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Finland's position on the consultation document on state aid for innovation

Summary:

The definition of market failures: The basis for State aid for Innovation, defined by the Commission – a clearly recognised market failure and the appropriate, incentivising and correctly apportioned State aid, together with the control of its consequences in order to ensure fair competition as well as the delivery of a clear public benefit – is correct in its rationale.

The eligibility of large companies for State aid for Innovation: The Commission is unconvinced that market failure conditions for innovation exist for large companies. However, large companies play a significant role in the systems and processes facilitating innovation. In particular, their roles as sources of knowledge, know-how and technology for the SMEs and public research institutions, and their roles as demanding customers, points of reference and channels to international markets, requires sufficient incentives for them to want to collaborate with the SMEs and public research bodies. The long-term commitment of large companies particularly to larger and internationally significant research, development and innovation joint ventures will be necessary to safeguard the strengthening of the innovation system and its international appeal. The scope for State aid for Innovation should be extended to also include large companies in as far as it promotes long-term collaboration and the creation and strengthening of innovation networks in particular, leading more specifically to improved conditions for innovation activity for SMEs.

The definition of a pre-competition research: Innovation is, by the Commission communication, a separate and close-to-the-market stage, following research and development. This is a reflection of an outdated, linear understanding of the innovation process. Modern innovation processes are, in reality, complex, interconnected projects run by many joint operators, consisting of simultaneously progressing parallel processes. In these projects, remote-from-market research, the development of applications and activities in preparation for commercialisation all happen in tandem. Defining innovation as a stage following the R & D one is an artificial rationale, based on an outdated understanding of theory. On the other hand, remote-from-market operations may justifiably be granted higher State aid for Innovation than those operations closer-to-market. The most sensible solution, hence, would be to extend the current rules for State aid for R & D, as well as the definition of pre-competition development activity within the Block Exemption Regulation, so that it will in the future, for practical purposes, include innovation activity as defined by the Commission communication. In this way, the legislation for State aid could be extended to include innovation activities without the need for new, additional stages and definitions that are hard to interpret.

The Commission communication's definition of the incentive-effect of State aid for Innovation is in part unnecessarily restrictive, even if the basic rationale is correct. The incentive-effect of State aid should not be restricted only to innovation activities that would otherwise not be started at all without State aid. There is a need for it to also include cases where the nature of the innovation activity

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essentially changes, thanks to the incentive of State aid (expands, accelerates, takes place more in joint ventures, etc.).

The extension of the scope to include non-technological innovation applications: The Commission considers that there are great risks in defining the rules for the eligibility of State aid for Innovation to include non-technological innovations, as the innovative activities referred to may, in principle, include any normal activity of the beneficiary whatsoever. This is why the Commission proposed limiting the scope for State aid for Innovation exclusively to technological innovations. This is undoubtedly the most problematic aspect of the communication. Non-technological innovations, the most important being service innovations, should categorically be included in the scope of State aid for Innovation. Excluding the services sector and the service businesses of technology industries from the scope of State aid for Innovation, significantly hampers the chances of innovation policies being able to enhance the productivity development and competitiveness in particular of the service sector, as well as in industry, and indirectly, more broadly, economic growth, employment and welfare.

It will be essential to find an appropriate way of defining the eligibility for State aid for Innovation for innovation activity within non-technological sectors. It should not be defined by cost categories or by activity, as this would result in an artificial separation of sectors geared for technological and non-technological innovation activities. It should be defined by such additional criteria which will allow for customer-oriented, non-technological innovations (such as service innovations) to have parity with technological product innovations, and non-technological process and business innovations to have parity with technological process innovations. The objective should be that activities geared for both technological and non-technological innovations may be, in principle, promoted using the same criteria for State aid.

Innovative start-up companies: The Commission's communication proposes granting significant State aid to innovative start-up companies. This is based upon the definition of an innovative start-up company, non-eligible costs or separately defined activities. The proposal warrants support in its rationale, and significantly enhances the chances to promote the establishment of innovative start-up companies, as well as speed up their development in the initial stages. However, high-technology companies, by nature, differ from others to such an extent that rules that relate to them should be different. In particular, the R & D –intensity of different sectors varies, as does the inherent time span required for successful R& D.

The development of risk capital investment activity: The Commission's proposals on promoting the accessibility of risk capital are worthy of support. In addition, the Commission should consider the role of State aid, especially in lowering the prospective costs for making seed-stage investments. Typical seed-stage investments are small, and there is no scope to invest in their assessment and administration as there is in larger investment targets. This often results in investment decisions being made on the basis of insufficient information, which leaves a number of potential innovation start-ups without the risk capital they require. Through State aid, it may become possible to narrow the information gaps that exist between the investor and the start-up, resulting in an improvement in the quality of investment decisions and more accessible risk capital.

The innovative business environment: The Commission's proposals on the development of business environments that incentivise innovation are mostly worthy of support. In particular, service vouchers for innovative SMEs to acquire necessary services for their activities is a significant and supportable proposition. In order to clarify and develop the role of intermediaries, it will be justifiable to to some extent limit the eligibility for aid across different organisations. This should not, however, result in a

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too narrow a restriction. The key objective should be the improvement in the quality and quantity of service provision. Service provision using public funds must not prevent the development of private services; on the contrary, policies and rules for State aid should promote the development of private service provision. The poor demand for services for innovation and the lack in the quality and quantity of private provision are, however, an apparent market failure both in Finland and in Europe. This would justify the use of State aid to enhance and develop the use of these services. In this respect, a service voucher for SME companies, increasing the demand for such services, is one way this problem may be addressed. The absolute denial of direct State aid for intermediaries may significantly hamper their ability to develop services for innovative companies. The Commission should, therefore, also consider what proportion of direct State aid could also be granted to bespoke intermediaries, in order for them to be able to develop services for innovative companies.

