure, with wider fiscal autonomy. This led to a radical overhaul of the system of financing regions and local administrations.

Reassignment of fiscal resources to the regions

Profound changes were introduced to the regional tax system with the introduction of the IRAP,¹¹ a kind of regional corporation tax, and the regional addition to the income tax IRPEF. Furthermore, the fiscal relationship between the central state and the regions changed in 1999. The law¹² implementing the vertical fiscal relationship defined a number of changes and features of the new system of finance for the “ordinary statute” (as opposed to the autonomous) regions. This consisted of the aboli-

tion of central government tax transfers previously received by regions, including those aimed at specific use such as transfers from the National Health Fund. In turn, they were replaced by a share in revenues from the income (0.9%), value added taxes (25.7%) and an increase of the petrol excise duty.

The increase in additional income tax, regional duty and the share in VAT were decided and calculated to ensure that the total revenues received by each region is exactly equal to the amount received by the transfers that were abolished. The decree also states that regional spending on health must be on a per capita basis during the transition period – not longer than three years – after which it will be replaced by a new expenditure monitoring system.

Reassignment of fiscal resources to provinces and municipalities

Since 1997 the annual National Finance Law has been transferring central government revenues and financial resources to the provincial and local level. The most important measure was the additional income tax paid to local authorities and provinces. Other recent fiscal measures¹³ with respect to local authorities include setting new percentages for additional local authority and provincial quotas on energy consumption and a share of extra revenues from the central government tax on electricity consumption to local authorities, which previously went to the central government.

The previous system of provincial and local authority taxation in which the local property tax (ICI) plays the most important role remains unchanged.

Emergence of a fiscal equalisation system

Equalisation between regions

Together with the reassignment of fiscal resources, the central state in 1999 introduced a fiscal equalisation system that should equalise differences in terms of the tax raising capacity of each region; permit sufficient funding to maintain essential and uniform levels of services (with particular reference to health, as defined in the National Health Plan); and ensure adequate consideration of past expenditure. Furthermore, the effort made by each Region in preventing tax evasion is also taken into account when deciding on transfers.

Two criteria have been adopted for distributing shares of VAT allocated to regions for equalisation purposes: the criterion of *tax raising capacity*, and the criterion of *need*. According to the first criterion, equalising the tax raising capacity “means equalising the regions own revenue calculated on the basis of a uniform tax rate for all regions”. The objective of equalisation set out in the Delegation Decree is to reduce the difference between standardised revenues per inhabitant of each region and average standardised national revenues to 90 per cent (this is for “ordi-

nary statute” regions only). The choice of 90 per cent as the maximum “solidarity parameter” was made taking into account the spending of regions and that on health in particular. Furthermore, the objective, as required by the properties of federal fiscal models, was to reduce the financial disparities between regions and not to “level down all differences”.

According to the second criterion, the financial resources must be allocated considering selected need indicators that are based on demographic factors, on differences in the cost of service provision and on particular needs expressed by local communities.

Equalisation between local authorities and provinces

An overhaul of the system of central government revenue transfers for equalisation purposes is currently underway. It will take account of the greater autonomy of local authorities to raise taxes, of the revenue raising capacity of the local property tax (ICI) and of additional income tax (IRPEF). The 1999 National Finance Law does in fact explicitly empower the government to make regulations to these ends within nine months of the above law coming into effect.

Equalisation must be effected, as stated in the empowering clause, on the basis of per capita quotas calculated on the basis of geographical, demographic and infrastructure factors and of the economic situation of each individual authority. It was also decided that, at least at the beginning, equalisation may be implemented on the basis of past transfers. However, so far the government has not made any use of its power to issue regulations.

2. Collaboration in provincial policy making

Individualism and collective action

The Bergamo society is marked by a strong sense of individualism. This individualism has produced a work ethic that might partly explain the longstanding economic success of the province. Historically, individual success and societal influence were attained more through the private than the public sector, as the rise of the great industrialist dynasties in the city of Bergamo reveals. The leading families showed limited interest in the public domain and in local public policy. This individualistic behaviour considers individual decision-making as superior to collective or public action. The state, be it regional or national, is often regarded as being somewhat unnecessary or even superfluous, consuming the value-added that has been produced by the people. The reforms of federalism¹⁴ through the Bassanini and other laws, that brought the public sector closer to the people, has not yet had a large impact on their attitude.

This behaviour, however, has produced a number of shortcomings that affect directly the success of the area. First, “privatism” has produced a certain reluctance of the inhabitants of Bergamo to see their land in terms of a system. A major challenge from outside, such as the globalisation of the economy, is perceived individually but not collectively. Given the good economic performance of the province of Bergamo, there is much public inertia with respect to change and reform. Although problems and needs for change are seen individually, there is little will to initiate change in the public sector.

Second, the regional milieu does not encourage political leadership. The long-standing tradition of regional consensus often paralyses individuals from taking collective action. Private regional initiatives are scarce. Given the limited potential of the local university and the absence of influential think tanks or research outlets in the region, the pragmatism of the regional population seems to dominate over creative approaches for removing regional constraints. Hence little commitment is shown to the territory as a whole. The role of the media in territorial development remains opaque.

Third, individualism has prevented the evolution of a strong third sector. Although community work seems to be strong in welfare and community initiatives requiring individual effort, there is little willingness for more permanent and involved initiatives in the political sphere. In many cases, neither the public nor the private sector can adequately provide the local citizenry with various public or semi-public services. Here is one role for a third sector, for intermediate organisations, for institutions and community groups: filling the growing gap between the public sector and a globalising private sector that is less and less regionally rooted and committed. However, there is no clear and agreed division of labour between the public and the third sector in Bergamo, nor is there any significant established co-operation in territorial development.

The fragmentation of regional institutions and actors, as well as the absence of strong provincial leadership at the provincial level, may be responsible for the lack of opportunities where regional actors can meet and together search for and find a consensus on essential territorial development issues. It seems that there are no initiatives to convince the regional actors to come to joint strategic conclusions.

Territorial co-operation

Negotiated planning and protocols

The so-called “negotiated planning” instruments constitute an example of tentatives to develop co-operation between public (and private) bodies in the field of spatial planning policies. One of those is the so-called “Territorial Pact”, *i.e.*, a social partnership instrument for joint planning of local development

projects in a sub-regional context. Negotiated planning or Pacts have been experimented in the province of Bergamo with different results.

Also, since 1993, there has been an intensifying dialogue between trade unions¹⁵ and business associations,¹⁶ which has given rise to a series of “protocol agreements” on specific topics. The provincial and local administrations were also involved mainly in infrastructure and competition matters (training, research, innovation, etc.).

The most significant of these agreements was the creation of Servitec, which will be discussed in the next chapter. Other agreements to be mentioned were:

- The protocol agreement of 1994 between *Unione Industriali* and unions on labour market and local policies.
- The general protocol agreement of 1995 between tradesmen's associations and unions on safety and training.
- The protocol of intent in 1995 between the confederation of shopkeepers associations and unions on policies for retailing, wholesaling and tourism.

Many of these pacts have run into implementation difficulties. Moreover, despite the “good will” that motivated the parties involved, the protocols have not worked out. In general, these initiatives on the territory have failed mainly because they lacked political commitment, co-ordination between participants, and incentives to co-operate. If partners involved can discern neither financial nor any other advantages in co-operating instead of producing competitive planning, the initiative will hardly take off.

Examples of difficult implementation

The *Direttissima*, a new motorway, was to connect Milan, the capital of the region, with the very important urban centre of Brescia and pass through the province of Bergamo. A company named Brebemi SpA. was set up in which the Bergamo ownership share consisted of the province, the Chamber of Commerce and the *Unione Industriali*. Brebemi presented project specifications to the Ministry of Public Works requiring an investment of ITL 1 650 billion, 80 per cent of which were to be found through project financing; and the bank CARIPLO (a major Lombard Bank) had declared its willingness to invest the remaining 20 per cent. The interesting aspect of this case is that it shows a propensity for the local private sector to take on problems of a public interest nature, experimenting with instruments like project financing that still are practised very little in Italy. Nevertheless, the project was stopped for a long time because of problems at the national and the municipal level.

Another example is the multimodal freight terminal (Interporto). This project contained an interesting form of private and public sector partnership. The project

Box 4. Negotiated planning: tools for territorial policy

Negotiated planning consists of: i) institutional and programme agreements; ii) territorial pacts; iii) area contracts; and iv) programme contracts. Each tool has specific rules and targets, but they are all considered as part of an organic system aimed at co-ordinating the public intervention on the territory.

Institutional and programme agreements concern all Italian regions or autonomous provinces, independently of their level of development. *a)* An institutional agreement serves as a framework for public investments focused on development priorities identified by regions, autonomous provinces, or the central government. It designates actions that necessitate co-ordination between the mentioned authorities in order to avoid waste of resources and fragmented interventions. *b)* A programme agreement is a financial commitment undertaken by the mentioned authorities to realise specific and concrete interventions framed in the document.

Territorial pacts. A territorial pact is an agreement between public and private actors to implement integrated local development programmes. It promotes development and partnerships at sub-regional level. Only territorial pacts promoted in depressed areas are eligible for public financing. A public or private promoter can take initiative. The promoter defines the territorial area of the pact, analyses its socio-economic problems, delineates the strategy of intervention, involves and commits the interested parties. Usually, municipalities commit to simplify bureaucratic procedures, labour representatives to reduce labour costs, banks to lower interest rates for credit, enterprises to create employment and so on. The parties involved sign the pact, which is supervised by the Ministry of the Treasury. Approval depends on the plan's economic soundness, and on the capacity of the actors to undertake collective action and binding commitments. Projects are co-financed. The private sector contributes up to 30 per cent of the total investment. In any case, the public financing cannot exceed ITL 100 billion. Not more than 30 per cent of public financing can be spent on infrastructure. The EU has also adopted similar pacts.

Area contract. An area contract is a tool to promote partnerships for local development. It differs from a territorial pact in that the central public administration plays a major role; it is implemented in limited areas, selected by the central government, with serious economic crisis. Contracts involve representatives of workers and employees, all levels of public administration, and enterprises. The contract must point out the managing director, objectives, entrepreneurial and public activities, expenditures and sources of financing. The Ministry of the Treasury supervises and approves the area contract and co-ordinates the action among the administrations involved.

Programme contract. A programme contract aims to promote private investments in depressed areas. It involves the Ministry of the Treasury and individual enterprises or consortia of small enterprises, or representatives of industrial districts. Recently, agriculture and tourism activities have been included in the contracts. The state and the regions identify priorities and commit to create a favourable business context (for example, they speed up the realisation of infrastructures or the necessary authorisations). On the other side, enterprises receive public incentives and commit themselves to implement projects that meet specific targets based on criteria such as profitability, enhancement of R&D, creation of new jobs, etc.

aimed at separating the real estate part from the actual management part in order to achieve a better definition of the current structure of the company SIBEM S.p.A. However, at present the decision-making process for this project has come to a halt due to the opposition of the local authority of Albano Sant'Alessandro on whose territory the infrastructure was to be built. The citizens of the town voted against the project in a referendum and an attempt is now being made to move a substantial part of the infrastructure within the borders of the local authority of Montello.

Successful co-operation

In certain cases however, the Bergamo local bodies and other social actors have collaborated efficiently and with success. These are cases where the projects to be implemented were clearly defined or common interests were to be defended. It should be noted that institutional co-operation among social actors worked fairly well when agreements were purely horizontal and did not involve higher governments levels.

The territorial pact in the Sebino, Val Camonica, and Val Cavallina area was the result of horizontal agreements between the provinces of Bergamo and Brescia and led to the creation of a company – the Valle Camonica and Sebino Development Company (SECAS). This company, in which the two provinces, the mountain communities of Valle Camonica, Sebrino Bresciano, Alto Sebino and Valle Cavallina and other public and private sector operators are represented, was set up to manage the pact.

The territorial pact in Val Brembana was created progressively, starting with an initial agreement that then developed into a more structured and wider framework of co-operation also supported and encouraged by the Region. It all began with an initiative by the local authority of Brembilla for an integrated project to use and recover its water resources. It then resulted in a “protocol agreement” with the region of Lombardy and was finalised in a “programme agreement” (an instrument for operational co-ordination in public-public partnerships provided for in national legislation) between the local authorities of Brembilla, Zogno, Sedrina, San Giovanni Bianco, Camerata Cornello, San Pellegrino Terme, Lenna and Ubiale Clanezzo. The programme agreement finally resulted in a joint committee, which created the territorial pact. In addition to the local authorities mentioned, the province of Bergamo, the mountain community of Valle Brembana and the Chamber of Commerce, as well as business associations and workers representatives, participated in the pact.

The Dalmine POINT project – Pole for Technological Innovation of the Province of Bergamo – was launched in 1996 after a preliminary study was initiated by the Chamber of Commerce. Dalmine POINT was established by means of a pro-

gramme agreement signed by the Region, the Province, the municipalities of Dalmine, the Chamber of Commerce and the University. Two companies, with different functions, operate the POINT project: Tecnodal and Servitec. The former, which is jointly owned by the Province, the local authority of Dalmine and the Chamber of Commerce, is essentially the property company for the project. The latter is a business services company, aiming to become an area agency in the province, with the task of promoting local development and technological innovation in firms and public administration. This represents a significant transformation, which points to the possibility of consolidating existing networks of local actors around important local development objectives by identifying an operational arm – like Servitec – capable of pursuing them (see Box 5).

For the Orio al Serio airport, a syndicate agreement was signed between the local shareholders (mostly local administrations, but also banks and the *Unione Industriali* with a minority holding) of the company that runs the airport (SACBO). The purpose of this agreement is to increase the power of the Bergamo shareholders with respect to the majority shareholder in the company (SEA, *Società Aeroporti Milanese* – the Milan Airports Company) and orient the future development of the airport more towards the needs of the province.

Recent initiatives

In 1997 representatives of the business world set up a new association called “Polis”. It was meant to be a new platform for discussion and proposals in the fields of economic, social and cultural development in the province. The main business associations in Bergamo compose Polis (industrial, craftsmen, commerce, agriculture and co-operatives). Its objective is to promote local economic policies designed to stimulate development through increased competitiveness in the Bergamo economy and through constructive dialogue with the authorities, representatives of collective interests and local administrations. In its first phase Polis was concerned with the multimodal freight terminal (Interporto), the trade fair, the university and infrastructure and other projects related to the development of the Bergamo city centre, but it also took a stand on political matters such as the referendum and local administration elections. Its guiding principle is to try to unite its various associations around important local policy questions and then support this united position until it is put on the agenda by local governments. Its function is to lobby and, in the future, to build a cohesive policy making community capable of acting as a partner for local administrators and politicians.

Some other current initiatives, involving private and public co-operation on projects of common interest, are an interesting sign that a new style of urban policies is emerging. For many of these projects mixed ownership companies have

Box 5. POINT and Servitec

Manufacturing sectors expressed considerable demand for advanced technology, even in traditional industries. Consequently in 1996 POINT – Pole for Technological Innovation of the Province of Bergamo – was set up by an initiative of local government administrations, business associations, trade unions and business leaders. It is a network of industrial, scientific, technological, university and service to industry organisations. It has been operating since 1997, with the complementary objectives of improving technological and socio-economic development in the province of Bergamo. POINT is run by Servitec Srl., a publicly controlled company. Shareholders include principal actors in the socio-economic system of the province and play an active role in supervising and running the company. Their functions include ensuring that service provision meets demand and the real interests of industry. POINT is an organisation conceived to supply a wide range of services to encourage innovation in the local economy through both the development of technology in existing companies, especially SMEs, and through the start up of new high-tech initiatives.

Servitec pursues its objectives by providing two essential types of service:

1. Running the science and technology park to house small and medium size high-tech companies, research and development centres, organisations and companies providing scientific and technical services, technology transfer organisations, and generally acting as an incubator for innovative companies.
2. Assisting and supporting Bergamo companies in the innovation process.

POINT is organised around two basic entities, legally and physically separate and autonomous, but with a co-ordinated approach:

1. The University Campus of the Faculty of Engineering of the University of Bergamo.
2. A science and technology park which comprises:
 - A technology transfer organisation (Servitec Srl.).
 - A group of innovative companies (at present some ten companies have been selected in the information technology, microbiology, electro-medical and technical services sectors).
 - A National Research Council “geo-resources” laboratory.
 - The Faculty of Sciences laboratories of the University of Milan (geology, biology and nanotechnology).
 - The Italian Institute of Plastics, a testing and certification laboratory for plastics products.

