OECD Reviews of Regional Innovation: Piedmont (Italy) - Assessment and Recommendations

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PIEDMONT – ASSESSMENT AND RECOMMENDATIONS

Introduction

OECD countries increasingly recognise the spatial dimension of innovation and are working to develop coherent policies to promote regional innovation

1. Regional innovation systems are important because: i) strong dynamics of innovation generation in regions are crucial for achieving national innovation policy objectives; and ii) innovation performance can contribute to improving the overall economic competitiveness of individual regions by increasing the productivity of firms. As such, the goals of regional innovation policy are relevant to policy makers from both the regional development and science and technology fields. This policy relevance appears to be increasing, not only in federal or regionalised countries such as Germany and Italy, where innovation policy has a strong regional focus, but also in countries with a more centralised policymaking tradition such as France, the UK and Japan.

2. OECD countries are nevertheless struggling with: i) how national policies to support innovation should take into account the regional dimension (i.e. the importance of “place”); and ii) how “regional” actors can take actions to support innovation that are relevant for their specific regional context. The place-based dimension of innovation has been documented in the literature to operate and produce benefits that can occur at many levels, such as a cluster, metropolitan area or region, and this variable geometry is not easy to address. The distinction between national and regional (sub-national) roles should therefore be based on which factors that support innovation are most susceptible to influence at which level within the governance context – a kind of subsidiarity exercise applied to innovation policy.

3. National level investment in innovation-related activities often tends to reinforce the concentration of innovation activity in the nation’s existing innovation hubs, potentially conflicting with regional policy objectives. How to manage this balance is an open debate in OECD countries. Support for innovation is often still focused more on science-led research and development (R&D), and relatively few member states have an explicitly spatial policy perspective for science and technology. Policy levers to support innovation in regions that are not innovation hubs are less straightforward. Such regions may be relatively less abundant in inputs of human capital, innovation infrastructure and firm competencies that lead to a lower absorptive capacity for innovation. However, a range of strategies have been used in OECD countries to help increase absorptive capacity, such as specialised network building support programmes (InnoRegio in Germany) or even R&D institutional capacity support for under-performing regions (EPSCoR and IDeA programmes in the US). These are typically expensive and require a high degree of selectivity to succeed, so are by no means a “model” approach suitable for replication across all non-core regions.

4. Nonetheless, innovation is now a core objective for most if not all regions irrespective of their economic profile and is integral to strengthening competitiveness and regional development. Supporting innovation does not necessarily imply a goal of economic convergence, but rather to build on the strengths in different regions for long-term competitiveness. The question is how to address the different kinds of innovation needs and
capacities with both national and sub-national action. The review focuses on the specific challenges faced by the region of Piemonte.

*Italy has reached a tipping point in its devolution process – in terms of powers and resources – to make sensible regional innovation policy a reality*

5. Although the Italian regions have historically been very weak constructs, since the 1990s, they have been devolved more significant competencies) although according to a variable geometry, with much greater devolution to the special administrative regions, and 2 self-governing provinces. Legislative Decree No. 112 of 31 March 1998 which gave specific powers to the regions over the design and implementation of industrial and technological policies. The national government reserved a number of powers at this time, including the right to define strategies and implementation guidelines nationally, and retaining the exclusive competence for research support. Constitutional Law No. 3 of 2001 expanded the powers and autonomy of the regions, by defining all competencies to either the state or regional level, or as co-competencies, with a presumption that all non-reserved powers belong to the regions. There were three articles in this law that made regional innovation policy possible in Italy, devolving both the competencies for innovation as well as the resources to implement them.

6. Although the devolved powers were in theory became available to the Regional Governments in the late 1990s, it was only with the second constitutional change of (2001) that a serious attempt to engender regional innovation policy has been possible. The 2005 elections represented the first point at which new governments came to power promising with to exploit the opportunities offered by these new powers. A number of newly elected regional governments were committed to use these new powers, resources and responsibilities, including in the field of innovation policy, including Piemonte.

7. With this regulatory framework, the division of competences and the mutual collaboration between the national and regional governments was accomplished case by case. Therefore, the devolution process in the field of *inter alia* innovation policy has affected the Italian regions in different ways. Campania, for example, introduced a regional law on Research Policy as early as 2002, and is now approaching the end of its second 3-year Research Plan. Emilia-Romagna, with a long tradition of pragmatic co-operative industrial policy, was an early adopter of innovation policy within European structural fund programmes. Lazio has established a wide-ranging regional development agency that invests in high-technology businesses as well as more traditional functions including inward investment promotion. Lombardy moved relatively late into Regional Research planning, passing a law in 2007 to promote industrial competitiveness.

- *A principal message of this review is that the progress made in creating the constitutional possibilities for effective regional innovation strategies needs further work from national and regional actors if it is to achieve its economic transformatory potential. The budgetary constraints faced by all levels of Italian government have hindered investing in the deep-seated structural and institutional changes necessary to effectively implement regionally sensitive innovation policies. There are clear efficiency gains to be achieved in this regard by more closely aligning national scientific investments with regional innovation priorities, greater leverage of private sector resources and reduction of transaction costs in current programmes.*
Piemonte is a centre of R&D – especially business R&D – in Italy, whilst lacking the business services characterising Lombardy and Lazio to valorise that knowledge

8. Piemonte is – more so than other Italian regions – dependent on large firm centred production filières, with a comparatively lower density of small-firm industrial districts often characterising Italian economic structure. The region has faced considerable pressures from globalisation in recent decades. Large firms in the region have shed jobs, reducing overall employment levels whilst increasing the value added of remaining positions. The region of Piemonte is probably most famous for its best known corporation, the FIAT motor company. The FIAT corporation has played an important role in the growth of its home city and region, the city of Turin and the region of Piemonte. The firm came over time to dominate the regional production system, which evolved to accommodate the needs of this powerful industrial actor. The region is also home to a number of other large businesses in other sectors such as pharmaceuticals, engineering, aerospace and ICT.

