

CPB Memorandum

CPB Netherlands Bureau for Economic Policy Analysis



Sector : International Economics
Unit/Project : Subsidiarity and EU support for innovation
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Number : 208
Date : 15 October 2008

The Principle of Subsidiarity and Innovation Support Measures

Innovation is a policy area in which the European Union (EU) has the competence to support, coordinate and supplement Member States' policies according to the new Lisbon Treaty (2007). The Member States (MS) have the primacy in this area and the principles of subsidiarity and proportionality are applicable to decide whether EU support, coordination or supplementation of MS policies is justified.

This paper presents a detailed subsidiarity test. It is applied to three innovation support measures as part of the Entrepreneurship and Innovation Programme of the Competitiveness and Innovation Framework Programme of the European Commission. These measures are access to finance for the start-ups and growth of SMEs and investment in innovation activities, networks in support of business and innovation-community grants (new Enterprise Europe Network), and the Intellectual Property Rights Helpdesk.

Executive summary

This paper discusses the rationale for innovation support measures at the EU level. It focuses primarily on the rationale for these measures at the EU level instead of at the national or regional level. It ignores the rationale for government intervention with respect to innovation support in itself. First, the paper identifies the legal base for EU intervention. The new Lisbon Treaty (2007) states that the EU has the competence to support, coordinate and supplement Member States' policies with respect to innovation. Innovation policy falls under the policy area *industry*, which is an area in which these EU competences apply. Because this is not an exclusive competence of the EU, the principles of subsidiarity and proportionality apply to decide whether EU action is justified. EU policies in this area come on top of Member State (MS) policies and do not replace them.

The subsidiarity principle investigates whether economies of scale or cross-border external effects of national innovation policies exist in Europe. This paper adds access to networks as a separate third argument. These arguments plea for EU intervention, while the heterogeneity in policy objectives, structure of the economy or preferences in Europe could be reasons to refrain from EU action. The principle of proportionality examines whether the means and efforts are proportional to the policy aim.

The European Commission has introduced impact assessment guidelines for implementing policies. These guidelines consist of a necessity test, an added value test and a boundary test. The paper argues that these tests are a translation of the principles of subsidiarity and proportionality according to article 3 in the Lisbon Treaty. The necessity and added value test together cover the principle of subsidiarity. The boundary test covers the principle of proportionality.

The arguments of the subsidiarity principle are structured in a decision tree which could be interpreted as a detailed subsidiarity test. First, it systematically asks whether there are market failures, whether government intervention is useful, and EU action with respect to support, coordination and supplementation is legitimate. Second, the arguments of the subsidiarity principle are reviewed. The arguments are economies of scale in policy implementing, internalization of cross-border external effects of national policies and access to European networks. If some of these arguments are answered affirmatively, the benefits of EU action have to be weighted with the benefits of diversity, which are diversified policies. Finally, other arguments are checked, such as deference and common pool problems of centralized budgets. In case the application of the subsidiarity principle implies action at the EU level, it has to be proportional, i.e. the efforts and means have to justify the goal.

The decision is applied to three innovation support measures which are part of the Entrepreneurship and Innovation programme of the Competitiveness and Innovation Framework Programme of the European Commission. This programme concentrates on

entrepreneurship, small and medium-sized enterprises, industrial competitiveness and innovation. It supports public-private innovation partnerships for SMEs, financial instruments to overcome the poor access to equity, venture capital and loans for SMEs and the exchange of good practice between national and regional authorities. About €2.2 billion is available for this programme in the period 2007-2013.

The first measure is access of finance for the start-ups and growth of SMEs and investment in innovation activities. This could be done by providing risk capital and providing leverage to SME debt financing. The second is a network in support of business and innovation-community grants. The third is an Intellectual Property Rights helpdesk to offer online information on protection rules and intellectual property rights for SMEs. For all three measures EU support, coordination or supplementation of MS policies is justified and government action could be appropriate to address the market failure.

The application suggests that all three measures also pass the principles of subsidiarity and proportionality. However, a definitive answer depends on implementation of a policy and its application. As long as innovative SMEs with a tendency to internationalise are supported by these measures, the subsidiarity principle favours EU support. For the non-innovative SMEs and those with a regional orientation this is probably not the case.

These conditions also apply to the principle of proportionality. As long as international networks are integrated with national networks, these efforts seem to be efficient. If these networks duplicate or even violate national ones, the costs of establishing a network could dominate the benefits.

The decision tree can only be applied after a careful inspection of all arguments, because the details are important. Because the benefits of economies of scale and networks and the costs of cross-border external effects of innovation support measures often cannot be quantified, it is hard to come to grips with the benefits of EU intervention. For specific detailed measures, this is an even bigger problem. The EU impact assessment guidelines also demand a careful investigation of the competence of the EU to act and - with respect to the necessity - value added and proportionality of EU intervention.

1 Introduction¹

Nowadays Europe focuses on innovation as a solution to its poor productivity growth. Europe's growth figures look pale in comparison with those of the United States and many Asian countries, most notably to the performance of China and India. Although growth in the latter countries is mainly due to catching up, many people are worried about Europe's role in the world economy. Productivity increases would boost Europe's economy. To establish this, the EU Member States agreed to increase research and development (R&D) spending and to support innovation by all means. Many policy initiatives emerged to stimulate innovation at the European, national and regional level. Currently national governments spend about 65 billion Euros on public research per year and the European Commission about 8 billion Euros (the average annual budget of the Seventh Framework Programme and the Competitiveness and Innovation Framework Programme).²

Innovation policy covers many areas including public R&D, public funding of private R&D, Small- and Medium-sized Enterprises (SMEs), entrepreneurship and venture capital, and policies dealing with intellectual property rights (IPRs) and standards. In its announcement on a broad-based innovation strategy for the EU, the commission (EC, 2006) identifies 10 actions with high political priority covering the education system, the European Institute of Technology, a labour market for researchers, knowledge transfer, cohesion policy, state aid (including tax incentives), patent strategy, digital products, services and business models, lead-markets and a handbook to stimulate innovation in public procurement.

Falk et al. (2008) analyse these 10 actions separately, but the unit of analysis is still very broad. Gelauff et al. (2008) conclude that in analyzing the appropriate government level of innovation the devil is often in the detail (p. 9). This paper takes up this challenge. It focuses on innovation support measures, in particular the policy instruments of the Competitiveness and Innovation Framework Programme (CIP) specified to the sub program Entrepreneurship and Innovation (EC, 2005a).³ These innovation support instruments also include some of the points above, such as state aid and lead-markets. Although the framework program on research, technology and development (FP7) is related to innovation we do not address this program here. The main difference between these programmes is that FP7 focuses on developing new technologies. CIP

¹ I have written this paper as an external expert to INNOVA Europe. It is a mini study on the role of subsidiarity and the support for innovation. It is a part of a bigger study which is commissioned by DG Enterprise and Industry of the European Commission. I want to thank Markus Koskellina, Christophe Guichard and Paul Diederer for constructive discussions and comments and Nico van Leeuwen for constructing the diagrams.