The buildings are currently being renovated as part of a planning agreement with the region of Lombardy, which granted funding. Work is scheduled to be completed in the Spring of 2001. In the meantime, Servitec is providing services and supporting projects for Bergamo companies. The main areas involved are energy (saving energy, renewable resources, etc.), the environment (waste recycling), information technology (Internet and e-business) quality management and technological innovation in general.

been, or are being, set up, with the task of implementing projects or running specific services. They include:

- New university premises. The debate over university premises has traditionally been centred on location and the size of the project, particularly whether the university should get additional new space or a whole campus. *Ateneo*, a new company to take responsibility for building the new university premises was recently created. This body owned by the University and other local institutions is a mixed public-private sector association.
- New trade fair facilities. This project will provide Bergamo with more exhibition space, making it possible to organise more exhibitions. The total planned investment is 35 billion lire. As in the POINT project, two companies will operate it. The first, “Fiera Nuova” is entirely public sector owned (Chamber of Commerce, Province, Municipalities of Bergamo and Seriate) and has the task of building the trade fair facilities. The second company – called “Promoberg” – is jointly owned by the Chamber of Commerce and business associations, and will run the trade fair.

Nevertheless, it is important to point out that these initiatives, although very promising, are too recent to be evaluated at present. In general, it can be said that strategic planning, which depends on a common regional vision and committed collaboration among regional social partners, has difficulty evolving in the province of Bergamo. Newly established institutions, such as the “Regional Conference of Autonomous Bodies”, lack authority and are little more than a forum to express opinions. Hence, there are no agreed guidelines for provincial action or a common vision for territorial development.

Need for intermunicipal collaboration

The progressive transfer of central government responsibilities might in part explain the level and pattern of competition and collaboration between local bodies and other social actors. With local governments’ increased responsibilities and increased resorting to own local resources, the behaviour of local entities, mainly municipalities, is changing. Municipalities are able to define and implement their own development policies and attract businesses as well as individuals. Each local body intends to conquer its own area of autonomy for policy-making and action, and tries to reap the benefits of “good” policies on its own. Furthermore, as local bodies follow their individual trajectories, a multitude of new ideas surges on the regional territory. In the “competitive federalism” environment that is emerging in Italy, where each actor seeks space, recognition and benefits increasingly through local action rather than through lobbying upper level governments,

Box 6. The Spanish *Mancomunitats*: flexible horizontal co-operation and functional integration

Mancomunitats are inter-municipal, horizontal co-operation forms involving several municipalities. They are designed to carry out municipal tasks and responsibilities for which a single municipality would be too small (*Mancomunitats* are comparable to the German and Swiss “*Zweckverband*”, the French “*syndicat*” or the English “special body”). *Mancomunitats* function on a voluntary basis. Every municipality may decide freely to take part in a *Mancomunitat*. The *Mancomunitat* of the Vall d’Albaida, for example, consists of 34 municipalities of which all adhered voluntarily. *Mancomunitats* and their municipalities can collaborate across the borders established by upper level government. For example, the municipalities of the Vall d’Albaida *Mancomunitat* collaborate across Comarcan and even the provincial border.

Mancomunitats are flexible, functioning with a “*géométrie variable*”: although they provide several services, including waste disposal, social services and cultural activities, they do not provide these services for all municipalities. Some municipalities participate in only a few of these services, overlapping the “borders” of different services. A municipality joins a specific *Mancomunitat* service if its share of the cost is lower than providing the service alone. The voluntary nature of the *Mancomunitat* thus leads to an optimal level of economies of scale and scope. Because economies of scale and scope are different for every function, the resulting pattern of functional regions is very diverse: it may appear that no functional regions are the same.

What conclusions can be drawn from the *Mancomunitat* example? Functional collaboration on contractual grounds can work very well and eliminate additional government layers or upper government interference. New information and new technologies, which are changing the pattern of economies of scale and scope, can easily be integrated by adapting to the size of the functional region. Political borders can never be “optimal” in a sense that they can only by coincidence encompass the optimal territorial extension of a certain public service.

Mancomunitats allow lower government levels to take advantage of economies of scale and scope without upper level interference. They are an efficient means to reach the optimal territorial extension for the provision of public goods. There is a “core” of collaboration to which all municipalities adhere, however all municipalities do not take part in all activities of the *Mancomunitat*. *Mancomunitats* show the flexibility that is needed when implementing different policies, they show that this flexibility can only be reached if the co-operating entities are not too large, that the entities are to be allowed to co-operate across higher level (district, provincial, regional or even national) borders, and that these entities need a certain amount of financial autonomy in order to fund larger projects.

the role of the initiator and first mover of a project counts a lot. Collaboration, *i.e.* sharing ideas with others, may not yet be advantageous, which might explain why many “co-ordinated” actions like the territorial pacts have failed.

However, the issue of territorial collaboration will probably take on a different pattern in the future. The institutional issue that is coming up in the emerging framework of the Italian federalism is intermunicipal collaboration within functional regions. In the past cities, like Bergamo, solved their problems by expanding their territory into their adjacent hinterland. They just grew bigger. These days this is impossible. The central cities are surrounded by independent local governments, who, for many reasons, do not wish to become absorbed by the regional centre. Regional development therefore can no longer stick to rigidity of administrative boundaries. Moreover, in general, the boundaries of functional regions differ from function to function. The regional transport authority has its serviced area, which differs from that of water provision or that of the regional e-commerce delivery system. Obviously there is a core area, where some of the functional areas overlap and where the local governments contribute to a common fund for intra-regional activities. Put very briefly: the local authorities having an interest in the specific public service define the area of the functional entity. The larger the benefits of joint development endeavours, and the lower the (transaction) cost to take collective action, the more functional collaboration will emerge. In the long run, a colourful pattern of horizontal collaboration forms will probably emerge, adapted to the specific character of the respective public service as well as the needs of the local population.

The authorities of the province of Bergamo should therefore rather rely on and strengthen the dynamics of regional self-organisation. In times where local communities tend to fight hard for local independence and political freedom, and central governments promote devolution, it may be too time consuming and counterproductive to develop regional projects through “co-ordinated plans” with the consent of any social actor and within fixed boundaries. It should be left to the dynamic of the region’s central city, and its 244 municipalities, to join, to discuss issues of common concern and to agree jointly on strategic decisions. Flexible action-boundaries, based on the willingness to co-operate, and guided by certain rules of participation and withdrawal, may be a more pragmatic solution. The province can foster functional collaboration by giving some financial incentives or administrative guidelines for intermunicipal or public private co-operation.

Conclusions and recommendations

The province of Bergamo is going through a phase in which it is reconfiguring its forms of governance. The process of decentralisation in Italy has brought the province a number of new responsibilities and resources. Administrative deconcentration has been replaced by real decision-making power, and conditional subsidies from the central government have been replaced by unconditional grants and own tax revenue. This process will continue in the future, especially if the national constitution will be changed. The province now disposes of the institu-

tional background to develop its own regional identity and to appear on the political map of Italy.

However, the overall assessment shows a region that is not yet fully prepared, even somewhat surprised, to assume these new freedoms. Its local political bodies seem weak. A regional vision and its institutional counterpart, as well as an effective collaborative effort among the social actors of the region, is lacking. There are few strategic development plans for the region. The behaviour of local municipalities and other social actors still reflects a certain anti-government reflex. Horizontal co-operation, a typical feature of a federal state where subnational entities hold considerable power, remains insufficient. Due to the lack of strong regional institutions, the province's visibility and lobbying capacity at the regional and national level remains limited.

The following recommendations therefore focus on how to cope with and govern the decentralisation process and draw the greatest benefit from it, or even influence it. The region has to take advantage of the opportunities for more independent territorial governance provided by the Bassanini laws of 1997 and 1999. This new constitutional framework justifies a strong role for the provincial government to set clear goals for territorial development.

Recommendations

Create a regional identity: Develop a double strategy of internal identity building and external awareness. Sharpen the profile of the province and develop a common regional vision for the future. Explain to the outside world, such as potential investors or residents, that Bergamo is more than a wealthy (sub-) region in the metropolitan area of Milan. Elaborate a "regional strategy plan" which is a concise policy paper containing a common understanding of regional problems, a corridor of opportunities and future policy principles. To this end, appoint an ad-hoc group of regionally committed, although independent, personalities across the political and ideological strata of the region, and ask them to produce such a vision for the region and the related guidelines for action. Another way may be to seek the formation of an independent regional alliance (see below).

Promote local partnerships: Promote a spirit of horizontal collaboration and networking among public and private partners within the province. Create financial or administrative incentives for intermunicipal collaboration or public/private partnerships for public service provision or for land-use planning. Show the municipalities and other partners the benefits of working together. Develop guidelines and give advice for the internal structure and functioning of these partnerships.

Identify catalytic projects for intra-regional co-operation: Specify a number of projects that trigger intra-regional identity building and intra-regional co-operation. Concentrate on projects that simultaneously show and require a spirit of regional

co-operation. Examples of encompassing projects that centre on a topic of particular regional relevance and combine employment policies with infrastructure development or educational and environmental objectives could be:

- *Environmentally sound logistics*: An environmentally sound logistics concept for the transportation corridor from Milan to Brescia that cuts through the province of Bergamo. Such a strategy could yield ideas and projects for developing environmentally sound logistics, an area that will receive much attention in the future.
- *Industrial tourism and cultural industries*: An integrated cultural development strategy for the industrial areas, *e.g.* the valleys. This strategy could combine efforts to maintain the industrial heritage of the province with cultural development and job creation in private cultural production and services. It could be the first step in a new provincial tourism master plan.
- *A centre for applied federalism*: A centre for applied research and development on matters of decentralisation and federalism. This centre could provide practical project-based solutions (administrative, financial, and political) to different local or regional bodies that need to tackle the decentralisation process in Italy. With the “first mover advantage”, the centre may eventually extend its activities to other Italian regions.

Develop a provincial “foreign policy”: Develop an explicit foreign policy to increase awareness of the province and add an easily marketable component to the international profile of Bergamo. Use actively the global networks of residents, family links, alumni, key cultural and economic actors and regionally rooted enterprises, such as “Brembo”, that have different kinds of economic, cultural or emotional links to the region. Use new communication technologies, such as a global “Bergamo-Net”, that enable easy communication within this network. Make use of this network to enhance the visibility of Bergamo and to promote its interests abroad.

Create a “Bergamo Regional Alliance”: Identify a group of key individuals – rather than representatives of established institutions – in the public, private and third sector to form an independent Bergamo Regional Alliance. The mission of such a Regional Alliance would be to moderate the process of territorial development in the province independent from day-to-day administrative tasks and political considerations. Chaired by a visionary, flexible competent and regionally respected personality, and supported by a small group of communicative generalists, this Regional Alliance could be the engine of regional inspiration and innovation. It could target special themes (*e.g.*, knowledge industries, integrated tourism, federalism, internationalisation), raise awareness among regional actors, organise support from all tiers of decision-making, and identify catalytic projects for policy implementation. Being independent from established institutions and their tradi-

tions and networks, the Regional Alliance may have a chance to overcome regional inertia and insignificance.

Strengthen the department of the Presidency: In order to overcome present development constraints, it may be necessary to raise the influence of the Department of the Presidency and to strengthen the steering capacity of the Provincial Government. Subjected to fragmented decision-making processes, the province needs a strong regional institution that can lobby for its interests at decision-centres such as Milan and Rome. This institution should be committed to removing constraints in the national-regional-provincial relationships, and support inter-municipal initiatives for territorial development. It is this enabling – rather than controlling or developing – role in territorial development that the provincial government should take over.

*Annex***The IBA in the Ruhr: an experiment towards promoting regional creativity**

Since the mid-1960s continuous and costly efforts have been undertaken by the Land Northrhine-Westphalia to guide the process of restructuring and modernisation of the Ruhr, the industrial heartland of Germany. However, all these efforts could neither compensate for the immense job losses in the coal and steel sector, nor alter the negative image of the Ruhr as a traditional industrial region with poor environmental and esthetical qualities. Under these conditions, in the late-1980s a young state minister of urban planning and transport launched the ambitious “*Internationale Bauausstellung Emscherpark*”, a regional development initiative for the 25 to 80 km rustbelt corridor. In contrast to previous development programmes this 10-year project aimed primarily at changing the physical appearance of the Ruhr and the negative image of the region, as well as at setting high quality standards for sustainable projects.

Designed as a state initiative, the ambitious project was labelled: “A Workshop for the Future of Industrial Regions”. It was conceived as a continuous creative process of guided incrementalism, responding to initiatives from below or from innovative actors in the region. No comprehensive physical master plan was designed. Individual projects were planned following a vague long-term vision. In a design-by-progress manner, many projects were started, even when the final product could not yet be defined, just to illustrate and demonstrate the direction in which certain local initiatives should go. Only a few flagship projects were implemented to illustrate how principles were being applied and to attract outside interest. The conservation of the rich industrial heritage and the promotion of cultural catalysts were seen and initiated as a key to regional modernisation. The IBA initiative is an unusually creative approach to regional modernisation that differs considerably from the usual developer-led regeneration approach that other regions and cities around the world have adopted, such as Pittsburgh or the Docklands. Although the 10-year initiative has many grass-roots and bottom-up features, it is a subversive top-down strategy, which in many instances acted against the mainstream interests of local governments and the private sector. Hence it could be described as a rhizome approach to regional modernisation, where individual projects are interlinked by an invisible underground net of principles and quality criteria, promoted by a network of individual change agents. The initiative has illustrated that such a creative approach to regional regeneration can quite successfully guide a process of innovation and modernisation in a region. The aims and action areas of the regional initiative were defined in the original project memorandum as follows:

- Ecological transformation and structural revitalisation of derelict landscape.
- Re-naturalisation of the Emscher river.
- Conversion of derelict industrial land.
- Conservation of the industrial heritage.

- Construction of model housing schemes.
- Promotion of new working environments “*Arbeiten im Park*”.
- Enhancement of a regional cultural *milieu*.

These aims were pursued in the respective projects by strictly applying a number of environmental, social and cultural principles, such as high architectural quality, energy conservation, imaginative landscaping, conservation of sensitive micro-eco-systems, local commitment, partnerships, self-organisation, procedural implementation, low maintenance costs. What have been the visible successes of the innovative project so far? More than 200 smaller and larger innovative projects were initiated, promoted and implemented all over the region during the past decade. Many of these projects have become models of “best practice”. Some of the most successful projects are:

- The conversion of the biggest and tallest gas tank in the region into an observation tower and museum.
- The gradual conversion of the premises of a derelict pit into a regional design centre and a centre for modern dance, with workshops for designers and artists.
- The transformation of derelict steel works into a public entertainment park, with facilities for concerts and theatre performances, with training grounds for diving and mountaineering clubs.
- The construction of demonstration housing schemes for low-income households.
- The gradual implementation of a huge intra-regional landscape park (the Ruhr’s Central Park). This green corridor, stretching from east to west, is easily accessible for hikers and bicycles.
- A series of technology parks of high architectural quality, in both new and converted buildings.

In addition to such highlights, plethoras of smaller, though no less innovative, projects are scattered all over the region, linked by imaginative transportation networks or, occasionally, by railways using defunct freight tracks. All this serves to illustrate that the IBA-approach to regional modernisation differs considerably from the usual regional development programmes.

- The IBA-initiative has very much contributed to giving the Ruhr the improved image of a region that offers new attractions.
- The IBA has given a new regional dimension to the Ruhr that goes beyond a steel and coal dominated identity. Many regional residents have been attracted and motivated by the IBA to explore the region.
- The IBA has also added a third dimension to the Ruhr by opening factories and coal mines to the public. Now the region’s industrial heritage and urban fabric can be better understood.
- The Ruhr has become a new target for urban tourism – both from Germany and abroad – that appeals to a wide range of visitors, not just groups of experts and architects.
- The standards of ecological modernisation that the IBA has defined, launched and applied to its projects have become widely accepted and replicated.
- Some outstanding industrial monuments have been preserved for cultural and economic activities. The usual industrial heritage museum approach was replaced by a more pro-active approach to re-utilisation.

The IBA project could be labelled as a success story for regional modernisation, a creative approach to modernisation which considerably differs from the usual developer-led regeneration approach, which other regions and cities around the world have adopted, such as Pittsburgh in the US or the Docklands in London. Overall, the IBA initiative is a pertinent example for a novel and creative approach to regional regeneration, able to guide a sustainable process of innovation and modernisation. In that sense the IBA approach has a considerable and sustainable learning dimension, where regional actors can learn how to create and bundle imaginative ideas and innovative forces for sustainable regional development.