9. Small firms have traditionally relied upon those large faced as major customers, so their downsizing has placed the region’s industrial districts have come under increased economic pressure. Whilst the year-on-year changes might be relatively small, the longer term trend has gradually emerged with the region locked into a downward economic path, as its comparatively high GDP levels have slowly but surely converged downwards towards the Italian and European averages. The region has not been abandoned by its traditional industrial base, so the challenge is not to create entirely novel economic sectors. Neither does the region have all the necessary foundations in place to sustain its position as a leading region in an Italian and European context.

10. Piemonte faces the challenge of reversing an almost imperceptible economic decline, a long-term trend only recently accepted as reality by key regional policy-makers. The main cause of this has been a slow ‘hollowing-out’ of regional production activities by firms across Piemonte’s manufacturing base. Although these sectors have long driven the region’s economic development, their contribution to cohesive regional economic growth is slowly dwindling. Nevertheless, many of these firms – and in particular their investments in research and development (R&D) – are vital to the future of the region. Piemonte remains one of the hot-spots of private investment in Italian R&D, which offers a potential to reverse this declining economic competitiveness.

11. The locus of the reforms in Piemonte has emphasised building up a new RIS to bring some coherence to a very wide range of innovation activities, networks and partnerships already under way. The programme for government for Bresso-I is entitled “An open, tolerant, innovative Piemonte” (Un Piemonte aperto, tollerante, innovativo), with “an efficient and friendly regional machinery” the central focus for administrative reform (Regional Government Piemonte, 2005). This document reaffirmed the commitment of the Region to hitting the so-called Lisbon target of 3% GERD in GDP. The Regional Research Plan is seen as being the major regional contribution to successfully achieving this target.
12. Piemonte faces the challenge of dealing with its industrial restructuring, whilst attempting to build new high technology and high employment sectors. But policy-makers have not found it simple to promote innovative activities in Piemonte. There are many businesses which are active in innovation, as well as a very strong research base in Piemonte’s universities and public research laboratories. But what is missing appears to be collaboration and interaction between the various sectors. There is negligible exchange of personnel between universities, research laboratories and the private sector. Traditional indicators of innovative activity such as high-technology entrepreneurship, patenting, R&D expenditure are low in international terms (although relatively high in an Italian context).

National policies to support innovation in regions

In Italy, there is a clear split in responsibilities for innovation policy between the national level (research) and the regional level (exploitation)

13. The Italian national state has sole competence for activities in the field of basic research and so national science and technology policy decisions play a strongly shaping role on evolving regional innovation system. The national government also has an interest in innovation policy through the valourisation and exploitation of these investments in knowledge capital. There have been three main strands to Italian national innovation policy in recent years (OECD, 2007b):

- Systematic and strategic investments. The government has sought to increase traditionally low levels of investment in R&D in a focused and responsible manner. The novelty of these kinds of investment has led to the adoption of a national strategy for R&D policy, ensuring that investments are co-ordinated and directed towards addressing poor national R&D performance.
• **Selection of key priority areas.** Much emphasis has been placed on identifying the priority sectors to direct innovation funding selectively towards, and novel instruments to help build critical mass and global strength in emerging strategic areas, sectors and poles. These key sectors are required to be those sectors with a capacity to drive transformation and modernisation across the Italian economy.

• **Promoting interaction between innovators.** The Italian system is characterised by innovation within SMEs that have relatively few connections to universities, research centres and the banking system. The government aims to improve valourisation by stimulating partnerships between knowledge generators and knowledge exploiters along with those that can help with interaction, knowledge transfer and strategic co-ordination between the sectors.

14. One area of state intervention in the field of innovation policy has come through the designation of 25 Technology Districts. These were designated nationally on the basis of fulfilment of three criteria, namely the presence of industry (including an SME network), a strong university and industrial research base, and a functioning governance system. These districts seek to support knowledge exchange between actors within these specialised innovation systems at the region level. These Districts are at different stages in their establishment, but it is true that it is primarily those districts in regions with operational innovation policies that have managed to create functioning Technology Districts.

• The technological district initiative has been relatively successful, and there is an undeniable link between regional innovation policy experience, and the delivery of the national Technology District policy. This highlights the inter-dependence of these two layers in the multi-level governance of innovation policy in Italy. It is vital to identify all the areas where closer connections between national and regional policies can be created to improve the efficiency and efficacy at both levels.

There are several points of contact between national and regional levels – both institutions and activities – but alignment across the two levels is weak

15. There is a formal organ through which the Italian regions interact with the national state, the “Conferenza Unificata Stato-Regioni”, the State-Regions conference. This is a dialogue between the state and regions on policies, which aims to support co-ordination between these various tiers. The State-Regions Conference:

• Provides opportunities for the Government to take soundings from the Regions on the most important administrative and normative acts that interest Regions themselves;

• Attempts to foster close collaboration between national and regional administrations; and

• Holds appropriate meetings as necessary to discuss any aspects of European Union policy concerning Regions and Provinces (“sessione comunitaria”).

