

**Memorandum on the Community Framework on State aid for research and
development and innovation (R&D&I)**

LEGAL NOTICE

This document is a working document prepared by the services of DG Competition and does not necessarily reflect the position of the European Commission.

Neither the European Commission nor any person acting on its behalf is responsible for the use which might be made of the information contained herein. Nobody can claim any rights from the content of this document.

STAFF PAPER
PRELIMINARY DRAFT

1.	REASONS TO REVISE AND NOT JUST PROLONG THE FRAMEWORK	4
2.	WHAT ARE THE BENEFITS FROM AID TO R&D&I?	5
3.	HOW IS STATE AID TO R&D&I LIKELY TO DISTORT COMPETITION?	6
4.	STATE AID IN THE MEANING OF ARTICLE 87 (1) OF THE EC TREATY: THE ROLE OF NOT-FOR PROFIT RESEARCH ORGANISATIONS.....	7
4.1.	Introduction: the role of not-for-profit research organisations.....	7
4.2.	Not-for-profit research organisations as recipients of State aid.....	8
4.3.	Indirect State aid to industry through not-for-profit research organisations.....	10
4.4.	Determining whether or not an R&D fiscal measure constitutes State aid.....	11
5.	PROJECT OF COMMON EUROPEAN INTEREST, ARTICLE 87 (3)(B).....	11
6.	GENERAL PRINCIPLES CONCERNING THE COMPATIBILITY OF R&D&I AIDS WITH ARTICLE 87 (3)(C) EC	13
6.1.	New measures for innovation.....	13
6.2.	The balancing test.....	13
7.	THE DIFFERENT AID MEASURES THAT CAN BE DECLARED COMPATIBLE	17
7.1.	Aid for R&D&I projects.....	17
7.1.1.	Aid intensities.....	18
7.1.2.	Guiding principles for the relationship between aid intensities	19
7.1.3.	Eligible costs	22
7.1.4.	Form of aid	23
7.1.5.	Matching clause.....	25
7.2.	Aid for technical feasibility studies.....	25
7.3.	Aid for industrial property rights costs for SMEs	25
7.4.	Aid for young innovative enterprises	26
7.5.	Aid for process and organisational innovation in services.....	27
7.6.	Aid for innovation advisory services; aid for innovation support services	29
7.7.	Aid for the loan of highly qualified personnel	30
7.8.	Aid for innovation clusters	30

STAFF PAPER
PRELIMINARY DRAFT

7.9.	The issue of eco-innovation	32
8.	OVERVIEW OF THE NEW ARCHITECTURE OF STATE AID RULES FOR R&D&I: THE FRAMEWORK AND THE BLOCK-EXEMPTION.....	33
8.1.	Outline of new architecture of State aid rules for R&D&I	33
8.2.	The scope of the block exemption regulation for R&D&I-aid	34
8.3.	The new framework for R&D&I.....	35
9.	WHICH CRITERIA FOR DETAILED ECONOMIC ASSESSMENT AND WHY.....	36
9.1.	Why is a detailed assessment of some R&D&I State aid cases justified?	36
9.2.	Selection criteria for the aid measures subject to a detailed assessment.....	37
9.3.	Criteria for investigating the presence of a market failure.....	38
9.4.	Criteria for checking whether State aid is an appropriate instrument.....	40
9.5.	Incentive effect	41
9.6.	Proportionality of the aid: aid kept to a minimum	42
9.7.	Analysis of the distortion to competition and trade	42
10.	REPORTING AND MONITORING	47
11.	STATE AID POLICY AND GLOBALIZATION	47

STAFF PAPER
PRELIMINARY DRAFT

1. REASONS TO REVISE AND NOT JUST PROLONG THE FRAMEWORK

The current Framework for State aid to R&D expires on 31 December 2006. In order to ensure transparency related to the assessment of State aid in this field, the Commission can either prolong it or establish new rules.

As declared in the State Aid Action Plan¹, State aid policy face challenges which call for action. “To face the new challenges requires a thorough modification of the existing State aid rules, as regards both substance and procedures. Any effective assessment of the allocation or distribution effects of State aid must take into account their actual contribution to commonly agreed, politically desirable objectives. The aim is to present a comprehensive and consistent reform package based on the following elements:

- less and better targeted State aid;
- a refined economic approach;
- more effective procedures, better enforcement, higher predictability and enhanced transparency;”

As was clearly expressed by the European Council of November 2004, there is a need for renewed impetus to the so-called Lisbon Strategy. The European Council of March 2005 called on Member States to continue working towards a reduction in the general level of State aid, while making allowance for any market failures. This movement must be accompanied by a redeployment of aid in favour of support for certain horizontal objectives such as research and innovation and the optimisation of human capital.

Furthermore, the Commission has encouraged Member States to make a stronger commitment to R&D and innovation. “Member States should all set an R&D expenditure target for 2010 so that the European Council can set a credible R&D expenditure target for the Union as a whole. This can be done within the framework of the European Council’s previous calls for less and better targeted aid, by redirecting public expenditure towards R&D; for example, by doubling the share of State aid allocated to this area to 25% (from 12% at present).”^{2 3}

¹ COM (2005) 107 final – SEC (2005) 795, 7.6.1995, para. 18.

² Communication from the Commission to the Spring European Council. “Time to move up the gear: The new partnership for growth and jobs.”

³ In 2004, Member States devoted on average 0.05% of GDP to State aid directed at R&D and the State aid to R&D amounted to 5,2 % of the total government expenditure on R&D. Between 2002 and 2004 the annual average of the share of R&D aid compared to the total amount of State aid was 12%. Source: own calculation based on the Scoreboard, Eurostat and OECD.

STAFF PAPER
PRELIMINARY DRAFT

In addition, a consultation on State aid to innovation⁴ revealed strong backing for the introduction of measures to support innovation where this could be done without risking a significant distortion of competition.

However, it must be kept in mind that increasing the amount of subsidies to R&D&I is not an objective in itself. The State aid must increase the overall level of R&D&I in order to contribute to growth and jobs. This requires that the aid measure is well targeted at market failures. A “market failure” is said to exist when the market, if left to its own devices, does not lead to an economically efficient outcome. It is in those circumstances that State intervention, including State aid, has the potential to improve the market outcome in terms of prices, output and use of resources.

The Commission believes there is a considerable scope for improving the quality of public expenditure. Some economists have suggested that only around half of State aid measures have had an additional effect on the level of R&D&I spending at industry level⁵.

Therefore, the aim of this revision of the rules is to improve the possibilities for Member States to enhance economic efficiency through State aid to R&D as well as to innovation and thereby contribute to growth and jobs. In particular, State aid for R&D&I shall only be compatible if the aid can be expected to lead to additional R&D&I and if the distortion of competition is not considered to be contrary to the common interest. Hence, in the light of the current political and economic context a prolongation of the current rules would not be an option.

