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Economia e Politica Industriale
Journal of Industrial and Business
Economics

ISSN 0391-2078

Volume 43

Number 3

Econ Polit Ind (2016) 43:323-330

DOI 10.1007/s40812-016-0038-5



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Innovation policies: the national and regional dimensions

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Received: 14 May 2016 / Revised: 23 May 2016 / Accepted: 26 May 2016 /
Published online: 8 June 2016
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Abstract The article discusses the article by Lucchese, Nascia and Pianta (this volume). It does so from the standpoint of innovation policy mixes. We highlight four main points. First most discussions on innovation policies underestimate the central role played by public investment banks (with their tools to support firm innovation). Second we have witnessed a massive move from sectoral policies to procedural policies and indirect, criteria based policy instruments (such as tax credits or support to investments in machinery) no longer focused on industries as such but on firm innovation capacity. Third higher education constitutes probably the most important framework condition supporting innovation and this raises important questions on the overall funding of universities and on their role in vocational training. Fourth I argue that the more procedural policies become, the greater the need for place-based policies, discussing thus the importance of regional innovation policies and the role of ‘clusters’, a missing dimension in the overview of Italian policies provided by Lucchese, Nascia and Pianta.

Keywords Innovation policy · Regional policy · Italy

JEL Classification E6 · L5 · O4

The question of industrial policy in Italy addressed in the article by Lucchese, Nascia and Pianta (2016, in this volume) will be discussed in this contribution from my perspective as an analyst of research and innovation policies, identifying key issues for an enlarged research agenda.

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1 Public intervention for the competitiveness of manufacturing firms

The article addresses the Italian situation covering three different aspects. First, there is the context of European policies, and it is argued that Italy's industrial decline is associated to choices entailed by the Monetary Union, the Maastricht treaty, the working of structural funds, the focus on horizontal policies and the overall 'inadequacy of such measures' (p. 9). I do not wish to comment this first argument which would require more robust analyses.,

Second, the object of the article raises the question of what 'industrial policy' we are speaking of? What is technology meaning here? I rather understand it as dealing with public interventions to support the competitiveness of manufacturing firms. Third, an important component lies in the type of support to the innovation capacities of manufacturing firms put in place.

There are thus two central aspects in the article: the focus on manufacturing firms, and the relevance of Italian policies, as the objective of the paper is to "provide an account of the main industrial policy-related measures ... (which) tend to be fragmented, unstable and funded with modest resources" (p. 10).

2 Policy mixes as an entry point

My entry into this important question links with the notion of 'policy mix'. Flanagan et al. (2011) demonstrate very clearly that no instrument alone can reach the multiple objectives of a policy. They also show that the progressive addition of instruments over time builds a policy portfolio, but not a policy mix. The latter requires the adoption of 'models' that underlie the analysis of the situation (the diagnostics part proposed by Edquist 2011), and the selection and articulation of instruments. The choices made play an important role as they anticipate and organise linkages, for instance between instruments supporting supply and instruments supporting demand. Thus a policy is most often implemented through a series of instruments that together should deliver the intended objectives. This also implies that what is often crucial lies in their 'articulated' implementation (see for instance in France Lhuillery et al. 2013).

What do we know about policy mixes at the level of 'large' European countries? What have we learnt from past interventions? Even if scholars widely differ in their analyses (partly depending upon the field of specialisation they come from), there are a few common lessons that are not too controversial.

3 The critical role of public investment banks

Policies focused on 'national champions' have often created such champions but at a high cost for public resources and with often very limited overall impact on the whole economy. This is particularly the case of energy, telecommunications or mechanical industry champions (such as Total, Alcatel or Renault in France). Of

course there are exceptions and Airbus is one such case, but analysts tend to forget the some 20 years required before it bore fruits (and the sunk costs of the Concorde programme that enabled it). What does it tell us? That governments should not invest into ‘strategic’ actors or industries? Not really, this was a critical dimension of the first OECD report on science and technical policies (Piganiol et al. 1963). But the ways to do it should be carefully considered, in order to avoid uncontrolled delegation of power. The answer, as already mentioned in the old OECD Piganiol report, lies in professionalisation. This has been achieved first by creating dedicated agencies, and later on by considering that ‘loans’ and ‘investments’ require banking controls. This is why in France the very successful agency ANVAR was merged with the development bank for SMEs to create OSEO. This was instrumental in enabling the old ANVAR to enlarge its portfolio to equity tools, and its was also instrumental in developing at short notice in 2008 a cash instrument that saved more than one million jobs (see the OSEO evaluation).

In France ANVAR and OSEO are concerned with small firms; in addition the government has a ‘sovereign fund’ for strategic firms (FSI) and the Caisse des dépôts (CDC) had been active for decades for long-term public investments. In France we have witnessed a further concentration of policy tools when the government decided that its three professional instruments to support strategic investments should be gathered together under the umbrella of CDC into a public bank for investment, BPI. In a way we find a similar movement in Italy with the new role given to Cassa Depositi e Prestiti and its different funds (strategic, for mid sized firms, etc.).