16. This was created in 1997 to deal with a problem arising from ongoing constitutional reforms, namely an increasing devolution of power to the regional tier. This body became more important after 2001 when changes to the constitution meant that this body became the leading Constitutional co-ordination mechanism between the State and regional levels. There are discussions around the co-ordination of industrial policy within this institution, although the discussions cover the full gamut of policy discussions.
17. Perhaps unsurprisingly, the overlapping responsibilities between national and regional Governments for innovation policy have meant that there are a number of agreements negotiated between these two levels to give coherence to their collective activity. For instance, the guidelines for the national policy for economic development approved in 2002 by the C.I.P.E (Interdepartmental Committee for Economic Planning) constituted the main reference document for the elaboration of the Piemonte Research Plan.

18. A recent OECD country review highlighted that the central issue in the field of Italian economic development was its falling rates of knowledge capital accumulation, and the diminishing levels of productivity growth attributable to Total Factor Productivity (intangible capital). In the period 1992-2006, TFP productivity growth has been negative for all private sector and for business services, a worrying trend. The national state’s response to this has been to deregulate national markets, to increase competition as a stimulus for greater investment in and exploitation of knowledge capital investment.

19. This deregulation process has overshadowed all other economic policies, particularly given the strong budgetary squeeze that Italy has faced since the early 1990. This has arisen from efforts firstly to meet the Maastricht single currency criteria, and more latterly the public budgetary elements of the Growth and Stability pact. This is driven by the National Reform Plan which seeks to reshape Italy’s basic governmental structures and approach to regulation to create a national administrative culture more conducive to and supportive of innovation.

20. A key issue lies in translating the intentions expressed in strategic documents and partnership accords into real action. There are not always the financial resources necessary to allow all levels of government to fulfil all of their competencies and responsibilities. Central to this is ensuring that there are suitable resources available to ensure that the partnerships and programmes promised support through a research plan are in reality properly supported. One blockage within this process in the Italian context has arisen due to a failure of the Italian government to fully fund the devolution settlement which granted both financial resources as well as constitutional responsibility for innovation policy to the regions, imposing a time delay and stopping some activities altogether.

21. This is a particular problem in the development of regional innovation policy, where there is not a simple solution of passing downwards oversight and decision-making policy. Effective regional innovation policy involves more than applying national policies at the regional level, but identifying regional needs, developing appropriate strategies and coalitions to realise those strategies i.e. capacity building. This activity takes time and requires clear benefits for participants to encourage co-operative working in developing and implementing regional strategies. There is a risk that a failure to deliver regional innovation strategies because of this shortfall in resources will create a perception that regional innovation policy has nothing to offer the Italian regions. This would severely undermine central attempts to reinvigorate and renew the Italian national economy.

_Innovation is a central plank of the Italian national research plan, but there are very few State resources directly devoted to business innovation_

22. The Italian government has elaborated a national research plan which sets out national level policy objectives and the strategic lines of action. The National Research Plan is a top-level governmental strategy document which complements both the national reform programme but also the recently approved “Industria 2015” plan. Resources for the National Research Plan are supplied through the national budgetary law. The national research plan runs from 2005-07 and has three main strategic lines of action:
• “reinforcement of the scientific base of the country, looking for excellence, merit, internationalisation, economic growth and valorisation of human capital;

• “strengthening the technological level of the Italian productive system to maintain competitiveness, focusing on 10 strategic industrial research programmes, also involving the participation of universities and research centres;

• “supporting active participation in EU programmes and in international agreements.”

23. One of the priorities of the National Research Plan (2005-07), approved in March 2005, is the promotion of the capacities of SMEs to innovate processes and products and form clusters at local regional areas. This fits with the competence of the Italian government to promote balanced regional development across the country as a whole.

• It appears that there are insufficient national resources allocated to ensure that the regions have the competencies and the knowledge to effectively implement regional innovation policy. This could spoil both present and future attempts to build strong regional innovation cultures. Close attention needs to be paid to whether these financial problems are undermining the development of innovation policy in the Italian regions.

From 1998 to 2001, Italian regions have found their own individual ways to interpret their new powers

24. Prior to 2005, Italian innovation was pursued in an experimental manner and a major part of the changes have been attempting to use the reforms to integrate existing activities into a coherent basis for regional innovation policy. Prior to 2001, innovation was ad hoc and without its own budget line, and restricted to what could be promoted through other activities and funds. In the 1990s and early 2000s, spurred on by the European Commission, many Italian regions used EU Structural Funds to directly invest in innovative activities to encourage co-operation between firms, universities and other regional actors. A significant amount of financial support flowed into a very wide range of activities, including a number of pilot innovation and collaborative partnerships between firms, universities and research centres. The increasing accent placed by the European Commission on innovation as a central plank of Structural Funds’ interventions had meant that there were a very large number of organisations claiming to be active in the field of innovation.

25. Given Italy’s acknowledged absence of an efficient and streamlined evaluation culture, it was very difficult to distinguish which of those projects were working well, and which were not. This situation was further undermined by the fact that the sheer volume of projects funded was a distraction and a barrier to access for potential users of those projects. The Chambers of Commerce in Piemonte, for example, argued that any firms seeking to expand its horizons and become innovative firms faced such a prolonged and haphazard search for help that the value of the subsidy could not be justified in terms of the time taken to locate the correct supporting institution. There was therefore a strong justification for ensuring that this system was rationalised, so that only the best projects were funded, and that ‘best’ was clearly understood as stimulating innovative interactions in SMEs.