In the State Aid Action Plan, the Commission announced that “To best contribute to the re-launched Lisbon Strategy for growth and jobs, the Commission will, when relevant, strengthen its economic approach to State aid analysis. An economic approach is an instrument to better focus and target certain State aid towards the objectives of the re-launched Lisbon Strategy”. In the consultation following the Action Plan, this approach was welcomed by stakeholders.⁶

2. WHAT ARE THE BENEFITS FROM AID TO R&D&I?

It is well recognised that the European Union would benefit substantially from an increase in the level of R&D&I, as this would lead to higher growth levels in the Union⁷. By international standards, the level of R&D&I spending in the Union is relatively low, in particular by the private sector. This is viewed as one of the reasons why the Union

⁴ See Communication from the Commission - Consultation document on State aid for innovation, COM(2005) 436 final, 21.9.2005.

⁵ David, Paul A., Bronwyn H. Hall, and Andrew A. Toole, 2000, Is Public R&D a Complement or Substitute for Private R&D? A Review of the Econometric Evidence, Research Policy 29, 497-529.

⁶ Cf. for the results of the consultation on the State Aid Action Plan (Fn. 1) : http://europa.eu.int/comm/competition/state_aid/others/action_plan/consult.html.

⁷ See, e.g., the EU Economy 2005 Review.

STAFF PAPER
PRELIMINARY DRAFT

lags behind in terms of economic growth, even though some European countries are doing better than others.

There are many reasons as to why R&D&I levels may be low. In part, they are of a structural, systemic nature. Companies must have access to an adequate supply of quality human resources and to a strong and responsive public research base. R&D&I activity becomes more attractive for firms, the more it can take place in favourable framework conditions, such as adequate intellectual property right systems, a competitive environment with research and innovation-friendly regulations and supportive financial markets.

Another reason for the low level of R&D&I is the presence of market failures. Firms will invest in R&D&I to the extent that they can draw concrete commercial benefit from the results. As R&D&I activities typically create positive spill-overs for the economy at large, there is a gap between the private rewards of R&D&I and the social benefits of R&D&I. Accordingly, it is in this context that State aid has a role to play in incentivising companies to do more R&D&I. The objective of granting State aid to R&D&I is to increase *efficiency* in the economy.⁸ For State aid to be beneficial for the economy, it is important that the aid leads to additional R&D&I at the level of market. It is not sufficient that the aid will induce an increase at the level of the beneficiary if it leads to a reduction of the overall level of R&D&I⁹.

3. HOW IS STATE AID TO R&D&I LIKELY TO DISTORT COMPETITION?

The main concern related to R&D&I aid to companies is that rival companies' dynamic incentives to invest are distorted and possibly reduced. When a company receives aid, this generally strengthens its position on the market and reduces the return to investment to other companies. When the reduction is significant enough, it is possible that rivals will cut back on their R&D&I activity. In addition, when the aid results in a soft budget constraint, even the recipient of the aid may have a reduced incentive to innovate. Also, it may keep inefficient firms in the market. Furthermore, the aid may enable the beneficiary to enhance exclusionary practice or market power.

When the distortion leads to less R&D&I, the primary distortion is happening in the so-called "innovation market". This distortion may eventually result in distortion in the product market.

Where R&D&I aid leads to the crowding out of rivals, the aid measure may merely result in a shift of trade flows and location of economic activity in the common market. A similar concern arises where the object or effect of the aid is to attract R&D&I activity by the recipient itself away from other Member States.

⁸ In economics, the term "efficiency" (or "economic efficiency") refers to the extent to which welfare is optimized in a particular market or in the economy at large.

⁹ This is the case if e.g. State aid to one company induces a reduction of R&D&I activity for its competitors, so that total R&D&I in the market is actually decreased.

STAFF PAPER
PRELIMINARY DRAFT

The risk of distortion is more likely to occur e.g. when there is no or little incentive effect, when the aid amount is high, when the activity is close to commercialisation, when the beneficiary has market power and when the market is concentrated.

Distortions will be less profound e.g. if the aid measure is open to many companies (or open tender where it is applicable), the aid amount is strictly reduced to the amount necessary and if the results of the R&D&I are disseminated.

4. STATE AID IN THE MEANING OF ARTICLE 87 (1) OF THE EC TREATY: THE ROLE OF NOT-FOR PROFIT RESEARCH ORGANISATIONS

4.1. Introduction: the role of not-for-profit research organisations

Not-for-profit research organisations are of great importance in the European research setting. They normally concentrate on research and teaching and play an important role in technology transfer through dissemination of research results, collaboration with industry and licensing. In particular collaboration with industry – public-private partnerships – plays a crucial role in fostering technology transfer, providing an incentive for industry to increase investment in research and in particular to SMEs to engage in research at all. At the same time, such entities, forced to partly generate their own budget due to financial constraints of their funding bodies, engage more and more in contractual research or rendering research services to others.

The Commission acknowledges the importance of public-private partnerships (“PPPs”) for technology transfer and knowledge dissemination in its research policy. It has furthermore already declared its intention to foster the role of PPPs in the future development of R&D&I-rules in the SAAP.¹⁰

As will be explained below¹¹, the Commission has increased the bonus for collaboration with not-for-profit research organisations in the R&D&I-framework from previously 10 to 15 percentage points.¹² When Member States and other stakeholders raise the issue of facilitating PPPs in this context, reference is made in most cases not to the conditions for compatibility of State aid, but to the State aid qualification of certain measures and in particular to the conditions for enterprises wishing to enter into PPPs.

It is important to analyse the different activities of not-for-profit research organisations correctly under State aid rules and to provide for the appropriate rules to base a possible State aid assessment on, in order to achieve several objectives:

first, to help such organisations perform their important role in collaboration projects (public private partnerships); at the same time, protect competitors of such entities who offer comparable research services in the market against unfair competition due to cross-subsidization of economic activities through public funds, and, lastly, provide clear rules

¹⁰ SAAP (Fn. 1) para. 27.

¹¹ Point 7.1.2.

¹² Cf. point 5.2.1. of the framework R&D&I.

STAFF PAPER
PRELIMINARY DRAFT

well-adapted to the situations of such entities which help to do away with legal uncertainty and create a reliable setting for all stakeholders.

The R&D-framework 1996 deals with the situation of not-for-profit research organisations (or, “public non-profit-making higher education or research establishments”, as they are named in the 1996 framework) under point 2.4. The new framework for R&D&I bases itself on these rules, while adapting them to a changing reality and attempting to be more clear, thereby increasing legal certainty for all stakeholders.