Additions worthy of consideration that complement the current rules for State aid in this area are: recognising intermediaries as indirect State aid organisations (granting aid to the final beneficiaries through them) and granting them eligibility for State aid for up to 100% of costs in so far as they undertake assignments of public benefit.

Training and mobility of labour: The Commission's proposals for promoting the training and mobility of labour are worthy of support. Interesting proposals have been made, in particular, for incentives aimed at organisations to send their own researchers and experts on secondments to SMEs, and for incentives aimed at SMEs to recruit experts and researchers. When finalising the rules, consideration should be given to the fact that incentives for the mobility of labour should not be restricted to a too narrow a group of top experts. In this case, mobility would only be improved within a tightly defined group of high-tech companies and top experts, whereas a broader-spectrum enhancement of mobility would probably be of more significant positive effect for the SME sector in particular.

Intellectual rights: The Commission suggests that the intellectual property rights (IPRs) resulting from the research projects be divided on a *pro rata* basis. Hitherto, the starting point for the rules for State aid has been to disallow State aid in cases where the ownership of intellectual rights generated by publicly funded joint ventures between universities, research institutions and companies leaves the ownership of such rights with the university or research institute, or in cases where the transfer of the intellectual rights to the companies takes place at a full market price. However, as innovative companies make significant investments in joint venture research projects both financially and in terms of expertise, they naturally also consider themselves entitled to receive something in return for their investment.

There are, however, at a general level, as it has been mentioned in the Commission communication, problems with the *pro rata* approach. The Commission has not defined whether the *pro rata* approach applies to ownership, right of use, or commercial rights. Joint ownership, in particular, is problematic, because the relevant legislation in individual European countries is different, which will be likely to result in unnecessary confusion and problems of interpretation for international joint venture projects.

As a starting point, instead of using the *pro rata* approach, it would be sensible to use both the incentive-effect of the rules on collaboration, and, as regards the intellectual rights generated by joint venture projects, their prompt, clear and effective transfer to commercial and/or other beneficial use by enterprises and society. The basic approach should be part ownership by joint venture partners of intellectual rights, proportionate to their own creative input. Joint ownership would only apply to such intellectual rights where the above cannot be identified or quantified. In relation to this, intellectual rights would belong to those partners who have contributed to the generation of the IP. When

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transferring intellectual rights from a university or research institution to a company, the transfer price would be calculated in such a way, that the market price is reduced by a sum commensurate with the company's financial or other investment in the generation of this particular intellectual property. Joint ventures applying this approach would not be eligible for State aid for Innovation.

Collaboration, clusters and other centres of knowledge: The Commission has also included in its communication some rather general proposals in order to generate collaboration, networking and centres of knowledge. These include, for example, allowing tax reductions or repayable up-front grants in order to promote the establishment of private universities or such like, or to further research infrastructure. They are, in the outline so far proposed, per se, in the right direction and worthwhile developing. It is, however, only possible to take a final view on them once the relevant, more detailed proposals are available.

Detailed comments

1. Introduction

The fundamental rationale for State aid for innovation described in the consultation document is basically correct. State aid should target clearly defined market and systemic failures. State aid should also be a limited response to these failures to ensure that it will not hamper competition. State aid regulations should find a balance between ensuring competition and encouraging and facilitating innovation.

Consultation document paragraph (5) presents a specific rationale for State aid for eco-innovation. Market prices only reflect the direct economic costs and not the costs of environmental pollution. It should be recognised that the similar rationale may also apply to major social challenges. For example, developing medical treatments, pharmaceuticals or other health care related technologies for rare diseases or developing health care services for sparsely populated rural areas is not economically feasible because of high costs of innovation compared to market size.

One of the key barriers in eco-innovation is the small scale of the initial market. As long as the market remains small, prices stay high which in turn keeps the market small. As soon as the market and production volumes reach a critical size, prices fall and the markets start to grow. Apart from eco-innovation, other kinds of innovation may also face the same critical market size barrier, which could justify a time limited State aid until a critical market size has been reached.

A similar rationale applies to various networks and infrastructures. Single actors cannot afford the costs of setting up networks or infrastructures. However, once the critical size has been reached the, network or infrastructure may offer significant benefits to all users, and allow further pursuit of market-oriented activities using the networks and infrastructures. For example, it is doubtful whether the Internet would exist today without the significant initial public investments.

The Annex refers to many of the underlying reasons for these types of market failures, such as lack of common rules and standards, non-functioning product markets and general "systemic" failures. However, these failures are not sufficiently thought through in the proposed rules.

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Many of these types of failures and other failures for that matter are best targeted through demand- side measures. In the case of State aid, this means providing the aid to the buyer, rather than the producer, thus creating the demand for innovation. Innovative public procurement, vouchers for purchasing innovative products and services, and various types of public-private partnerships are among the most potential policy measures targeting the demand for innovation.

Q1)

Answer 1) It is appropriate to create a separate Framework for Innovation. It is important that the community State aid regulatory regime is as simple as possible also with regards to innovative activities. The proposal to integrate innovation into the “Framework for R&D and Innovation”, and “State Aid and Risk Capital” and “Environmental guidelines” as well as in to “Block Exemption Regulation”, is therefore recommended. It is equally justifiable that State aid should target selected innovation-related activities, as long as the selected activities sufficiently reflect the reality of innovative activities or private enterprises.

However, there should also be rules relating to demand-side policy measures, i.e. policy measures which encourage the demand for innovation rather than supply. It is important that appropriate guidelines concerning innovative public procurement and the arrangement of public-private partnerships are included in the public procurement regulations.

