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Annaflavia Bianchi, Patrizio Bianchi

Keeping Emilia-Romagna strong: an integrated industrial policy approach

Almost five decades after the creation of institutional governments at the regional level in Italy and the transfer of policy responsibilities to the regional administrations, this paper focuses on the more recent policy experience of Emilia-Romagna, in particular, its 2015 “patto per il lavoro” (Deal for Labour). It follows an integrated approach to industrial policy at the regional level and attempts to extract the most from available resources, based on a constant exchange with other regions, the Italian state, the European Commission and other external institutions. The main axis on which all the other elements turn are, in addition to the leverage of research and innovation, education and training.

The Emilia-Romagna region, the homeland of the “industrial districts”, has been the object of studies by industrial economists since the 1980s.¹ The region is part of the so-called “third Italy”,² and the economic particularities (see table 1) make it a testing ground for development and industrial policies addressing the prevailing presence of small-sized firms.³ This testing is based on entrepreneurship, spin-offs, flexible specialisation, “real” service cen-

tres to cope with the particular industrial structure, success stories and the building of technology platforms. This, but also the economic crisis from 2010 onwards and the earthquake of 2012, define the infrastructures and organisations on which to develop a Regional Smart Specialisation Strategy (S3) following the Research and Innovation Strategies of Smart Specialisation (RIS3) initiative by the European Commission to foster place-based economic transformation and cooperation.

- 1 A. Marshall, M. Paley Marshall: *The Economics of Industry*, London, Macmillan, 1879; G. Becattini: *Riflessioni sul distretto industriale marshalliano come concetto socio-economico*, *Stato e Mercato* No. 25, 1989; G. Becattini, G. Benko, M. Dunford: *The industrial district as a creative milieu*, *Industrial Change and Regional Development: the Transformation of New Industrial Spaces*, London, New York 1991; S. Bertini: *SME systems and territorial development in Italy*, *Laboratorio di Politica Industriale*, working paper No. 6, October 1994; S. Brusco: *The Emilian model: productive decentralisation and social integration*, in: *Cambridge Journal of Economics*, Vol. 6, No. 2, 1982, pp. 167-184; R.A. Boschma: *The spacial evolution of innovation networks: a proximity perspective*, in: R.A. Boschma, R. Martin (eds.): *Handbook of Evolutionary Economic Geography*, 2019; S. Brusco: *Small firms and industrial districts: the experience of Italy*, in: D. Keeble, E. Wever (eds.): *New firms and regional development*, Beckenham 1986, pp. 184-202; P. Cooke, K. Morgan: *The creative milieu: a regional perspective on innovation*, in: M. Dodgson, R. Rothwell (eds.): *The handbook of industrial innovation*, Cheltenham 1994, pp. 25-32; OECD *Territorial Reviews: Italy 2001*; M.J. Piore, C.F. Sabel: *The second industrial divide. Possibilities for prosperity*, New York 1984; M. Storper: *The regional world: territorial development in a global economy*, New York 1997.
- 2 *The Third Italy*, a group of centre-north-east regions in which a rather different industrial development had occurred if compared to other regions such as the First Italy (the industrial heartland of the North) and the Second Italy (the backward South). See A. Bagnasco: *Tre Italie: la problematica territoriale dello sviluppo italiano*, 1980; C. Trigilia: *Work and politics in the Third Italy's industrial district*, 1990, in: F. Pyke et al.: *Industrial districts and inter-firm cooperation in Italy*, International Institute for Labour Studies, Geneva 2009.
- 3 P. Bianchi: *4.0. La nuova rivoluzione industriale*, Bologna Il Mulino, 2018; P. Bianchi, S. Labory: *Industrial Policy for the Manufacturing Revolution: Perspectives on Digital Globalisation*, 2014; P. Bianchi, G. Gualtieri: *Emilia-Romagna and its industrial districts: the evolution of the model*, in: R. Leonardi, R.Y. Nanetti: *The regions and European integration: the case of Emilia-Romagna*, London, New York 1990, pp. 83-108.