Notes

1. Legislative Decree No. 112, March 1998.
2. Tax revenues consist of: taxes (*imposte*): additional tax on electricity consumption, a provincial tax for the registration of motor vehicles, a provincial tax (*tributi*) for services concerning environmental health protection and conservation, other *imposte*; taxes (*tasce*): tax on the use of public places, other taxes; special tributes and other local revenues (including a share of IRAP).
3. See p. 139 for a discussion of provincial taxes.
4. Income from current account contributions and transfers consist of: current account contributions and transfers from the State and the Region, current account contributions and transfers from the Region for delegated functions; current account contributions and transfers from EU and international bodies; current account contributions and transfers from other public sector bodies.
5. Non tax income consists of: income from the provision of public service; income from provincial assets; interest income; profits from provincial services, etc.
6. Transfer of Central Gov. tax revenues (IRPEF, IRPEG, IVA, etc.) to local government.
7. Legislative Decree No. 504/1992.
8. Legislative Decree No. 549/1995.
9. Introduced by Legislative Decree No. 504/1992, with effect from 1st January 1993.
10. Laws No. 59/1997 and No. 127/1997, Legislative Decree No. 112, March 1998.
11. IRAP is a direct real tax on the production or exchange of goods and on the provision of services. It is levied on sole proprietors, companies, commercial and non-commercial bodies, self-employed professionals and public administrations. IRAP is levied on the net value added produced in the territory of the Region, which is to say on the value added produced resulting from the financial statements, with specific criteria for each specific category of taxpayer. IRAP was introduced to replace a number of central, regional and municipal taxes.
12. Law No. 133/1999.
13. Contained in Articles 10 and 12 of the *Collegato Fiscale* (attachment) to the 1999 Finance Law.
14. What is called “decentralisation” or “devolution” in other countries is usually called “*federalismo*” in Italy.
15. The largest trade unions in the province of Bergamo are the CISL (strong catholic orientation, counting over 100 000 members in 1999), the CGIL (over 77 000) and the UIL (with 17 000 members).

16. On the business side, the main associations are the Unione Industriali (the fourth largest membership in the country covering industry, transport, and services to industry), the Associazione Esercenti e Commercianti (wholesale and retail trades, tourism and insurance and services to industry), the API Associazione Piccole e Medie Imprese and the ACEB (construction), the ASCOM and the Confesercenti (wholesale and retail trades, tourism and insurance and services to industry), the Associazione Artigiani, the Unione Artigiani and the Confederazione Nazionale Artigianato e Piccole Imprese ("craftsmen" -- tradesmen and very small businesses). Finally the Confcooperative and the Compagnia delle Opere should be mentioned in the services sector. In the agricultural sector the Unione Provinciale Agricoltori and the Coldiretti operate.

Part III

**CLOSENESS TO METROPOLITAN AREAS:
BENCHMARKS AND BEST PRACTICES**

Introduction

Benchmarking is commonly used as a tool for comparing and assessing business activities and cannot simply be transferred to a territorial context. Regional benchmarking results have therefore to be interpreted with care. The regions that serve as benchmarks have to fulfil a number of criteria crucial for an analysis of Bergamo's strengths, weaknesses, opportunities and threats.

The regions to be used as a benchmark for Bergamo were chosen on morphological grounds. They had to be intermediate regions in the OECD classification. They had to be strongly industrialised and located "close" (*i.e.*, within commuting distance) to a large metropolitan area, preferably one of the leading social, economic or cultural centres of the country. On these grounds, the following regions were selected:

- The City of Providence, Rhode Island, United States, close to Boston.
- The City of Coventry, West Midlands, United Kingdom, close to Birmingham.
- The area of Akron, Northwest Ohio, United States, close to Cleveland.

The questions the benchmarking process has to answer are:

- What were and what are the central development problems of the region?
- What are and what were the strategies to address and overcome them?
- What role for development issues did the governance framework of the country play?
- What impact on development has the closeness to the large metropolitan area?

The presentation of the region follows a common framework, explaining the regional context and economic history, the territorial governance institutions in which the region is embedded, current regional development problems, policy challenges and policy responses.

Providence, Rhode Island, United States

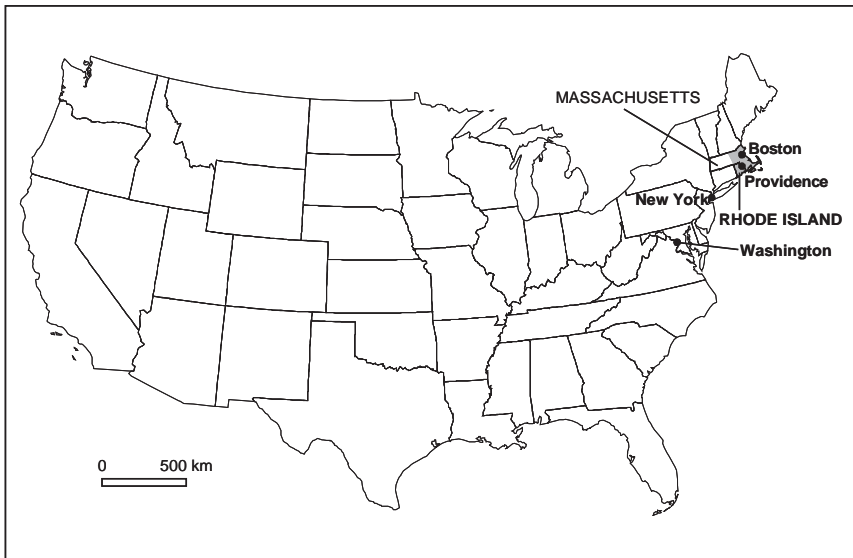
1. Regional context

Providence, Rhode Island is a city of 151 000 inhabitants, located on the Atlantic Ocean approximately 45 miles south of its larger neighbour, Boston, Massachusetts. Boston's development has always dominated the New England economy. It occupies approximately 50 square miles of land, has 600 000 residents, and a population density of roughly 12 000 per square mile. Providence occupies 18.5 square miles of land (47.8 square kilometres), and has a population density of 7 800 per square mile. The city is located on the Atlantic Ocean and has several river-ways running through it. Residents in any part of Rhode Island are no more than 45 minutes from Providence. The city is in the middle of a southern New England economy where eight million people are less than a two-hour drive away along several well-maintained motorways. Providence is also connected to Boston and New-York City to the south by high-speed rail, and it has an active regional airport (see Figure 22 below).

Boston and Providence both have larger populations than the 117 300 residents of Bergamo, but the metropolitan Providence region's population of one million compares favourably with the province of Bergamo's population of 956 000. Each city has strong neighbourhoods and each one is rich in historical and ethnic traditions. There are over 40 colleges and universities located in Boston and the contiguous cities of Cambridge, Somerville, and Medford, Massachusetts. Boston has benefited in the last several years from university research in such fields as biotechnology and software development. The city has a world-class nucleus of teaching and research hospitals, a vibrant biotechnology sector, and a rapidly expanding software industry. Providence, too, is home to several leading American universities and colleges, but only recently has it drawn on the resources of these institutions in several development efforts.

Providence and Boston experienced a period of sharp contraction after the Second World War as their core industries fled to the non-union and lower wage southern United States and overseas. According to a recent study of the New England economy, periodic challenges to major employers in the 1960s and 1970s

Figure 22. Providence and Boston



Source: OECD/TDS.

were “followed by the emergence of replacement activities with higher skill and technology content. Aircraft engines and electronics succeeded textiles. When defence cutbacks in the early 1970s caused these industries to falter, the minicomputer and instruments industries emerged to provide a powerful impetus to growth”. New England’s high technology sector has remained closely associated with the Route 128 motorway around Boston. Thus, Providence has found it more arduous than Boston to generate and sustain new, high paying employment opportunities for its citizens.

At its nadir in the late 1980s, the Providence economy was dominated by relatively low-wage, low-skill industries. Jewellery, rather than electronics or computers, replaced textiles there as the most important manufacturing industry in the post-textile period. Providence has lagged behind greater-Boston in terms of employment growth and income for the last thirty years, and because of the size difference in their economies, Providence can not compete head-on with Boston. Therefore, Providence development officials are compelled to find niche markets to compete in that draw on the city’s unique strengths, the strong local institutions that remain there, and the vitality of neighbourhood groups intent on improving the quality of life in the city.

One example is Providence's recent success in redefining itself as an arts, entertainment, and restaurant alternative to near-by (and more expensive) Boston through the creative use of innovative state tax legislation. In a second effort, taking full advantage of state and federal environmental clean-up programs, the city has reclaimed a good deal of environmentally contaminated land along its waterfront for office and research park development. Greater-Boston companies, squeezed for space, have begun to relocate in Providence as a result. The regional airport has become a much-used alternative to Boston's chaotic Logan International airport. Finally, through the direct involvement of neighbourhood groups and civic organisations and the establishment of innovative public-private partnerships in research and development, a new Providence economy has begun to take shape. What are the discernible trends there?

The economy has diversified from manufacturing toward service and knowledge-based jobs. However, there is a resultant disjuncture in the labour market since the majority of service jobs accessible to former manufacturing workers are low-wage jobs, while the knowledge-based jobs are out of reach for manufacturing workers.

- The largest single employment sector in the city is health care – one in five jobs – and by all accounts the industry is expected to add more jobs. However, a majority of these jobs pay below average wages.
- The strategy to develop downtown Providence as a tourist and convention centre has increased employment opportunities in the hospitality industry. State wide, travel and tourism employment increased to approximately 29 000 in 1999, from 22 000 in 1986. However, employment is seasonal and typical starting wages are low.

2. The regional economies

Industrial decline in Providence

Providence was a major manufacturing centre from the 1800s until approximately 1960. Its location at the head of Narragansett Bay on the Atlantic Ocean made it a working seaport and the wealth generated from XVIIIth century shipping and fishing was invested in industrial enterprises in the 19th century. Railway expansion in the 1840s boosted growth and allowed the city to become a transportation and shipping hub linking Boston to New-York and cities further south along the East Coast of the United States. By 1890 Providence was one of the richest cities in the US, with five vibrant manufacturing sectors: metals, machinery, textiles, jewellery, and silverware. As late as 1940, of the

34 000 manufacturing jobs in Providence, 5 000 were in cotton mills, 1 400 in rayon mills, 6 500 in woollen mills, and 5 700 in related textile firms, while approximately 6 500 were employed in the metalworking and machinery sectors.

Unlike Bergamo, which escaped the general process of Italian de-industrialisation in the 1980s and early 1990s, Providence suffered through extremely difficult economic times in the 1970s and 1980s. Even with the long running national expansion in the 1990s, and the extremely low New England unemployment rate, Providence and Rhode Island lost total population and there was a drop in the state's active labour force. For most of the 1990s unemployment rates in Rhode Island and Providence exceeded the United States and the New England rates. Total employment in the state was 499 000 in 1988 and 473 800 in 1998, a loss of 5.1 per cent; the figures for Providence are 72 422 and 64 406, an 11 per cent loss. Employment levels across Rhode Island have not yet returned to 1988 pre-recession levels.

Today Providence is not an industrial city. Between 1948 and 1987 Providence lost 60 per cent of the manufacturing job base, some 36 000 jobs. Instead, contemporary Providence is in the midst of a makeover from a typical manufacturing centre to a city that draws on its industrial heritage to boost high technology industry while it nurtures a strong services-based and arts and entertainment-based economy. Table 30 shows the results of the restructuring the Providence economy underwent in the last ten years.

Table 30 shows the decline of the industrial sector and the rise of the service economy. As the economy slowed down, 33 per cent (5 000) of the city's retail jobs were lost within ten years. While the service sector added 10 000 new jobs in the mid-1980s, these jobs failed to pay even nearly comparable wages to the lost manufacturing jobs.

Table 30. **The Providence economy restructures, 1985-95**

	Percentage of total jobs	
	1985	1995
Construction	2	2
Manufacturing	26	16
Transport, communications and utilities	5	4
Trade	17	14
Finance, insurance, and real estate	12	11
Services	38	53

Source: Nexus Associates, Inc., Rhode Island Dept. of Employment and Training data.

Boston rebuilds

The Boston economy restructured after the Second World War when both population and investment began to exit Boston into its suburbs. Boston's population peaked in 1950 at 801 444 and was down to 641 000 in 1970 while the suburban population soared to over two million. Suburban growth was largely the result of publicly funded highway construction in several rings around Boston and the steady growth of defence and high tech manufacturing along these motorways. Boston had become a more expensive, and therefore less desirable location for the manufacture and distribution of goods and the city needed to replace its shrinking job base. Boston began to convert to a centre of the service and finance -based economy that was beginning to emerge nation-wide, facilitated by a State Legislature change in the tax code in 1960 to encourage the construction of new office buildings.

The result has been the slow, steady growth of the Boston economy; with 9.5 per cent of the state's population, the city accounts for 17 per cent of the state's jobs, and nearly 18 per cent of tax revenues. Nearly one out of every thirteen jobs in New England is in Boston. Since 1993 Boston has added close to 90 000 jobs, with an annual growth rate of 2.4 per cent; total employment is now 665 500. The largest industries by employment in Boston are: finance, insurance and real estate with 105 000 jobs; health care with 98 000; and professional business services with 75 000 jobs. Among Boston's top ten employers there are five medical complexes, two insurance companies, and a financial services firm. Today, manufacturing comprises only 4 per cent of Boston employment, compared to 16 per cent in Providence.

Like Boston, the service sector drives the Providence economy, with employment concentrated in health care, education, banking, insurance, and business services. However, Massachusetts maintains significantly higher average incomes (Table 31).

Table 31. **Wages and employment in Rhode Island and Massachusetts**

	Income rank		Job rank		Average income (US\$)	
	RI	MA	RI	MA	RI	MA
State Government	1	1	5	8	36 155	41 564
Local Government	2	6	2	2	36 029	33 555
Miscellaneous Manufacturing.	3	3	6	48	32 891	36 186
Health Services	4	5	1	1	32 714	34 506
Education Services	5	4	10	7	30 449	35 185
Business Services	6	2	4	3	25 097	41 371
Miscellaneous Retail	7	7	9	10	23 329	21 500
Social Services	8	8	8	11	17 738	19 603
Food Stores	9	9	7	9	14 006	16 706
Eating/Drinking Places	10	10	3	4	11 010	13 130

Source: L. Lardaro (1999).

Table 32. **Personal income per capita**

	1998 ranking	1998	% change from 1997
United States		US\$26 212	4.4
New England		US\$31 901	4.8
Connecticut	1	US\$37 598	4.8
Massachusetts	3	US\$32 797	5.0
Rhode Island	15	US\$26 797	4.4

Source: L. Lardaro (1999).

Rhode Island's per capita income lags behind its two neighbouring states – Massachusetts and Connecticut – because it has failed to acquire a proportional share of the well paying jobs emerging in the high tech and business services sectors (Table 32).

Boston's gain is Providence's gain

Boston's rapid expansion has led to a shortage of downtown hotel rooms and convention space, causing many visitors to seek lodging in Providence and utilise the regional airport there. Rapid growth in professional and financial services has resulted in an office space vacancy rate under 2 per cent, causing rental prices to escalate. Here, too, Boston's gain has benefited near-by Providence, as several financial services firms have moved there for lower rents. The Boston housing market is now one of the tightest in the nation. Rents in Boston rose on average 64 per cent from 1995 to 1998 and home sale prices increased 15 per cent over the same period. With the improvement in rail transportation between Boston and Providence, and the redevelopment of the Providence downtown, several employers are now choosing to expand operations in Providence.

To summarise, rapid growth in Boston has forced up housing costs, caused labour shortages, taxed the transportation infrastructure, and thus slowed development there. There is a less than 5 per cent vacancy rate for industrial space and a less than 1 per cent vacancy rate for office space in greater-Boston, which has driven up rental costs. Near-by Providence has become the beneficiary of these rising Boston costs as financial services, high tech manufacturers, biotechnology laboratories, telecommunications firms, and members of the arts community have fled Boston for Providence's less costly retail and commercial space.

3. The Providence development strategy

According to one newspaper account of Providence, "*By 1990, suburbanization and economic decline had closed all of the downtown's major retail stores; downtown had become a*

9-5 workplace. Traditional revitalisation strategies were no longer feasible in the new economic reality". In 1994, the United States Conference of Mayors honoured Providence with a City Liveability Award for establishing creative and effective programmes for making Providence a more liveable city. According to urban historian James Kunstler in his recent book *Home From Nowhere* "Providence is poised to become an exemplary case for the reuse of American downtowns. The strategy being used in Providence is flexible, sensibly scaled, and geared toward private investment. Altogether, it may begin to give city life a good name in America". What are the ingredients of this turnaround?

A downtown strategy takes shape

Providence is no longer a moribund city. Since the early 1990s Providence has become the dynamic centrepiece of a growing business, financial, government, and cultural hub of over one million people in southern New England. The city is making a successful transition from a typical old New England manufacturing centre – dominated by antiquated and environmentally contaminated textile mills – to becoming a leader in a new regional economy dominated by knowledge-based businesses and cultural activities. Downtown redevelopment is the result of a strong collaboration among several city and state agencies and many public institutions (local colleges and universities) and firms.