² See Van der Horst et al. (2006) and <http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2007:077:SOM:EN:HTML>.

³ This is budget article 02.02.

concentrates on bringing these technologies to the market (the downstream parts of research and innovation).⁴ About 75% of the actions in CIP concentrate on the valorisation of research.

This paper discusses the appropriate government level of these types of innovation support measures. Is there a role for European policy coordination and an EU budget, or do national governments have the exclusive primacy for innovation policy (as it seems now) in particular related to stimulating innovation by Small- and Medium-sized Enterprises (SMEs)? These questions are analysed from the perspective of the subsidiarity principle. Are there economies of scale or external effects that can be internalised through coordination of national innovation policies in Europe? With respect to innovation policies access to networks is an essential market failure for which EU policy could be warranted. Or is the heterogeneity in policy objectives, structure of the economy or preferences in Europe too large to conduct innovation policies efficiently from Brussels?

The answers to these questions depend on the specific innovation support measure. This paper discusses three of these measures: access to finance for the start-ups and growth of SMEs and investment in innovation activities, networks in support of business and innovation-community grants, and the Intellectual Property Rights (IPR) helpdesk. The application suggests that all three measures pass the principles of subsidiarity. However, a definitive answer depends on implementation of a policy and its application. As long as innovative SMEs with a tendency to internationalise are supported by these measures, the subsidiarity principle favours EU support. For the non-innovative SMEs and those with a regional orientation this is probably not the case.

This paper is structured as follows. In section 2 the legal bases for innovation support measures by the European Commission is investigated. First, it discusses the Commission competences for these policy instruments based on the new Lisbon Treaty (EC, 2007). Second, the demarcation of EU and MS action has to be established, because the Commission has some legal competences on innovation policy and support instruments, but no exclusive competences. Therefore, the subsidiarity principle is important. The justification of the particular innovation support measures of the Commission lies in the acceptance of the CIP programme in 2006. Section 3 discusses this programme and its relation to subsidiarity in general. Section 4 presents a detailed decision tree to decide whether specific innovation support measures have to be carried out by the EU. Section 5 applies this decision tree to three innovation support measures: access to finance for the start-ups and growth of SMEs and investment in innovation activities, networks in support of business and innovation-community grants, and the IPR helpdesk. Section 6 concludes.

⁴ We concentrate on the kind of measures in the INNO-PolicyTrendChart (<http://www.proinno-europe.eu/index.cfm?fuseaction=page.display&topicID=52&parentID=52>).

2 The legal basis for innovation support

2.1 Introduction

For the first time the principle of subsidiarity is explicitly mentioned in the European Single Act of 1986 (article 130 ad 4), dealing with environmental policy. In 1992, the principle of subsidiarity was officially introduced in the 1992 Maastricht Treaty (article 3b), and moved to article 5 in the 1997 Treaty of Amsterdam. In the new Lisbon treaty the principle removed to article 3. The formulation in article 3 comprises three related principles, the principle of conferral, the principle of subsidiarity and the principle of proportionality:

1. The limits of Union competences are governed by the principle of conferral. The use of Union competences is governed by the principles of subsidiarity and proportionality.
2. Under the principle of conferral, the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein. Competences not conferred upon the Union in the Treaties remain with the Member States.
3. Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and insofar as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level.
4. Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties.

Note that the principle of subsidiarity is neutral about the optimal degree of centralization. In the debate about subsidiarity, people often confuse the concept of subsidiarity with delegating power to the lowest possible level. However, it would be a mistake to think of subsidiarity and lower level decision making as synonyms. The subsidiarity principle involves a careful assessment of the optimal level at which decisions should be taken, which can result in centralization but also in decentralization. Section 2.2 and 2.3 discuss the principles of conferral and subsidiarity in more detail. Section 2.4 discusses the relation between these principles and the impact assessment guidelines of the commission (EC, 2005b).

2.2 The principle of conferral

Promoting research and development and innovation is an important objective of mutual interest, expressed by article 163 of the EC treaty. Subsequent articles determine the activities

to be conducted in this area. Following the Maastricht and Amsterdam Treaty innovation policy is a shared competence. The principle of conferral is respected and the principle of subsidiarity thus applies. The Competitiveness and Innovation Framework Programme is based on articles 156, 157 and 175(1) of these treaties (EC, 2005). The relevant part in this context on Entrepreneurship and innovation has its legal base in articles 156 and 157 which are under the heading of Industry.⁵

This seems all clear until the Treaty of Lisbon (EC, 2007). This Treaty introduces a new Title Categories and areas of Union competences with a new article 2. Article 2c is on shared competences and lists 11 areas for which this applies: internal market; social policy, for the aspects defined in this Treaty; economic, social and territorial cohesion; agriculture and fisheries, excluding the conservation of marine biological resources; environment; consumer protection; transport; trans-European networks; energy; area of freedom, security and justice; common safety concerns in public health matters, for the aspects defined in this Treaty. In addition the Union shall have competence to carry out activities in the areas of research, technological development and space, in particular to define and implement programmes; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs.

This list does not include industry under which innovation was linked. Industry is mentioned in article 2e which states that the Union shall have competence to carry out actions to support, coordinate or supplement the actions of the Member States. The areas of such action shall, at European level, be: protection and improvement of human health; industry; culture; tourism; education, vocational training, youth and sport; civil protection; administrative cooperation.

Interestingly, comparing the policy areas under article 2c and 2e economies of scale and cross-border external effects are much more limited for the latter areas while diversity is important. According to the subsidiarity test, discussed in section 3, there is less reason for EU action in these policy areas in general. The role of the EU is thus on average more limited for these areas in which the EU has the competence to support, coordinate and supplement Member State actions than for shared competences.

The question is whether the principle of subsidiarity applies for article 2e. First, the principle of conferral determines that the union has the right to act in supporting, coordinating and supplementing actions of Member States. It is not exclusive competence. These are defined in article 2b. The union and the Member States have competences here, so the applicability of the subsidiarity principle is not excluded. In an explanatory note on the Lisbon Treaty, Europa Institute (2008) of the law faculty in Leiden confirms this view. The principle of subsidiarity applies to any policy area in which the Union has no exclusive competence. This also includes article 2e on support, coordination and supplementation of Member States policies among others in the area of industry which includes also innovation.

⁵ Article 175(1) is related to climate change, a part of the CIP programme which is not dealt here (see section 3).

The succeeding question is what are the differences between shared competences (in article 2c) and the competences to support, coordinate and supplement in article 2e? Support, coordination and supplementation limit the competences of the union to more specific actions than in article 2c. The Union can only act if Member States policies are present in these areas and seems to be more limited as also observed in the previous paragraph. The Union cannot supersede Member State actions in these areas (see Europa Institute, 2008). Member States seem to have the prime responsibility in these policy fields, which is not automatically the case for shared competences. The subsidiarity principle has to be applied to innovation measures which support, coordinate and supplement actions of Member States.