First of all, it introduces a clearer distinction between the different situations which may give rise to State aid questions: not-for-profit research organisations may be recipients of State aid. They may also be passing State aid on to industry. In the second case, again, two situations must be distinguished: aid may be passed to industry through contract research carried out by the public entity, or through a collaboration in which the public research entity engages together with industry. These aspects are explained in more detail below.

4.2. Not-for-profit research organisations as recipients of State aid

Some stakeholders attach great importance to the formulation of 2.4., first subparagraph, of the 1996 framework which states that “Public financing of R&D activities by public non-profit-making higher-education or research establishments is normally not covered by Article 92 (1) of the EC-Treaty.” This clause is sometimes understood as a “privilege” of not-for-profit research organisations exempting them from the applicability of State aid rules. However, it must be kept in mind that this provision addresses questions of Article 87 (1) EC Treaty, an area where the Commission has to apply the objective criteria set up in article 87 (1) EC, as interpreted by the jurisprudence of the Courts, and is not in a position to exercise discretion.¹³

According to the jurisprudence, State aid rules only apply to “undertakings” which are defined as any entity engaged in an economic activity, regardless of its legal status and the way in which it is financed¹⁴. The fact that an entity is non-profit making is not relevant in determining whether it is an undertaking. Neither does the fact that an entity primarily carries out non-economic activities rule out the possibility that it may also be engaged in secondary activities of an economic nature. In such cases, classification as an undertaking is confined to the economic activities involved. In addition, the Commission has decided that even a private entity when carrying out a non-economic activity may not fall under Article 87 (1) EC.¹⁵

In practice, the Commission in the past applied this provision of the 1996 R&D-framework as follows: It understood “public” as not depending on the legal structure or

¹³ Cf. Case C-83/98P France v. Ladbrooke Racing,[2000] ECR I-3271.

¹⁴ Case C-41/90, Hoefner and Elser, ECR 1991, I-1979 (para. 21); C-309/99, ECR 2002, I-1577 (para. 46 et seq.); cf. also Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of small and medium sized enterprises, OJ L 124, 20.5.2003, p. 36.

¹⁵ See below.

STAFF PAPER
PRELIMINARY DRAFT

legal form of a research establishment, but on its public control pursuant to Commission Directive 93/84/EEC on financial transfers to public undertakings¹⁶. Thus, a public undertaking is an undertaking over which the public authorities may exercise a direct or indirect influence. The Commission even considered a private entity as comparable to a public research establishment. It stated that the activity carried out by that entity (participation in international standardisation work) is not considered to be a commercial one and that the public financing of these activities is not covered by Article 87(1) EC.¹⁷

In order to fulfil the criteria of point 2.4., 1st subparagraph of the 1996 R&D-Framework, an establishment also has to be “non-profit-making”. This aspect has not figured prominently in any recent Commission decision since this criterion neither appears in Article 87 (1) EC nor in the relevant jurisprudence of the Court on the question of aid or no aid. To the contrary, in the light of the Court’s jurisprudence on the definition of an undertaking in the meaning of Article 87 EC the Commission decided that the fact that an entity is not profit-making or profit-seeking is not relevant so long as it is competing with other (profit-seeking) firms on a market.¹⁸

Accordingly, the assumption of point 2.4., first subparagraph, may under no circumstances be understood as overruling the binding interpretation of the jurisprudence. Therefore, its legal value is limited. When the Commission had to review this clause, it posed itself the question whether it is still safe to assume that such entities will not carry out any economic activities. Since this seems to be questionable, it seemed advisable to explain the general principles governing the question whether funding can be considered as State aid instead.

The new text of the framework therefore explains the essence of this jurisprudence.¹⁹ In order to underline that the legal status of the entity is not decisive, the Commission has decided to no longer refer to public research entities, but to not-for-profit research organisations. The Commission is aware, however, that the not-for-profit character as well does not exclude that the entity may exercise an economic activity²⁰, but believes that this will not be the case most of the time.

Because of the limited value of the assumption that not-for-profit research organisations will not carry out any economic activities, the clause which could previously be found in point 2.4 of the 1996 framework is no longer maintained. Instead, reference is made to the normal State aid rules regarding the separation of economic and non-economic activities by the same entity.

The new text clarifies²¹, however, that the commercialization of research results through licensing of IPRs is not understood as inseparably linked with the research itself, since

¹⁶ OJ L 254, 12.10.1993, p. 16.

¹⁷ State aid NN 76/2002 – Denmark – Technology Transfer Institutes, OJ C 120, 22.5.2003, p. 8

¹⁸ Commission of 16.9.1997, OJ 1998 L 159/58 – Germany - Gemeinnützige Abfallverwertung GmbH.

¹⁹ Point 3.1. of the framework.

²⁰ As explained above.

²¹ Footnote 22 of the framework.

STAFF PAPER
PRELIMINARY DRAFT

the profits stemming from this activity may serve to cover the costs linked with the licencing of the research results, but will in principle not cover the costs of the research itself.

4.3. Indirect State aid to industry through not-for-profit research organisations

For indirect advantages passed to enterprises through not-for-profit research organisations, the new text makes a clearer distinction between contract research and collaboration. For contract research, the general State aid principles are applied. For collaboration, the new text in principle maintains the no-aid assumptions²² and spells out the additional possibility for the MS not to rely on the assumption but to enter into an assessment of the collaboration agreement in order to verify whether this agreement has a State aid element. In this context, the Community's research policy is used as reference.

In order to draw this clear distinction, the new text describes what is understood both by contract research and by collaboration. While it may well be that in reality, such a clear distinction cannot be drawn in all cases, and the border lines are less clear, the simplification of facts allows providing for clear rules for both situations.

In case of contract research, general State aid rules apply: publicly funded entities must compete at market prices when providing a service for others. If there is no market for a certain service, it must charge its full costs plus a reasonable margin.

In case of collaboration, the R&D&I-framework has maintained the assumptions for situations in which clearly there is no State aid under the 1996 framework. The third assumption has been modified in order to avoid that enterprises are disadvantaged at too great an extent. It no longer requires that all resulting IPRs are allocated to the not-for-profit partner, but only those rights which were derived from the research carried out by that partner. Furthermore, it now clarifies that any contribution of the participating undertakings to the costs of the not-for-profit research organisation shall be deducted from such compensation, thereby referring to situations where the industrial partners pay for the research carried out by the not-for profit research organizations and are in addition required to pay the resulting IPRs at market rates.

The provision goes on, however, to state explicitly that the Member State does not have to rely on one of the assumptions in order to reach the conclusion that there is no aid to the enterprises collaborating with a not-for-profit research organisation. The Member State can always choose to demonstrate in its notification to the Commission²³ that on the basis of the concrete facts of the case (i.e. in principal the consortial agreement), there is no State aid to the enterprise. Consequently, the Commission will have to assess the agreement allocating the rights and obligations of the partners of the collaboration.