The regional industrial structure

The Emilia-Romagna region (one of 20 regions in Italy) benefitted from the industrial development during the reconstruction after World War II. Along the Roman road Via Emilia, it hosts an industrialised area formed by high quality traditional and advanced production aggregates based on small and medium-sized firms characterised by flexible specialisation and competition. The main regional value chains are food, engineering, machinery, packag-

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Table 1
Main indicators

	Emilia-Romagna	Italy
Population	4 457 318 (7.3 %)	60 589 445
Foreign residents (in %)	11.9	8.3
Surface (sq. km)	22 453	301 338
Population density (inh. per sq. km)	198.51	201
GDP (million, current euro)	153 927 (9.1 %)	1 679 500
GDP per capita (current euro)	34 533	27 719
GERD ¹ (% of GDP)	1.37	1.33
Number of companies	366 475	4 338 085
Average size of local units (employees)	3.9	3.5
Number of agricultural firms	57 919	745 156
Employment rate (15-64-year-olds, in %)	68.6	58.0
Unemployment rate (15-64-year-olds, in %)	6.5	11.2
Export (million euro)	59 881	442 005
Import (million euro)	35 242	381 317
Trade balance million euro	24 639	60 688
International opening of the economy (EXP+IMP/GDP, in %)	57.6	49.0

¹ GERD: Gross domestic expenditure on research and development.

Source: ISTAT and Region Emilia-Romagna (data from 2017).

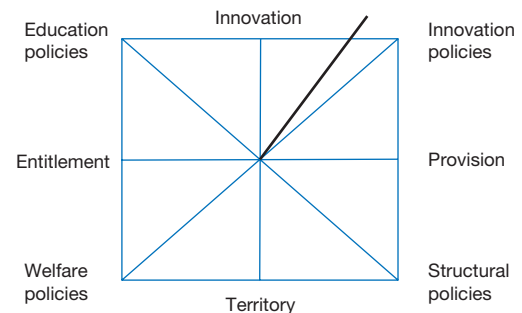
ing, automotive, ship building, ceramics, biomedical, as well as textile, clothing, shoes, furniture and construction (see figure 1a).

The unique industrial structure of the region received specific forms of policy support such as the creation of a network of service centres to meet the sectoral technology and design needs of the early 1980s. Policy has focused moving companies closer to the universities and laboratories, in order to close the gap between production and research. Six technology platforms have been defined, funded and coordinated – agrifood, construction, energy and environment, ICT and design, life science, mechanicals materials – and several corresponding technology poles were created reflecting the regional productive assets with the objective to enhance cooperation (see figure 1b). Consolidation of partnerships, creation of new networks and participation in existing ones are ways of reinforcing shared attitudes and learning from stronger economic actors in terms of knowledge, experience and organisational skills.

The policy mix

Regional industrial and development policy has been oriented toward existing abilities and skills strengthening the absorptive capabilities of established industries. The

Figure 2
The policy sundial



Source: P. Bianchi, S. Labory: Towards a new industrial policy, McGraw-Hill Education, 2018.