What is striking is the weight of such ‘banks’ in the overall economy: in Italy 117 billions are planned for investments supporting growth and innovation, compared with for instance the anticipated fiscal cost of the R&D tax credit over the same period (2.5 billions). What emerges is not a ‘systematic’ industrial policy addressing a sector as a whole, but a ‘firm focused’ industrial policy. One could discuss whether Cassa Depositi e Prestiti has a large enough portfolio, whether or not it is building with it ‘a policy mix’ or whether its investments result from a set of cumulative random decisions. But, whatever the views on these points, it is clearly the key actor expected to support the competitiveness of Italian manufacturing firms.

4 From sectoral to ‘procedural’ policies

We have historically seen very few successes of top-down sectoral policies, and the claim that Italian ‘industrial policies (...) were successful in post-war decades’ would require a broader discussion. In international policy circles (and this is mirrored in OECD country reviews), there is a growing focus on the ‘friendly ecology for innovation’ and the ‘policy mix’ that supports it. This has led to four movements about innovation in manufacturing industries: (i) the preference for ‘indirect’ supports to firms, (ii) the focus on ‘framework conditions’ and the rediscovery of the role of public procurement (so called ‘demand based policies’) and (iii), in large countries, the de facto delegation of ‘substantive’ interventions to

territorially-based public policies (including regional policies and ‘cluster policies’). (iv) This does not mean that national policies have retracted from substance and become fully procedural. But the motive for substance lies in the policy problems addressed—what was called public missions and is now labelled societal challenges. They all require investments and innovation: innovation for public/collective goods is the other face of ‘industrial policies’.

The article by Lucchese, Nascia and Pianta focuses on the first two movements, and says little on the two others, driving the authors to qualify policies as ‘fragmented, unstable and funded with modest resources’. Let us elaborate further on these movements and the type of ‘renewed’ policy mix they lead to.

5 Indirect support mechanisms

An important development we have witnessed is the growing use of indirect support mechanisms. Multiple arguments have been mobilised to explain this; support for machinery investment has a long tradition in Italian policy, in France the ‘aides à l’innovation’ by ANVAR dates back to 1968. Both actions support projects, but these projects are proposed from the bottom-up by firms and evaluated on the basis of a set of predefined criteria. This has much in common with other types of ‘indirect’ supports, such as accelerated depreciation or depreciation up to 140 % (as is the case in Italy) or tax credits.

Tax credits have attracted a growing attention in OECD countries and beyond. In our extensive review (Kohler et al. 2012¹) we show that, despite their limitations, they tend to show significant effects for SMEs and that the issue is more contentious for large firms. Some analysts consider that these effects are enhanced when combined with other instruments; others disagree. Furthermore, tax credits may be linked with wider aspects on the overall level of taxation of firms: for instance, the OECD review of France (2014), suggests a fiscally neutral evolution, replacing tax credits with a lower level of taxation which would enable a wider coverage, especially of innovating firms without ‘Frascati based R&D’. This raised a very strong opposition by large firms (the French tax credit is very supportive of large firms), which consider the tax credit as a tool for reducing their R&D costs. R&D Tax credits in France are by far the largest policy instrument, reaching nearly 6 billion euros in 2015 as compared to 2.5 billion anticipated for 6 years in Italy.

Loan guarantees for SMEs, IT vouchers, or incentives for investments in machinery all are part of the broader ‘procedural’ approach to the support of firms’ competitiveness. Specific aspects, such as the use of new materials in new products, external design capabilities, the acquisition of automation equipment and software, can be included in the range of policy tools for supporting SME innovation capacity. One central lesson however is that these policy instruments have to be locally mediated, through banks, through regional/local services of agencies, through dedicated intermediaries to really reach the targeted firms. In one word

¹ <http://www.innovation-policy.net/compendium/>.

implementation requires ‘place based’ approaches. This aspect participates to the decentralisation movement observed in ‘large’ countries such as Germany, France or Spain.

6 Framework conditions...

The second dimension concerns framework conditions. IPRs, standards setting, procurement rules (one euro out of six is spent by public authorities in Europe) are here the core elements (see Georghiou et al. 2014). Opening competition for procurement may reduce costs for public authorities; limit risks of corruption but at the same time may be detrimental to firms offering new products, or for CO₂ footprints, which requires short-distance suppliers.

A more specific discussion would be needed on the changing nature of IPRs, where most products are no longer associated to one patent but to a pool of patents, the growing uncertainties that result for SME (with the difficulty to stand litigation) and thus the critical advantage it gives to large firms. In this movement, patent boxes play a marginal role for SMEs, while they have mainly become a tool used by large firms for tax optimisation.