²² The third assumption is amended insofar as it now requires payment of only those IPRs which result from the activity of the public research entity.

²³ In case of a notification. The result of the assessment may also be that there is not need to notify.

STAFF PAPER
PRELIMINARY DRAFT

4.4. Determining whether or not an R&D fiscal measure constitutes State aid

An increasing number of Member States use fiscal measures to stimulate Business Expenditure on R&D (hereafter referred to as “R&D fiscal measures”). Depending on their design options R&D fiscal measures may qualify as general measures or as State aid.

Article 87 (1) of the EC Treaty and the jurisprudence of the Court of Justice set out the conditions under which R&D fiscal measures qualify as State aid (hereafter referred to as “R&D fiscal State aid measure”). A comprehensive summary of the application of these conditions is provided in the 1998 Commission notice on the application of the State aid rules to measures relating to direct business taxation²⁴.

Under the case law of the Court, to determine whether a tax measure constitutes State aid the main criterion is that the measure provides an exception to the application of the tax system in the Member State. The common system applicable should thus first be determined to verify whether the measure departs from its general scope. It must then be examined whether the exception favours certain undertakings and if the differentiation within the system may be justified by the nature or general scheme of the tax system. Thus, State aid is only involved if a tax reduction is exceptional with respect to the tax system to which it belongs.

According to the notice, measures pursuing general economic policy objectives through a reduction of the tax burden related to certain production costs, such as research and development, are general measures where they are effectively open to all undertakings on an equal access basis and thus do not constitute State aid.

As a result, when examining whether a tax measure constitutes State aid or not, the emphasis is on the selectivity or specificity criterion of Article 87 (1) of the EC Treaty. An R&D fiscal measure shall be considered selective notably if its potential beneficiaries are restricted e.g. by way of size (to SMEs, for example), location or sector.

The fact that some firms or sectors benefit more than others from certain deductions, including a more intense depreciation of certain investments, depends from the intensity by which they avail themselves of such factors. This does not at all mean that such reductions constitute State aid, provided they are effectively open to all undertakings on an equal access basis.

5. PROJECT OF COMMON EUROPEAN INTEREST, ARTICLE 87 (3)(B)

The Commission decisional practice is based on the criteria which are now spelled out in the R&D&I-framework. The new text extends the past practice by envisaging that aid for a group of projects may also be approved under Article 87 (3)(b) EC. The Commission has applied this legal basis to a number of R&D projects in the past, accepting²⁵ or

²⁴ OJ C 384, 10.12.1998, p. 3.

²⁵ See for example decisions in cases N 837/2000 – France, N478/2003 – France, N116/2003 – Germany, N207/2002 – France, N62/2003 – France.

STAFF PAPER
PRELIMINARY DRAFT

refusing²⁶ aid on that basis. In its analysis it took into account i.a. high technological risks related to the project, uncertainty of commercialisation of the results of research, size and scale of the project, participation of numerous partners from various fields and Member States, size of R&D effort of individual participants, creation of linkages between academia and industry, and wide potential impact of its results on EU industry. It explicitly factored in international aspects, referring both to the degree of international competition in the field, research efforts by main third-countries' competitors and public support granted by third countries. In the decisions quoted, however, the aid intensities notified by Member States were in line with those allowed under the R&D framework, so the Commission chose to conclude on compatibility both pursuant to Article 87(3)(b) and 87(3)(c)²⁷.

To that extent, it is important that the Member States provide an explanation as to why Article 87(3)(b) may be used in place of Article 87(3)(c), notably by showing the contribution of the project to the common European interest. The criteria provided in the framework aim at giving guidance regarding the type of evidence that the Commission will consider in that respect.

Besides, projects of common European interest may be affected by specific problems that may not be perfectly covered by the measures defined in the R&D&I framework. This may justify departing from the rules provided in the framework. Large scale projects are affected by market failures related to capital markets, coordination problems and the question of appropriability of research results:

- Capital markets may not be willing to fully finance a project involving very high risk. This risk may be related to uncertainty of commercial returns, their long term horizon, cash flow expected in a distant future, high and possibly project-specific initial investment (i.e. the facilities cannot be easily used for other purposes) requiring significant financial resources;
- Coordination problems – if execution of the project requires participation of many actors from different fields and Member States, coordination difficulties may prevent such cooperation emerging in the first place, or may increase uncertainty of the timely execution of the project in the eyes of private financial markets;
- Appropriability of the results – if the expected benefits to European industry are significant, it is important to ensure the wide dissemination of the results of the project, which may diminish private returns of the participants.

Given the potential magnitude of market failures and of expected positive spill-overs from a project of common European interest, there is no *a priori* reason why the Commission could not approve higher aid intensities than those allowed in the R&D Framework, should the need for them be properly established.

²⁶ See, for example, C41/2000 – Italy, where the R&D project was found not qualitatively important and not of common European interest.

²⁷ In other decisions Article 87(3)(b) was applied as a sole legal basis for aid approval, see for example N576/1998 – UK, which however did not concern R&D aid.

STAFF PAPER
PRELIMINARY DRAFT

6. GENERAL PRINCIPLES CONCERNING THE COMPATIBILITY OF R&D&I AIDS WITH ARTICLE 87 (3)(C) EC

6.1. New measures for innovation

By comparison with the previous framework for R&D, a series of new possibilities for innovation aid have been added to the framework. As noted in the Communication on State aid to innovation, preserving competition should be the first priority when designing effective systems to foster innovation in the EU. Competition in a functioning market creates incentives for companies to invest in knowledge and innovation, since this helps them generate competitive advantage and profits. Nevertheless, State aid can in some cases effectively and efficiently contribute to foster innovation, when it addresses market failures that hamper the innovation process without excessively distorting competition.

In the Communication the Commission proposed to include innovation in the R&D framework rather than making a separate instrument and a number of possible measures were identified which addressed specific market failures. In the consultation following the Communication, stakeholders generally supported the idea to integrate provisions on Innovation in the R&D rules and they shared the view that a range of market failures hinders innovation. In particular, they underlined that innovation requires important funding and involves a high degree of risk and they acknowledged that innovation must be encouraged. The respondents generally welcomed the specific measures proposed in the Communication. On that basis, the Commission considers that it is appropriate not to have a separate framework for innovation nor to authorise aid on the basis of a generic definition of innovation, but rather to include specific measures that target well-identified market failures in the R&D framework.

The Commission has opted in favour of the approach to single out several measures which are targeted at rather precise situations and allow to be formulated in terms of rather precise conditions. The Commission will also consider whether certain of these measures could be block-exempted. At the same time, this approach leaves the option for Member States to notify other measures to support innovation that are different from the ones covered by this framework and therefore do not fall under its scope. The fact that such measures are not covered by this framework does not necessarily mean that the Commission has a negative prejudice on them. Not having exercised its discretion in a framework, the Commission will then assess such measures directly on the basis of Article 87 (3) (c) EC.