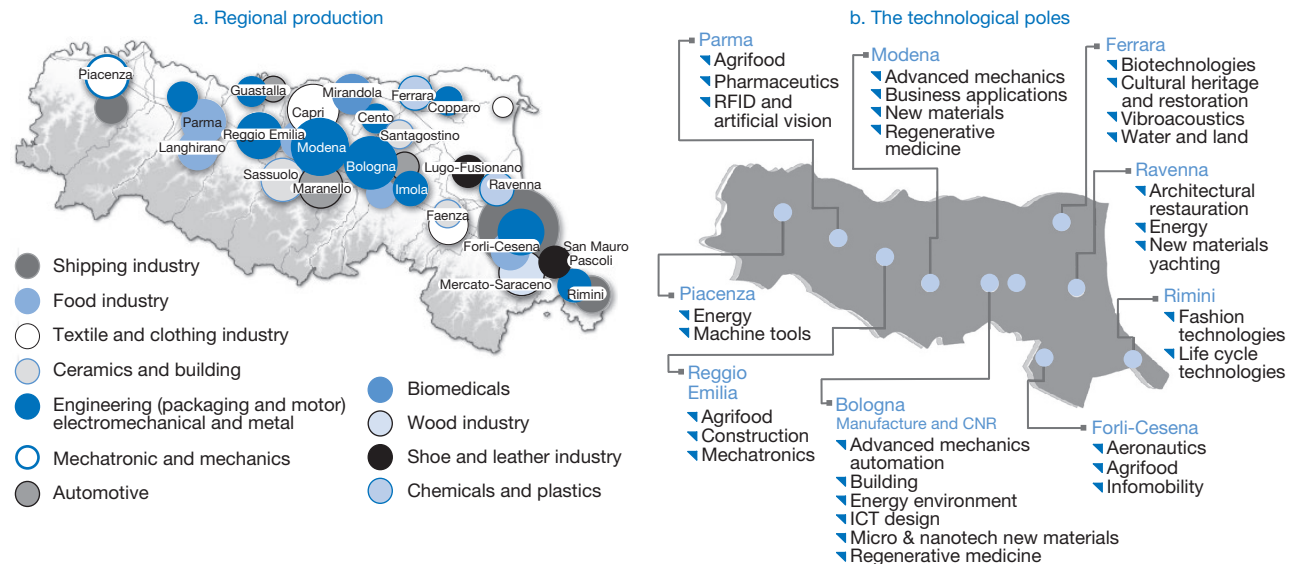
regional government concentrates its efforts on studying the regional repositioning in the global supply chain with the central goal of enhancing the added value. The selected areas of investment are skill building, the creation of backward and forward linkages⁴ and collective decision making.

After years of refinement, an “integrated” industrial policy with a trans-department and trans-sectoral approach became the backbone of the regional government. It builds on industrial research, territorial planning, internationalisation, inter-regional cooperation, structural analysis and mapping, tourism, investment attraction and productive enlargement, environmental protection and human resources training. The regional government attributes a strategic role to integrated education and, accordingly, has designed and supported a system of higher education institutions, school-to-work transition policies, technical and professional training, and a polytechnic network – all aimed at developing a learning community.

An “integrated” industrial policy means to look for a balance between policy streams and goals. It embraces the “four needs”: entitlement, territory, provision and innovation. So, like in a sundial, the gnomon of the integrated industrial policy moves or rather has to be moved on the basis of the analysis at the local and global level as well as the economic trends, the areas of cooperation and the opportunities to increase the value added created in the region via the combination of all the measures and directions pursued (see figure 2). This tool might be applied to various historical and economic moments of the Emilia-Romagna region as well as to different local contexts, and

⁴ See A. Hirschman: The Strategy of Economic Development, New Haven 1958.

Figure 1
Regional industries



Source: Regione Emilia-Romagna.

countries, as the “inter-disciplinary” approach in regional policy is considered a win-win game.

The Deal for Labour: reacting to the crisis

The general planning scheme of Emilia-Romagna regional industrial policy is characterised by a long-term perspective aimed at increasing the value added in the region, re-positioning the policy “sundial” by using explicit education and an research policies. Within this policy scheme, the measures for attracting investments pursue the creation of long-term opportunities. The more recent and relevant act, under which the mix of relevant policy directions is integrated and developed, is the “patto per il lavoro” or Deal for Labour. It was signed in 2015 to mobilise all the regional systems toward the shared goal, to create an Emilia-Romagna region that is internationally identified as a region with high added value and that competes in Europe and the world by investing in people, skills and initial capacity.

The philosophy of the Deal can be summarised as follows:

- a long-term increase in the value added by re-positioning the sundial;
- sharing new analyses necessary to strengthen the competences of the socio-economic system and the regional administration;

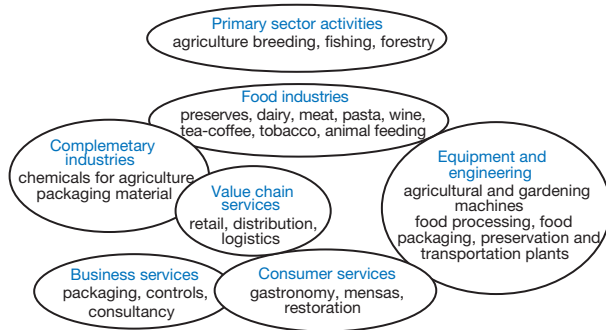
- qualifying the planning, implementation and evaluation of regional policies for development agreed in the Deal for Labour and co-funded by the European Social Fund;

- strengthening the role of the territories in the transformation processes of globalisation with a strategic vision.