Other comments concerning chapter 2. (PRINCIPLES GOVERNING CONTROL OF STATE AID FOR INNOVATION)

Questions 2-7 cover most of the important issues discussed in Chapter 2. However, there are two points which do not fall under any of the questions posed. The first is the definition of the incentive effect and the second is the definition of innovative activities.

Paragraph (19) of the consultation document is not sufficiently clear in the way it defines the incentive effect. The first sentence clearly refers to a behavioural change as the necessary outcome of State aid. However, the latter sentence limits this, unnecessarily, only to verifiable cases, where no action would have been taken in the absence of State aid.

The definition of incentive effect should not be so categorical for two reasons: (1) it is very difficult to verify the counterfactual, i.e. that no action whatsoever would have been taken in the absence of State aid, and (2) desired behavioural change can take many forms, e.g. increased investments in R&D and innovation projects, ability and willingness to engage in more risky and, if successful, more rewarding projects, ability and willingness to engage in various forms of collaboration and networks, etc. and relate to different levels (project, enterprise, network, cluster, innovation system, economy, society). Most significantly when State aid contributes to firm behaviour in a sustainable and lasting manner, externalities can be significant and impacts at the systemic level substantial. The incentive-effect should, therefore, cover all cases, where the quality of the innovative activity can be significantly improved.

Whereas the detailed definition of the incentive effect is non-relevant in the case of start-ups and SMEs (because it can for various reasons be assumed a-priori in most cases), it is important, in the case of large companies, that sufficiently clear ex-ante criteria are defined for the incentive-effect. These criteria and, thereby, the eligibility of large companies for State aid for innovation should emphasise

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coordination and dissemination, collaboration, networking and creation of poles of excellence. This would target State aid for innovation for large companies to activities which would be most likely to produce significant externalities and systemic level impacts and therefore also facilitate and enhance innovative activities of SMEs and research organisations.

Paragraph (22) of the consultation document refers to innovation activities as stages that are close to market. Real-life innovation processes are highly interconnected processes, where research, development and other pre-commercial activities take place simultaneously. Rather than defining innovation as a stage close to market, particular innovative activities should be referred to as being closer to market and, therefore more likely to cause market disturbances. State aid regulations should then define which of these pre-commercial activities, and under which conditions can be assumed to cause negligible or no market disturbances, and would, therefore, be eligible for State aid.

Q2)

Answer 2) The market failures and the related underlying problems identified by the Commission in the document and in the Annex are correct. So are the principles described in paragraphs (15)-(17). However, it should be recognised that innovative activities are continuously changing and that new market and systemic failures may arise, and that current failures may disappear in the future. It is, therefore important that State aid schemes are approved only for a limited time and that State aid regulations are sufficiently adaptable and updated often enough.

One market failure that received insufficient comment in the Communication relate to the systemic failures, particularly to the failures related to knowledge and learning. These failures most commonly occur in association with new emerging markets and disappear as the market in question matures. There is evidence in the economical literature that these kinds of learning failures are becoming more and more prominent.

Q3)

Answer 3) The approach used for State aid for innovation should be similar to the one adopted for State aid for R&D, i.e. the relevant frameworks should provide sufficient ex-ante criteria on the basis of which State aid for innovation can be approved.

However, when taking into account that innovative activities are continuously changing, categorically limiting state aid to only for specific narrowly defined activities would create unnecessary regulatory rigidity. Therefore, we believe that the up-to-datedness of the definition for innovative activities ought to regularly reviewed; initially, for example, within three years of the rule coming into effect.

Q4)

Answer 4) It is true that large companies may not be subject to market failure in similar degree than SMEs. However, innovations are frequently a result of collaboration between large and small

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companies and the decisions made by large companies have a significant impact on SMEs innovation capabilities and their capabilities to commercialise and access markets with new products and services. State aid for innovation is, therefore, justified for large companies to encourage them to collaborate and network with SMEs and public research institutions in order to enhance innovation and especially coordination and dissemination.

The Advanced Technology Programme (ATP) in the USA has been for years funding both large and small enterprises. Recent impact evaluation of the programme has provided the following justification for funding large enterprises ¹:

- The participation of large firms increases technology development opportunities across a broad spectrum of technology areas and industries.
- In single-company projects their participation enables ATP to support industry needs across the full spectrum of technology areas. Projects in Materials and Chemistry, in particular, often require extensive manufacturing and materials processing facilities that small firms do not have. Biotechnologies aimed at human therapeutics often require considerable technology development beyond ATP, extensive regulatory testing and trials, and production and distribution licenses with larger companies before they can make a major impact.
- Large firms are active in joint ventures.
- Large firms in joint ventures partner with all types of organizations
- Large firms offer critical advantages in certain industries and technology areas
- Large firms bring technical advantages related to size and scope and commercialization advantages through marketing and manufacturing capability.
- Large firms gain access to new technologies while small firms find opportunities to integrate their technologies into larger systems and build a customer base.

ATP is one of the most extensively evaluated public funding schemes in the world.

The Commission should, therefore, seek to define ex-ante criteria for State aid for innovation for large companies, with the emphasis on coordination and dissemination, participation in the creation of poles of excellence, enhancing training and mobility and encouraging risk capital / venture capital investments in those funds which concentrate on start-up and small innovative companies. Case-by-case stricter analysis would create unnecessary bureaucracy and rigidity, and could, therefore hinder the development of networks, clusters and poles of excellence, as well as create barriers for technology transfer and dissemination. However, large amounts of State aid for large companies, as in the current rules for State aid for R&D, should be subject to case-by-case stricter analysis (prior notification obligation).