Automatically this leads to the questions of complementarity. Member States and Union innovation policies exist next to each other. The emphasis on coordination, support and supplementation suggests that union policies should not duplicate MS ones. EU policies should be additional.

2.3 The principle of subsidiarity

Should innovation policy and support actions be coordinated in the European Union or should it be left to the Member States?⁶ Ederveen et al. (2008) list several reasons for centralization, but also for decentralization, of policy at the European level. The main reasons for centralization are economies of scale and policy externalities. To these reasons we add access to networks as an extra reason for centralization because it is so important for innovation, but not well covered by the other arguments.

Economies of scale

Economies of scale in innovation policy and support actions can arise if designing and executing policy involve substantial fixed cost. In general, centralization of policy might be more efficient than national policy because the fixed cost of public administration have to be incurred only once, instead of for every Member State. For example, if a policy needs to be implemented only at the European level, this will save the cost of implementation for each individual Member State. The same argument applies to the monitoring and enforcement of regulation. With respect to innovation policy and support actions, the establishment of European networks is an important topic. There are fixed costs in establishing these networks. National actions could lead to duplications, so there are clear benefits of scale for EU action in this respect.

⁶ In applying the subsidiarity principle, it is assumed beforehand that there is a market failure and that government intervention could be welfare improving in correcting this market failure. The subsidiarity test only establishes the appropriate level of government intervention. Van der Horst et al. (2006) discuss more extensively with the market failures in innovation.

Policy externalities

The presence of policy externalities provides a second rationale for European coordination of innovation policy and support actions. Policy externalities arise when a national policy of a Member State has unintended consequences for another Member State (Ederveen et al. 2008). A national R&D subsidy, for example, can benefit research beyond the borders of the domestic economy. If a government ignores the favourable effects of its subsidy on other countries, the amount of subsidy is too small from a European perspective. A national policy might also have a negative effect on other countries. For example, a country might fail to protect the intellectual property of foreign firms, thereby facilitating imitation by domestic firms.

In the context of innovation policy, policy externalities can arise if knowledge diffusion does not stop at the border and if foreign buyers benefit from domestic R&D. Without European coordination, Member States likely ignore the positive effects on foreign buyers in determining the size of the policy. European cooperation on public R&D, public funding of R&D and the protection of intellectual property rights can prevent these undesirable effects.

Networks

For innovating firms access to networks is of utmost importance. In the past there were bottlenecks to exploit the benefits of innovations. Nowadays access to information, buyers, finance and partners are crucial. This information is available but for many firms the question is how to receive this information quickly. Innovation processes are speeding up. The lack of network access is a market failure, but the lack of network access to other EU countries or lack of an EU network cannot be interpreted as a traditional cross-border external effect. The benefits for such a network ask for a policy or support action and given the scope of these networks the EU could be the appropriate level. For this reason we will incorporate access to networks as an additional argument for centralization - specific for innovation -, although it is not mentioned in article 3 of the Lisbon Treaty on the subsidiarity principle.

Diversity

So far, we focussed on arguments in favour of centralising innovation policy and support actions at the European level. However, centralization has also its costs. Keeping innovation policy at the national level has three potential benefits: adaptation to local circumstances, learning from a diversity of experiences and better incentives for policymakers through policy competition (Ederveen et al. 2008).

In the context of innovation policy, local circumstances are important not just because preferences tend to differ from one country to another, but also because of differences in innovation systems (see Carlsson 2006; Foray 1995). As Falk et al. (2008) point out, the recent enlargements of the EU have led to a substantial increase in diversity. In the traditional public finance literature (Oates, 1972) this is the main argument to plea for diversity. Later on other

political economy arguments have been developed which are related to diversity: policy learning and better accountability of policy makers through policy competition.

A second benefit of decentralization also has to do with maintaining diversity. Governments adopting different innovation policies can learn from each other about effective policies. While centralization would lead to a complete loss of diversity within the EU, a degree of diversity is still possible in case of multilateral cooperation.

Greater accountability of policymakers is a third potential benefit of decentralization. Tiebout (1956) presents a theoretical model in which policy competition arises because voters can migrate from one region to another (see also Pelkmans 2006). Instead of voters, also multinational companies may trigger policy competition. Member States with a more effective innovation policy might attract more foreign investment, such that underperforming Member States will be under pressure of adjusting their innovation policy. The availability of benchmarks from other Member States provides an additional incentive for policymakers to improve.

Additional arguments

There are also several other motives that may affect the assessment of subsidiarity which are not mentioned above (Ederveen et al., 2008). Most of these arguments plea for decentralization and no EU action. Concerning decision making at the centralized level two other main risks have been identified. First, overprovision of national beneficial policies may result, when decision making takes place under a norm of deference. Because of the multiple issues which have to be decided, Member States have an incentive to support each other in promoting national interest at the central level. This could lead to an overprovision of these policies at the EU level from an efficiency point of view. A solution of this problem is to bind countries beforehand not to address these types of policies at the EU level e.g. by limiting the competences of the EU. Second, common pool problems might arise, when Member States take advantage of the common budget. Member States have an incentive to use these budgets for projects which they would not subsidize otherwise because these are inefficient. In these cases, decentralization may prevent these inefficiencies of centralized decision making.

2.4 Impact assessment guidelines

The commission (EC, 2005b) has formulated impact assessment guidelines for implementing policies. These are closely related to the subsidiarity and proportionality principle. Three tests apply in the impact assessment:

1. The necessity test: the Commission needs to demonstrate that the problem cannot be sufficiently solved by the Member States if it is a shared competence.⁷
2. The added value test: the EU shall take action only if the objectives can be better achieved by the Union than by the MS.
3. The boundary test: the scope of EU action shall be limited to what Member States cannot achieve satisfactorily and to what the Union can do better.

The necessity test already formulates that the policy or action has to be the competence of the EU. The principle of conferral is thus automatically respected. The subsidiarity principle described above is translated into two tests by the European Commission: the necessity and value added test. Most economists dealing with the subsidiarity principle do not discriminate between these two parts of one sentence in article 3 of the Treaty (see bullet 3 at page 4). It could be argued that if EU action has value added - because of economies of scale or to internalize cross-border external effects -, MS cannot sufficiently solve this alone, because MS action is not optimal. Moreover, the second part of the sentence of the subsidiarity principle seems to follow logically from the first part. From this point of view the necessity test seems to be redundant. However, it could be the case that MS solve the external effects themselves by voluntarily cooperation for example. If MS would take care of the positive externalities of innovation policies and thus intensify these policies for the wellbeing of citizens in other Member States, EU action is not necessary. Quite often this will be a theoretical case. According to the subsidiarity test presented above which assumes that countries act in their self interest, EU action would be appropriate, but the necessity test in the impact assessment procedure rules this out. Pelkmans (2006) translates this in another principle: that of credible voluntarily cooperation.