The Deal’s goal of growth for the local society and the generation of employment shall be reached by:

- increasing the ability to create added value, by acting on the development and dissemination of knowledge and skills and, therefore, on a broad capacity for innovation in production and services to businesses, individuals and communities;
- stimulating investments which, by improving the quality of collective life, generate new opportunities for employment;
- the institutional reorganisation, organisational efficiency and regulatory simplification initiated by the region;
- the initiation and consolidation of a method to define and implement public policies focused on the sharing of strategic choices and on the integration of regional, national and European funds;

Figure 3
Agricultural value chain



Source: Regione Emilia-Romagna.

- a welfare system as a lever to create good and new jobs, reduce inequalities and improve social cohesion.

In the Deal, the following development drivers were chosen as levers:

- *People and work*: creation of a regional employment agency and reinforcement of the education-training-work system, which we can define as dual education;
- *Community and work*: new welfare and new social work, the third sector and social self-organisation;
- *Development, business and work*: internationalisation, activation of the Regional Law 14/2014 on labour market integration and inclusion, innovation (in the scope

of the S3 Strategy), quality and competitive strengthening of the production system, new businesses and development of skills;

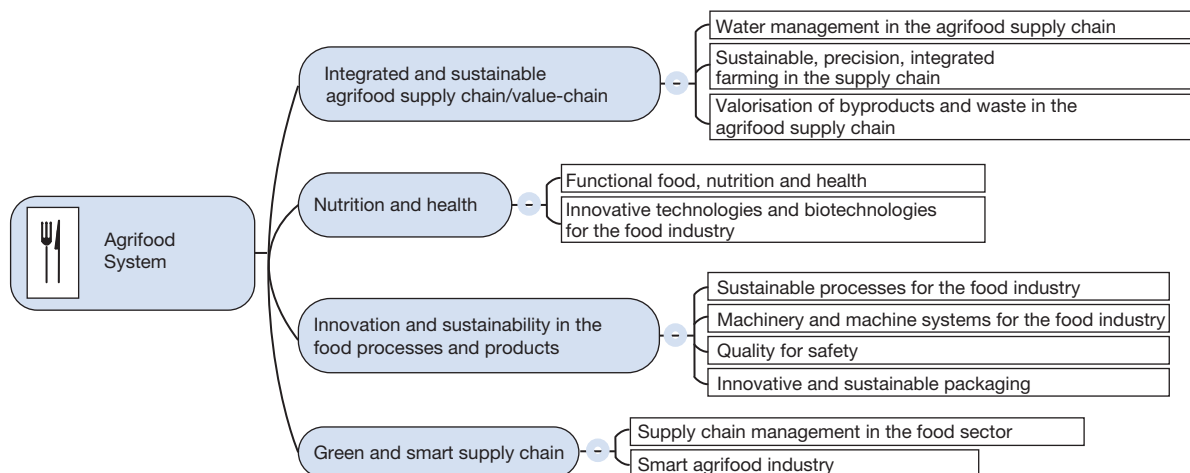
- *Territory and work*: quality of the territory and investments in particular through a plan for the safety and maintenance of the territory, starting from a new regional plan for “an asbestos-free region”, a plan for mobility and a school building plan;
- *Legality and work*: fight organised crime and the denial of fundamental rights in the workplace by acting on tenders, anti-corruption and management of seized and confiscated assets;
- *Simplification and work*: the process of institutional re-organisation, the regional government sets a task force to achieve regulatory simplification and organisational efficiency.

The Deal for Labour was signed by 50 signatories including local institutions, universities, social partners, employers' and trade unions and the third sector forum. All of these subjects have committed themselves to collaborate and implement strategies, actions and tools capable of generating development and a new social cohesion in Emilia-Romagna.