It is true that there are clear differences between an independently-owned company of 251 employees and a multinational corporation of more than 10 000 employees, and that these differences could justify the definition of different categories of large companies. However, companies are increasingly networked and seek to complement their competencies through various forms of collaboration. State aid regulations should encourage collaboration and networking regardless of company size. The capabilities of companies to engage in collaboration and participate in networks increase with the company size up to a certain point, after which internal coordination and dissemination becomes

¹ ANALYSIS OF ATP IMPACTS, Factsheets Provided by the ATP Economic Assessment Office, NIST, National Institute of Standards and Technology - Technology Administration, U.S. Department of Commerce, April 2005.

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increasingly challenging, and typically leads into internal structures of smaller business or other units. Provided that the financial markets function properly, there are no significant differences in access to risk capital and other forms of funding between independent companies marginally over the SME limit and smaller business units or companies within large multinational corporations.

It is, therefore, unclear what the rationale for distinguishing between different types of large companies could be. Furthermore, additional differentiation according to company size would further increase the complexity of State aid regulations.

Q5)

Answer 5) Services are a major contributor to economic growth in Europe and an increasingly important source of innovation, firstly, as a demanding customer, secondly, as innovators themselves and, thirdly, as an efficient intermediary in transferring knowledge, skills and technologies within and across industries. Furthermore, business activities and hence also research and development of industrial companies are increasingly focused on providing services. There is therefore no economic, social, political or environmental rationale for limiting State aid for innovation only for technological innovation. On the contrary, in the long run such a limitation could seriously endanger Europe's competitiveness and social development.

There are undoubtedly difficulties in differentiating between non-technological innovation and normal business operations. This is true especially in the case of small (service) companies, which do not have systematic structures and processes for innovation. ² Defining innovative activities and even R&D, e.g. in services is not straightforward. However, it can be done.

The OECD Frascati manual ³ identifies the problems of defining R&D and innovation in the services. The recently updated OECD Oslo manual ⁴ defines four types of innovation:

- Product innovation (including services)
- Process innovation (including service production processes)
- Marketing innovation (introduced in the latest update)
- Organisational innovation (introduced in the latest update)

The Oslo manual provides definitions for each of these types and for innovation and innovation activities. It also provides a list of changes which are not considered innovations and gives examples highlighting different types of innovation and how to distinguish between different types of innovations. Furthermore, the OECD Oslo manual contains definitions for various types of innovative activities. The most important of these in this context are definitions for other preparatory activities for product and process innovations, preparations for marketing and organisational innovations, training

² On the other hand, as it has been identified in the context of technological innovation, small companies are the least likely to cause any market disturbances. Larger service producers on the other hand are forced to organise their innovative activities for efficiency and quality. This means that their innovative activities are likely to be more distinguishable.

³ Frascati Manual. Proposed standard practice for surveys on research and experimental development, OECD, 2002

⁴ The 3rd and latest edition of the OECD Oslo manual has been published 27 Oct 2005
<http://www.oecdbookshop.org/oecd/display.asp?lang=EN&sf1=identifiers&st1=922005111p1>.

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and design. It should also be noted that OECD no longer uses the concept of “technological innovation” because of definition problems.

The rules for State aid for innovation should make use of the extensive work that has been done to prepare these definitions in defining the eligibility of the related innovative activities for State aid.

Enhancing the production of non-technological innovations requires that companies develop clearly defined structures and processes for non-technological innovations, as companies have done for technological innovations. This will make it easier to distinguish innovative activities from normal business activities. State aid should encourage this development.

The boundaries between services and manufacturing are blurring, which also leads to blurring of boundaries between technological and non-technological innovation. Limiting State aid eligibility to technological innovation only would lead into increasing interpretation problems and would encourage separation between technological and non-technological innovation, rather than its integration. Producing solutions and systemic innovations, consisting of a number of interconnected innovative components, products, services and processes instead individual technological gadgets, is much more likely to lead into productivity gains, competitiveness, growth and employment. State aid regulations should encourage integration rather than separation, and, therefore, State aid for innovation should not be limited to technological innovations.

The costs and activities related to non-technological innovation are largely the same as those related to technological innovation. The major difference between non-technological and technological innovations is that the resulting innovation is typically a concept, a structural, operational or business model or a methodology rather than a concrete product. Although customers are a major source and increasingly also a partner in technological innovations, non-technological innovations, especially those in services, are typically developed in even closer collaboration with customers. The actual production of services, especially knowledge-intensive services, requires a close interaction between a producer and a user. In practice, knowledge intensive services are frequently co-produced combining knowledge intensive service activities of both producers and users ⁵.

The rationale for defining State aid eligibility of innovative activities targeting non-technological innovations should not be based on defining specific costs or activities, but rather on specific requirements for clearly separating R&D and other innovative activities from normal business activities. The aim of this approach would be to clearly define those requirements and characteristics (which are self evident and embedded in technological innovation as eligibility criteria for non-technological innovation), thus bringing those innovative activities targeting non-technological innovations onto an equal footing with those targeting technological innovation. This methodology leads in to the following proposal:

1. Refer to the forms of non-technological innovation, defined in the latest OECD Oslo manual.
2. Define the State aid eligibility of costs and activities related to non-technological innovation to be the same as for technological innovation, with the additional requirement to verify that these costs and activities are separate from normal business activities and, thereby not used to subsidise or lower the price of any commercial activity.

⁵ The use of knowledge intensive services in R&D can actually resemble collaborative R&D, where both parties can benefit and even share the risks.