The boundary test as it is formulated here seems to be a replication of the previous two formulations. Footnote 31 in EC(2005b) suggests this follows from the treaty article on subsidiarity, but this states *the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties* as is formulated in the proportionality test (see bullet 4 at page 4). Even if EU action passes the necessity and value added test - what is also formulated in the boundary test - the content and form could be more than proportional. Intriguingly, the whole EC document on impact assessment mentions the boundary test once. Later on in its evaluation criteria of the impact assessment, it lists the subsidiarity principle (consisting of the necessity and value added test) and the proportionality principle. This suggests that the boundary test in the impact assessment has to be interpreted as the proportionality principle.

Concluding, the impact assessment guidelines of the commission are a translation of the subsidiarity and proportionality principle as mentioned in Article 3 of the Lisbon Treaty. It

⁷ These guidelines were formulated before the Lisbon Treaty and the new article on competence to coordinate, support or supplement MS actions.

assumes that the principle of conferral is fulfilled. The principle of subsidiarity is covered by two separate tests: of necessity and of value added. In many cases the value added test alone would be sufficient, but a separate necessity test discriminates cases of voluntary cooperation of Member States to cover external cross-border effects. In these cases MS action is sufficient. The principle of proportionality is represented by the boundary test.

3 Competitiveness and Innovation Programme

3.1.1 Description

The Competitiveness and Innovation framework Programme (CIP) of the European Commission (EC, 2005a), with a relatively small budget of 3.6 billion euros in 2007-2013, is targeted to SMEs. The CIP consists of three specific programs:

- The Entrepreneurship and Innovation programme (3/5 of the budget)
- The ICT policy support programme (1/5 of the budget)
- The Intelligent Energy – Europe Programme (1/5 of the budget)

The Entrepreneurship and Innovation Programme will bring together activities on entrepreneurship, small and medium-sized enterprises, industrial competitiveness and innovation. It encompasses the promotion of public-private innovation partnerships for SMEs, the provision of community financial instruments to overcome the poor access to equity, venture capital and loans for SMEs and the exchange of good practice between national and regional authorities. Only this part of the program is related to innovation policy. For that reason I will not discuss the other two programmes

3.1.2 The EC's perspective on the subsidiarity of CIP

The EC (2005a) stresses the potential for Member States to learn from each other in their innovation policies and support actions addressing in particular SME needs. The EC recognises the fragmentation along national and regional lines, which hinder Member States in drawing on the creative potential in other EU countries. The EC also points at the deficient provision of national policies and support actions regarding failures in financial markets and intends to stimulate the diffusion of good practice across Member States.

The second motivation to involve in innovation policies for SMEs is to foster business cooperation throughout the EU. International business cooperation will be easier if all Member States adopt a common support structure.

In both cases, the EC recognises the key role for national and even regional measures. The aim of the CIP is mainly to support these national innovation measures and allow Member States to learn from each other.

3.1.3 The subsidiarity principle applied to CIP

The CIP is aimed at SMEs, some of them might operate internationally (via FDI or trade), but many of them are local firms operating for the local market. Rightly, the EC recognises the prime responsibility of Member States in innovation policy regarding SMEs.

The diversity in SME policies between Member States justifies the attempt to learn from each other. Given the large diversity in national innovation policies towards SMEs, the potential to learn is large. Learning is, however, hampered by the fact that not only policy diverges, but also the SMEs themselves are quite heterogeneous. This limits the possibility for one Member State to successfully apply the innovation policy of other countries.

Van der Horst et al. (2006) conclude that in the Entrepreneurship and Innovation Programme neither scale economies nor external effects seem to be important and warrant EU intervention. European involvement is justified only insofar CIP meets the goals of reducing barriers for innovative SMEs and of promoting policy learning between Member States.

The conclusion of Van der Horst et al. (2006) is mainly based on the idea that SME policies should be conducted by the Member States and not by the EU. Compared to large companies SMEs often have less access to capital markets, and less access to new technologies and new ideas. Government support could overcome this lack of access. The lack of access does not apply to all SMEs in the same degree, but depends on the characteristics of the enterprise. According to the definition of the EU, the size of SMEs ranges from self-employed to large exporting firms with up to 250 employees. Many SMEs often operate at the regional or national level.

Their channels for knowledge and innovation are often regional or even local. Others operate at an international level, but this is a minority of the SMEs. This suggests that there will be no important economies of scale in innovation policies for SMEs in general. Scarce data material also confirms this view: there is no significant relation between the proportion of SMEs that receives public funding for innovation and the size of the economy. Neither does the proportion of SMEs reporting public funding depend negatively on their activities abroad, such that SME policy is unlikely to suffer from external effects. From the subsidiarity perspective there are no compelling reasons for conducting SME policies at the European level. The national or even regional level seems to be the most appropriate level for these policies because since there are no firm indications for economies of scale or the existence of external effects.

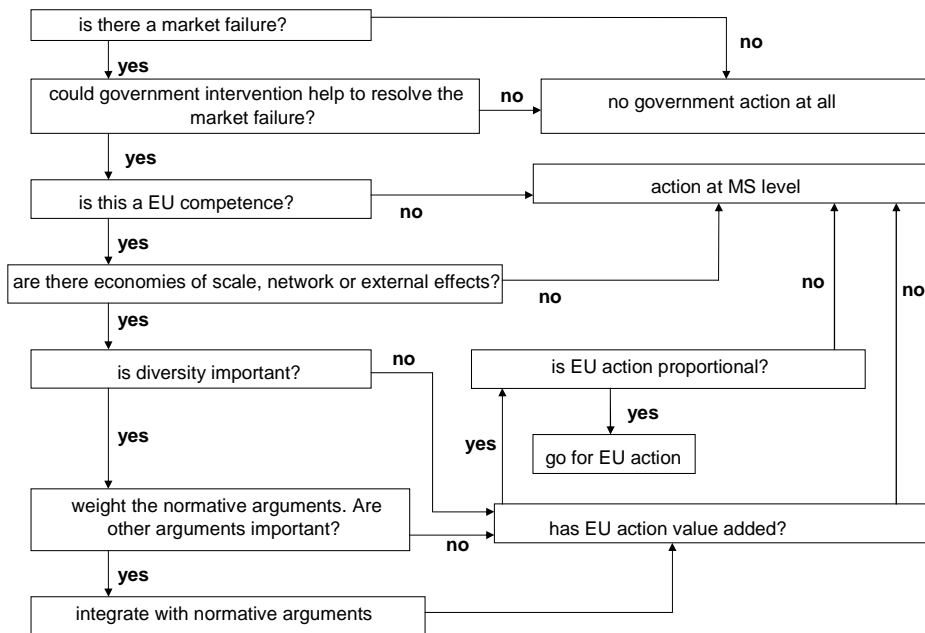
A more detailed analysis of the CIP programme in terms of innovation support measures suggests that the conclusion above does not hold. First, it is not the question whether the Member States or the EU should support innovation policies for SMEs as was the case in Van der Horst et al. (2006). The national and regional SME policies on innovation exist and it is the question what EU policies add on top of the national and regional policies. Section 2 already concluded that EU innovation policies should be supportive or supplement or coordinate Member States policies based on the new Lisbon Treaty. These innovation policies complement Member States policies. This does not automatically imply that these policies are justified according to the subsidiarity test. EU coordination will correct in principle externalities of Member States policies. EU policy could also support and supplement access to European-wide networks, which MS policies will not do.