Starting in the late 1960s Providence took advantage of federal legislation and began to preserve much of its historical architecture as part of an overall strategy to ameliorate the collapse of its retail sector. The 1968 passage of the National Historic Preservation Act led to the establishment of the Rhode Island Historical Preservation Commission. The Commission prepared a blueprint for the restoration of several properties in Providence and between 1976 and 1986 federal tax benefits for the rehabilitation of historic, income-producing buildings were administered by the Commission to 144 projects valued at US\$108 million in the city. In the 1990s, in a second wave of renovation and preservation Providence began to market itself as the "Renaissance City". Accompanying the restoration of deteriorating office blocks, new office buildings, apartments, hotels, the Rhode Island Convention Center, a shopping centre, and a 16-screen movie theatre were constructed in a designated *Downcity District*.

Arts and entertainment lead the way back

A brisk walk around downtown Providence provides substantial evidence – to the eye, ear, and nose – that much of Providence's downtown growth has been led by the arts, theatre, cultural, restaurant, and entertainment industries. The arts community has spread into several neighbourhoods as artists and theatre companies have set up studios and performance space in old mill buildings. Just as historical preservation benefited from tax laws, the Downcity Arts Project took

advantage of 1996 state legislation that authorised Providence to turn one square mile of its downtown into an economic empowerment zone known as the Arts and Entertainment District. Artists and performers living in the district pay no state income tax on what they sell and their customers pay no sales tax on artist-made products they purchase in the neighbourhood. Thus, artists are encouraged to combine their homes, studios, and galleries in restored downtown buildings. To create living and work space, property owners in the district get additional tax breaks for converting old, vacant buildings into rental units.

Institutional synergies in practice

How do synergies among local institutions boost development? The Arts and Entertainment District draws on the strengths of three leading city institutions, the Rhode Island School of Design, the culinary school at Johnson and Wales University, and the Trinity Repertory Company. The Rhode Island School of Design – founded in 1877, and considered one of the nation's leading arts schools – has played a strong role in the design of the district. Many faculty members and graduates have located their studios in the district. The School of Design also operates a museum of art, a design library, and a gallery in the city. The culinary school has helped the District and the city claim many of the best restaurants in New England. The Trinity Repertory Company, an international and national award-winning theatre company, performs classic, contemporary, and new works year-round in two theatres. The city effort was also supported by innovative federal and state development programmes.

4. The institutional framework: public private development

The Rhode Island Economic Policy Council and the “New Economy”

The Rhode Island Economic Policy Council (RIEPC) – composed of Chief Executive Officers from leading firms, state labour leaders, university presidents, and government – was established in 1997 to provide analysis of the strengths and weaknesses and the opportunities and threats facing the Rhode Island economy. The RIEPC is a non-profit corporation equally funded by the private sector and the state of Rhode Island that develops creative strategies and recommends policies to address these issues to the state's elected officials. For the Council, the economic challenge before Rhode Islanders (and by implication Providence residents) is summarised as making the transition to the “New Economy”.

In 1999 the RIEPC reported: that since 1992 US manufacturing exports had grown twice as fast as Rhode Island exports; that the value of Rhode Island manufacturing exports per worker (US\$14 000) lagged far behind Massachusetts (US\$40 000); that Rhode Island manufacturing productivity was 69 per cent of US

productivity; and that capital investment per worker was less than half of the US rate of US\$10 000. The RIEPC posed a challenge: How can we create an economic future that is as strong as our past. The RIEPC suggested a number of strategies to boost the local economy.

Research and development strategies: the Samuel Slater Technology Fund

Rather than rely on recruitment strategies that consist of sales pitches to firms to relocate in Providence and Rhode Island because it is cheaper to do business there, a comprehensive strategy is in place to work with in-state firms and start-ups. In their analysis of the Rhode Island economy completed in 1997 – Meeting the Challenge of the New Economy – the RIEPC recommended that the Rhode Island legislature establish a technology commercialisation and industry cluster development fund to boost what was identified as an inadequate level of firm spending on research, workforce development, and technology acquisition. In 1997 the legislature established the Samuel Slater Technology Fund. (Slater was an early XIXth century innovator in industrial machinery, responsible for the development of mechanised textile mills in Rhode Island.) The Fund serves many of the same functions in Rhode Island as the Pole for Technological Innovation (POINT) serves in the province of Bergamo.

Emphasis was placed on working with identifiable industry clusters and a select group of nascent, incubation clusters. In 1997 and 1998 a thorough analysis of the state economy was undertaken to identify these clusters. For the past three years an annual state appropriation of US\$3 million has been made to the fund, with US\$6.3 million of the total set aside to fund Research Centres of Excellence. The remainder of the budget was left to the discretion of the RIEPC, which has responsibility for the administration of the entire Fund. For the state's US\$9 million investment projects have thus far: leveraged almost US\$14 million from federal and private sector sources; supported several university-related research centres in medicine, oceanography, and environmental biotechnology which have generated 21 new patents; provided early stage funding for several technology-based start-up companies; and supported the establishment of seven collaborative efforts in five industry clusters. The Centres include:

- *Centre for Design Innovation at the Rhode Island School of Design.* Already several design-related and product development firms started by School graduates and faculty members have developed in Providence. The Centre's focus will be the commercialisation of a kitchen design project and the development of new business opportunities related to kitchen design and furnishings.
- *Environmental Biotechnology Centre at the University of Rhode Island.* The Centre builds on over a century of plant science research at the University. The

focus is on the development of industrial partnerships in turf and agricultural-related products.

- *Centre for Sensors and Surface Technology at the University of Rhode Island.* The Centre already has several corporate partners working in the field of advanced microprocessors and environmental sensing devices.
- *Rhode Island Centre for Cellular Medicine at the Brown University School of Medicine.* The Centre builds on work taking place in cellular medicine and tissue engineering and has several biotechnology industry partners. The research is focused on the use of living cells as therapeutic and diagnostic agents.
- *Ocean Technology Centre at the Schools of Oceanography and Marine Electronics at the University of Rhode Island.* The Centre is focused on the development of basic technologies for use in various marine industries including materials and coatings, energy sources, robotics, acoustics, and computer hardware and software.

The T.F. Green Airport

To connect Providence and Rhode Island to the global economy a long-term investment is being made in the T.F. Green Airport. Located only fifteen minutes from downtown Providence, the airport has provided much economic stimulus in the city and across the state. In 1988 the airport provided a US\$346 million boost to the greater-Providence and state economies; by 1998 the impact was slightly over US\$1 billion according to a study commissioned by the state's airport authority. Airport employment generates almost 2 000 jobs and a payroll of US\$47 million. Hotels, travel agencies, and auto rental firms have all benefited from increased use of the airport as domestic travellers use the airport as an alternative to the extremely crowded Logan Airport.

The airport investment is tied to a strategy to boost manufacturing exports. In 1998, 35 per cent of national manufacturing output was exported, compared to just 19 per cent in Rhode Island. While Massachusetts exports averaged approximately US\$40 000 per worker in 1999, the figure was just slightly over US\$10 000 per Rhode Island worker. To increase manufacturing exports, the Export Assistance Center at Bryant College (in Rhode Island) offers a set of services to help Rhode Island companies enter foreign markets or increase global sales. The Technology Fund has also invested in export development projects for the seafood and jewellery industries.

Education and training

Rhode Island and Providence want to attract a share of high wage jobs, especially in software and telecommunications, financial services, and medical technol-

ogy. In the early 1990s the Rhode Island Skills Commission was created to implement a strategy to boost the education level of the state workforce and to co-ordinate a coherent, comprehensive employment and training system for the state. New educational standards were established for all students. Programmes were started to work with high school drop-outs to increase their literacy and numeracy. Professional certification programmes were started in several occupations. Importantly, there was an effective alliance between the education and training system and the state's economic development agencies. As a result Rhode Island has several innovative education and training programmes. For example, it is the only state with a programme for high performance workplaces – the Human Resources Investment Council – which is self-funded by business through a portion of their unemployment insurance. The state has three regional employment boards that co-ordinate the expenditure of state and federal training dollars, with a specific board devoted solely to Providence.

To complement the training programme, housed with the regional board are the Rhode Island Manufacturing Extension Service, the Rhode Island Area Coalition for Excellence and the Technology Transfer Centre. The Manufacturing Extension provides companies with in-plant advice on productivity improvements, and the Coalition for Excellence offers International Standards Organisation Quality Standard certification to manufacturers. A major focus of the groups is the co-ordination of services to firms and unemployed workers to avoid redundancy in programmes. The organisations are also engaged in ongoing labour market research to avoid the common problem of training for jobs that are declining.

5. Measuring performance: How to determine success

The Economic Policy Council, the Slater Technology Fund, and the Providence Empowerment Zone have established a series of evaluation measures to determine whether changes are occurring in the state and city economies, and whether Providence is moving along to assume a place in the New Economy. There is much overlap among the factors to be measured by the groups, especially in the areas of education and training, job creation, and access to computer technologies. Most importantly, the groups plan to make their annual evaluations public so that there is accountability.

The RIEPC plans to track several indicators. Their 1999 report marks a first effort to measure progress toward the New Economy and it intends to “issue an updated report each winter to share the long-term picture of economic change with policy makers and the public”. The Samuel Slater Technology Fund issues progress reports that measure such things as: patents that result from funded research; the amount of private sector money that is leveraged for each publicly funded project; sales growth in firms that use the Fund; the level of new collabora-

tion among firms in identified industry clusters; the rate of commercialisation of technologies being developed at participating colleges and universities; and whether there has been an increase in the investment in new technology by Rhode Island firms.

A working evaluation model listed six challenges. Related to each challenge are the various strategies that will be implemented, the legislation required to assist in strategy implementation, a time frame for accomplishing specific tasks, the expected results, and the measures that will be used to judge success. The challenges are: 1) strengthening global connections; 2) developing industry clusters; 3) controlling regulated business costs; 4) increasing workforce productivity; 5) turning ideas into jobs; 6) smart growth.

How does this work in practice? Two critical features of the New Economy are that it is digital and global. Thus, the capacity of Providence and the state to be connected globally – to move information, people, and goods to and from suppliers and customers around the world – is essential. Five measures were established to monitor progress in strengthening global connections: on-line adults; international air travel; value of ocean freight; manufacturing exports; and International Standards Organisation Quality registration of firms. With a baseline established for each challenge, progress can be charted over time.

Traditional evaluations of economic development programmes are based on quantitative programme goals: How many jobs were created? How much new investment entered the target area? How many start-up firms took advantage of an available tax credit programme? How many residents attended a training program? In a thoughtful article on new approaches to empowerment zone evaluation Jenkins and Bennett (1999) state that such traditional quantitative analyses “do not work as well for programmes that depend on community action and seek to promote community development. Strategies for social change are not so narrowly defined that conventional methods of evaluation work”. Two goals to be monitored are poverty alleviation and community empowerment.

Conclusions

The capacity of a regional economy to provide well paying jobs and a broadly shared sustainable prosperity is contingent on the ability to learn new things and resolve problems as they manifest themselves. As a systematic learning process among enterprises, institutions, elected officials, and citizens is nurtured, knowledge is accumulated to make this possible. Three significant themes have emerged from the Providence experience and other older industrial cities that have embarked on development processes similar to what is taking place there.

- First, while community development is about job creation, it is not *only* about job creation. Attraction strategies, premised on low wages or cheap

Box 7. Measuring performance: the community scorecard

The Providence Empowerment Zone established numerous social and economic benchmarks – a community scorecard – to measure progress in the neighbourhoods. The scorecard resulted from a series of neighbourhood meetings across Providence and is based on four key goals with measurable outcomes. Baseline data will be established for each goal, immediate results will be charted, and longer-term milestones monitored for progress. A public forum of community residents will establish the milestones. To promote leadership in the community, several neighbourhood-based leadership training programmes are underway. A grant from a private foundation, the Pew Charitable Trust, enabled the creation of the programme in civic entrepreneurship in 1998. There has been a noticeable increase in the visibility of the city's Hispanic community, evidenced by the start-up of several businesses, the election of the first Hispanic to the Providence City Council, and the formation of Latinos for Community Advancement.

Goal 1: Connecting People to People

A network for continuous community renewal and empowerment will be built

Youth Leadership Demonstrated:

- Number of youth-initiated service projects in the EZ
- Number of youth-initiated small businesses
- Percent of teens not in school and not working, ages 16 -- 19
- High School graduation rate

Civic Organisation Capacity Increased:

- Level of fund balance of community-based organisations
- Level of "one stop" solutions to a client's needs
- Level of earned income generated by Community Development Corporations
- Value of resources leveraged

Residents' Access to Technology:

- Number of Enterprise Zone residents completing computer training
- Number of computers made accessible to EZ residents
- Usage level of computers at designated technology sites
- Number of students graduating with computer literacy skills

Child care Availability:

- Number of child care centre slots available for children under age three
- Number of pre-school Headstart slots for children age three to five
- Percent of EZ residents who qualify for and have access to child care subsidies

Box 7. Measuring performance: the community scorecard (cont.)

Goal 2: Connecting People to Jobs, Wealth, and Resources

The economy of the city will be revitalised in three tiers, ultimately building the New Economy

Jobs Outside the Zone:

- Placement and retention rate for EZ residents in jobs outside the zone
- Number of people holding a high school equivalency diploma
- Number of net new jobs held by residents
- Level of unemployment
- Median family income of employed EZ residents

Local Wealth and Business Creation:

- Number of sustained, community-based businesses
- Level of loans made to businesses in the EZ
- Number of business failures
- Number of business start-ups in the EZ
- Sales volume of businesses in the EZ

Goal 3: Connecting People to Places

There will be six sustainable healthy neighbourhoods, each with a commons

Public Safety Improved:

- Number of community-based programmes tied to community service
- Juvenile violent crimes arrest rate
- Number of assault and breaking and entry arrests
- Number of set fires

More Open Public Green Space:

- Miles of maintained greenway
- Number of trees planted
- Number of vacant lots

Availability of Safe and Effective Housing:

- Level of lead removed from housing stock
- Level of home ownership
- Percent of owner-occupied housing units

Art and Culture More Visible:

- Number of EZ residents employed in the arts

Box 7. Measuring performance: the community scorecard (cont.)

- Number of art and design curriculum in the schools
- Number of arts related shows and conferences held in civic institutions
- Number of arts events sponsored by EZ organisations
- Number of artists living in the EZ

Goal 4: Connecting People to the Future***Build a platform for neighbourhood change***

Emergence of New Economy:

- Average annual salary of EZ residents employed in the design industry
- Number of design jobs filled by residents
- Tax base of the city

Change in Public Education:

- Proficiency levels for math and verbal skills
- Number of students in innovative schools
- Percent of EZ teens who are high school dropout
- Number of school-to-work initiatives tied to public schools

Use of Development Sites:

- Net number of jobs created
- Number of EZ residents employed
- Number of job set-asides for EZ residents

Neighbourhood Commons Present:

- Level of brownfield acreage
- Number of children under 18 below poverty
- Number of children under six below poverty
- Level of public awareness of distinct neighbourhoods
- Bus ridership between neighbourhoods

factory rentals, can not invigorate an economy for a sustained period and will be likely to track individuals into jobs with little opportunity for education and career advancement. Therefore, development strategies must be grounded in a greater appreciation for not just the narrowly defined labour market, but the entire social fabric of the city.

- Second, there must be creative thinking about the kinds of enterprises and community initiatives that may provide for long term economic and environmental sustainability, if we are to avoid the roller coaster economy that cities like Providence have experienced.
- Third, it is critical to get the community to the decision-making table so that it can be actively involved in the agenda-setting process. Regular meetings to discuss development activities, perhaps a community newsletter to keep citizens informed, and a reflective and on-going region-wide discourse are important components of development efforts. The confluence of approaches and perspectives that such a process generates will act as a catalyst for the sustainable development of a city or region.