26. From 2005, it was possible for regions to invest directly in innovation activities. This in turn required a strong institutional commitment to shift away from funding existing activities to allocating funding on the basis of explicit goals, strategies, targets and outputs. Alongside this, the Italian budgetary squeeze meant that regions did not have the resources to directly fund sufficient businesses innovation in their regions to meet the Lisbon target. Regional authorities have therefore turned to see whether they can change their policy focus
from directly funding innovation and support activities, to encouraging better co-operation between partners. There has been a shift in emphasis from funding good innovative ideas towards funding good innovative ideas that require partnership activity to success.

27. The intention behind this change is quite explicit, make funding conditional on innovation projects creating significant resources – knowledge, venture finance, skilled personnel – available to regions’ innovative businesses. On the one hand, they are attempting a paradigm shift, from a haphazard, organic support for existing activities towards a more programmatic and systemic approach. On the other hand, they are trying to encourage a system evolution, so that successful pilot partnerships drive a wider regional learning process, that build a culture of innovation across the public, private and third sectors across Italian regional economies.

Regional strategies

Regions have developed innovation strategies but have suffered from a squeeze on the resources supposed to facilitate effective regional innovation policy

28. There are some similarities which define the Italian approach to regional innovation policy. One example is that most of the regions have created a specific Ministry (Assessorato) in charge of R&D and innovation policies, or delegated the legislative power on the subject to existing Ministries holding such portfolios as such as the economic development or education. In all regions, authorities maintain their exclusive coordination role, acting in collaboration with the local development agencies. Only two regions (Latiun and Emilia-Romagna) have chosen to delegate all the planning and managing activities related to R&D to a development agency. Every region except one (Marche) have made clear the goal of increasing their financing towards industrial and pre-competitive research, whilst setting the requirement that such initiatives must be businesses led involving research centres and universities.

29. In spite of these similarities, Italian regions have exercised their constitutionally enshrined freedoms to define their own objectives and to select different stakeholder groups for participation in activities. Some regions have focused their attention on the support of innovation and research demand, whilst others concentrated efforts on reorganising and strengthening universities and research centres. Many regions have planned to support private technology demand, financing high value added services that sustain innovation processes in the firms, such as intellectual property right and technology audit services. In general, the financing forms and the financing beneficiaries strongly differ from region to region, ranging over initiatives such as platforms, projects and consortia, direct support to researchers and inventors. Whilst most regions have created ad hoc Committees or Councils to deliver evaluation and selection around implementing innovation support policies, these bodies differ from region to region in their composition, mission and duration.

Piemonte is trying to rebuild its innovation system in two ways, increasing co-operation between innovators and extending innovation beyond large manufacturing firms

30. Since 2005, the Region of Piemonte has developed a regional innovation policy, a break from previous practice in three main regards. The first was in a desire to make use of the new opportunities opened up by regional devolution in 1998, which granted regions competencies in the fields of science and innovation but which remained at that time unused within Piemonte. The second was the wish to avoid further complicating an already dense innovation ecology in which many businesses complained of not being able to access the institutions supposedly available for assistance. The third was to shift the way that the Regional Government was delivering its policy, from stipulating particular instruments for helping firms, to supporting networks and partnership organisations which generated benefits through collaboration, allowing the Region to perform a more strategic oversight of the RIS.
31. The centrepiece of the change was a new Regional law, “A Regional System for Research and Innovation” (R.L. 04/2006). This defined the system as comprising all the public and private actors in a variety of sectors, including public, private and not-for-profit, which had a permanent established presence in the region. The law’s objectives, set out in article 2, including promoting research and innovation, consolidating the research system, and creating a culture of systematic evaluation and performance improvement within the field of innovation policy. It is this Law which provides the legal foundation for the reforms which have followed in the last three years.

32. The rationale behind the plan was there needed to be a change in the way that the business of innovation was undertaken in Piemonte. The region intended to take the business support tools and networks which already existed, and subject them to a new “strategic regime” which regulated the existing activities around the Regional Government’s single vision of a more innovative Piemonte regional economy. This intended to ensure that activities were still supported, and the activities still supported businesses, but as an additional requirement, those activities also fitted with the principles of the Piemonte RIS.

33. The legal foundation for the Research Plan has attempted to ensure that public funds invested by a range of agencies in innovation in Piemonte conform to a set of basic principles. The principle of “evaluation” is highly important in ensuring that the institutional reforms to the innovation system are paralleled by a wider learning regional process creating knowledge about the functioning of the RIS. The intention is therefore at the end of the three year Research Plan for regional actors to be sure that they have a well-functioning innovation system in which instruments do not have to compensate for problems created by other instruments.

- Although in the short-run this may allow particular projects to succeed, it will work against the larger challenge of changing the overall culture approach behind Piemonte’s innovation policy. This emphasises the need for independent bodies within the RIS to co-ordinate the learning processes from the participating agencies and actors, and to ensure a steady stream of supporting new innovation processes.

The Regional Government has adopted a stakeholder approach: all activities involve partnerships and networks in developing strategies, drafting guidelines, constructing consortia and selecting projects.

34. In the last three years, regional policy-makers have announced a change in the direction of enterprise policy towards the creation of new high-technology sectors, and firms, drawing on existing technological assets in the region, part of a wider cultural shift in the region away from being a branch-plant economy of employees to a dynamic region of entrepreneurs. The ambition is to encourage potential and contemporary regional entrepreneurs to have much easier access to the resources necessary for successful high-technology businesses, by mobilising existing firms, laboratories, research groups and universities to support new businesses. To deliver this wider cultural shift, the implementation of the Regional Law has been deliberately as broad as possible, involving as many groups and representatives as possible, to try to develop and enshrine new ways of working.