Second, many innovation support measures are not targeted at SMEs in general, but to innovative and internationalising SMEs. For the latter access to international networks is important for obtaining information and setting up cooperative projects. For these SMEs EU policies could possibly pass the subsidiarity test. Van der Horst et al. (2006) already made this conditional premise, but looked in less detail to specific innovation support measures in the CIP programme. It is an important aim of this study to discuss in more detail some innovation support measures as will be done in section 5. There we apply the subsidiarity test as formulated in section 4.

4 Refined subsidiarity test on innovation support measures

To apply the subsidiarity test for innovation support measures the information in the previous sections can be summarized in a decision tree. The first question to ask is whether there is a market failure and subsequently whether government intervention could help to resolve this market failure. If one of these two questions leads is answered negatively, the subsidiarity principle has not to be applied at all. Subsequently, we have to answer the question if it is an EU competence (principle of conferral). Based on the revised Lisbon treaty, the answer is affirmative for innovation support policies. However, there is a serious but!! The EU has competence for *coordinating, supporting and supplementing* innovation policies of the Member States but no competence of replacing national policies. It is not MS *or* EU innovation support but MS innovation support *and* possibly supporting, coordinating or supplementing actions of the EU. So, if there is a market failure and a MS policy and EU intervention could help to solve this market failure to a bigger extent, the EU has a competence to act.

Figure Error! Style not defined..1 A check list for applying the subsidiarity principle for innovation support measures



Now the competence is established, the value added of EU action has to be investigated (principle of subsidiarity). The first question is: are there economies to scale, network effects or external effects of the policies under consideration? In practice, it is not always easy to answer this question, in particular not to quantify these effects. If the answer is no, EU action has no value added at all, so there will be no need to coordinate, support or supplement MS innovation

support measures. An affirmative answer implies that we have to weight the importance of diversity. This argument is often very critical in federations if federal policy implies a uniform policy over all states which disregards the variation in circumstances per state. For innovation policy the Member States pursue their own policies, and the support, coordination or supplementary actions of the EU do not seem to violate national circumstances and preferences to a large extent, because these national policies normally already cover the national circumstances.⁸ The conjecture is thus that the additional support measure of the EU on top of the national measures will not violate diversity, but there is no guarantee. If for some EU support measure national circumstances are so specific that the measure hinders the national specify seriously, the judgement of the normative arguments pleads for MS action.

After weighting the normative arguments (which normally point to one direction) it has to be checked whether other arguments like deference or common pool problems play a substantive role. If not, these other arguments can be neglected. If these problems are important, these have to be weighted with the normative arguments. In practice these other arguments are not decisive. Only if a policy requires much EU funding, common pool problems could become quite serious. This could hamper the effectiveness of the funding policy such that the market failure is not solved in the end. This was the motivation for the policy action. Sometimes the common pool problem can be solved by subtle implementation schemes including strict requirements and substantial national co-financing.

Taking account of all these arguments the value added (positive outcome of the subsidiarity test) has to be determined. If the answer is positive, it has also to be checked whether EU action is proportional.

Does the outcome of this checklist differ for coordination, support or supplementing innovation support measures without discussing specific measures at this moment? Are coordination, support and supplementation intrinsically different from each other with different conclusions for the decision tree? For coordination, nearly automatically economies to scale apply or access to international networks. If there is a market failure and if EU action is proportional the outcome of the subsidiarity test will be quite often a Yes for EU action. Coordination of national measures prevents often duplications of national efforts, and could induce policy learning. For specific measures coordination could be less useful, because these kind of national measures are in the interest of other Member States or coordination has no value added. Without having investigated specific measures we guess that these cases are scarce.

For support and supplement this is less clear. Are there economies of scale, network effects or cross-border externalities in innovation support actions? Maybe MS action is not sufficient, or MS action is restricted? Supplementary actions suggest that MS action is not sufficient: Positive externalities, lack of international network access or insufficient economies of scale

⁸ If not, that is a pity, but the EU has no competence to correct national government failures in this policy area.

could play a decisive role here and EU actions would be additive to MS action. Supportive actions/competences distinguish themselves from supplementary actions that without support of the MS, MS action would not flourish.⁹ It is a necessity for MS action.

A crucial question is whether MS fail to conduct these actions. If they do not perceive a market failure or consider government actions not appropriate, it is questionable whether the EU should intervene. The EU competence is strictly limited to coordination, support and supplementation of MS actions.

⁹ Supplement is something that completes or makes an addition (Merriman-Webster dictionary).

5 Applying the principle to policy support measures

5.1 Selecting concrete cases

The INNO-PolicyTrendChart lists about 400 innovation support measures with different modalities and targets. ERA-watch and TrendChart have recently developed a new policy framework for the European Inventory on research and innovation policies (EIRIP). They classified 5 categories:

- 1) Governance and horizontal research and innovation policies,
- 2) research and technologies,
- 3) human resources,
- 4) enterprises and market and
- 5) innovation culture.

We concentrate on innovation support measures classified in category 4. This category includes firm support to research and skills, to sectoral innovation programmes, entrepreneurial innovation and start-ups and access to finance. Most measures in this category are directed to enterprises and not to the public sector.

From the EIP Work Programme 2008 (EC, 2007) which mentions several support measures in the areas we select the measures related to access to finance for the start-up and growth of SMEs and investment in innovation activities, and the creation of an environment favourable to SME co-operation, particularly in the field of cross-border cooperation. In terms of budget €143 million is destined to the financial instruments and about €74 million is reserved for the new network in support of businesses and innovation. A third example is the IPR Helpdesk which fits into category 4 and 5. It is a service for SMEs (category 4) and helps to promote an innovation culture by protecting the investment of innovating (category 5). These three support measures are discussed below.