Coventry, West Midlands, United Kingdom

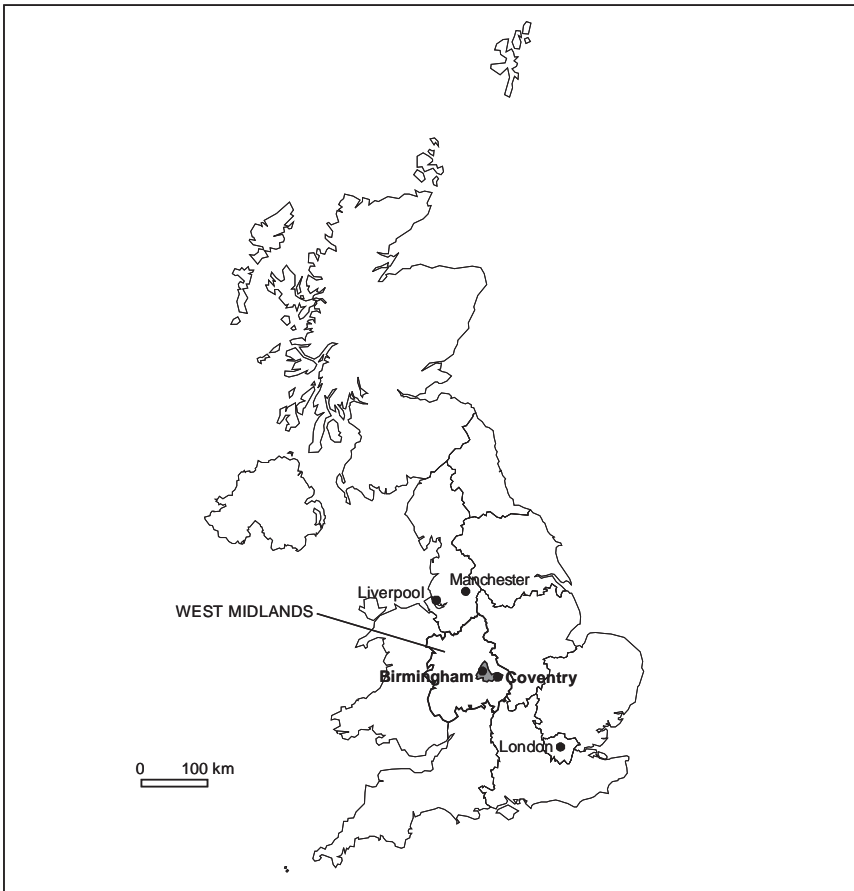
1. The regional context

The cities of Coventry and Birmingham, separated by approximately 35 kilometres, are located in the West Midlands region of the UK. The region is comprised of the shire counties of Herefordshire, Worcestershire, Shropshire, Staffordshire, and Warwickshire, as well as the seven metropolitan areas of Dudley, Sandwell, Solihull, Walsall, Wolverhampton, Birmingham and Coventry (see Figure 23). The region has a total population of some 5.3 million persons, nine per cent of the UK total, at an average of 3 000 per square kilometre. The following map shows the location of the region within the United Kingdom.

In economic terms the region accounts for 9.5 per cent of UK employment and 8.5 per cent of GDP. Some 80 per cent of the land area is rural with 1.7 per cent of employees engaged in primary activities. The region remains relatively dependent upon manufacturing, especially the automotive and related industries. Basic metals, engineering, motor vehicles and other transport equipment account for three-fifths of regional manufacturing employment and GDP. Overall, manufacturing industry still accounts for over 25 per cent of total employment and 30 per cent of GDP in the region. The proportion of employees in employment in manufacturing is 1.5 times the national average. Although there has been a significant switch away from primary and manufacturing activity towards services, which now account for 67 per cent of total employment, service sector activities are still under-represented in the region, although they have grown rapidly, especially in Birmingham and Coventry, in the last years.

Poor competitiveness in parts of the region's indigenous industry has contributed to the decline in the manufacturing base. Gross Value Added (GVA) per head in the region remains below the national average. Low levels of investment contribute to this lack of competitiveness. Expenditure on research and development as a percentage of GVA in the West Midlands is half that of England as a whole, with some industries in the region remaining focused on low value added and labour intensive activities which are vulnerable to competition from low cost producers.

Figure 23. **Coventry and Birmingham**



Source: OECD/TDS.

However, at the same time, the proportion of employees that are employed in high technology sectors is slightly higher than the national average, at 2.9 per cent. Moreover, the region has continued to benefit from foreign direct investment. Over 1 850 overseas companies are located in the region, employing some 220 000 people. In 1998 the West Midlands was the top English region for FDI and the fifth most popular in Europe. However, this position is increasingly threatened due to infrastructural problems in the region, namely, increasing traffic congestion

on its major routes, and the severe shortage of high quality industrial sites and premises.

The structure of the labour market in the region, as nationally, is characterised by an ageing workforce, increased part-time employment, variable hour and temporary work, and a growing number of self-employed. A major change in the composition of the labour force has been the dramatic increase in the participation of women. The rate of unemployment in the region has fallen throughout the 1990s and is now almost in line with the national average. However, the region has some severe pockets of deprivation. Two of its districts (Birmingham and Sandwell) are in the top ten most deprived areas on the 'Index of Local Deprivation' and six are in the top 50. In addition, the region remains below the national average on all national learning targets. Inadequate training in the past and low levels of educational attainment are reflected in the fact that recruitment difficulties are a problem in the automotive components sector, telecommunications/IT, business services, rubber and plastics and electrical/electronic engineering. Both average and middle income levels are below national levels.

A number of important regional issues emerge from the analysis: the continued dependence upon manufacturing and particularly the fortunes of the motor industry, a point recently emphasised by the Rover sell-off; the under-representation in business services; the low level of competitiveness among indigenous industries, and problems of skills shortages reflected in poor educational attainment. These regional issues manifest themselves at the local level, especially in the metropolitan areas including Birmingham and Coventry.

2. Institutional structure and territorial governance

Institutional evolution

During the past 30 years several public and private bodies were created out of horizontal collaboration in the West Midlands region. Some of these bodies lost in importance after a certain time or were dissolved. The emergence and dissolution of partnerships shows how private and public decision-making processes adapted to the changing functional regions in the area.

Between the mid-1970s and the mid-1980s Birmingham and Coventry (along with the other five metropolitan areas Dudley, Sandwell, Solihull, Walsall and Wolverhampton) operated under the West Midlands County Council (WMCC). With the demise of WMCC in the mid-1980s, the Coventry City Council strengthened its links with Warwickshire County Council and formalised them through the creation of Coventry and Warwickshire Partnerships Limited (CWP) in 1994. The Coventry and Warwickshire Partnership Limited (CWP) in Coventry offers a typical example. CWP is a network of private and public local economic development agencies

(LEDAs) within Coventry and Warwickshire. Their connectivity is distinguished by the fact that although the agencies are separate entities with varied aims and objectives, they have a common interest in developing the economic prosperity of the Coventry and Warwickshire sub regional economy. Thus Coventry City is no longer associated with Birmingham City through the WMCC but rather is now linked with Warwickshire County by partnership.

Institutional structure

Economic development and the local economic development agencies (LEDAs) in the Study Areas face four levels of spatial hierarchies in their attempts to address local economic problems.

- *Europe*: First, Europe has become a new arena of influence. The restructuring of the European economy through the 1992 Single European Act has created a new focus of policy making and resource allocation alongside, and sometimes in competition with, existing national, regional and local levels of government. A spate of new regulations and directives are coming from the EU's expanding competence to legislate for particular aspects of policy in the member states. This is being achieved through a variety of pilot programmes, community initiatives and special funds, many of which are channelled through local authorities and other local agencies.
- *Central state*: Second in the hierarchy is central government. As noted above, legislation has been instrumental in the shaping of local areas. Formal and informal institutional constraints have relegated the enviable position once occupied by local authorities. Increasingly, LEDAs are pressurised by central government to tailor their policies to the latter's priorities.
- *Region*: Third, a further level noticeable in the hierarchy is the position of regions. One of the visions of a future Europe is the idea of the "Europe of the Regions", which is seen by some as an emergent model for a federal Europe based on a strong centre with direct links to a strong periphery. The model predicts nation states losing powers, on the one hand to the EU, but on the other to the devolved regional governments which are now characteristic of all major states, including the UK which appears to have joined the band wagon under the New Labour government. For example, the creation of "Regional Development Agencies" in 1997 is indicative of the government's commitment to the "regional" means of promoting economic development. This means that some of the EU subsidies have been targeted at the regional level as opposed to the sub regional or local level. Thus, in order to benefit from such subsidies, local areas have had to join forces at the regional level. At the regional tier, the following organisations are noteworthy: Government Office West Midlands (GOWM), the Regional

Development Agency (RDA), the Regional Chamber, and the Local Government Association (WMLGA). GOWM co-ordinates European Union and central government expenditure streams in the West Midlands Region and provides a link between central and local government. WMLGA is the representative body of local government agencies. The newly formed Regional Development Agency (RDA), called "Advantage West Midlands" has the key role of producing a Regional Economic Strategy. The RDA has a statutory obligation to consult with the West Midlands Regional Chamber (WMRC) which is an organisation comprised of representatives of business, labour, government, and the voluntary sector. The Regional Chamber is regarded as a precursor to an elected regional assembly.

- *Local authorities*: A fourth level of influence in local economic policy is the individual local authorities (Coventry and Birmingham City Councils). They are responsible for promoting economic development in their own localities with priorities set out in annual economic development programmes. Instruments to attract new firms and assist existing ones would typically include: the provision of information, granting of financial assistance, business advice and training, and aftercare services. For example, in Coventry, City Council grants are available to the manufacturing industry to assist the development of supply chain networks. Under the central government's regional policy, businesses in both Coventry and Birmingham are eligible for selective financial assistance.

The local level is also within the range of the LEDAs. Such agents include political bodies (political parties, local authorities, a regulatory agency), economic bodies (firms, trade unions, chambers of commerce, co-operatives, etc.), social bodies (churches, clubs, including sporting associations), and educational bodies (schools, universities, vocational training centres). The influence exerted by such bodies is mostly dependent on their political or economic influence. It must be pointed out that although private sector firms have been excluded from the ranks of LEDAs, where they form the largest employers in their local areas, they often have tremendous influence over local economic policy.

The interface with local business in both areas is achieved through Training and Enterprise Councils (TECs), Business Links and Chambers of Commerce. In the case of Coventry, the TEC and the Chamber have merged into one organisation. Training and Enterprise Councils began life in the late 1980s. They were given the responsibility and funding for planning and delivering training and promoting business development at the local level, a role previously played by the Employment Department. TECs thereby became responsible for meeting the government's training objectives. Business Link also operates locally to provide a range of business support and services to meet local requirements. Services would typically include: information and advice, business planning and strategies, selling

and marketing, personnel development, operating in overseas markets, innovation, quality, IT, financial management, legislation and regulation, and starting a business.

Constraints to local economic policy making

The constraints at this level are exemplified mainly by the dynamics of the automotive industry. For example, since 1987, Jaguar and Peugeot have been the largest individual private sector employers for the whole of the Coventry and Warwickshire sub-region. This makes them an important dynamic influence on that economy even though they are directly controlled by decisions made outside the local area. A decision by a parent company to close down a branch plant might disrupt the policy objectives of LEDAs. Thus, LEDAs face a situation where potential shocks from large manufacturing employers in the automotive industry can make their role in the economic regeneration of the sub region less effective. The most recent example is the German car producer BMW's buying and selling of Rover and the potential threat of closing down the factory.

In addition, organisations external to a local area can limit LEDA activities. For example, UK created organisations such as Training and Enterprise Councils and Business Links, now operated through the Coventry Chamber of Commerce (a private sector organisation), are influenced by central government policies that are changed frequently. Also, capital support for regeneration in the study area, provided by the European Union, is constrained by a *supra* national organisation's policies.

Constraints to regional economic policy making

UK Regional economic planning has had a long history, and has been largely organised through central government in a top down approach. Its latest manifestation has been the introduction of Regional Development Agencies (RDA) in 1999. This organisation has its terms of reference specified in legislation, although its key role is to produce a Regional Economic Strategy. In the West Midlands Region the organisation is called "Advantage West Midlands", and the Regional Economic Strategy vision was stated as: "within 10 years, the West Midlands will be recognised as a premier European location in which to live, work, invest and to visit, regarded internationally as world class, and the most successful region in creating wealth to benefit everyone who lives in the area".

Though the West Midlands RDA will be operating at a higher spatial level than CWP, the dynamics of the local economy are directly controlled by a hierarchy of spatial levels above the regional level. Thus, although accepting that such a regeneration mechanism is desirable, two questions still remain to be answered. First, whether the RDA is operating at the appropriate spatial level to address the

divergent dynamics of the Coventry area's economy. Second, whether the economic development activities of LEDAs will be strengthened or weakened. Research evidence (Botchway, 1999) suggests that the gravity of industrial dynamics is shifting away from Coventry/Birmingham to other locations beyond the West Midlands region. For example, before the 1980s, the former Rootes Group, now owned by the French group Citroen/Peugeot, provided a new capacity in Scotland, while Standard/Triumph (the predecessor to Rover) developed on Merseyside. Bus manufacture was concentrated in Lancashire. More recently, car assembling has gained more importance in other locations. Japanese companies have constructed plants at Derby (Toyota) and Sunderland (Nissan).

3. Coventry and its economy

Coventry is a free-standing city located at the heart of the country's communications network. It has a population of approximately 306 000 at a density of 3 200 persons per square kilometre. The city is well served by road, rail and air communications. The whole of England is within a five-hour drive. London is only 65 minutes away by train whilst Birmingham (the second largest city) is just 20 minutes away. Birmingham International Airport is just ten minutes by train and is more accessible by road from Coventry City Centre than from Birmingham City Centre. Coventry has its own airport specialising in freight transport and also offers executive and charter flights to several European destinations. The country's major ports are also easily accessible via the motorway network. Although this extensive communications network is a major asset, traffic congestion on routes to and from the city is an increasing problem.

Total employment in the city was 140 600 in 1997 of which over 90 per cent were employees with just under eight per cent, being self-employed. This is significantly lower than the national average of 13 per cent. The proportion of employees working part-time has risen to 29 per cent and is in line with the national average. Average earnings per week in the city are in line with the national figure. It is estimated that around 40 000 persons commute into the city whilst 20 000 commute out. The city's economic hinterland stretches from Atherstone, Hinckley and Nuneaton to the north; Rugby, Leicester and Northampton to the east; Kenilworth, Warwick, Leamington and Stratford-on-Avon to the south; and Solihull and Birmingham to the west.

Coventry's economy is still heavily dependent upon manufacturing. This sector accounted for 24 per cent of employees in employment in 1997, some 32 000 persons, compared with 18 per cent nationally (Table 33). Within manufacturing the automotive industry is particularly important. The industry still directly supports some 8 500 jobs in the city. The proportion of employees in employment in this sector is nearly seven times the national average. This relative dependence

Table 33. Employment structure in Coventry, Birmingham and the West Midlands

	Coventry		Coventry & Warwickshire	Birmingham	West Midlands	Great Britain
	Persons	%	%	%	%	%
Agriculture, fishing, mining	–	0.0	0.6	0.0	1.7	2.0
Manufacturing	32 000	24.3	22.9	23.4	26.1	17.8
Utilities	2 300	1.8	0.9	0.6	0.7	0.6
Construction	2 800	2.1	3.7	4.9	4.2	4.3
Wholesale/retail trade	18 500	14.0	16.1	13.9	16.7	16.9
Hotels and restaurants	5 000	3.8	5.4	4.9	4.6	5.6
Transport	6 400	4.8	5.5	5.0	4.7	5.8
Financial intermediation	5 800	4.4	3.2	5.6	3.1	4.3
Real estate, business activities	16 300	12.3	14.3	14.2	11.8	14.0
Public administration	6 500	4.9	4.7	5.0	4.9	5.6
Education	18 800	14.3	9.3	8.0	7.9	7.7
Health and social work	12 200	9.2	9.3	10.1	9.6	10.7
Other services	5 300	4.0	4.2	4.2	3.9	4.7
Total	5 027	100.0	100.0	100.0	100.0	100.0

upon the fortunes of the automotive industry clearly places Coventry in a vulnerable position, especially given the external ownership of key employers. The city is also an important location for the communications industry. The proportion of employees in this sector is also over six times the national average. With the tremendous growth in communications technology in recent years, this represents an important asset to the city, with further investment by Marconi announced in spring 2000. Although the proportion employed in manufacturing is high relative to the national position (18%), the city's dependence upon manufacturing has been significantly reduced. As recently as 1989 this sector accounted for some 42 per cent of active employees.

As manufacturing employment has declined the service sector has become an increasingly important source of employment. Service sector activities now account for 72 per cent of employees. The local authority, Coventry City Council, is the largest employer in the city. Key activities, in employment terms, are education and health, business services, retailing, wholesale and distribution. These accounted for 66 000 jobs in 1997, 72 per cent of all service sector jobs. However, despite the growth in service sector employment in recent decades, Coventry is still under-represented compared to the country as a whole. Most notably, the proportion employed in hotels and restaurants, a growth area, was 68 per cent of the national average. The major exception in Coventry is in education where the proportion employed is almost twice the national average. In addition to the primary and secondary education sectors, Coventry is also home to two universities (Coventry and Warwick) which have developed strong links with industry.