6.2. The balancing test

In the EC Treaty, Article 87 (1) lays down the principle that State aid is prohibited. In certain cases, however, such aid may be compatible with the Treaty on the basis of Article 87 (2) and (3), if the conditions of a justification to grant State aid laid down in these paragraphs are present.

According to 87 (3)(c) the following may be considered to be compatible with the common market: “aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest; “

STAFF PAPER
PRELIMINARY DRAFT

The State aid Action Plan, building on existing practice, has formalised this balancing exercise in what has been termed a '**balancing test**'. It operates in three steps to decide upon the approval of a State aid measure; the first two steps are addressing the positive effects of State aid and the third is addressing the negative effects and resulting balancing of the positive and negative effects:

- (1) Is the aid measure aimed at a well-defined objective of common interest? (ex: growth, employment, cohesion, environment)
- (2) Is the aid well designed to deliver the objective of common interest i.e. does the proposed aid address the market failure or other objective?
 - Is State aid an appropriate policy instrument?
 - Is there an incentive effect, i.e. does the aid change the behaviour of firms?
 - Is the aid measure proportional, i.e. could the same change in behaviour be obtained with less aid?
- (3) Are the distortions of competition and effect on trade limited, so that the overall balance is positive?

This balancing test is internalised in the framework, in the sense that when the conditions laid down in its rules are fulfilled, the balancing test is presumed to be passed. However, the conditions and the level of assessment necessary to verify that the conditions have been met depend on the type of measure.

This is reflected in the architecture of State aid policy, where the most simple type of measures are covered by block exemptions and where cases covered by a framework are considered to be more complicated to assess and therefore involve more complex criteria. Regardless whether a measure is normally covered by BER or a framework, when the aid amount is above a certain threshold, the measure is considered to have a particularly high potential to distort competition and a detailed assessment will be conducted to verify that the balancing test is positive. The detailed assessment will be based on more complex considerations which are also set out in the framework.

The first step of the balancing test focuses on the objective. Objectives of common interest can be divided between those targeting efficiency (increasing wealth in the economy) and those targeting equity (better divide up the wealth between stakeholders, notably to reflect social and regional cohesion). Efficiency can only be increased through State aid when the aid addresses a market failure, which results in the economy not reaching its optimal welfare level. In the field of R&D&I, the objective is to address the market failures that prevent the EU to reach optimal levels of research, development and innovation and to increase R&D&I activity in the EU, thus increasing economic efficiency. Additional R&D&I increases economic efficiency by shifting market demand towards new or improved products, processes or services, which is equivalent to a decrease in the quality adjusted price of these goods.

STAFF PAPER
PRELIMINARY DRAFT

The aid should be designed in such a way that it changes the incentives of market participants and they engage in certain R&D&I activities. This corresponds to the positive effects of the aid, which are assessed in the second step of the balancing step. First of all, it should be established that there is a market failure hampering the targeted R&D&I activities. On the basis of several studies, the Commission has identified the most relevant market failures for the R&D&I field.

- Positive externalities/knowledge spill-overs
- Public goods/knowledge spill-overs
- Imperfect and asymmetric information
- Coordination and network failures

The same market failures apply to R&D and to innovation, even though innovation, since it is closer to the market, is generally more likely to have its knowledge spill-overs being appropriated by the firm engaging in innovation. Conversely coordination and network failures may be more present for innovation activities, since collaborating with other firms on activities close to the market entails a greater risk not to be able to appropriate the results equitably.

Closely linked to market failure analysis is the question whether the lack of R&D&I activity is due to insufficient financial incentives given by the market, which make the activity appear unprofitable to the aid beneficiary. A low level of R&D&I may not as such constitute proof of a market failure. It may only be the consequence of the lack of capabilities in the market to do research and to innovate (human resources, universities and research institutes, infrastructures) or of inadequate framework conditions (legal, fiscal, regulatory environment). This is why it should be examined whether State aid, which only changes the financial incentives to engage in certain activities, is an appropriate instrument for supporting R&D&I activities.

A critical element for R&D&I is then the analysis of the incentive effect. State aid must have an incentive effect, i.e. result in the recipient changing its behaviour so that it increases its level of R&D&I activity. The guidelines distinguish between three situations. First, the incentive effect is considered automatically present in some cases, as soon as the R&D&I-activity has not already started prior to the aid application by the beneficiary to the national authorities. This is the case because the aid beneficiary is an SME, the aid amount is limited and thus the risk of distortion to competition can be considered circumscribed, and the presence of a market failure is accepted for the activities concerned:

- project aid and feasibility studies where the aid beneficiary is an SME and where the aid amount is below EUR 5 million for a project (project aid plus aid for feasibility study) per SME;
- aid for industrial property rights costs (SME);
- aid for young innovative enterprises;
- aid for innovation advisory services; aid for innovation support services;
- aid for the loan of highly qualified personnel.

STAFF PAPER
PRELIMINARY DRAFT

The second level of scrutiny considers situations where the incentive effect can not be presumed, either because the beneficiary is a large company or because the aid amount is too large. It is generally accepted that large companies have a better capacity to present their interests towards granting authorities, that they are less affected by market failures than smaller firms and that their size in the market may lead to greater risks of distortions to competition. As in the previous framework for R&D, the Commission considers therefore that it would be inadequate not to verify that an incentive effect is present in that case. The analysis of the incentive effect is based on quantitative indicators, checking whether R&D&I activity is increased as a result of the aid, also exceptionally taking into account qualitative elements, such as risk or the long term nature of the project. The following cases will be subject to this analysis:

- project aid and feasibility studies where the aid beneficiary is a large firm and where the aid amount is below EUR 5 million for a project (project aid plus aid for feasibility study) per company;
- process or organisational innovation in services activities below EUR 5 million aid project per company
- innovation clusters below 5 million aid per cluster

The third level is complementary to the second one, in the sense that the incentive effect has to be demonstrated, but the type of demonstration required is more comprehensive. It corresponds to cases submitted to a detailed assessment, where the analysis goes beyond indicators and tries to conduct a fully-fledged counterfactual analysis, trying to assess what the company would do in the absence of aid, and comparing it to a situation with aid being granted. Such analysis will be conducted where the aid amount exceeds EUR 5 million for

- project aid and feasibility studies (aid amount in project aid plus aid for feasibility study per company)
- process or organisational innovation in services activities (aid amount per project per company)
- innovation clusters (per cluster)

All in all, the analysis of the incentive effect is therefore based on a sliding scale principle, whereby cases with higher risks of distorting competition and trade are submitted to a more important scrutiny to determine whether or not they produce effects that would not otherwise occur in the absence of aid.