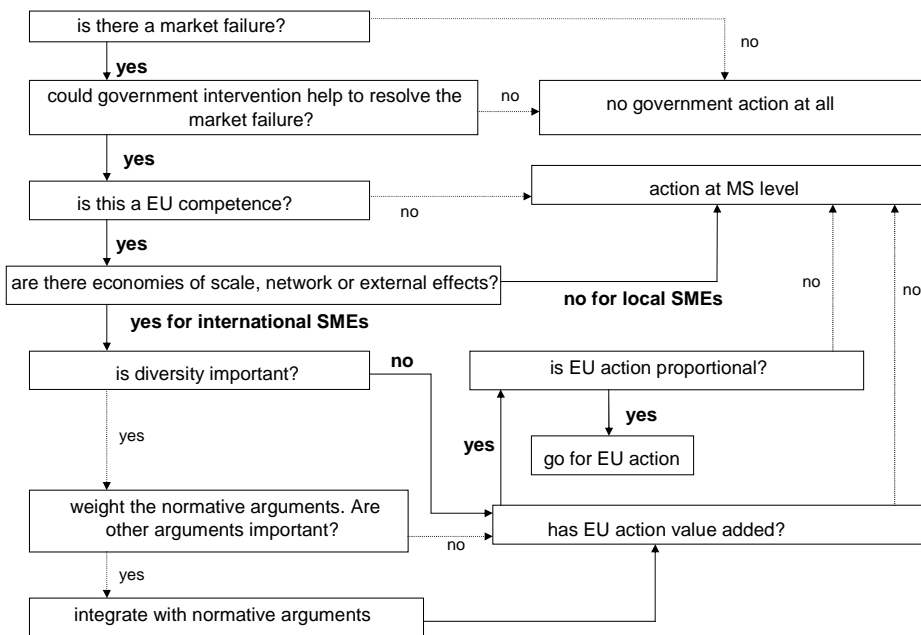
5.2 Case 1 Access to finance for the start-up and growth of SMEs and investment in innovation activities

The overall objective is to improve access to finance for SMEs and investment in their innovation activities. Venture capital and debt finance are main pillars of SME-finance.¹⁰ As is discussed in EC (2006b), there are market failures in providing finance to innovation high-growth SMEs as well as to traditional SMEs, particularly in their early-stages and in the case of micro-enterprises. These market failures are capital market imperfections and the

¹⁰ As emphasised by EC (2006c).

appropriability of knowledge, among others. Government intervention could help to resolve the market failures. We also know that MS pursue these kinds of policies and that the EU has a legitimate role for coordinating, supplementing and supporting MS actions as discussed in the previous chapters. This implies three times yes in Figure **Error! Style not defined..1**.

Figure Error! Style not defined..1 Checking access to finance policies for innovative SMEs



The question is whether EU support has a value added here. First, are there economies of scale, external cross-border effects of national policies or European network effects? A tentative answer is that this depends on the characteristics of the SME. First, the SMEs have to be innovative themselves. These finance policies should not finance knowledge diffusion to non-innovative firms. Second, there has to be a European dimension such as access to a European network. The European support to access to finance comes on top of national support. It is difficult to identify benefits of economies of scale of these policies here. Maybe the national policies are not efficient but it is not the purpose that EU support for finance overrules a national policy.

Access to international networks seems also less important as argument for EU support to finance. The only network that could be relevant for this case is a European network for financing. A European venture capital market is lacking. The question is whether such a network is necessary and why. National venture capital markets are often underdeveloped, but the primacy of correcting market failures there are national governments. If national venture capital markets would form barriers to international cooperation the situation is different. This case is discussed below.

There could be external effects of national policies. For example regional or national government do not want to support international cooperation of innovation because it also benefits a firm in an other country. Or firms with foreign ownership are not eligible for venture capital or other forms of financing. For these cases EU support fills a gap. EU support could have a value added for innovative firms with an international orientation which are not covered by national support.

Is diversity important? There is diversity in MS policies to access to finance, but this does not imply that it hinders support or supplementation for innovative firms with an international dimension. It could be the case that one national funding policy allows for international projects of innovative firms and another not. This makes the design of a European policy more cumbersome, but not necessarily a big hurdle.

There is a risk of a common pool problem. Member States which allow financial support for international projects could now refer innovative firms to EU support. Such strategy cannot be excluded but it seems to be limited given the maximum of the fund and underdeveloped venture capital markets. Moreover the EU could restrict eligibility criteria to prevent misuse of the funds.

This concludes that EU action has value added, and the subsidiarity principle is passed. In particular, the cross-border external effects of national funding policies for innovative firms could hamper access for firms with an international orientation. The other arguments, economies of scale of policies and access to networks seem to be less important. The diversity argument is not decisive. I conjecture that the common pool problem is also not decisive, but deserves attention.

The final question: is the action proportional? A venture capital market is lacking because of too little supply of money. Regulation would not help here. EU funds seem to be appropriate. Moreover, the fund is only meant as leverage, not to supply the complete venture capital market. It will also not duplicate national policies as long as it is focussed to SMEs with an international orientation. This suggests the principle of proportionality is also passed. EU action to improve finance for the start up and growth of SMEs and investment in innovation activities seems to be justified according to our test.

5.3 Case 2: Network in support of business and innovation-community grant (the new Enterprise Europe Network)

The objective is the creation of an environment favourable to cooperation of SMEs, particularly in the field of cross-border cooperation (see EC, 2007). The EU wants to offer services related to offer information, feedback and business cooperation, to innovation, technology and knowledge transfer and to encourage the participation of SMEs in EU framework programmes for R&D.

It is not hard to imagine markets failing to establish a network for supporting cross-border cooperation of SMEs. A network needs coordination and the individual incentives for SMEs are limited. Government intervention could support such a network without necessarily big government failures. In many MS governments also support SME networks.

The question is thus whether an EU role for coordination, support or supplementing is justified according to the detailed subsidiarity test. The objective is cross-border cooperation. For regional or even national networks, national or regional governments have much better information on the needs of SMEs for such a network. The question is whether cross-border cooperation and thus cross-border knowledge diffusion is important for the innovation of SMEs. Gailly (2008) mentions in his study on the Enterprise Europe Network (EEN) 4 challenges for SMEs related to innovation and cross-border initiatives. These challenges are search and information costs, agency costs, bargaining costs and management costs and time. These challenges exist for all innovative projects, but the author argues that these are much bigger for international projects.

The main argument for creating such an EU-wide network is to provide innovative SMEs access to information in other EU countries related to knowledge and innovation, business partners, prospective clients and so on. The Member States themselves have an incentive to support their innovative SMEs in doing business abroad, but this is clearly inefficient. Every Member State has to acquire the same information in other Member States. There are economies of scale of a European initiative. The costs at the EU level are probably much lower, it has not to be duplicated at each national level. Because much more firms could benefit from these services it is more rewarding to increase the quality of the services. As a result, information flows, business cooperation and knowledge transfers could increase.