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3. Relate customer oriented non-technological innovations, such as innovative services to technological product innovation and, organisational, business model and other production oriented non-technological innovations to technological process innovation.
4. Assume the incentive-effect applies to SMEs, and clearly define it for large enterprises, using the same rationale and definitions as for technological innovations.
5. Define the following additional conditions for the eligibility of activities targeting non-technological innovation:
 - a) The purpose of the activity is to develop a model, methodology or concept, which can be systematically reproduced.
 - b) The developed model, methodology or concept is general and it, or services produced using it, are available to all customers on a non-discriminatory basis. It is not tailored to any specific customer. The company has many customers.
 - c) In cases where customers participate or co-operate in these innovative activities, they should share the risks.

Condition a) above aims to ensure that the purpose is to develop either a concept, model or methodology, which can later be used repeatedly for commercial purposes, hence ensuring similarity to technological product and process innovation. Condition b) aims to ensure that no services developed for the needs of individual customers would be eligible for State aid ⁶. Condition c) would allow customer participation only in cases of true and actual collaborative development in which risks are shared, thus making normal customer businesses non-eligible for State aid.

Defining similar eligibility of activities targeting at both technological and non-technological innovations would be a controlled approach in extending State aid to cover non-technological innovation. It would currently exclude majority of service companies from access to State aid for innovation because of their lack of systematic and organised innovative activities and lack of ability to develop reproducible service models, methodologies or concepts. However, allowing State aid for non-technological innovation would in the longer run guide these service companies to organise their innovation and R&D functions in a more systematic and efficient way and strive reproducible service models and concepts, which can have a significant impact on the productivity, competitiveness and growth of services developed and produced in Europe.

⁶ Whereas the object of technological innovation is a concrete tangible product and the purpose is to produce a large number of identical copies commercially, the object of non-technological innovation is an intangible model, methodology or concept (e.g. service). Even if the purpose would be to reproduce this e.g. a service in large numbers, each will be slightly different due to the easiness of tailoring and individual characteristics of the actual producers and users of this model, methodology or concept. However, reproducibility linked with the requirement to have many customers eliminates strictly tailored services from State aid and therefore encourages systematisation and de-integration of innovative activities from normal business operations.

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Empirical evidence and policy considerations related to enhancing service innovation and the role of knowledge-intensive service activities in innovation can be found from recent OECD reports⁷. There is also a number of research papers focusing on innovation in services, and on reproducibility and developing service products and concepts^{8, 9, 10}. The importance of service innovation has also been identified in the Commission communication entitled “More research and Innovation – Investing for Growth and Employment: A Common Approach”¹¹, which addresses “*the full research and innovation spectrum, including non-technological innovation*” and where the Commission plans to define a strategy to promote innovative services in the EU by the end of 2006, based on the work and policy recommendations of the European Forum on business-related services¹². The Commission has also funded projects addressing innovation in services¹³. Given the importance attached to non-technological innovations by the Commission in this and other policy documents, the exclusion of non-technological innovations from the State aid would undermine the coherence of the Commission’s policies.

The aforementioned and many other studies emphasise the need for encouraging innovation in services, but they also frequently refer to the need to enhance the demand for innovative services. Public procurement is often mentioned as a potential source of demand and should therefore also be considered in the wider context of competition regulation with regards to objectives of enhancing innovation, growth and employment.

Q6)

Answer 6) Market failures for innovation are less and less geographically different in increasingly global markets. However, some markets are more local than others, and companies operating in these markets are more likely to be subject to market failures than others. If the innovative projects (or companies), as defined in the consultation document take place in assisted areas, there should be some

⁷ “The role of knowledge intensive service activities in innovation: Synthesis report”, KISA project, OECD, 2005 and “Enhancing the Performance of the Services Sector” (especially Chapter 6 “Promoting innovation in services”), OECD, 2005

⁸ Gallouj, F. (2002): Innovation in the Service Economy: The New Wealth of Nations. Cheltenham and Northampton: Edward Elgar

⁹ Gadrey J. and Gallouj F. (2002.): Productivity, Innovation and Knowledge in Services: New Economic and Socio-Economic Approaches. Cheltenham and Northampton: Edward Elgar

¹⁰ Toivonen M., Smedlund A. and Tuominen T. (2005), ‘Development of Knowledge Intensive Business Service Innovations and Innovation Networks’, Paper presented in the British Academy of Management (BAM) Conference, 14th September 2005, Oxford.

¹¹ Implementing the Community Lisbon Programme: Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions. “More research and innovation – Investing in Growth and Employment: A Common Approach”, COM(2005) 488 final

¹² http://europa.eu.int/comm/internal_market/services/brs/forum_en.htm

¹³ e.g. <http://les1.man.ac.uk/cric/services/default.htm>

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regional bonuses, where applicable. This practise would guarantee the coherent approach with other state aid rules.

Q7)

Answer 7) The main principle should be to define appropriate levels of State aid, not limit the rules to specific types of aid. General guidelines could be provided for the calculation of grant equivalents for various types of State aid, even though they cannot be exhaustive because of continuously developing new forms of state aid. State aid authorities are likely to favour loans, repayable advances, risk capital and other forms of State aid with lower grant equivalent, because of market closeness. In this context, it is important to stress the importance of the renewed efficient “State Aid and Risk Capital”-Communication.

3. SUPPORTING RISK TAKING AND EXPERIMENTATION

3.1. Supporting the creation and growth of innovative start-ups

Q8)

Answer 8) The proposed criteria to define innovative start-ups based on the company and not on eligible costs are recommendable. Innovative start-ups are a specific target group for innovation policy. Because of their specific needs and low probability of market disturbances, they should be treated more favourably.