Proportionality is integrated in the choice of the measures eligible for aid, as well as in the definition of the eligible costs, maximum aid intensity and additional conditions. These elements are designed in order to make sure that the aid is kept to a minimum.

In addition, these elements are supposed to make sure that the negative effects of aid are lower than the positive effects, so that on balance the aid is in the common interest.

STAFF PAPER
PRELIMINARY DRAFT

7. THE DIFFERENT AID MEASURES THAT CAN BE DECLARED COMPATIBLE

7.1. Aid for R&D&I projects

Aid for projects on fundamental and industrial research and experimental development is mainly targeted at the failure related to positive externalities, including public goods. To achieve a higher benefit for society, State aid may be an appropriate instrument to artificially make the risk/return ratio profitable for the firm in order to give the incentive to undertake additional R&D&I. It can even be appropriate to fully finance fundamental research due to the absence of a market for public goods.

The current Framework has been criticised for having a “linear model of innovation”. The general criticism of the linear approach concentrates on two issues:

The “linear model” is criticised as no longer reflecting the execution of R&D. It was based on the understanding that a research project develops from fundamental research over industrial research to precompetitive development. Nowadays, research projects do not follow this “linear” sequence any more, but go back and forth between different categories of research. However, the “linear approach” does not preclude the possibility that the activities are not pursued in a chronological order. This has been the understanding of the Commission in the past, and this is now explicitly clarified in the text of the framework.²⁸

The second criticism concerns the difficulties in qualifying the different tasks under an R&D&I-project in terms of categories of R&D&I. While it is not so easy to allocate different parts of a research project to the different categories of research, a large majority of Member States confirms that this is nevertheless feasible.

The following alternatives could have been envisaged: One could have introduced only one intensity for projects, which would tend to allow too little aid for projects where the cost of fundamental research are relatively high, whereas the aid intensity would tend to be too high for projects mainly composed of development. Another option would have been to merge the categories of industrial research and experimental development and to assign a uniform aid intensity to that merged category. From an economic point of view, however, maintaining separate categories with separate aid intensities allows distinguishing by degree of market failure and therefore better reflects the economic underpinning of State aid rules. A third option would have been to make detailed calculations in each case to determine the amount which is necessary for enterprise to achieve a “normal return”. However, this is considered to be too burdensome to invoke on all cases.

The Commission believes that maintaining the different categories does not exclude the possibility that the activities follow an ‘interactive model on innovation’ and at the same time allows that the most adequate aid intensity for the project as a whole can be granted depending on to what extent the activities in the project are close to commercialisation and therefore best reflecting the economic approach adopted in the SAAP.

²⁸ Cf. point 5.2.1 of the framework.

STAFF PAPER
PRELIMINARY DRAFT

In the proposal, the definitions of the categories of R&D&I have been modernized and expanded. Certain activities have been included in the definition of experimental research, in order to also allow aid for innovative activities. The choice of activities has been based on the capability to define eligible costs, which are less likely to be normal operating costs. For this reason non-technological innovation has not been included under project aid, but some of the other measures can be used to support non-technological innovation.

7.1.1. Aid intensities

The Commission has decided to modify some of the aid intensities permissible under the 1996 R&D-framework in order to base it on a stronger economic justification and to make the system at the same time more simple and transparent.

Ideally, the level of intensity must correspond exactly to the amount necessary to create the incentive for a profit-seeking firm to undertake R&D&I, which it would not do with less aid. This implies that the estimated risk factor and the possibility to appropriate the result should be taken into account when deciding on the aid intensity. However, in practice it is not feasible to determine “the correct” aid intensity *ex ante*, in addition, the decision by a firm may not be to either do a project or not but rather to decide on a smaller or larger dimension of a project. Due to these complications, the Commission must as a starting point use its experience and the experience in Member States to establish reasonable *absolute levels* for the aid intensities.

According to a survey among Member States commissioned by the Commission to prepare the revision of the R&D-framework, there was remarkably little pressure for overt changes in either the ceilings or the categories used to define R&D activity. Overall, nine out of 15 Member States were content with the existing categories and ceilings, five suggested changes to the ceiling for pre-competitive development (two suggesting a rise [from 25%] to 50%, one to a ceiling $\geq 40\%$, and two to 35%), and only two Member States suggested changes to the ceiling for industrial research, with one advocating raising the ceiling to 70% and the other lowering it to a figure $\geq 40\%$.²⁹ In other words, it appears that the existing level of aid intensities is generally acceptable. It is therefore proposed not to deviate substantially from the absolute level of intensities and to consult Member States on this issue at the multilateral meeting. Nevertheless, for experimental development, the Commission will be slightly more prudent, since the eligible activities will be expanded compared to the current category of pre-competitive development. In the future the third category of activities (experimental development) will also cover certain innovation activities. A slightly reduced aid intensity for experimental development and a somewhat widened basis of eligible project costs are expected to lead approximately to the same compatible aid amount per project as under the previous rules.

²⁹ “The Impact of R&D State aid and its appraisal on the level of EU research expenditures in the context of the Barcelona European Council Objectives”, Centre for Economic Research and Environmental Strategy, CERES, Final Report, p. 27.

STAFF PAPER
PRELIMINARY DRAFT

7.1.2. Guiding principles for the relationship between aid intensities

Although economics has its limitations in setting an absolute level of aid, it can provide guidance on the *relative relationship between intensities* applicable to different activities and different beneficiaries. In other words, the Commission can by using economic reasoning fine-tune the system of aid intensities in relative terms (the need for bonuses). At the same time, since the economic reasoning cannot lead to exact results it is proposed to keep the system simple rather than choosing a level of sophistication which might appear disproportionate to the level of economic reasoning. The guiding principle for *differences in aid intensities* is that they must reflect differences in the size of the market failure. The principal market failure addressed by project aid is the failure related to positive externalities and the difficulties for firms to appropriate returns.

The further away from the market the higher the risk and the difficulty to appropriate results

Fundamental research is considered to involve more risk than other activities closer to the market, because it is less certain that the outcome will result in new commercial products or services. In addition, it is important to distinguish between creation of general knowledge and knowledge which can be protected. Firms tend to free ride on the general knowledge created by others, which make firms unwilling to create the knowledge themselves. In fact, the market may not only be inefficient but completely absent. If more general knowledge was produced, the whole society could benefit from the knowledge spill-overs throughout the economy. To achieve this, governments may have to pay fully for the creation of fundamental research. Therefore, it is proposed to have 100% aid intensity for fundamental research and declining intensities for industrial research and for experimental development, respectively.

The smaller the firm the bigger the market failures

The smaller the firm, the more barriers exist and the more difficult it is to appropriate returns. This implies that small enterprises will normally need more aid than bigger enterprises to undertake a project. Therefore, a distinction is made between SMEs and large companies in the 1996 framework. To take the argument further, the new framework also distinguishes between small and medium-sized enterprises. It should, however, be noted that such a distinction could imply a sectoral bias, since sectors which generally have relatively few employees will systematically be eligible for more aid.