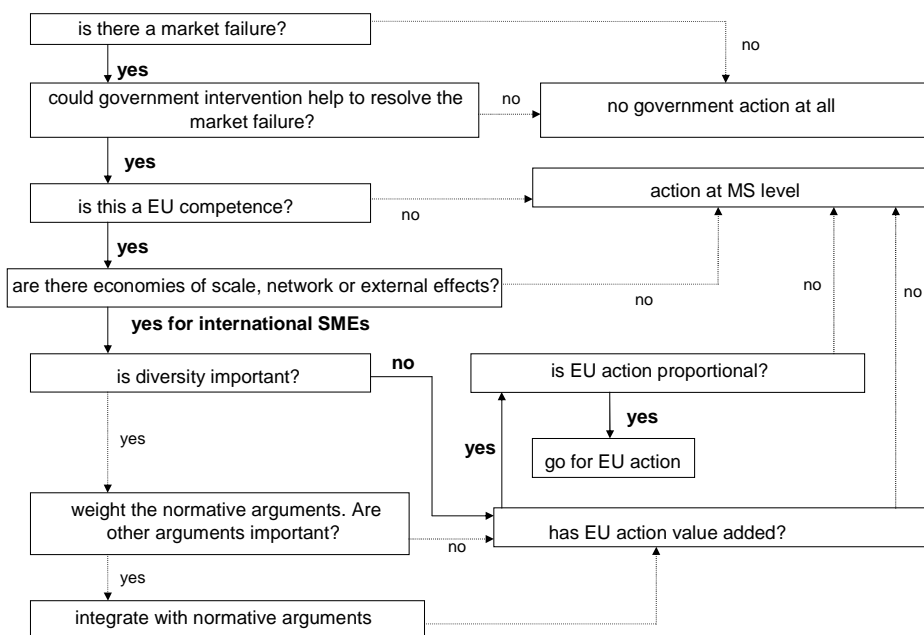
Because Member States could also deliver these services by themselves (but less efficient) access to networks does not seem to be a significant reason for EU involvement. National support services for SMEs do not seem to cause major cross-border external effects. The main reason for EU involvement is thus economies of scale of the support measures.

I do not find a compelling reason why the new Enterprise Europe network would violate the diversity in Member States significantly. It could be the case that the business culture for SMEs differs between the Member States and that a support network could be adapted to this culture. However, the EU initiative to internationalize these networks supplements the national networks. Only for SMEs aiming at international cooperation the situation could be different, but these firms already have to adapt to other business cultures in order to be successful internationally. It could be that the New Enterprise Europe network is less accessible for some innovative SMEs in some countries because it is less adapted to their business culture, but if this is a significant barrier the questions rises how these firms can achieve their international aims any how.

The normative arguments of the subsidiarity test suggest that EU support for such an international network has value added mainly because of economies of scale. The EU has clearly a competence here. There is €74 million involved for this network. The next question is whether common pool problems come to the fore. The main goal of the network is delivering services and no funds or loans. Member States have an incentive to reduce their international network support to internationalising SMEs at the expense of the EU. This is also the main value added EU support: economies of scale. Member States should scale down their activities in this area and the EU should upgrade them. The services should be restricted to innovative SMEs with an international orientation. For national or regional SMEs national governments are the prime actor for support.

The last question addresses the principle of proportionality. The answer depends on the form and establishment of the network. If an EU-wide network would be supported besides and surpassing existing national or regional networks, the effort and means would probably not be proportional to the outcome. It would probably also duplicate national networks. Moreover, it could even interfere with MS policies. If this is the case the EU network would also not deliver economies of scale. The benefits of economies of scale are present if the EU-wide network and national networks are integrated. That is the policy challenge. If this is successful the principles of subsidiarity and proportionality are respected. If not, the value added of the new Enterprise Europe Network can be doubted.

Figure Error! Style not defined..2 **Checking network in support of business and innovation-community grant**



5.4 Case 3: Intellectual Property Rights Helpdesk

The IPR Helpdesk is an initiative of the EU which offers on-line information on protection rules and intellectual property rights for SMEs, in particular for those participating in transnational research projects. In 2008 a new IPR support project for SMEs will supplement existing services with services to better enforce SMEs rights. It is a problem that IPR are often not respected, in particular in high imitation countries (often developing countries). This hampers the opportunities for SMEs to trade and to develop new ideas, because investments cannot be fully recovered from piracy.¹¹ SMEs lack the capacity and knowledge to act against violations of IPR abroad and quite often they even do not have the knowledge of possibilities to patent their own inventions. This is a market failure for which government intervention could be helpful. Moreover, the EU has the competence to coordinate, support or supplement Member States policies here. The helpdesk is meant to supplement existing services.

What is the value added of EU intervention? There are economies of scale of providing such a help desk at the EU instead of 27 national helpdesks even if the EU establishes contact points in each Member State. There are also benefits of scale if the EU tries to protect IPR in other non-EU countries instead of individual MS doing this. At least there is a role for coordination and for support. The existence of cross-border external effects of national helpdesks does not seem to be a problem. Maybe the lack of access to information on IPRs and the role of the EU could be a problem for SMEs. Then a European IPR Helpdesks with online information is a solution to this network failure.

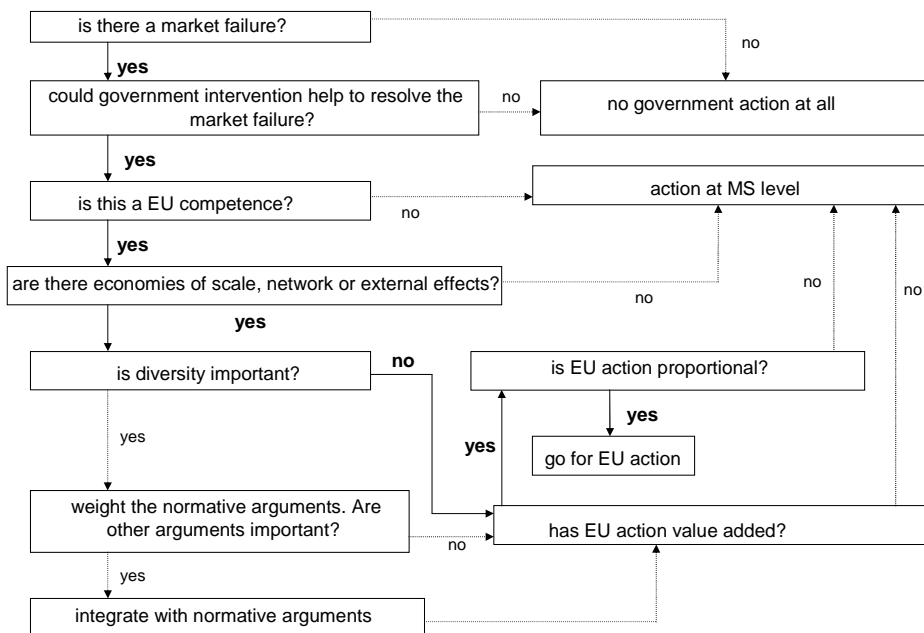
The benefits of diversity are no counter argument for national helpdesks. There is no budget available for SMEs so a common pool problem could not play a role. Concluding the subsidiarity test leads to value added of EU-intervention mainly because of the economies of scale of a supplementing EU policy.

It is a relatively cheap support measure with huge benefits for innovative SMEs. If the helpdesk does not duplicate similar initiatives of individual MS, the support measure is proportional. For some MS this could be the case. In response to the European IPR Helpdesk they could scale down their national activities. If all MS already have a good functioning helpdesk the EU initiative is not proportional, and will probably also not meet the principle of subsidiarity.

¹¹ Smith (1999) estimates that US exports to the middle-income economies with weak patent regimes and strong imitation abilities would rise by 12.5%.