35. The Law established a number of committees to oversee the writing, implementing and evaluation of the plan. The previous Structural Funds (DOCUP 2000-2006) committee operated in a depoliticised and uncontrolled manner. This has been replaced with a three tier system. This provides a basis for a much more hierarchical sense of direction to be imposed on the way that innovation policy is implemented. At the top of this system are is the lead legislative body, the Regional Government, which provides the resources, the principles and the oversight of the decision-making process. Their interest is enshrined within the law and Research Programme. Underneath that is a group of committees which develop programmes...
and instruments to spend the resources, which are also directly overseen by the regional ministry, as well as the RDA. Beneath them are individuals and partnerships making proposals into the Plan committees, which are subject to external monitoring and evaluation by the programme committee.

36. There are three principal committees established through the Law who determine the governance of the Regional Law and the execution of the Research and Innovation strategy. The Regional Committee for Research and Innovation is the direction-setting body for the operation of the law. The restricted committee provides the executive body directing the implementation of the Research Plan. This committee is drawn in its entirety from the Regional Committee, but is much more restricted in its membership, ranging in size from 8 to 14 members. The Scientific Commission is a reflective body for the Regional Committee, and help provide a wider intellectual context for the implementation of the plan in the light of global best practice and knowledge about economic and technological opportunities within Piemonte and beyond. It is staffed by five scholars or researchers of international standing, selected from among university teachers, researchers and personalities with high scientific qualifications, along with external experts. The Commission can also use external experts within the limits established by a resolution of the Regional Executive Council.

37. A great deal of effort has been placed into ensuring that there is as much capacity building, at all levels, within Piemonte. It is widely acknowledged that the effort involved in producing an effective innovation strategy can focus the minds of participants on the demands of the strategy rather than the needs of its ultimate recipients. The Region has attempted to ensure that any agency that accesses resources through the Plan has compelled themselves to seek out local research partners, and that every funded project will benefit local SMEs. Piemonte has squarely targeted increasing the numbers of innovative and fast growing businesses within its regional economy. Involvement of business representative organisations has been enshrined into the legislation, with Confindustria a member of the Regional and Restricted Committees.

38. The other dimension to capacity building is that there has been a great deal of effort to ensuring consensus amongst actors, and creating a group of innovation leaders who have understanding and experience in co-operation. The Regional Committee, for example, must include Chairman of the Regional Executive Council, and representatives from the Compagnia di San Paolo; the CRT Foundation; Confindustria Piemonte; Federapi Piemonte; the Artisan Unions; Unioncamere Piemonte; the Association of the Foundations of the Casse di Risparmio Piemontesi. Each regional university can also propose one member for this committee. A further 25 stakeholders most representative of local bodies are co-opted from environmentalist groups, science parks, research organisations, cultural foundations, labour unions, higher education, trade and farming.

- Although in the short-run a top-down governance model may allow particular projects to succeed, it will work against the larger challenge of changing the overall culture approach behind Piemonte’s innovation policy. This emphasises the need for independent bodies within the RIS to co-ordinate the learning processes from the participating agencies and actors, and to ensure a steady stream of supporting new innovation processes. A balance must be struck in providing strong leadership with sustaining initiative amongst regional actors. This requires a robust understanding of where regional capacity lies, and emphasises the need for a strong and independent regional board able to comment on the progress of the research plan.
The main research activities – HEIs, public research laboratories and firms are not notably ‘local’ and will not automatically produce regional benefits from their work.

39. Although the context of innovation is regional by virtue of the location of the firms there will be many extra-regional aspects to the solution of the innovation problems. Customers may lie outside the region as may suppliers of capital. More crucially, the solution to problems may be in universities overseas or lie in collaboration with overseas firms. A vibrant Piemonte innovation system will be marked by the richness of these connections, and, indeed, one of the powerful functions that university academics can perform is to provide the connections to knowledge that lies outside of Piemonte.

- Throughout the strategy process, emphasis has been placed on the importance of international best practice and peer review in calibrating regional innovative activities. International networks are a very useful mechanism for involving external experts in reviewing, analysing, and benchmarking the process taking place in the region. More thought must be given to how existing networks could usefully be leveraged to improve the quality of strategic thinking taking place around the Research Plan process. At the same time, there is a need to ensure there are sufficient ‘absorptive spaces’ that ensure that the benefits of innovative activity become embedded in Piemonte’s economy

Innovation and renewal are central to Piemonte’s governing accord: there are more opportunities to join-up activities, notably around healthcare

40. The locus of Piemonte’s reforms have been around creating a strong new centre of power to bring some coherence to a very wide range of innovation activities, networks and partnerships already under way. The programme for government 2005-10 reaffirmed the Region’s commitment to hitting the Lisbon Agenda target of 3% GERD in GDP. Since the change of government in Piemonte in 2005, reforms have attempted to address what were perceived as the contemporaneous weaknesses of the Piemonte Regional Innovation System, notably the lack of strong political control over policy decisions, in parallel with a highly fragmented and confusing support system.