Promotion of collaborative Public Private Partnership (PPP)

The European innovation gap is partly due to insufficient and inefficient scientific and technological transfer mechanisms. While on the one hand, Europeans produce a large volume of new knowledge, the transformation of this knowledge into new products, processes and services is poor relative to Europe's main competitors. Therefore, it is an objective to promote collaborative PPP between public research institutes and firms. There are several reasons for the lack of partnership. To some extent it is due to structural problems of coordination, lack of information and the culture (*raison d'être*) in research institutes. To tackle these types of failures, higher aid intensities may not be the right instrument. However, another reason is that it may be more difficult for firms to appropriate returns due to extensive dissemination of results by the research institute. The risk of sharing knowledge may be perceived to be high from a firm's perspective, in

STAFF PAPER
PRELIMINARY DRAFT

particular since the objective for researchers is normally to publish results and not to earn a profit. To the extent the lack of incentive within a firm is due to the risk of sharing results and its implications on the ability to appropriate results, higher aid intensities are appropriate. Hence, the bonus for projects involving collaborative PPP is extended from 10 percentage points under the 1996 framework to 15 percentage points under the new rules. Subcontracting is not considered as collaboration, because the subcontractor normally does not share the risk of the R&D-project.

Incentives needed for (cross-border) collaboration between firms

In the case of firms doing complementary R&D, in the absence of coordination between firms there may be an underinvestment in R&D, whereas in the case of firms doing substitutional R&D, there may be an over investment in R&D in the absence of coordination. SMEs may be more dependent on the large firm to do R&D&I whereas the opposite is not the case. Despite the advantages of collaboration, there are factors e.g. competition rules, intense competition in ex post product market, high sunk and specific cost, the risk of losing IPR, search costs, transactions costs and asymmetric information, which reduces the incentive to collaborate.³⁰ It is however not clear which effects dominate, and therefore it is also not self-evident that higher aid intensities for collaboration between firms will be an efficient way to increase collaboration. Aid intensities should be higher if there is a higher risk or if it will be more difficult to appropriate results. To some extent this risk can be handled through contracts, however there is always a risk that the contracts are incomplete. Large companies are assumed to be able to handle this risk better, when they collaborate with firms from their own country. Due to higher positive externalities linked to cross-border collaboration and the need to provide incentive for large companies to cooperate with SMEs, the top-up for large enterprises in this framework is conditional on collaboration with SMEs or cross-border. Under the previous rules only cross-border collaboration resulted in a bonus of 10 percentage points. This is now raised to 15 percentage points. Subcontracting is not considered as collaboration, because the subcontractor normally does not share the risk of the R&D-project.

Promoting objectives in Community programmes

Under the current rules a bonus is given for projects that are in line with the Community objective of the Framework for R&D. This bonus has been applied in line with the reformulation of its conditions in Article 5 a (4) (b) of BER 364/2004³¹. Under FP7³² nine themes have been identified, and it has been considered to invoke a bonus, if a

³⁰ Innovation market failures and State aid: developing criteria. Report prepared for DG for Enterprise and Industry, European Commission, November 2005.

³¹ OJ L 63 of 28.02.2004 p.22.

³² Proposals for a Seventh Framework Programme (FP7) for research, 2007-2013, and for a Seventh Framework Programme of the European Atomic Energy Community (Euratom), 2007 to 2011, COM(2005) 119 final; see at <http://www.cordis.lu/fp7/home.html>. The themes are: 1) Health; 2) Food; Agriculture and Biotechnology; 3) Information and Communication Technologies; 4) Nan sciences, Nanotechnologies, Materials and new Production Technologies; 5) Energy; 6) Environment; 7) Transport; 8) Socio-economic Sciences and Humanities; 9) Security and Space.

STAFF PAPER
PRELIMINARY DRAFT

project is in line with one of the themes, in order to use the State aid rules to give an incentive to “pick the projects of common interest”. However, the themes are relatively broad, and would most likely cover the majority of cases, so the value of selection would be limited. In addition, it was considered to also take into account the rule of participation in FP7 projects, which require that at least three participants from three Member States must be involved. However, compliance with the rules for participation under FP7 will automatically qualify for either a bonus for collaboration or a PPP bonus, which addresses the same barrier, and therefore the bonuses would merely duplicate. Hence, in order to simplify the bonus system, the framework no longer provides for a special FP7 bonus.

Incentives to disseminate

If research is disseminated the difficulties in appropriating results are normally higher and aid intensities should also be higher. In theory, dissemination can be considered to be large-scale technological transfer whereas collaboration and PPP are of a smaller scale (between partners). Hence, additional aid intensity for dissemination could be higher than for PPP and collaboration. However, in practice dissemination by one firm may be a less efficient transfer of knowledge than e.g. PPP. It depends very much on the requirements for and enforcement of dissemination. Since, in practice the effect of dissemination is not evident, the framework does not distinguish for industrial research between the top-ups for PPP, collaboration and dissemination (all at 15 percentage points). For experimental development it is doubtful that dissemination should qualify for any additional aid, since the outcome of experimental development will often be visible in any event in the final product and since, firms at this stage can normally protect their inventions. Because of this, the framework does not provide for extra aid for dissemination of results of experimental development.

Regional bonus

Under the 1996 framework, the maximum aid intensities for R&D depended on the wealth of the region, in which the beneficiary was located (plus 5 or 10% depending on the region). Regional top-ups are however not foreseen in the new draft framework for R&D&I State aid. There are many reasons for this proposal.

First, the basic aid intensities currently available in the framework and proposed in the draft are already very high, often above 50%. The impact of regional bonuses of 5%-10% may anyway have a marginal impact on such high intensity levels and experience shows that most of the time, Member States have not granted these maximum intensities. Also, the Barcelona objectives of R&D spending foresee that 2/3 should come from the private sector. For State aid to produce additional R&D&I investments by private business, maximum aid intensities –which are conditioned by notably the presence of regional top-ups- should therefore be kept under control.

Second, the call for an increase in R&D&I spending was made in order to increase the economic competitiveness of the European Union. Allowing a regional bonus may lead private business to conduct their R&D&I projects not in their preferred location abstract from State aid, but rather in a location where they will benefit from the higher aid intensity. A regional bonus may thus favour R&D&I in places where it is not efficient, either because the environment to conduct the development is less adequate or because the spill-over is relatively low due to a lower ability to make use of the R&D&I in such

STAFF PAPER
PRELIMINARY DRAFT

areas. Both the empirical evidence and theoretical models suggest that even if technological spill-overs are spatially concentrated it may still be in-optimal to locate the R&D activity in less developed regions.³³

Third, higher intensities should only be allowed if the market failure is higher in such regions. However, the lower efficiency of R&D&I State aid in less developed regions is due to differences in framework conditions rather than size in market failure. In other words, there is no clear evidence that a firm in a relative poor region would need a higher incentive (aid intensity) to engage in R&D&I than a firm in a richer region. Taking efficiency as a starting point, the necessity of the aid to overcome the barriers of the market failure shall, in principle, determine the level of aid intensity. Therefore, assisted areas may not be affected by higher market failures, which would require higher aid intensities.