Figure Error! Style not defined..3

Checking Intellectual Property Rights helpdesk



5.5 Conclusions on applying the decision tree

The three cases in this section suggest that EU intervention is justified, although some limitations are set with respect to the application and implementation of policies. We focused on innovation support measures and in this area the EU has always the competence to coordinate, support or supplement. In all three cases the measures address market failures and government intervention seems in principle to relieve the market failure. This result appears to be obvious but there are many examples of government intervention that do not relieve market failures or do not even address them. It is therefore always useful to check these two questions.

It is often harder to decide on the subsidiarity principle. The theoretical arguments are clear, but in practice the relevance of these arguments is often open for discussion. Quantitative estimates of benefits with respect to economies of scale and access to networks are not available for specific measures and that is also the case for the costs of external cross-border effects. One has to rely on expert judgements and try to compare these judgements on the value added with the costs of the policies. Even our analysis of individual measures does not provide detailed material on the value added of these measures, while it goes into more depth than other studies. One of the critical aspects was the interference of the EU support measures with national support measures. Does it supplement, duplicate or even violate national support? These are critical elements for which a good impact assessment is required. This thorough effort is beyond the scope of this paper.

6 Conclusions

This paper has discussed the rationale for innovation support measures at the EU level. First, we have identified the legal base for EU intervention. The new Lisbon Treaty (2007) says that the EU has the competence to support, coordinate and supplement Member States' policies with respect to innovation. Innovation policy falls under the policy area industry which is listed as policy area to which these EU competences apply. Because it is not an exclusive competence of the EU, the principles of subsidiarity and proportionality are applicable to decide whether EU action is justified. The EU policies in these areas come on top of MS policies and do not replace them.

The subsidiarity principle investigates whether economies of scale or cross-border external effects of national innovation policies exist in Europe. This paper adds access to networks as a separate third argument. These arguments plea for EU intervention while the heterogeneity in policy objectives, structure of the economy or preferences in Europe could be reason to refrain from EU action. The principle of proportionality examines whether the means and efforts are proportional to the policy aim.

All these arguments together are structured in a decision tree which could be interpreted as a detailed subsidiarity test. It is applied to three innovation support measures which are part of the Entrepreneurship and Innovation programme of the European Commission. These measures are access of finance for the start-ups and growth of SMEs and investment in innovation activities, network in support of business and innovation-community grants, and the Intellectual Property Rights helpdesk. The shallow application suggests that all three measures pass the test, but a lot depends on implementation of a policy and its application. As long as innovative SMEs with a tendency to internationalise are supported by these measures, the subsidiarity principle favours EU support. For SMEs with a national orientation this will probably not be the case.

These kinds of conditions also apply to the principle of proportionality. As long as international networks are integrated with national networks these efforts seems to be efficient. If these duplicate or even violate national networks, the means and efforts to build a network could dominate the benefits of such a network.

The decision tree can only be applied after a careful inspection of all arguments. Because the benefits of economies of scale and networks and the costs of cross-border external effects can often not be quantified, it is hard to come to grips with the benefits of EU intervention (Gelauff et al., 2008). For specific detailed measures this is even a bigger problem. The EU impact assessment guidelines (EC, 2005b) also demand a careful investigation of the competence of the EU to act, and with respect to the necessity, value added and proportionality of EU intervention. The guidelines also offer some tools which can be applied. However, as already stated in the introduction, the devil is in the details.

Even if the applications lead to clear-cut answers on EU's competence, and on the value added and proportionality of EU intervention, other questions remain. The first is the relation with national and regional innovation support measures. What are the complementarities? EU action is additional to MS action and should not duplicate or replace MS policies. The EU should only support, coordinate and supplement MS innovation support measures. In practice it is often hard to draw clear boundaries between these policies because of policy interdependencies.

Second, the answers to the subsidiarity principle could vary over time. Ongoing globalization, further European integration and enlargement will increase the interactions between countries and markets. This will affect the benefits of economies of scale, the benefits of networks, the costs of cross-border external effects and the relevance of diversity. This suggests that the outcome of the subsidiarity test is not a once and for all decision. If major developments take place, it could be useful to evaluate an initial decision on the value added of a European innovation support measure.

References

- Carlsson, B., 2006, Internationalization of innovation systems: A survey of the literature, *Research Policy*, vol. 35, no., pp. 56-67.
- EC, 2005a, Competitiveness and Innovation Framework Programme (2007-2013), proposal COM(2005) 121 final.
- EC, 2005b, Impact assessment guidelines, SEC(791), Brussels.
- EC 2006a, Communication from the commission to the council, the European parliament, the European economic and social committee and the committee of the regions, Putting knowledge into practice: a broad-based innovation strategy for the EU, Com(2006) 502 final, Brussels
- EC, 2006b, the Competitiveness Report 2006.
- EC, 2006c, Financing Growth – Adding European Value, Brussels, 29.6.2006, COM(2006) 349 final.
- EC, 2007, Work Programme 2008, Entrepreneurship & innovation Programme, Brussels.
- Ederveen, S.,G. Gelauff, and J. Pelkmans, 2008, Assessing subsidiarity, in Gelauff, G., I. Grilo and A. Lejour, *Subsidiarity and Economic Reform in Europe*, Springer, p. 19-40.
- EU, 2006, Community framework for state aid for research and development and innovation, Official Journal of the European Union C323/1.
- EU, 2007, Treaty of Lisbon, Brussels.
http://bookshop.europa.eu/eubookshop/FileCache/PUBPDF/FXAC07306ENC/FXAC07306ENC_002.pdf
- Europa Institute, 2008, The Lisbon Treaty, Leiden University, Law Faculty, the Netherlands, mimeo.
- Falk, R., W. Hölzl, H. Leo, 2008, On the roles and Rationales of European STI-polices, in Gelauff, G., I. Grilo and A. Lejour, *Subsidiarity and Economic Reform in Europe*, Springer, p. 129-141.

Foray, D., 1995, The economics of intellectual property right and innovation systems: the persistence of national practises versus the new global model of innovation, in J. Hagedoorn, eds., *Technical Change and the World Economy: Convergence and Divergence in Technology Strategies*, pp. 109-133, Edward Elgar, Aldershot, England.

Gailly, B., 2008, New perspective for the Enterprise Europe Network, Mini study Report for the Pro Inno Europe, Inno Learning Platform.

Gelauff, G., I. Grilo and A. Lejour, 2008, Subsidiarity for Better economic Reform?, in Gelauff, G., I. Grilo and A. Lejour, *Subsidiarity and Economic Reform in Europe*, Springer, p. 129-141.

Oates, W.E., 1972, *Fiscal Federalism*, New York, Harcourt Brace & Jovanovich.

Pelkmans, J., 2006, Testing for Subsidiarity, BEEP Briefings 13, College of Europe, Bruges.

Smith, P., 1999, Are weak patent rights a barrier to US exports?, *Journal of International Economics*, 48, 151-177.

Tiebout, C.M., 1956, A pure theory of local expenditures, *Journal of Political Economy*, vol. 64, no. 5, pp. 416-424.

Van der Horst, A., A. Lejour, and B. Straathof, 2006, Innovation policy: Europe or the Member States, CPB document 132.