41. The first implementation signalled by this programme for government has been made at the Regional Government level, where a new Regional Ministry (Assessorato) was created to oversee all the activity, with a dedicated Regional Minister (Andrea Bairati) overseeing delivery through the ministerial arm of the Regional Government. The new Regional Ministry has the full name of the Regional Ministry for University, Research and Innovation policies & Internationalisation, and is responsible for defining, developing and overseeing strategies and policies of the regional government in these fields. The other main change in the machinery of government within the Regional Government has been a refocusing of the regional development agency Finpiemonte, to create a much closer link between policy and delivery, and to provide much greater transparency over the progress being made in implementing the regional agenda for improved innovation performance. The Regional Government has also been active in reforming institutions in other policy areas in order to improve their contribution to the innovation agenda.

42. A central instrument for delivering the aims of this law has been the three year Research Plan, which sets out in detail how precisely the objectives of the Law will be met. This Plan highlights the measures that will be made available, where investments will be made and the general principles underlying the three year expenditure plan. The research plan was published by the Ministry for Innovation and approved in January 2007, and identifies five action lines into which funding will be diverted, along with the relative weighting which will be given to each of the areas.
Exerting control and influencing a RIS as well-developed as that of Piemonte is an extremely delicate task, and there are risks both in being too overbearing as well as being too timid. The solution lies in building a strong knowledge base, involving local experts as well as external reviewers and consultants. The evaluation committee must ensure that it is intimately connected with the development of an effective evaluation culture and building the principles for rational decision-making, independent from partisan influences, in the Piemonte region.

The first round of the Research Plan has been very successful, with visible signs of change in attitudes to innovation across the region

43. The Piemonte Research Plan appears to have taken a set of sensible precautions to maximise its chances for success. It is too early to be able to effectively gauge whether the Plan will be successful. Nevertheless there are a number of striking positive indicators of future successful outcomes. The extent to which these are nurtured and consolidated into the future will shape the ultimate impact of the Research Plan.

44. The first is that there is a wide mix of instruments been deployed in the first instance, maximising the chance that successful activities will be identified and funded. Secondly, the Plan has engaged constructively with existing regional innovation experts, involving world class innovative firms as well as best-practice business support organisations. Thirdly, there has been an inclusive discussion around what kinds of activities will be supported, to maximise the chance that good activities will be proposed and supported. Fourthly, local innovative businesses have been enrolled through their representative organisations and cluster groups but also directly into particular innovation activities and partnerships, to ensure that good strategy is translated into effective innovation in SMEs and ultimately wealth creation. Finally there is evidence of good use of internal and external experts.

45. What is also notable about the first year is that the region’s actors have managed to avoid many of the problems and weaknesses that may beset inexperienced regional innovation policy-makers. Firstly, there has been a relatively limited amount of institutional overhaul, primarily amongst those institutions directly controlled by the Regional Government, and there has not been an attempt to reshape partnership groups. Secondly, there has not been the import of ill-fitting alien practices and concepts to the region – the Plan is based on a set of analyses and reflections that understand how the region’s existing strengths can be magnified into the future. Thirdly, the region has not set an ambitious end-point to be achieved at all costs, but has instead attempted to embark on a process of change, which signals an attitude appreciative of the long-term nature of those attempted changes.

- The fashionability [can’t think of right word here] of innovation policy does fluctuate, and those regions which have been most successful in building a regional innovative culture through policy interventions are those with strong pro-innovation voices when politicians lose sight of the overall issue. Strong advocates for innovation policy must emerge to sustain the idea when the original strategy reaches the end of its life, the Law is superceded or the political mandate of the initiators expires.

The Regional Government has identified a number of successful projects and aimed to increase their scope, building on success

46. The focus taken by the Region has primarily addressed the desire to initiate a process of reform and change in regional attitudes to innovation, rather than specifying an end-point around which the system is intended to settle. It is clear that this is a long term process, so for a range of activities, what Piemonte has done is support a number of activities
with an established track record in support innovative businesses to widen the scope of their activities. In some cases, this has simply meant providing more funding to work with more clients; in other cases, changes have emphasised working with novel client groups, particularly other industrial sectors; there have also been good examples of how institutions have been reconfigured in order to help them evolve to better meet the needs of regional innovators.

47. One of the sources of the strength of the Piemonte RIS is the existence of a number of successful innovation support activities at the heart of networks. These support organisations have developed over time, and helped improve the access of their members and sponsors to innovation support resources. By way of illustration COREP (Consorzio per la Ricerca e l'Educazione Permanente, the Standing Consortium for Education and Research) is a partnership between a range of agencies partners, including the universities, as well as representatives from a range of other sectors, which delivers particular activities such as post-experience masters courses or technology transfer in particular sectors. COREP has a great deal of experience in regulating the interface between firms and businesses, creating projects that constructively support interactive innovation.

48. The more general point is that it is possible to develop existing networks into new activities. However, actors with innovation competencies do also have their own institutional interests. Effectively managing these networks and activities requires an understanding of these wider institutional interests. There have to be clear reasons and incentives for networks to change the focus, scope or scale of their activities to benefit potential or latent network members. Networks themselves are not always functional and responsive to policy incentives. Building a strong and effective RIS does involve effective leadership from above (from the Regional Government) and from below (from the main regional networks) to identify common areas on interest and potential areas of collective, communal, co-operative activity. Given that the hallmark of Piemonte is the proliferation of these innovation networks, identifying and exploiting common interests is must be a priority for the effective management and improvement of Piemonte’s RIS. There is a great degree of duplication, and there is an implicit hierarchy in decision-making that is not always reflected in the formal governance arrangements. However, it is important to emphasise that this arrangement works, although its efficiency and transparency can be questioned.