7 ... And capacity building

For firms, probably the most important framework condition concerns the availability of trained human resources. This cannot be translated into the sole need for excellent universities; some firms need research-focused personnel, but most firms need professionals with bachelor-level or master-level education. It is thus very problematic to witness in Italy a decrease in higher education at large, while we should look also at the developments in vocational training. The growing importance of professional education is leading to a multiplication of curricula and requires universities to adapt to their local environment. France and Italy remain the only two large countries managing their universities centrally without having given them full autonomy (if we follow the analyses of the European Association of Universities). This clearly constitutes an important policy issue, which can heavily impact on the long-term competitiveness of firms, even if it will always be difficult to build causal linkages. The answer here is as much institutional as financial. And the question is whether it remains relevant to centrally manage institutions that are ‘locally rooted’.

8 What about regional and metropolitan policies?

This drives me to the missing part of the article by Lucchese, Nascia and Pianta: the regional and local dimensions. Can innovation policies be fully managed centrally? Or has it become a ‘multi-level’ policy? This question does not only apply between individual countries and the European Union, as we too often hear; it first and

foremost applies in ‘large’ countries: what should be the balance between national and ‘sub national’ levels? What should be the role of regions and metropolitan cities when they represent relevant levels of democratic decision-making?

This explains the rapid rise of ‘regional innovation systems’ as a topic of academic interest. A more cynical view would also link this to European Structural policies and their requirement for regional strategies (RITTS, RIS and now ‘smart specialisations’). Whatever the answer, a debate is open about whether regional policies are ‘national policies writ small’ and what are the policy mixes a region can build when it does not deal with framework conditions. My take on this (even if it is a harsh simplification) is: ‘care for content’. The more national policies have become ‘procedural’ and indirect, the more regional policies have become substantive, tailoring their interventions to the firms that are there and their problems.

This also means that while regions have a portfolio of instruments at their disposal, the selection and modalities depend upon the problems faced. This means that regional policies are often tailored ‘ad hoc’ to address problems faced by a given set of firms. The standard answer has been to promote ‘clusters’ that are in most cases a combination of place and industry. And this links to the long-established Italian attention to industrial districts. Here the idea was that firms—together with their own representative bodies (often Chambers of commerce) and with ad-hoc relations with local training bodies—could prosper without significant public intervention. The article shows that this system has not resisted the crisis. Still, it would be interesting to look at different local and regional experiences, and to see whether in places where there have been pro-active public policies, firms in clusters have better survived the crisis. Anecdotal evidence in a French region that had developed a ‘*filière*’ policy seems to confirm this view. Similarly evaluations of the ‘*poles de compétitivité*’ policy, which is a hybrid between regional and national policies, also seem to show that firms active in poles have fared better. Firms’ dynamics in the Basque country seem also to support this view.

This approach, however, seems very far from the new notion of ‘technological clusters’ developed by Italian national policy. The latter seems more linked to the discussion on ‘key enabling technologies’ and on the ‘start-up ecology’. There is now enough work done on ‘technology based’, start-up’ or ‘spin off’ firms (e.g., the works by Wright, Mustar or Colombo) showing that most start-up firms do not grow, and thus play a limited role in employment creation, while the few firms which grow are bought by large firms and their industrial activities relocated (Phil Cooke has proposed the concept of ‘decapitation’ to describe the effects of such acquisitions on regions that have supported them). This provides a good reason for policies looking for growth and employment to focus on established industries and firms.² It also explains why midsized firms are critical, even though there is much debate about how to define them, about their sectors of activity and their innovation practices (see the EC infrastructure project RISIS, <http://www.risis.eu>). This

² The role of ‘mature’ industries in our economies has recently been addressed by the interesting Workshop on innovation and competitiveness in mature sectors, Fondation Ramon Aceres, Madrid, 7 April 2016.

provides two very important further lines of research and in a policy perspective raises the issue of the articulation between ‘national’ and ‘regional’ policies.

9 And what about EU structural funds?

It is difficult in Europe to speak about regional policies without discussing the largest source of support available, Structural funds. There has been ample work on their effects, limitation (and even, here and there, their poor or bad uses). However, working on a small country like Portugal, (Henriques 2006) demonstrated the role played by Structural funds in shaping the research system (Portugal has used structural funds to support capacity building, research and innovation from the time it joined the EU). The article on Italy focuses on the only intervention that addresses innovation, the PONREC programme, showing how Structural funds are aligned with the national priority programme, thus widely enlarging its potential impact (since the EU contribution is over 60 % of the total programme). But it leaves aside the role structural funds play in ‘capacity building’, in addressing needs for training in the different regions, in fostering ‘infrastructures’ (in particular in communications) that are often an important ingredient in overall competitiveness. Lucchese, Nascia and Pianta also argue that the ‘Juncker investment plan’ and EFSI are a breakthrough in European policies, but the implications that will emerge for Italy will have to be assessed in the future.

I would propose the following idea for an in-depth debate on Italian policy: can a regional approach to capacity building, infrastructures and clusters become the second arm of ‘industrial policies’ alongside the action of Cassa Depositi e Prestiti? And what should be the role of the more modest ‘horizontal’ and ‘framework’ policies developed in the last years? These in fact are context-dependent issues, and I would probably phrase my questions differently in the French context.

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