The requirement (ii) outlined in the second part of paragraph (38) is relevant for high-tech sectors, but is likely to be rather demanding for medium-tech and other sectors. *Therefore, in case of medium-tech and other sectors, we propose that R&D expenses represent minimum 10% of the beneficiary's overall expenditure.*

Some high-tech sectors, such as biotech are characterised by relatively long time-to-market and product development cycles, and could, therefore, be subject to more favourable treatment. The Commission should seek to define criteria which would allow the proposed type of State aid for innovation for high-tech companies for more than 5 years of existence regardless of industrial sector. However, these additional rules should not allow indefinite State aid for those high-tech companies which normal business operations consist of R&D and innovative activities.

The Commission should therefore consider the following suggestions:

1. Provide separate innovativeness criteria for high-tech and other sectors. High-tech sectors should be defined using the current statistical definitions for high-tech.
2. *Specific high-tech sectors* such as biotech with long time-to-market would be eligible for twice the proposed amount over twice the normal time span.
3. Innovativeness criteria in high-tech sectors would be 15% R&D as proposed in the consultation document. For other sectors, the innovativeness criteria should be lower, say, 10%.

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This would lead into the following definitions and rules:

- Start-up criterion: must have less than 5 years, or in specified high-tech sectors less than 10 years of existence; must be small companies (see definition for SMEs; importantly independence of large companies, and not more than 50 employees);
- Innovativeness criterion: R&D expenses represent minimum 10% or, in high-tech sectors 15% of the beneficiary's overall expenditure.

Taking into account the difficulties of providing consistent proof of the fulfilment of the criteria i) [i.e. proof that the beneficiary will produce products and processes which are technologically [or otherwise] new or substantially improved compared to the state of the art in its industry in the Community, and which carry a risk of technological or industrial failure], we therefore propose to remove this requirement, and propose to reshape criterion ii) (subparagraph 38 ii) as described here.

- High-tech sectors: based on statistical definition
- Specific high-tech sectors: to consists of pharmaceuticals and biotechnology

As regards the rules for granting state aid in paragraph 39, we'd like propose the following:

(1) exemption of 50% on social contributions and other local/regional taxes (i.e. not linked to profits) until 5 years, or in case of specific high-tech sectors until 10 years after founding and for up to 5 years [or in specific high-tech sectors for up to 10 years] provided the benefits are reinvested in the company or repayable advances. Total amount of aid should be limited to amount of 1 million € or in case of specific high-tech sectors, 2 million €

(2) **Or, alternatively**, the possibility to grant aid of up to EUR 1 million over a 3-year period, or, in specific high-tech sectors up to EUR 2 million over a 6-year period to an innovative start-up without specific restrictions on eligible costs and provided that: i) it is not in cumulated with any other State aid; ii) the beneficiary is not a firm in difficulty, and iii) the company receives the aid only once.

Corporate tax regimes differ nationally and regionally in Europe. This means that allowing exemption of 50% on social contributions and other local/regional taxes (i.e. not liked to profits) would be likely to place companies in different regions and countries in different position. The State aid rules should not encourage competition between European countries and regions on corporate tax regimes. The Commission should at least consider limiting the absolute maximum amount of State aid allowed for innovative start-ups through such tax exemptions (e.g. as proposed in item (1) above). It is important that all innovative start-ups are eligible for similar levels of State aid in Europe regardless of country and region.

Finally, the Commission is advised to clarify sub-paragraph (2) of paragraph (39) regarding the principles of cumulation and the once-only eligibility of innovation state aid. We support the proposal also in this respect, but the exact scope for application requires further clarification.

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Q9)

Answer 9) Rather than proposing additional rules for State aid for start-ups regardless of the innovativeness criterion, the Commission should consider relaxing the proposed rules to make more start-ups eligible for the proposed State aid for innovation under the innovativeness criterion. See the answer to the previous question.

3.2. Tackling the equity gap to increase the provision of risk capital in the EU

Q10)

Answer 10) It is true that financial markets do not operate optimally and that especially the availability of risk capital for innovative companies in the start-up phase is a problem. However, a similar although less serious problem is likely to exist in the growth stage. It is, therefore important that the Commission considers specific provisions also for post seed stages. One concrete proposal is to relaxing the current anti-cumulation rule, as specified in the “State aid and risk capital”- communication.

Regarding the other proposals alleviating the principles laid down in the current “State aid and risk capital” - communications, we believe that the Commission’s proposals a worth supporting. Especially the requirement of private share (50 of 30% of total capital), where investments are made *pari passu* between private and public investors is too strict.

We’d like reiterate our earlier comment regarding the main drawbacks of the current rules:

Firstly, one of the key problems is too strict interpretation of “anti-cumulation” – principle. If the state aid from other authorised sources must be limited e.g. at the level of 50% of the maximum aid intensities to investee companies as long as they are in the portfolio, this will prevent the willingness to receive this kind of publicly part-financed equity-related financing.

The second key problem is the requirement for a private share. Especially in such cases where no state aid exists at the level of investors (“pari passu”), management companies or funds, the requirement of 30%/50% of private share of fund capital is unrealistic. Of course, in case of incentives to private investors, this should be rule also in future. However, as far as we are talking about market failures, (e.g. financial problems of small high-tech companies or generally speaking companies at their early stages; pre-seed, seed, early growth phase), the required share of private funding is unrealistic without asymmetries in distribution of risk or profits. The higher shares of private contributions (more than e.g. 30% / 50%) are possible only in cases where incentives are allowed to private operators. These two different modes for government (i.e. increase the volume of the fund vs. incentives for private investors) to intervene in venture capital markets should be considered to be eligible based on different assessment criteria. In this context the concept of market economy investor principle should be explained more clearly.

Thirdly, regional aid principles (e.g. eligible areas with higher share of public contribution, size of tranches) are not appropriate in the case of risk or venture capital finance.