- A reliance on visible projects raises the risk that innovation policy ends up funding activities that would have taken place anyway, and hence a means of special interest pleading. A further risk with these large and complex strategic projects is that they may become bogged down and acquire a political significance that can distort evidence-based policy making, undermining establishing a regional evaluation culture. There is a need for close monitoring to ensure that these risks are being mitigated at every stage.

There are uncertainties over later rounds of the Research Plan and its medium term future

49. The Regional Research Plan launched in 2006 uses a common vision and focus to help build linkages among actors. The emphasis has been on reordering regional innovation actors in order to build collective action and shared critical mass. The Regional Government have noted that there is a plurality of innovation promotion activities but it have proven impossible to manage those activities. The underlying intention has been to stimulate bottom-up innovation but then channel that innovation – through compulsory co-operation – towards shared goals, that in turn integrated together to provide a common regional direction of travel. The next logical stage of development of the RIS would involve improving the RIS governance, distinguishing more clearly between the various’ actors roles and responsibilities.
50. This could potentially involve the Regional Government removing itself from the daily oversight and management of the intermediary organisations, mandating an independent organisation to deliver those goals for a five year period, and holding that body to account through a supervisory rather than micro-management role. There is also a need for an organisation which proposes and supports the annual plans within the strategy on the basis of ongoing reflection and evaluation. Finally, a body needs to work to ensure that the various activities (science parks and strategic sites) are effectively integrated into a set of ‘strategic projects’ that interact effectively as a regional competence network.

51. There are a range of governance configurations which could deliver this hierarchy of responsibility. What is more important is that there is an explicit acceptance of the current implicit governance arrangements, and the roles of the various actors are clearly defined. Currently, Enzima-P is designated as the regional innovation platform, Finpiemonte fulfils some of the roles of the Regional Innovation Agency and Rethink acts as an ad hoc regional innovation agency. These are all organisations with considerable knowledge about effective partnership and business innovation, and the next step is in clarifying governance arrangements without wasting the knowledge held within various regional partners.

52. A critical issue in this respect is the real possibility to maintain the same shared vision into the next plan period. Developing an effective innovation policy is now a shared challenge for many OECD regions; even those with a long history have found it difficult to ensure cost-effective outcomes. In Germany, several states recently reformed their innovation strategy. For instance, North-Rhine Westphalia reformulated its innovation strategy in August 2006. The problem for NRW was that at least in the past 20 years innovation and technology policy was directed towards too many activities so that budget constraints mostly lead to the effect that after some years of funding no sustainable structures could be established.

- **Piemonte highlights the importance of collective forums as the places where critical and reflective regional evaluation cultures are created by taking hard decisions in real-life situations. Piemonte has found initiating action more important than undertaking region-wide discussions. However, there are signs that tensions are building that more consensual and discursive bodies can address. The next step in Piemonte’s evolution is to ensure that open discussion forms the basis for the medium term evolution of the policy to 2011.**

There is no clear public face to the Research Plan in terms of high profile and eye-catching activities

53. The entire science and innovation policy in Piemonte is focusing on attempting to build an effective regional innovation culture in Piemonte. Although the region has been historically home to many innovative businesses, evidence suggests that people do not associate their own occupations with innovation. There have been attempts to address this through the use of festivals and promotional activities, such as the World Design Capital (qv). This aims to address the pessimism which has emerged in some of the manufacturing branches that their outlook is not so bright, and encourage people to invest more in innovation activities.

54. The Research Plan in this round has been highly technology-focused, a consequence of the fact that the Polytechnic has been a leading light behind its emergence. There is a general appetite amongst regional actors to change that. There is a general problem in the region that there is not much direct investment in regional human capital. There was no regional design school which might have provided a human dimension to high-technology innovation. The strategy of focusing resources on a limited number of fields, for instance through the creation of regional platforms (aerospace, biotechnology, agro-food and multimedia and creativity) has allowed focus and priority, but the drawback is that these are
not sectors where there is a high degree of public visibility. There is also no good mechanism within the partnership for proposing and identifying flagship innovation projects where Humanities and Social Sciences meet the exact and medical sciences.

55. There is some work around converging technologies in health sciences, so matching humanities and the social sciences through the health area, in things like neuroscience. There are research centres around landscape & urban planning, economics and genetics/genomics which have the potential to have larger social impacts. What is clear is that much greater pressure from a range of regional and national Ministries will be necessary to encourage these research organisations to take a much closer interest in the translation of their research and infrastructure investments into visible public innovation outcomes.

56. There is one plan to launch a creativity platform managed by a spin off company emerging from the Torino World Design Centre project. There is also a “innovation clusters” idea which funds firms to use industrial design consultancies, in mature sectors such as textiles, to get young designers actively working with SMEs, to diffuse the values of TWDC. Two areas where there may be future progress in terms of eye-catching projects to mobilise and enthuse social partners is in the field of sustainable/renewable energies as well as the creative platform. The creative platform has created a new fund for investment in cinema production, aiming to support a new generation of cinema.

- There are elements of a developing cultural sector being supported by the innovation strategy, including a range of the activities promoted under the World Design Capital umbrella in 2008. There are plans to ensure that the momentum from Torino World Design Capital is sustained, through creating a spin-out company. This may be sufficient to help current and potential investors reappraise their understanding of Piemonte and lead to its successful emergence and recognition as one of the leading technology manufacturing regions.