The specialisation and ability/capability areas and the generation of added value

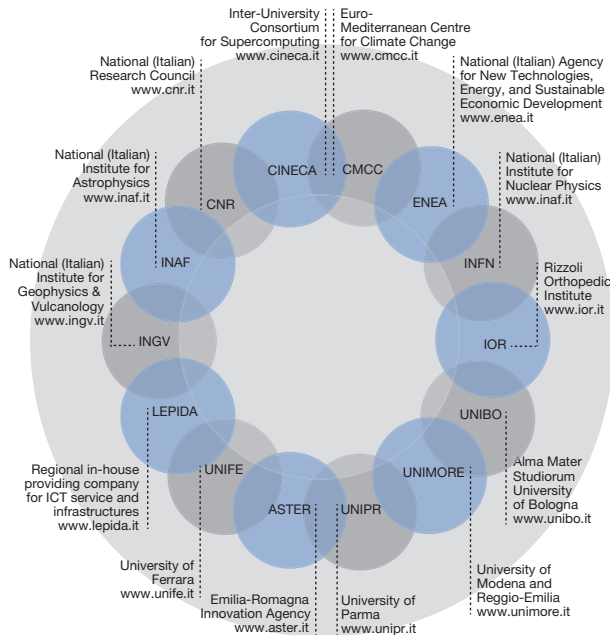
The Deal for Labour addresses five key areas of action to reach its goals:

Figure 4
Research priorities



Source: Regione Emilia-Romagna: Research and innovation smart specialisation strategy RIS3, 2012.

Figure 5
Big Data Community



Source: Regione Emilia-Romagna: From volume to value, Emilia-Romagna big data community, 2017.

firms, a great deal of effort is devoted to big data, from quantity to value, collecting and processing, techniques for extracting value from data and cooperation with the global top level competence centres. The Emilia-Romagna Region is a national and European hub for big data: about 70% of the Italian research data is stored and processed in its research centre. Four top universities, the National University Supercomputing Consortium (CINECA), the National Institute for Nuclear Physics (INFN) and other national research institutes have their primary computing services and data centres in the Emilia-Romagna Region. It is the headquarters for world-renowned companies in the sector, handling everything from their data search and processing to highly data-demanding industries like automotive, mechatronics, digital production, bio-medical, e-commerce and agrifood. Emilia-Romagna is one of the top Italian regions in terms of economic growth rate and one of the most dynamic regions in Europe.

Partners of the community are private and public foundations and institutions – Opificio Golinelli, Mast Cultural and Philanthropic Foundation, Masotti Fashion Foundation, Marco Biagi Foundation, Bologna Business School, Foundation of Religious Science John XXIII, Nomisma Economic Research, Prometeia Consulting on risk, wealth and performance, European Food Safety Authority, Consortium for the Future in Research – and leading IT companies like IBM, Yooks, CRIF, Engineering, Dedagroup. Strong international connections among universities, companies and institutions were created and strengthened in the field of connectivity, infrastructure, technology, biometrics, climate services and material design.

The fundamental analytics and applications in terms of science, industrial and societal challenges are climate change, health and aging, production and innovation, humanities and society, sustainable cities, security and cybersecurity, and education. The research 'strength' is represented by 1791 active researchers, out of which 230 are foreign, 94 international events, 60 higher education initiatives including PhD courses, master degrees and summer schools. The addition of the big data technopole European Centre for Medium Range Weather Forecasts (ECMRWF) is taking place in the rich context illustrated in figure 5.

Additional areas of action, for which dedicated paths are laid out, are:

1. *Automotive luxury and sport.* The automotive sector is split in two: the small cars are mainly produced in Serbia, India and Mexico. The large luxury ones are made in three areas in Europe. These automotive companies are strongly connected with the society, within a clear, stable institutional environment strongly based on specialised education and training.
2. *Food safety.* This includes the identification of research priorities within the RIS3 strategy definition process brought to define four macro research areas for the food value chain, namely: an integrated and sustainable agrifood sector, nutrition and health, innovation and sustainability and smart/green supply chains, with eleven sub-areas (see figures 3 and 4). The attention devoted to monitoring the full process from the field to the table, was crowned with the additional relevant step of hosting from 2002 the European Food Safety Authority in Parma which highlights the relevance of safety in the food value chain.
3. *Emilia-Romagna Big Data Community.* Characteristics of the regional research and industrial system make it compatible for the European Centre for Medium Range Weather Forecasts, to be reallocated from Reading (UK). In the research field of regional institutions and