Unemployment in the city has fallen consistently over recent years and is now below the national average. Between January 1996 and December 1999 the number of registered claimants fell by over 50 per cent from 13 600 down to 6 200. The current figure represents a rate of 3.9 per cent. This compares with the regional average of 4.4 per cent and the national average of 4.0 per cent. However, pockets of deprivation exist within the city with two wards ranking in the top 10 per cent most deprived in the country. Unemployment rates in these wards are over three times the national average. The percentages of the Coventry workforce holding an NVQ Level III or equivalent is higher than the regional or national averages. The total has increased over the past year to 47.1 per cent. However, skill shortages are a persistent issue.

The work of the local authority alongside public and private sector partners over recent years has helped to bring significant new investment into the city. Investment projects totalling £1.5 billion are currently underway. As brownfield sites have become available through restructuring in manufacturing, extensive work has taken place to bring these sites back into use. Sites have been developed for a mix of uses including, industrial, retail, distribution, offices, business parks, leisure and housing. This variety of use has provided a range of employment opportunities, providing jobs for local people. Coventry has also been very successful in attracting foreign direct investment with over 150 overseas firms now based in the city. Altogether over the last ten years Coventry has attracted 350 new firms to the city creating over 20 000 jobs.

In terms of heritage, Coventry has a world famous landmark in Coventry Cathedral. There are also many other historic buildings and places of interest, including eight museums. In the leisure and entertainment field Coventry has traditionally struggled to compete with the nearby attraction of Birmingham. However, much progress has been made in recent years to improve the city's image in this respect. The city has 45 conference facilities, five theatres, 300 restaurants, four cinemas, ten night-clubs and three casinos. The recently opened "Skydome" entertainment complex with bars, restaurants, night-clubs, a cinema, and a purpose built indoor Arena has significantly added to the city's attractions and will help to reduce leakage of expenditure from the night time economy to Birmingham.

4. Spatial development: the Unitary Development Plans

Unitary Development Plans as land-use plans

Spatial development policies for Coventry and Birmingham are set out in Unitary Development Plans which are prepared following policy guidance laid down by the Secretary of State for the Environment, Transport and the Regions. These are essentially land-use plans. On the other hand economic development policies

are set out in Economic Development Strategies at the regional (West Midlands) and local level. Unitary Development Plans (UDPs) are prepared by metropolitan district councils under Part II of the Town and Country Planning Act, 1990 (Section 12). They are called “unitary” because they constitute a single statutory land-use plan covering both strategic policy direction and detailed local plans. Previously strategic and local planning policies were separate. UDPs must contain policies and proposals for the physical development and other uses of land including measures for improving the environment and traffic management. Whilst UDPs take account of social and economic factors, it is important to emphasise that they are land-use plans. They complement but are separate from Economic Development Strategies.

Preparation of the first UDPs for Coventry and Birmingham, by each City Council respectively, commenced in 1988 following the publication of Strategic Guidance for the West Midlands by the Secretary of State for the Environment. The Guidance had the twin objectives of economic revitalisation and urban regeneration, and provided the overall context for the preparation of the UDPs. Both the Coventry and Birmingham UDPs were adopted in 1993, with a base year of 1988 and an end year of 2001. The second UDPs for Coventry and Birmingham to the year 2011 were prepared within the context of Regional Planning Guidance (RPG 11), published by the Secretary of State in 1995 and revised in 1998. These set out a vision for the West Midlands as an advanced and competitive manufacturing region where development is to take place within a sustainable and equal opportunities framework.

The Coventry Unitary Development Plan

Part I of the first Coventry UDP (1993) set out a vision and an outline of the general policies in respect of land-use. The three fundamental objectives of the UDP were: economic regeneration – to strengthen and diversify the economic base of the city, creating and protecting jobs; a reduction of social polarisation; and improvement of the physical environment. City-wide policies included: identifying sufficient land to meet the employment and housing needs of a population of 301 000 by the year 2001; harnessing the City Council’s land-use policy to reduce disadvantage between groups and areas; and a strategy for maintaining and improving the environment. Part II of the UDP provided details of the city-wide policies and also contained local plans for three areas: Central, Foleshill and Longford. For the Central Area the three fundamental objectives of the UDP were amplified. The Centre was thought to be the focus of economic resurgence with revitalised shopping facilities and new office development as the basis for sustained growth. Environmental improvements would create a safer and more attractive physical environment.

The second and current Coventry UDP (1998) covers the period 2001-2011. The vision is: “*The development of a prosperous, attractive and vibrant city providing for the needs of all individuals and communities in a civilised and sustainable manner.*” The objectives to be promoted are: economic regeneration, social equity and environmental quality. Within the city the sub-regional role of the City Centre is to be fully developed. City Centre regeneration includes, as a new policy area, the Phoenix Initiative (Millennium Project).

5. The West Midlands Regional Economic Strategy

Following central government legislation, a Regional Development Agency (RDA) was instituted in each English region in 1999. A key objective for each RDA is economic development and each RDA has prepared a regional economic development strategy.

In the West Midlands the RDA is called Advantage West Midlands and the title of the economic development strategy is *Creating Advantage*, published in October 1999. The vision of the strategy is for the West Midlands to be recognised, within ten years, as a premier European location in which to live, work, invest and visit. The vision is to be delivered through creating wealth through enterprise and through promoting access to opportunity. There are four pillars of the strategy. The first is developing a diverse and dynamic business base. This is to be achieved through encouraging innovation and the use of ICT, the development of high-tech clusters and industries new to the region such as medical technology, and continuing to attract FDI. The second pillar is promoting a learning and skilful region, through developing a highly skilled and adaptable workforce and developing a culture of lifelong learning. The third pillar is creating the conditions for economic growth which include transport improvements and the provision of appropriate sites and premises for businesses. The fourth pillar is regenerating communities which is to be achieved, *inter alia*, through the development of a number of sub-regional regeneration zones.

6. Coventry's economic development policies

An economic strategy for Coventry

Coventry's economic development policies are set out in the Coventry Economic Development Plan, which is produced annually. The framework for this document is provided by the sub-regional strategy for Coventry and Warwickshire – *Regeneration Beyond 2000* produced by Coventry & Warwickshire Partnerships Ltd (see Part III). The current Coventry plan (1999/2000) contains six aims: The first is developing workforce skills and enhancing employment potential through a concerted and co-ordinated approach by local partners. The second aim is to enable

disadvantaged groups and communities to access opportunities through co-ordination between agencies and local capacity building. The third aim is to promote a high quality, safe and sustainable physical and social environment through actions for environmental sustainability and a safer environment. The fourth aim is to support investment and local economic development by strengthening communications and other infrastructure. The fifth aim is to enhance business competitiveness and growth through strengthening and diversifying local business and encouraging innovation. The sixth aim is to further develop the sub-region as a location for business, investment and tourism through enhancing its image and through promotion and marketing.

The key areas of policy in economic development relate to employment, employability, enterprise and the economic environment.

Employment

Faced with increasing unemployment, it became the priority of local economic development agencies (LEDAs) in the Coventry area to provide more jobs for local people. For example, the City Council has given a high priority to the generation and retention of high quality skilled employment in the manufacturing sectors. Politically there was resistance to any increased dependence upon low paid/low skilled service sector employment. The approach to creating jobs is through a process of identifying local (preferably manufacturing) firms, removing impediments to their growth, and enhancing their capacity to recruit local people. For example, the City Council worked closely with major companies such as Jaguar to ensure that the strongest case for further investment in the City was made. It is also recognised that there are a number of practical actions, which can be taken to ensure that any barriers to expansion are removed, for example, ensuring an adequate supply of land availability for expansion.

Employability

Policies in respect of employability relate to skills and training and labour market intelligence. The challenges here relate to the matching of current and future skills in the local labour force with those required by business.

Improving the employability of the labour force in the Coventry area has been a key focus for LEDAs. One approach has been through the creation of stronger links between educational establishments. The knowledge and skills of academics and practitioners of international repute are sought to help local companies become learning organisations. The Warwick Manufacturing Group, based at Warwick University, has played an important role in ensuring that the research capacity of the university has been unlocked to the benefit of local automotive manufacturing companies. Another approach has been through intermediary

labour market companies established by local partners to improve the employability of long-term unemployed. The overall strategy has been to enhance the skills base of Coventry, including its wider travel to work area, in order to create the appropriate infrastructure not only for local businesses to flourish but to attract international interest.

LEDA's strategies to create a highly competitive resource base may be the way forward but the recent pattern of inward investment in automotive assembly into investment areas that have no history of related skills has undermined such a strategy. A typical example is the Japanese investment in Wales and the North-East of England rather than Coventry or Birmingham.

Enterprise

The main initiatives to support enterprise development relate to general business support, such as Business Link, and central government support for business start-ups in the form of enterprise grants. There is also a significant training issue both in terms of acquiring the skills of operating and managing a business, and an awareness of the wider business environment.

In terms of 'enterprise' LEDAs intervene by helping to build the capacity of local SMEs through incentives and support mechanisms that could enable them to strive for "world class performance or standards" in their routine activities. In its official strategy document set out in 1995 "*The Economic Strategy for Coventry & Warwickshire, 1995-1998*", Coventry and Warwickshire Partnerships Limited (CWP) identified "world class pursuits" as an issue for the local economy. Furthermore, CWP's number one goal for strengthening and diversifying local businesses was to ensure that world class standards were achieved in manufacturing alongside an increasingly important, diverse and growing service and tourism sector.

Economic environment

LEDAs intervene in the "economic environment" by managing the relationship between industrial dynamics and the local economies for which they have responsibility. This relationship is important because LEDAs strategies to help stimulate innovative business practices, such as "just-in-time", for the benefit of the local economy could be undermined by the evolution and geographical dispersal of industries beyond local boundaries.

Research evidence (Botchway, 1999) suggest that intervention in the "economic environment" is the broad (rather than exclusive) responsibility of a range of organisations. For example, responsibility for "employment" rests with the City and County Council; "employability" with the Chamber of Commerce/Training and Enterprise Council; "enterprise" with Business Link, Coventry Centre for Investment,

**Box 8. Benchmarking for regional excellence:
the “World Class Partnership”**

The increasing concern over quality and international excellence led to the strengthening of the ‘World Class Partnership’ (WCP) which, although formed in 1993, became active from 1994 onwards with the appointment of a manufacturing excellence officer. WCP’s objective is to work together with local firms and key LEDAs to help Coventry and Warwickshire manufacturers raise their level of performance in the sub-region to international levels of excellence. Members of WCP were largely drawn from the City Council network of business support programmes. Potential “world class” companies, such as local manufacturing firms who had received innovative best practice awards, were targeted for the launch. After selecting or choosing the companies that qualify for the partnership, the next approach involved a process of grooming and learning in order to increase the receptiveness and vision of these firms to “international levels of excellence”. The process involved identifying common needs, defining a common vision and organising effective ways of working collaboratively and sharing good and best practice.

The progress of the members is monitored through benchmarking, described as a “MOPs’ (methods of performance) system. Through this method, member companies are presented with a framework from which to recommend the five top measures they consider necessary to reach a “world class standard”. The framework consists of the following measures: value-added to employees, stock holdings, delivery on time, quality, training, and absenteeism. Subsequently, the companies are requested to vote for those measures they would want to share with the others.

An integral part of the “world class’ strategy is aftercare services (*i.e.*, servicing the needs of companies that have already been attracted to the area) to ensure that a company’s needs are continuously addressed. In an attempt to create the atmosphere for such practice, the City Council’s “Investment Group”, responsible for inward investment in the sub region, has been reorganised to provide a more specialised service to emerging world class firms. Formerly known as “Coventry Investment Group”, the newly created “Coventry Centre for Investment’ (CCI) is made up of three teams; “inward investment”, “training resources’ and “manufacturing investment”. The manufacturing investment team also has responsibility for increasing the capacity of local firms into “world class’ status.

The desire to ensure that such approaches benefit the whole of the local economy, as opposed to being restricted to the companies concerned, is reflected in the nature of enquiries CCI makes about potential beneficiaries. For example, in addition to a standard questionnaire that is meant to gather specific information and details about the company, an “After-Care Officer’ normally also does a follow-up visit to discuss issues raised in the questionnaire, and enquires about issues relevant to the development of the local economy. These include key changes in the company’s organisation, strategic plans, relationship to the parent company and any concerns relating to development, such as skill shortages and the availability of land and premises.

and World Class Partnership; and “environment’ with Coventry and Warwickshire Partnership Limited.

7. Coventry’s spatial development policies

A key strategic aim of Coventry City Council has been to promote a high quality and safe physical and social environment. In order to achieve this aim, a wide range of activities, with a particular focus on the city centre, has been adopted. For example, the Phoenix Initiative has been used to develop much of the northern part of the city centre. The main aim of this project is to encourage commercial development. The first phase of this development has focussed on creating a series of linked public squares, spaces and civic gardens. Subsequently, a pedestrian route will be created between two significant places of tourist attraction – the Motor Museum and Coventry Cathedral. The intention is to enclose the new spaces along this route with shops, bars and restaurant, as well as private housing and residential accommodation for Coventry University located in the city centre. A second phase has focussed on refurbishing existing shops and providing space for new stores. Specific plans include improving existing links between the Retail Market and the Precinct, and also between the city centre and car parks.

A series of mechanisms have been put in place to implement or enhance the spatial development policies outlined above. For example, in order to enhance the Council’s housing strategies, a proposal has been put forward to form a Housing Company, limited by guarantee with a board made up of tenants, representatives of local business, local professional interests and City Council appointees. Similarly, the City Council has contracted with the newly established “City Centre Company’ to help implement its regeneration activities in the city centre. The work of this company will be supported by “The City Centre Access Study’ and “Shoppers/Visitors Survey’ which were undertaken in 1998/1999 to bring forward traffic arrangements, bus operation initiatives, and shopping arrangements to aid the delivery of the improvements and refurbishments mentioned earlier. Finance from a variety of sources has been used. This includes the Single Regeneration Budget (SRB), European Regional Development Fund (ERDF), English Partnerships, National Lottery and other central government and private sector sources. Periodical audits and/or evaluations are done with the custodians of these funds and results are made available to the public.

8. Effects of Coventry’s proximity to Birmingham

The extent to which Coventry can develop beyond its sub-regional role as a centre for leisure and tourism, the arts, entertainment, shopping, and business services is limited by its proximity to the regional capital which is also the nation’s second city. Birmingham has developed major national and international venues

such as the National Indoor Arena, which hosts regional and national sporting events, the International Convention Centre, National Symphony Hall, the National Exhibition Centre and the National Sea Life Centre. Birmingham is also a major centre for evening entertainment with a diverse range of eating and drinking establishments. The Indian “Balti” quarter and the Chinese Quarter are renowned for their ethnic cuisine. The range and variety of shopping provision is far greater in Birmingham than in Coventry. Birmingham’s financial and business services sector is second to London.

The City Council’s pro-active stance on economic development has helped in attracting significant new investment to Coventry in an attempt to counter-balance the attraction of Birmingham. The recently opened “Skydome” leisure complex has significantly added to leisure provision in the city. The site contains a multi-screen cinema, bars, restaurants and night-clubs and an indoor arena which hosts basketball, boxing and ice-hockey events. The City’s Premier League football teams are re-locating to a new 40 000-seater stadium, which will act as an all-purpose indoor facility on a site with a major new retail development. A private City Centre Company, the first of its kind in the country, has been formed to manage and promote the city centre. Coventry has also benefited from financial service corporate relocations from the South-East region.

In summary, given Birmingham’s role as regional capital, the appropriate response of Coventry City Council has been to reinforce its role as a sub-regional centre.

- Coventry benefits from its proximity to Birmingham International Airport. The airport serves destinations in Europe and America, providing regular access for business executives. This advantage is extensively promoted by Coventry’s inward investment team. Coventry City centre is in fact closer to the airport than Birmingham’s. Coventry’s own airport offers mainly freight services and acts as a complement to the passenger services provided by Birmingham.
- Both cities manufacture and assemble motor vehicles. Given the close proximity of the two cities, the motor vehicle firms often use common suppliers from within a highly localised supply chain. One policy initiative designed to develop supplier/purchaser relationships has been the establishment of a Regional Supply Office whose role is matching suppliers with purchasers.

Conclusions

The city of Coventry faces a number of challenges when promoting its economic future:

- There is a complex institutional structure. Land-use planning guidance is provided to metropolitan authorities through Regional Planning Guidance

for the West Midlands. This provides the context for city Unitary Development Plans. For economic development, a new regional level strategy has been introduced to act as a framework for city strategies. City UDPs and city Economic Strategies are intended to complement each other, but in practice there are overlapping aims.