For a Plan so heavily dependent on new high-technology firms, its emphasis on entrepreneurship promotion is remarkably weak

57. Recent innovation thinking highlights the importance of the interaction between researchers, government and businesses for driving forward constructive innovation capacity building. The idea of the ‘triple helix’ has been suggested as a metaphor for how this can be improved – governments can improve co-operation between universities and firms, and in so doing, alter the ‘DNA’ – the habitual behaviour and inclination of each sector. If this is done effectively, this can help to deliver core government policy aims – and the ‘holy grail’ for ‘triple helix’ policies lies in creating effective entrepreneurial triple helixes. In these situations, businesses and research organisations work together creatively to bring new ideas into the market.

58. This raises the question of whether it is possible through a systemic research and innovation policy, as has been followed in Piemonte, to invest simultaneously in both high-quality research activities, at the same time as encouraging those researchers to behave in new ways. Clearly, the long-term success of the Research and Innovation Plan will lie in whether or not it can encourage the successful valourisation – within regional businesses – of knowledge held in public and private research organisations. There is a challenge around the necessary entrepreneurial and business skills necessary to promote this valorisation. In short, the question is whether the Research and Innovation Plan is helping to build a more effective and entrepreneurial triple helix in Piemonte.

59. The Torino Wireless Foundation was conceived by Professor Rodolfo Zich, former vice-chancellor of the Politecnico di Torino and president of the Istituto Superiore Mario Boella (ISMB). The TW Foundation was created between 2001 and 2003, by public (State,
regional, provincial) and private (ISMB, Bank San Paolo) entities. TWF has since its inception focused on three main tasks which seek to encourage entrepreneurship:

- **Enterprise acceleration**: a particular problem for the sector is encouraging the best and brightest graduates either to start their own businesses, or to work with new business to stimulate innovation.

- **Networking**: creating an institutional space where companies could work together, share and exploit knowledge, and collaborate on joint projects

- **Venture Capital**: Investors were needed to support and accelerate business growth.

TWF is one of a limited number of flagship national technology districts and its activities therefore benefit from national imprimatur. This may grant them the necessary long-term stability and sustainability to have a chance of making a real difference to Piemonte’s underperformance in terms of new firm formation in high-technology sectors. It has been an unqualified success: if other districts were to be identified within the region, they ought to follow the example of TW with a counterpart of their own. The Torino Wireless Foundation certainly benefits from its participation in the national programme, which provides some of the key resources for delivering the innovation outcomes.

There is the potential for TWF to become a central node in a more general innovation promotion network extending into the various sectors present in the region in which innovation and entrepreneurship underperformance is the norm. In Piedmont, strengthening the business cluster policy could encourage SMEs to exactly the levels of innovation that the Region is trying to develop. TW’s evolution in ICT should serve as an example for other sectors. In such a case, the role of new organisations such as ENZIMA-P. could be to identify and help establish new industries, linked, for example, to the application of technologies developed in the Technology parks.

Access to business support is still very opaque when viewed through the eyes of SMEs searching for help innovating

Piemonte has a very rich and a very dense set of regional innovation actors – this means that its main innovative problem is not a sparse environment for innovation. Rather, there appear to be problems in the various innovation organisations working together – it is a fractured metropolitan innovation system. The compelling rationale for the introduction of the law was a rationalisation of innovation support for businesses in Piemonte. The goal was to eliminate the dependence of outcome from the business support system from the point at which the system was approached. The idea has been to create a system in which regardless of whether a firm approaches a university, the Chamber of Commerce, or a science park, they will ultimately receive the best assistance to which they are entitled.

This signposting and referring between activities is one element that does not appear to have been addressed adequately in the regional innovation strategy. There is not a clear Regional Innovation Agency which helps businesses to access the services available. What is not clear in the current Piemonte arrangements is how advice is provided to firms who are not able to articulate it in terms of a clear research proposal with an established university partner. Is the intention that Enzima-P play this role, and who will provide the direct mentoring and advice to businesses? What will be the relationships with Unioncamere and the support services that they provide for their membership? How will business advisors working with firms build up relationships with business development managers in the regional knowledge institutions?
• The ultimate value of the Plan will be whether it increases the number of smaller firms innovating. The best advocates and champions for regional innovation policy are businesses which have demonstrably benefited from novel approaches and methodologies to business innovation. The various technological platforms require the opportunity to exercise this public-representative function and help provide greater business representation into debates around the future evolution of Piemonte’s innovation policy. The risk is that such organisations become narrowly-focused lobbying groups rather than supporting a demand for continued innovation activity.

**Piemonte has taken a bold experiment in regional innovation, embodying a spirit of co-operation with the potential to sustain the region in completing its economic transformation**

63. The first two annual rounds of the Research Plan 2007-09 in Piemonte are now underway, and both have been marked by a mix of ambitious and experimental activities seeking to consolidate existing strengths. The Research Plan now stands at a crossroads, facing the choice between seeking out further experimental activities or consolidating the activities already underway. The former risks re-fragmenting the RIS and undoing the hard-work already undertaken to improve system coherence; conversely, the latter risks becoming stale, and tarring the idea of ‘innovation’ as an old-fashioned policy approach, dispersing the enthusiasm and momentum built up in the last three years. There is a need to balance between these two paths, and the two risks, to ensure that the Law is concluded as successfully, and as inspirationally as possible.

• One area where the Region could both inspire and succeed in the field of innovation is improving the public recognition and understanding of the importance of innovation to their lives. As well as festival activities, more investment in sectors with a more human dimension to their technological innovation is necessary, such as in the fields of healthcare and human life quality. The region has a strong technological infrastructure in these fields, and connecting more closely with intermediaries in the health care sectors (especially the more ‘caring’ elements) can enable the third round of the Research Plan to move forward by focusing more explicitly on this human dimension.