4. Ceramics and their special applications for engines and health;
5. EmiliaLab, a network of six economics university departments and technical institutes that coordinate their

Table 2

Monitoring results on jobs and unemployment

Regional labour market advancements three years after the Deal



	2014	2017	Δ
Employees (in thousands)	1911	1973	+62 (3,2%)
Participation rate (15-64-year-olds) in %	72.4	73.5	+1.1
Employment rate (15-64-years-old) in %	66.3	68.6	+2.3
Unemployment rate (15-year-olds and above) in %	8.3	6.5	-1.8

Skill advancement for youth in Emilia-Romagna three years after the Deal



Upper secondary education rate (20-24 year olds) in %	81.5	85.4	+3.9
School drop-out (18-24-year-olds) in %	13.2	9.9	-3.3
Tertiary education (30-34-year-olds) in %	25.1	29.9	+4.9

Progress in youth condition in the regional labour market three years after the Deal



Employment rate (18-29-years-old) in %	42.5	47.5	+5.0
Unemployment rate (18-29-year-olds) in %	23.4	16.2	-7.1
NEET ¹ on population (15-29-year-olds)	20.6	16.1	-4.5

¹ NEET: not in employment, education or training.

Source: ERVET calculation on ISTAT data.

education efforts and the coverage of training needs emerging from the firms and the field.

Other areas that are already relevant to the regional production system will be addressed with more effort and resources in the future.

Monitoring, evaluation and persistence for further steps

Policy monitoring widens the view on a variety of aspects and offers positive support for future development. Being aware that three years are a very short period for evaluation, first results are laid out here (see table 2):

- **Employment:** promising results were recorded in terms of employment, education and training. Emilia-Romagna is a relevant centre for high value adding transformation for other Italian regions.
- **Attracting and securing investment:** the convergence of the local systems is taking effect. Emilia-Romagna does not need any more to stick to the usual policy of offering benefits, e.g., offering high level technical training is paying off.
- **Sharing priorities:** this topic might be more ideological even if it is shared with the European Regional Policy. It is still very difficult to monitor the practises put in place, but the regional government is committed to try to pursue this path.

Concluding remarks

The industrial policy approach was built on decades of deep and frank analysis and discussion led by scholars, politicians and stakeholders. Industrial policy is defined by constraints and circumstances. Emilia-Romagna has an autonomous view, as well as being a piece of the nation. The combination of a set of intertwined policies with human resource capabilities are at the core of its policy approach. The institutions are no larger than the market. This historical change due to globalisation influences policymaking, e.g. the policy of attracting investments through the creation of places which regenerate larger hubs that will take root and grow in the area.

A key element of the policy definition process – starting from the definition of the regional priorities – is to involve and commit many different people from different contexts, because this variety of views is generating value and richness of ideas and initiatives. It remains to be seen if the emphasis on exchange, dialogue and sharing priorities result in coordination. This will be the requisite to answer the question if it is worth negotiating an additional degree of freedom for regional policy.

Title: *Keeping Emilia-Romagna Strong: An Integrated Industrial Policy Approach*

Abstract: *Almost five decades after the creation of institutional governments at the regional level in Italy (1970) and the transfer of a selection of policy responsibilities to the regional administrations, this paper focuses on the more recent policy experience of Emilia-Romagna and its 2015 “patto per il lavoro” (Deal for Labour). The deal is part of the current build-up of an integrated approach to industrial policy at the regional level as an attempt to extract the most from available resources. It is in constant dialogue with the ‘external’ territories and institutions, represented by other regions, the nation, the European Commission and beyond. In addition to the leverage of research for innovation, the key pivot around which all the other elements turn is education and training. The individual’s ability and right to participate in enhancing the production of value with existing and new resources is the core of future development. Initial observations seem to support expectations, including positive trends for the key variables in training/education and employment.*

JEL Classification: J10, L50, O52