- Because of the development of partnership arrangements between public authorities themselves and the private sector (*e.g.*, Coventry and Warwickshire Partnerships Ltd.), a sub-regional level of activity has emerged further complicating the institutional structure, but also adapting to the changing pattern of functional regions and specific tasks.
- Given that Birmingham is the regional capital, the extent to which Coventry, as a sub-regional centre, can compete in areas such as culture, leisure, tourism and shopping, is limited.
- In both Coventry and Birmingham their advantageous central location at the hub of the country's land transport network is being undermined by traffic congestion on the region's major routes. Plans for a road to divert through traffic away from Birmingham are delayed.
- Both economies are still dependent upon the fortunes of the manufacturing industry and more especially on the motor vehicle industry. High levels of external ownership mean that both cities are vulnerable to externally-made decisions. Despite significant restructuring, the relative lack of growth industries remains an issue.
- There is potential for Coventry's universities to have greater links with industry than is already the case. This might take the form of technology transfer, spin-off companies, providing skilled labour to meet industry needs, providing business advice and undertaking research and development.

Akron, Ohio, United States

1. The regional context

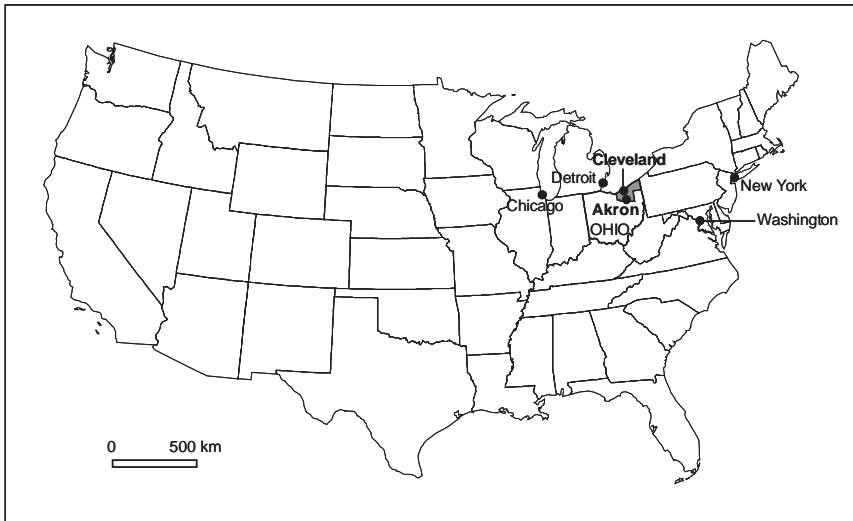
The Cleveland-Akron metropolitan area lies in the Northeast of the state of Ohio. The largest piece of this broad economic region is the Cleveland-Akron Consolidated Metropolitan Statistical Area (CMSA), which covers the functional regional economy.¹ The CMSA is, in turn, composed of two smaller statistical units—the Cleveland Primary Metropolitan Statistical Area (PMSA) and Akron's PMSA. In 1990, the CMSA was home to 2 759 823 people living on 7 537 sq. km., with an average population density of 366 people per sq. km., or 948 per square mile. The Cleveland PMSA, excluding Lorain and Elyria, is the largest component of the CMSA, and contained 2 344 sq. km. and 1 831 122 people (US Bureau of the Census, 1990). The portion of Cleveland's PMSA around Lorain and Elyria is home to 271 126 people, with a population density of 493 per sq. km. Akron's PMSA has a population of 657 575 living on 2 344 sq. km. for an average density of 280 per sq. km.² The location of the region is shown in Figure 24.

The region is of great interest to students of regional economic development for two reasons:

- First, it is a well-integrated, multi-nucleated, industrial economy that lacks a co-ordinating regional unit of government but still manages to make strategic investments through a dense network of private-public partnerships and the intervention of state government, along with the formal co-ordination of the regional highway system through the state's department of transportation. While partnerships are common, local governments within this region are highly competitive for both middle and upper-income residents and business facilities.
- Second, a profound economic restructuring occurred in the late 1970s and early 1980s. There is interest in the mechanisms that were developed to accommodate changes in the competitive reality that local businesses faced in the marketplace.

In this paper we first review this economic history and introduce the economic geography of the region. These sections are then followed by a discussion

Figure 24. Akron and Cleveland



Source: OECD/TDS.

of the size and structure of the regional economy, emphasising the relationship between the region's two major urban centres, Akron and Cleveland, not only to each other but also to newer "edge cities". We also spend time considering the meaning of "high technology" employment in the context of a highly industrialised regional economy. The technological content of work deserves attention because it is often asserted that the slow rate of regional employment growth is attributable to weakness in the economy's technological base. We demonstrate that to the contrary, employment in this region is technologically sophisticated, especially in the area around Cleveland. Regional efforts at economic co-ordination are discussed in the next to last section of the paper, which is followed by a set of concluding observations.

2. Regional co-operation in a federal country

The limited scope of intergovernmental co-operation

The federal system of government in the United States does not encourage or facilitate intergovernmental co-operation (Barnes and Lededur, 1998). Local governmental authority derives from state government, and the Constitution of Ohio

and its legislative history provide few provisions to promote co-ordinated action among or between local governments. The independence of local government in matters of zoning, land use, and local decision-making is enshrined in the Home Rule provision of the State Constitution, making regional co-operation especially difficult and limiting the state's ability to intercede on these matters. State economic development programs take little or no cognisance of regions or regional economies and, most often, promote competition among jurisdictions even within a single regional economy and in cases when co-ordinated strategies would facilitate economic development and the provision of public services. Some state programs even reduce co-ordination attempts: Where the state provides authority to localities for economic development, such as the state tax abatement program, these tools promote inter-jurisdictional competition even when it simply moves existing economic activity within the economic region.

There is no tradition and very little experience with co-operation between or among local governments in the metropolitan region. The political culture of the region and, particularly, that of the city of Cleveland, does not reflect or support a regional orientation or even recognition that the economy is regional rather than jurisdictional. Elected political leadership of Cleveland has not supported, and often opposed, efforts to promote regional strategies or solutions to development problems. The prevailing view is that the city will participate in regional initiatives only if it can exercise significant control and if the benefits accrue primarily to Cleveland. This indifference and, at times, opposition to regional approaches has discouraged the search for regional and co-operative strategies to build the economy of the metropolitan region.

The region now confronts the need to develop a "world class" international airport (Hill, 1997 and 1998). Currently Cleveland Hopkins International Airport serves as a hub for Continental Airlines, which has indicated that current facilities are inadequate to support expansion of service and international flights. Proposals to develop the array of airports in Northeast Ohio into a regional air system or network have been rejected or ignored by the political leadership of the city of Cleveland, which owns and operates Cleveland Hopkins. This posture has effectively paralysed, and perhaps polarised, regional discussions of alternative strategies, forcing other air facilities in the region, including the Akron-Canton Airport, to develop "go-it-alone" strategies. This regional course of action will ultimately result in non-complementary investments in the wider region and, in all probability, a more limited array of uncoordinated air services for the region.

In general, public sector organisation for economic development is through political jurisdictions. Within the Cleveland-Akron metropolitan region Summit County, the city of Akron, Cuyahoga County and the city of Cleveland operate separate economic development departments with little evidence of co-ordination or co-operation. In Cuyahoga County, the primary public sector actor in the city is the

Cleveland City government. The county economic development effort focuses more on jurisdictions of the county beyond the City of Cleveland. The only real regional development entity is the regional chamber of commerce – the Greater Cleveland Growth Association. The Growth Association often takes the lead in putting together the financing on complicated business location deals.

The regional development consortium: NEOTEC

The exception to the fragmentation of public sector economic development programmes is the Northeast Ohio Trade and Economic Consortium (NEOTEC).³ This economic partnership, founded in 1996, seeks to “promote trade, business growth and economic opportunities throughout Northeast Ohio”. The organising partners were six counties. Two, Summit and Portage, are in the Cleveland-Akron CMSA. Two others (Mahoning and Trumbull) are in the Youngstown MSA. The other two counties lie to the south of Summit County and Mahoning County. This geographical configuration reflects what is often considered the greater region of Northeast Ohio, with the exception of Cuyahoga County. Whether by choice or exclusion, Cuyahoga County is conspicuous by its absence from this regional economic development initiative.

NEOTEC emphasises a regional approach based on co-operation rather than competition. Its mission includes building strategic partnerships with economic development organisations and public agencies. These include the Ohio Departments of Development and Transportation, major energy companies in the area, the Akron-Canton Regional Airport, the Youngstown-Warren Airport, and the port authorities of each of the participating counties.

The consortium was founded around three guiding principles: enhancing rather than duplicating existing development efforts; defining county interests within regional goals; and one county, one vote.

NEOTEC has adopted these goals:

- To develop Northeast Ohio's inter-modal infrastructure resources into a seamless transportation system that offers time, cost, and flexibility options to firms shipping to and from Northeast Ohio.
- To promote the resources of Northeast Ohio on a national and international basis to improve the region's position and participation in the global economy.
- To work with entities in the region to improve the competitive position of the region and enhance the region's capability to support business.

Business networks for regional co-operation

Chambers of Commerce are important organisations in economic development in Northeast Ohio. The Greater Cleveland Growth Association played a

critical role in efforts to revitalise both the image and reality of Cleveland after the fiscal default of city government and the pervasive national notoriety surrounding the decline of manufacturing employment. The region's 50 largest corporations created a second business organisation focused on the renaissance of Cleveland, *Cleveland Tomorrow*. The primary emphasis of *Cleveland Tomorrow* has been, and continues to be, the development of the city of Cleveland. Its most visible work has been on the downtown through large-scale projects, such as professional sports stadiums, and waterfront development projects, such as the Great Lakes Science Centre and the Rock and Roll Hall of Fame. Recently the organisation has focused equal energy and financial resources on recreating housing markets in Cleveland's neighbourhoods. In so doing, *Cleveland Tomorrow* has replicated the strategy it used in the arena of regional development – establishing intermediaries, sheltering them, and once they become viable, spinning them off as independent entities.

The Akron Regional Development Board (ARDB), the chamber for the Greater Akron Region, encompasses the three southern counties of the metropolitan region, Summit, Portage, and Medina. ARDB has historically emphasised business development services and economic development. Neither the Greater Cleveland Growth Association nor *Cleveland Tomorrow* have a rich history of collaboration with ARDB. Recently the three organisations, plus the Cleveland Port Authority, jointly sponsored a major study of industrial clusters and industry drivers in Northeast Ohio (Kleinhenz, 2000). On one level this collaboration reflects a growing understanding that the economy is regional, not jurisdictional.

A new private sector organisation was created in 1999, the Northeast Ohio Regional Business Council (RBC). This organisation was expressly established to create a regional focus for addressing critical development issues. The drivers behind this new entity are the Chief Executive Officers (CEOs) of major corporations in the region. Through their leadership and influence, chambers of commerce and other business organisations were brought to the table, with greater or lesser degrees of enthusiasm, as major partners and constituents of the Regional Business Council. The initial priorities established by RBC are workforce development, regional airport capacity, and technology development. Implementation strategies around these priorities are still in the formative stages.

It is too early to assess the impact or potential impact of this new organisation other than its regional emphasis and strong corporate backing. In designing the model for this new organisation, the founders explicitly rejected the possibility of creating a public-private partnership to address the needs of the region. The public sector is nowhere represented in RBC. In this way it is the regional complement to *Cleveland Tomorrow*. It is a private sector organisation that is only now turning to develop a partnership with higher education to pursue some objectives.

3. Recent economic history: the comeback region⁴

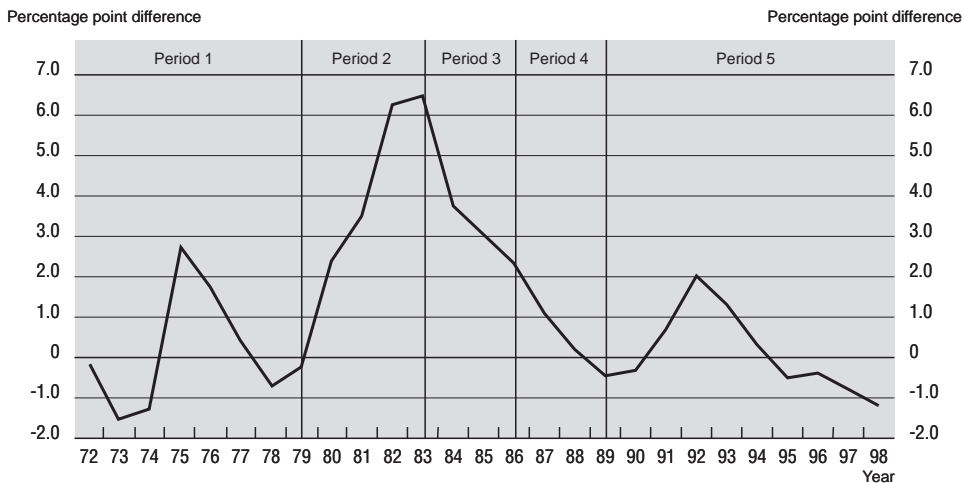
At the end of the Second World War, Northeast Ohio consisted of a series of mostly self-contained factory cities buffered from each other by extensive farmland and connected by electric inter-urban railways (also known as trolley cars) and city streets. The system of limited access highways (popularly called interstate highways) that define the region today was not begun until the mid-1950s, and these separate economies were connected to the rest of the United States through a dense web of rail lines.⁵ Northeast Ohio's series of prototypical American industrial cities centred on Cleveland and its immediate suburbs; Akron—America's rubber and tire capital until the 1970s—is 67 kilometres to the south; 20 kilometres to the east is the city of Euclid—known for heavy industrial production; and about 50 kilometres to the west are the twin manufacturing cities of Lorain and Elyria. These five cities did not constitute an integrated regional economy at the end of the war because each had its own labour, housing, and retail markets.

Since the late mid- to late-1960s, much has changed. The region is a critical node on the intercontinental railway and interstate highway systems, and Cleveland's airport is the third hub in Continental Airline's domestic route system. Just to the south of Akron lies a second regional airport that offers limited competition and price discipline to Cleveland's dominant air carrier. A number of factors converged during the 1960s to begin the pattern of migration out of the central cities. The central business districts of these cities have lost their dominant position as a location for retailing. All together, a group of quasi-autonomous cities located in the Northeast corner of one of the larger states in the United States grew into a region that crosses eight counties. It is an economic region that, while contained within one state, is not governed by a single local government.

Northeast Ohio reversed its two-decade-old pattern of population decline during the 1990s. The estimated population of the CMSA increased from 1990 to 1998 by 1.8 per cent to 2.9 million people, after dropping by 2.7 per cent from 1980 to 1990. The Cleveland portion of the CMSA experienced a 0.9 per cent increase in population while the Akron portion had a 4.8 increase. Obviously there is shifting between the two portions of the CMSA taking place. The most dramatic population change has been in the region's four major cities.

The region's recent economic history, mainly its "comeback" from an old industrial centre towards a modern and competitive high-tech economy, can be traced by means of the annual unemployment rate relative to the national average unemployment rate. These data are plotted in Figure 25 for 1972 to 1998, where the unemployment rate in the CMSA is subtracted from the national rate and the difference in the two rates is plotted. If the unemployment rate in the Cleveland-Akron Consoli-

Figure 25. **CMSA's and national annual unemployment rates, 1972-88**
Percentage point difference



Source: US Bureau of Labour Statistics.

dated Metropolitan Area is greater than the national unemployment rate then the difference is positive and the line will be above the X-axis of the graph.

Generally, the unemployment rate for the CMSA was below the national rate from 1988 on, marking the economic “comeback” of Northeast Ohio. Movements in the unemployment rate mark four of the five periods of recent economic history. In the fifth period, employment growth in the region has been rather anaemic with unemployment slightly lower than the national average which itself reflects a slight recession.