We strongly believe that the updated Communication on State aid and risk capital would solve some of the current problems related to the special needs of innovative and/or start-up companies. A real advantage of this rule is that there exist no difficulties for defining eligible innovations or innovative

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activities, but instead the financing can be targeted to the identified market failures. This would be perfectly in line with the Commission's "more economic approach"- principle, as defined in SAAP.

3.3. Supporting technological experimentation and the risks of launching innovative products

Q11)

Answer 11) Extension of current State aid Frameworks to include a wider set of innovative activities is recommendable as such. However, to define them as a separate stage is not advisable. This would only unnecessarily complicate the State aid Frameworks. It would be more recommendable to include the appropriate innovative activities to the definition of "pre-competitive development" stage. Furthermore, it is not likely that the proposed levels of State aid would sufficiently encourage companies to engage in innovative activities and thereby produce the expected effects. The levels of State aid should follow the ones currently allowed for "pre-competitive development".

Proposed new formulation for "pre-competitive development":

"- Pre-competitive development activity should be defined as the acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills for the purpose of producing plans and arrangement of designs for new, altered or improved products, processes, concepts and services, and for the purpose of analysing their commercial potential. These may also include other activities aiming at conceptual definition, planning and documentation and testing the feasibility of new products, processes, concepts and services. The activities may comprise training, experimenting and testing, and producing drafts, drawings, plans, software and other documentation, provided that they cannot be used commercially. Demonstrations, pilot projects, experimental production, marketing experiments and testing of products, processes and services are also included, provided, that these cannot be used or transformed to be used commercially. Pre-competitive activities does not include the routine or periodic changes made to products, production lines, manufacturing processes, existing services and other operations in progress, even if such changes may represent improvements. Commercial use means an objective to produce direct economic benefit by selling the prototype, results of a demonstration project or the output of experimental production at a price that is significant compared with the costs. It does not include random income linked with a prototype, demonstration project, experimental production or marketing experiment, provided, that income is significantly lower than costs."

Rationale:

This is one of the most important definitions of the guidelines, because it in practical terms defines the limits for acceptable State Aid. There are several potential approaches to define the limiting condition; it could be based on risk, closeness to market or any other similar factor. The main addition to the current guidelines is that whatever the limiting condition is, it should be sufficiently defined in this context. Furthermore, the limiting condition and its definition should be as simple and understandable as possible.

The proposed new formulation defines commercial use as the limiting condition. The key rationale is that it is both a concept which is relatively easy to define, and a concept, which is easy to understand in the context of State Aid (potential market distortion and unfair competition).

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The other changes in the proposed new formulation attempt to modernise the current definition to take into account the modern understanding of innovation processes and practices in industrial R&D and innovation. Increasing amount of various types of knowledge and skills are necessary in earlier stages of industrial R&D and innovation to allow for faster and more efficient innovation processes from original ideas or scientific discoveries to successful commercial products, processes and services. It is important that the appropriate guidelines recognise the multi- and cross-disciplinary need for knowledge and skills in highly networked R&D and innovative activities. The limiting conditions for State Aid should not be set according to types of knowledge and skills. They should be set according to purpose and closeness to market, which in the end are much more understandable and sensible in the context of potential market distortion and unfair competition.

The proposed formulation includes activities targeting non-technological innovation.

Q12)

Answer 12) These provisions should be extended to large companies, when they specifically encourage large companies to enhance collaboration and networking with SMEs and public research organisations, enhance training and mobility or encourage large company participation in creating poles of excellence.

Substantial amounts of State aid for innovation should be subject to case-by-case notification under the same limits as are defined for other similar types of State aid, such as R&D.

4. A SUPPORTIVE BUSINESS ENVIRONMENT FOR INNOVATION

4.1. Encouraging innovation intermediaries

Proposed rules in the consultation document paragraphs (55)-(57) are recommendable. *However, definitively denying any direct state aid for intermediaries might not be advisable.* Whereas the approach consisting of passing State aid through intermediaries to final beneficiaries on one hand and providing vouchers and other types of State aid for companies using the services of intermediaries on the other hand is appropriate, there might be time-limited market failures¹⁴ which originate from the fact that the intermediaries themselves are not developed or sophisticated enough to provide these services. It would, therefore, be advisable to allow direct State aid on innovations to intermediaries for the development of these services as long as the aid is not used to subsidise the services provided to companies. The related rules should be the same as for service R&D and innovation in general.

Q13)

Answer 13) This issue should be considered in a slightly wider context, because critical mass in a technological or other field of specialisation typically also includes public research or related organisations. The rules concerning State aid for these types of joint ventures should also be included in

¹⁴ The eligibility of innovation aid for innovation intermediaries should be under constant review and monitoring; e.g. appropriateness of the eligibility should be reviewed e.g. after 3-4 years trial period. State aid to intermediaries could also stay out of the scope of block exemption regulation.

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the appropriate public procurement regulations, which deal with public-private partnerships. Joint ventures between purely private organisations should be approached as any private collaborative undertaking focusing on R&D or innovative activity, with the possible additional limited support for investments either in the form of investment aid or in the form of risk capital to help set up the joint undertaking.

4.2. Encouraging training and mobility

Q14)

Answer 14) Innovative activities require capabilities beyond highly qualified researchers and engineers. The use of other types of highly skilled personnel should also be eligible for this type of aid, such as innovation management, design, initial market analysis to identify customer needs, etc. This is a natural conclusion when non-technological innovations are eligible.

The proposed rules in the consultation document paragraph (62) should clearly state if there are any limitations to the number of persons per project or per company at any given time.

Q15)

Answer 15) No specific rules are likely to be necessary for cases of no-return. However, some rules may be appropriate for the cases of no-rehire as not to encourage public organisations or large companies to misuse this aid for the purpose of getting rid of unwanted personnel.