4. The Cleveland-Akron economy

In 1997, the Cleveland-Akron Consolidated Metropolitan Statistical Area had a Gross Metropolitan Product (GMP) between US\$93.0 and US\$93.2 billion.⁶ In size, this economy is between Ireland's and Finland's; it is a bit smaller than the San Jose metropolitan area (US\$96 billion) and a little more than half the size of Southeast Michigan (the Detroit, Flint, and Ann Arbor metropolitan areas). Per capita income in 1998 was US\$29 239 in the Cleveland PMSA and US\$26 934 in Akron's PMSA, which is higher than the per capita income of any European nation.⁷

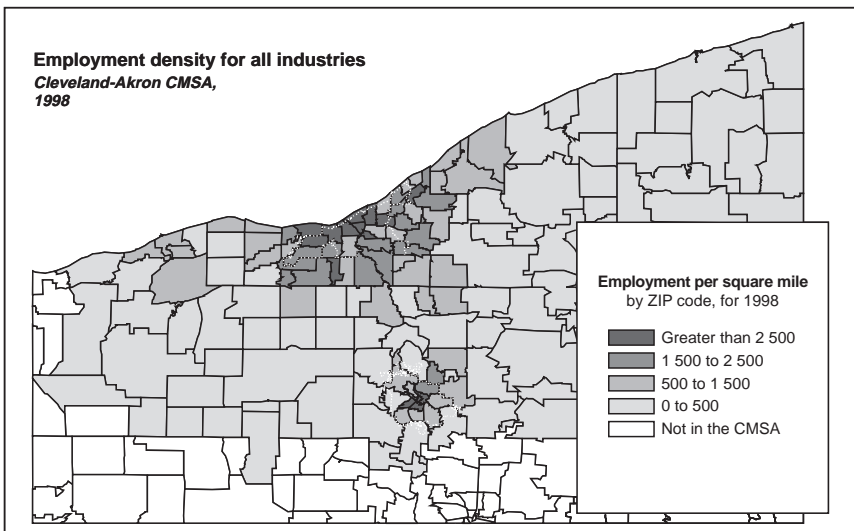
Despite the major restructuring experienced by the region's manufacturing firms and plants, manufacturing contribution to GMP only declined in the 1989-1992 recession. The enormity of this is made clear by the fact that manufacturing employment in the Cleveland PMSA dropped by 28 per cent from 1979 to 1987. Akron's PMSA witnessed a 23 per cent loss in manufacturing employment over the same time period. In 1983, the real value of manufacturing GMP was US\$16.2 billion in 1992 dollars. In 1997, manufacturing's contribution to GMP was US\$23.2 billion in 1992 dollars. Coming out of the most recent recession, manufacturing's share of GMP increased from 25.3 per cent of GMP to a peak of 27.2 per cent in 1996, dropping to 26.9 per cent in 1997.

The location of manufacturing

The fact that the region is a highly integrated economy is evident from the following map, which depicts employment per square mile in 1998 plotted by zip code areas.⁸

The densest areas of employment are coloured in black (with more than 2 500 private sector employees per square mile), followed by dark grey (1 500 to

Figure 26. **Employment density for all industries in Cleveland-Akron CMSA, 1998**

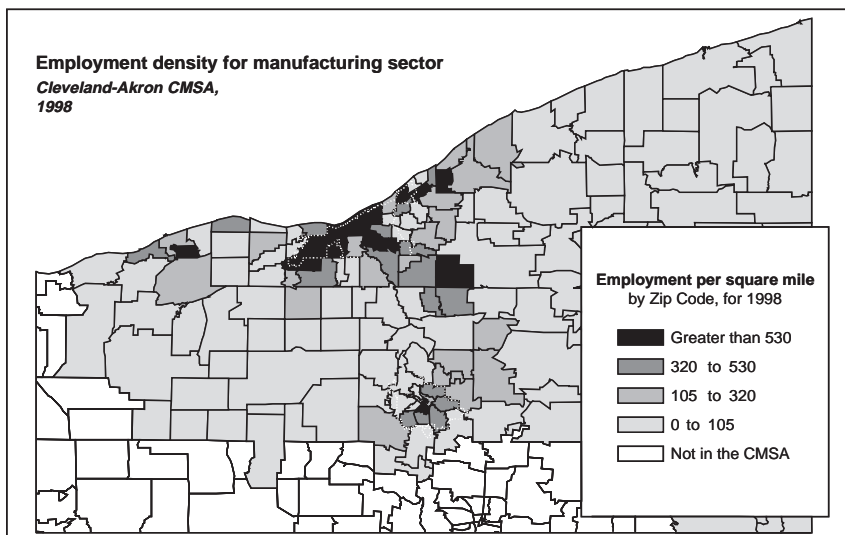


2 500 per square mile), medium grey (500 to 1 500 per square mile), and light grey (from zero to 500 per square mile). The densest areas of employment are within the cities of Cleveland and Akron (both are outlined in dashed white lines), and in two well-recognised regional “edge cities” (Bingham *et al.*, 1997). One of these edge cities is at the intersection of two interstate highways—the major north-south highway between Cleveland and Akron, and the other is the region’s major east-west connector. The second edge city is located in the high-status, high-income eastern suburbs of Cleveland, which has attracted a number of major corporate headquarters. The next densest areas of employment are in a set of municipalities that follow the highway system around Cleveland and are in the city of Akron and one of its suburbs.

Figure 27 depicts the employment densities of the manufacturing sector in the region.

The densest concentrations are in the city of Cleveland, where the density is in excess of 530 jobs per square mile. This density is maintained in the eastern suburbs of Solon and Euclid and in the western city of Elyria and a portion of Akron. The next level of density is between 320 and 530 jobs per square mile.

Figure 27. **Employment density for manufacturing in Cleveland-Akron CMSA, 1998**



Source: Cleveland State University.

The region is arguably one of the nation's and world's centres of capital and technology-intensive manufacturing excellence. It has demonstrated a competitive advantage in steel and metalworking, speciality chemicals (especially paints and coatings), automotive parts and assembly, plastic products, and insurance (Hill and Brennan, 2000). Local economic development efforts have identified emerging areas of competitive advantage in the instruments and industrial controls industry (especially in the area of factory automation), the medical implements and device industry (an industry with an established corporate base that utilises the region's machining tradition and the new-found prominence of several of the region's hospital complexes in medical research), and possibly in the lighting industry. A common technological thread tying together the plastics products industry with paints, coatings, and roofing is basic research in polymer chemistry.

It is important to understand that the competitive foundation of the economy is region wide. Interviews conducted with industrial site location consultants led to the conclusion that the region is viewed as an integrative whole by the business, or facility, location market. The excellence of highway and rail transport networks shifts the locational calculus to the availability of land and buildings along with a supply of labour, and away from access to any particular place within the region. This means that local governments are very competitive when it comes to attracting industry from both inside and outside of the region because none can expect to have an advantage in the competition. The competitive nature of recruiting wars is enhanced by the fact that local governments benefit from both municipal income taxes and property taxes that are assessed on buildings, equipment, and inventory.

Much local commentary about the economy bemoans the weakness of the region's "high-technology" sector. Part of this keening is economically rational, because rapid employment growth and new spurts of wealth creation take place more easily in an economy that is generating new products-goods and services that are in the early stages of the product life cycle. The products and the companies of Northeast Ohio are in the middle of their product life cycles. In fact, "high tech" has to be divided into high tech products and high tech processes. In the case of Northeast Ohio and its core cities of Akron and Cleveland, the challenge is to adopt information technologies into existing products and processes to reinvigorate products and to increase the value of these products. With this respect, the region is not a new product economy. Research shows that with this distinction, Northeast Ohio is not a high technology economy but uses intensively high technology in its industrial production processes.

The real issue for the Akron PMSA, as the smaller metropolitan area in the region, is its competitive role in the region and the full integration of its resources into the regional economy. The region as a whole should be concerned about the ability of its businesses to stimulate new product development off of its rich indus-

trial base and heritage. Northeast Ohio is a technologically dependent economy, one that adapts technologies to a mature existing product base. One of the major barriers the region confronts is a change in the way it makes economic investments and stimulates innovation.

Box 9. Cleveland tomorrow: a private initiative to revive the regional economy

When the Cleveland economy crashed in the late 1970s and early 1980s, an organisation formed by the business community, *Cleveland Tomorrow*, led a concerted regional effort to reinvest and reinvigorate the regional economy. A large portion of Cleveland Tomorrow's energy was focused on the city of Cleveland, but they also formed a number of subsidiary organisations that focused on specific regional economic problems. These organisations included the Edison Biotech Institute in Cleveland, the Edison Polymer Institute in Akron, the Cleveland Advanced Manufacturing Program (which is region-wide in mission), and a very practical labour-management body known as the Work in Northeast Ohio Council. Cleveland Tomorrow spun these subsidiaries off as they matured and achieved independent funding and constituency bases. Cleveland Tomorrow worked closely with elected officials, particularly the Governor, the Mayor of Cleveland, the regional delegation in the state legislature—who held a number of politically powerful leadership positions—throughout the 1980s, Cuyahoga County's Board of Commissioners, and the region's Congressional Delegation—which also had senior positions in the majority party in the early 1980s. Unfortunately, the heritage of co-operation and partnership has tattered over the past twenty years and regional political relationships have frayed, driven in no small measure by the confrontational political style of Cleveland's current mayor.

5. Addressing a regionalised labour market

From local to regional labour markets

Work force development is serving as a major catalyst for starting the process of thinking about and addressing development issues in a regional context. The initial and most focused response in the demand for skilled workers and the criticism to education and training systems was through private sector constituency organisations, in most cases chambers of commerce. The Greater Cleveland Growth Association launched the Jobs and Workforce Initiative, designed to be a "*pioneering effort to build a skilled regional workforce prepared to meet the demands and embrace*

the opportunities the next century will bring". The Akron Regional Development Board launched a similar Workforce Development Initiative for Medina, Portage, and Summit Counties. Through a broad-based coalition of public, private, and education partners the Workforce Institute of Lorain County was established as a county-wide resource to address current and workforce needs through data and information, evaluation, and collective action. Lake County developed the Workforce Development Initiative focused primarily on facilitating the transition from school-to-work.

These private and quasi-private initiatives constitute the core of the response to the need to increase the supply of skilled workers in the region. They have tended to define their geographical scope in terms of jurisdictions and focus their activities within these boundaries. In 1996, a coalition of higher education institutions established the Northeast Ohio Workforce (NOW) Initiative to promote regional solutions to workforce development needs. NOW, recently renamed the Regional Workforce Partnership, is composed of the primary workforce development initiatives in the larger 14-county region of Northeast Ohio. This partnership has successfully refocused the dialogue about workforce development into a regional context and created a forum for the exploration of collaborative regional strategies for workforce development. The relatively new private sector Regional Business Council has identified workforce development as one of its three priority areas, and the Regional Business Partnership as its workforce development initiative.

New federal and state legislation to address regional labour market issues

On 1 July 2000, the federal Workforce Investment Act of 1998 (WIA) replaced the federal Job Training Partnership Act (JTPA). Under this new legislation, the state seeks to create a "*vertically integrated workforce investment system with all elements co-ordinated and complementary to promote Ohio's economic competitiveness.*" This comprehensive workforce system is intended to integrate investments made in welfare, education, economic development, and workforce development. The local expression of WIA is One Stop Centres. These centres are "required partners" of federally funded or mandated employment related programmes, ranging from welfare reform to trade adjustment assistance under the North American Free Trade Agreement (NAFTA).

The primary focuses of one-stop service delivery systems are counties or configurations of counties. There are four One Stop Centres in the Cleveland/Akron Metropolitan Region: Cleveland/Cuyahoga County One Stop, Summit-Medina Employment and Training Connection, Portage-Geauga One Stop Inc., and the Employment Network of Lorain County.

Under WIA, each state had the opportunity to provide special incentives for regional strategies and co-ordination in the implementation of the one-stop deliv-

ery system. Ohio did not avail itself of this option. A regional consortium was created to discuss mutual issues, opportunities, and implementation steps, although the design and implementation of each proceeded independently. The outcome is a set of one-stop service delivery centres that have separate computer software systems that can neither communicate among the different centres of the region, nor share information across the region. Leadership of the centres, however, is in close communication and, hopefully, will develop strategies to co-ordinate the delivery of one-stop services across the regional labour market.

Conclusions

The Cleveland-Akron metropolitan area region has evolved into a region with multiple employment centres the two largest of which are the cities of Cleveland and Akron. They are in vigorous competition with a number of suburban “edge cities” and belts of employment located along the interstate highway system as places where work can locate. In this political-economic environment economic development co-ordination and infrastructure investment takes place through two routes: the market places and higher level of governments. However, intergovernmental co-ordination is weak, which is consistent with American political tradition.

The real co-ordination takes place in desegregated form through the actions of thousands of decision-makers – employers and households – who respond to competitive public service bundles, taxes, and access the transportation infrastructure through the marketplace. Because the region’s economic competitive advantage lies predominantly in the manufacturing sector, business locations that are most amenable to supporting manufacturing and the support services required for manufacturing are advantaged in the competition for work. These building sites tend to be large suburban parcels of land that can accommodate one story and two story buildings.

Political boundaries are largely irrelevant to the regional economy, except in the packages of local services and taxes municipalities provide to residents and businesses. There does not appear to be an economic logic that gives any particular location in the metropolitan area a competitive advantage over another, as long as the location has access to the interstate highway system. The region does not have an overarching formal political structure because the regional economy is larger than any one unit of local government – be it a municipality, county, or special district. Yet, the regional economy appears to be working in terms of producing employment, income, and wealth. This desegregated approach to governance does have its benefits, but it also has its costs. The largest and most immediate is the failure of government to provide an environment to develop a regional system of air services.⁹

Local government does have an important role to play in the competitiveness of this economy. First, local government has the responsibility for linking its residents and properties to the regional markets, both physically and economically. The economic connections are the tax costs that are charged for locating in particular political jurisdictions and the quality of the services that are provided for taxes paid. Second, regional co-ordination is dependent on interjurisdictional co-operation on issues of economic development infrastructure – this is where local government is failing in Northeast Ohio.

When Northeast Ohio was in a state of profound economic crisis in the early 1980s there was intergovernmental co-operation. At the current time, Northeast Ohio is largely free of economic pressures and hence there is less co-operation. However, there are two events that may trigger some mild form of co-operation – again through external actors. The first is a shortage of skilled labour. Regional businesses have formed a new organisation to react to the regional shortage of skilled entry-level labour that is inciting some nascent governmental co-operation to take place. The second is the finding of the State Supreme Court that the way the state participates in the financing of its primary and secondary educational system does not meet the standards of the state's constitution. The Court found that the system is too dependent on local sources of property wealth. This ruling will require the state legislature to find some way to pool property wealth for purposes of taxation that flows to schools. The diminution of pressure to accumulate property wealth for purposes of local educational finance may lessen local economic development competition and enhance co-operation.

Notes

1. In the United States local area statistics are collected for metropolitan areas, which are most often defined as a central city with a population of at least 50 000, the county it is located in (which is called the central county), and all surrounding counties where at least 15 per cent of the employed population commute into the central county for work. If rural counties surround the metropolitan area, it is termed a Metropolitan Statistical Area (MSA). When two or more metropolitan areas abut, and workers stream into both central counties from at least one of the outlying counties, then each metropolitan area is termed a Primary Metropolitan Statistical Area (PMSA) and the amalgamated urbanised area is termed a Consolidated Metropolitan Statistical Area (CMSA). The PMSA where the city of Cleveland is located has three central cities: Cleveland, Lorain, and Elyria. Akron is the center of the PMSA to Cleveland's south. These two PMSAs form the Cleveland-Akron CMSA. See Hill, Brennan and Wolman (1998).
2. The province of Bergamo has a surface area of 2 722.86 sq. km., and 949 862 inhabitants. Population density of 348.8 inhabitants per square kilometre on average, with a peak of 871.1.
3. <http://www.neotec.org/home.shtml>.
4. See Shanahan and Goe (1998), Hill (1995) and Hill (1999b).
5. See "Highways" in the *Encyclopedia of Cleveland History*, <http://ech.cwru.edu/scripts/article.asp?ID=H2>.
6. This is between US\$86 billion and US\$87 billion in 1992 dollars.
7. The estimates of Gross Metropolitan Product are from the Urban Centre, Cleveland State University. We estimate GMP by taking the Bureau of Economic Analysis (BEA) of the US Department of Commerce's estimates of Gross State Product (GSP) and multiply that number by the CMSA's share of state personal income (also obtained from the BEA). We use the same method to estimate the region's share of manufacturing's contribution to GSP. We obtain these data from: www.bea.doc.gov/bea/regional/. Estimates of per capita personal income are from www.bea.doc.gov/bea/regional/bearfacts/. The data on European economies are 1997 and 1998 estimates from the *World Economic Factbook*, 1999 produced by the CIA and available from Global Statistics: <http://www.xist.org/countries/countries.htm>.
8. These are postal delivery codes that are smaller than municipalities and cover fairly homogeneous areas.
9. We have not addressed another regional political failure in this paper with economic consequences. This is the concentration of the region's poverty population in its central cities with associated costs in terms of local service delivery. The problem is less severe in Ohio's urban centres than in other places in the United States, however, due to the presence of a wage tax that is assessed on suburban residents who work in the region's cities.

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OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(04 2001 14 1 P) ISBN 92-64-19528-9 – No. 52087 2001