4.3. Supporting the development of poles of excellence through collaboration and clustering

Subparagraph 68. The primary objectives of State aid regulations concerning transfer of intellectual property, which has been created in collaborative R&D carried out by public research organisations and private enterprises together, should be to encourage commercialisation and wide use of the results of collaborative R&D, and to facilitate efficient transfer of intellectual property for this purpose. Therefore, the equal recognition of respective contributions of all partners to produce intellectual property in collaborative R&D is recommendable. However, the *pro rata* approach proposed in the consultation document paragraph (68) raises a number of questions. Does this apply to ownership of IPR, or the use of IPR in further R&D or the use of IPR for commercial purposes? Are rights assigned only according to financial contributions or according to the value of the respective intellectual contributions? How would the value of intellectual contributions be assessed? A further concern, especially related to joint ownership, is that in this respect legal practices differ in this respect across European countries. This would be likely to cause uncertainty in cross-boarder collaboration.

The basic principle should be that all collaborative partners – both public and private – own the intellectual property they have created during the project. Joint ownership would only apply to cases where it is not possible to identify which of the partners has created it, in which case it would be jointly owned by those partners that have created it together. All transfer of ownership and all forms of exclusive rights (e.g. to use for commercial purposes, to sell the IPR further and use in further R&D) given from public research organisations to private enterprises should be based on full market price.

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However, the actual transfer price should be calculated by reducing the full market price by the value of the receiving partner's contribution to the collaborative project (in which the transferred IPR has been created). Furthermore, the rules should not limit this calculation to financial contributions only, since the value of intellectual contributions might in many cases be much higher. All transfer of all forms of non-exclusive rights (e.g. to use for commercial purposes, to sell the IPR further and use in further R&D) from public research organisations to private enterprises should be based on two key principles. Firstly, the public research organisation is required to act as a normal market actor ¹⁵. Secondly, all interested enterprises should have access to similar non-exclusive rights ¹⁶. In case the buyer would be one of the private partners from the original project consortium, the contribution of the partner would be calculated in their favour in defining the actual transfer price. These rules should be included in the appropriate existing Frameworks, especially the one concerning State aid for R&D.

Other comments for item 4.3.

The European centres of excellence should primarily be seen in the context of the European Research (and Innovation) Area and EU framework programmes for R&D, innovation and competitiveness. Regional and national considerations with regards to State aid regulations should be secondary in the attempts creating globally recognised European centres of excellence.

It should be recognised that obtaining the hoped-for outcome requires the coherent application of many different policies. It is therefore important that State aid regulations are considered in the context of policies aimed directly or indirectly at developing a supportive business environment for innovation.

As a general comment, we would like to state that building of general infrastructure with public funds seldom provides state aid to users. Should the infrastructure be built only for the use of a specific group of companies (or in practice these companies are only beneficiaries), this often means confer of benefit. This type of state aid should, however, only be allowed if it results in infrastructure that makes innovation possible within companies and promote it.

Examples of innovative infrastructure projects, eligible for state aid, could be:

- facilities and equipment for innovative start-up companies, provided by incubators for example
- facilities and equipment for bringing together innovative companies and public research organisations, e.g. science parks and technology centres
- experimental and pilot environments for testing and getting feedback from potential customers and end-users
- technical testing (quality, safety, usability, etc)
- marketplaces for investors, platforms for matching investors with innovative companies
- information and communication networks and systems
- libraries, databases, internet portals and other collections of information and knowledge

¹⁵ What this means in principle is, that the price of non-exclusive rights is negotiated between the seller (in this case the public research organisation that has created the respective IPR) and the buyer (any private enterprise willing to buy the non-exclusive rights) in a normal business-like manner. Normal market actor also implies that the seller can not discriminate against or favour any enterprises based on ownership, nationality, region or other characteristic irrelevant to the potential commercial benefits in access or pricing. However, pricing could naturally vary with e.g. size of enterprise or type of industry or application if the potential commercial benefits can be expected to differ in magnitude.

¹⁶ This would ensure non-discrimination against any enterprises and thereby eliminate potential market disturbances. It would also indirectly encourage transfer of ownership or exclusive rights with full market price.

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Here it is worth mentioning that above activities may partially overlap with innovation services offered by innovation intermediaries.

Q16)

Answer 16) It is not clear why there would be a need to differentiate between various forms of collaboration and networking or clustering and intermediary joint ventures. Collaboration and networking should be encouraged and favoured horizontally. The only clear distinction between a more looser collaboration and a deeper and typically longer-term commitment to a collaborative undertaking is the existence of a legal entity, which typically takes the form of a joint venture between key partners. The specific State aid for these joint undertakings requiring a deeper and longer term commitment is discussed in the answer to the next question.

Q17)

Answer 17) European centres of excellence should be such a high quality that they could attract sufficient amounts of private funding. Therefore, the need for specific State aid is not clear with the exception of the launch phase. The initial costs of setting up a high quality European centre of excellence are likely to be relatively high and potentially not affordable for any private actor or even a consortium. It can therefore be justified that State aid would be made available for the preparation and early launch of such centres of excellence. The aid should be time limited and focus on the additional costs of planning and setting up a centre. Furthermore, returnable forms of aid such as risk capital, various types of loans and guarantees or tax rebates should be preferred to grants.

Q18)

Answer 18) Although recommendable, it is unlikely that additional criteria would prevent fragmentation of State aid to any significant degree.

Q19)

Answer 19) The appropriate approach to supporting innovation infrastructure is through facilitating experimentation, encouraging innovative public procurement and supporting the creation of joint undertakings focusing on innovation and new market creation.

Q20)

Answer 20) Large firms should not be entitled to State aid merely because they establish research facilities in European poles of excellence. State aid for large companies should emphasise collaboration and networking,