Fourth, a regional bonus for R&D&I may have adverse effects on cohesion, since Member States having less developed regions are also affected by serious budget constraints and may not be in a position to use the possibility to grant supplementary bonuses, whereas it cannot be excluded that richer Member States with remaining less developed regions will actually grant these bonuses (because they would have money to do that).

Last but not least, there are other State aid instruments foreseen –and better placed- to support cohesion. These instruments may address deficiencies in the level of R&D&I capabilities, by supporting e.g. investments by large firms or training. The Commission has recently adopted the new Regional aid guidelines which constitute a flexible instrument to address cohesion issues. In particular, in those guidelines, the Commission has introduced the possibility of enterprise aid as a new category of aid which can be granted in addition to regional investment aid. On this basis, member States may provide up to € 2 million per enterprise in 87 (3)(a) regions and up to € 1 million in 87 (3) (c) regions. For the reasons given above, regional top-ups are not foreseen for the R&D&I-framework.

7.1.3. Eligible costs

Provisions on eligible costs have been adapted to include certain modifications introduced with BER 364/2004³⁴. There has been a request to take over the cost model of the Community's research programme FP6. FP6 deviated from the previous harmonized Commission approach of having an exhaustive list of eligible costs. FP6 offers companies and research organisations a choice between different models to follow. These models do not always force companies to have a clear cost-accounting and -allocating system.³⁵

³³ Roper, Hewitt-Dundas & Love, "An ex-ante evaluation framework for publicly supported R&D projects, May 2003, p. 5.

³⁴ OJ L 63 of 28.02.2004 p.22.

³⁵ Cf. RTD's "Guide to Financial Issues relating to Indirect Actions of the Sixth Framework Programme", Version April 2004.

STAFF PAPER
PRELIMINARY DRAFT

The Commission considered the option to take over this approach in order to get back to a consistent approach of the Community's research policy and State aid rules. The State aid concept, which is followed in nearly all State aid instruments, consists in basing the calculation of a permissible aid amount on an exhaustive list of cost positions which are defined in detail in the State aid instrument and are the basis for calculating an aid intensity. The Community's research programme FP6, however, allows MS to choose from different cost models, with the underlying principle that costs must be economic, necessary and actual, but there is no exhaustive definition of admissible types of costs any more.

For legal reasons – lack of precision –, the FP6 cost model is not suitable for a block exemption regulation. To take over this approach in the framework would mean to have two deviating concepts in the framework and the block exemption regulation and therefore no longer have consistent State aid rules for R&D&I in this respect. This is why the FP6 cost model has not been retained in the R&D&I Framework.

7.1.4. Form of aid

Form of aid

The R&D&I Framework in principle does not restrict the form in which State aid may be granted, unless specific provisions provide otherwise. As long as the grant equivalent³⁶ of an aid measure – the prerequisite for calculating an aid intensity – is available, it is for the Member State to choose the form in which to grant the aid.

Repayable advance

The repayable advance is a specific form of aid. It is a loan which only has to be repaid in case of failure, and therefore, it is not possible to calculate a grant equivalent according to the normal rules. While the 1996 framework already included provisions on repayable advances, the Commission has decided to lay down the permissible maximum ceiling in the text in order to increase transparency and legal certainty for Member States.

The instrument is used for highly risky activities which only generate profits after a very long time, mainly in the aerospace sector (also known as launch aid in the UK). In fact, it is a loan whose reimbursement depends on the success of the product that is developed. If the R&D project is a complete failure (e.g., terminated before the end, or with no sales) the advance becomes a grant. The repayment is normally a function of the sales. It should be designed in order to arrive at a return for the State comparable to the reference rate, for a target number of products sold. If the product is a real success, then the repayment should even be higher than the market rate. Crucial in the assessment of the advances are then the conditions for success/failure (based on the sales forecasts). Respect of the eligible costs is identical to other R&D instruments, as is the respect of the categories/stages of research.

Compared to the aid intensities, it is justified to fix a higher ceiling for the advance because the ceiling cannot be directly compared with an aid ceiling. In case of success,

³⁶ Cf. e.g. Article 2 (d) of Commission Regulation (EC) 70/2001, OJ L 10 of 13.1.2001.

STAFF PAPER
PRELIMINARY DRAFT

the loan has to be reimbursed, so there will be no aid granted, and it is only in case of failure that no repayments have to be made. In that case, the aid intensity will be 100%, but there is no risk of distortion of competition through an R&D&I-project that will never reach the market.

In its practice under the 1996 framework, the Commission allowed a repayable advance to cover up to 40% of eligible costs in case of precompetitive development and up to 60% of eligible costs in case of industrial research. Regulation 364/2004 also block-exempts aid granted in the form of a repayable advance, but only if the total amount of the advance expressed as eligible costs does not exceed the normal aid intensities permissible for the project in question. This framework now explicitly includes the permissible aid intensities in the framework in order to increase transparency and legal certainty.

Fiscal measures

Subsection 5.2.1. of the R&D&I Framework provides for special conditions for the assessment of project aid granted in the form of fiscal measures concerning the incentive effect and the calculation of the aid intensity.

In addition, it should be recalled, that, in order to be approved under subsection 5.2.1. of the Framework, an R&D fiscal State aid measure shall be based only on eligible costs incurred in activities resorting from one of the three R&D&I categories defined in section 2.2. of the Framework (i.e. fundamental research, industrial research and experimental development). In addition, the R&D&I fiscal State aid measure must respect the maximum aid intensity allowed for each of these categories, as established in subsection 5.2.1. of the Framework.

However, the use of fiscal measures is not necessarily linked to projects. Rather, R&D fiscal measures apply to costs incurred or tax payable in a fiscal year. This framework offers the possibility, by waiving the need to link the costs to clearly identified projects, to apply the R&D fiscal measure to all eligible costs incurred under one of the three R&D categories over the fiscal year. By analogy to projects, which typically last up to three years, the aid intensity may be calculated on the basis of cumulated amounts of aid and of eligible costs of up to three consecutive fiscal years.

Moreover, Member States may not wish to distinguish between different types of R&D categories but apply the same rules to all eligible R&D activities (fundamental research, industrial research and experimental development). The maximum aid intensity of such an R&D fiscal State aid measure must then not exceed the lowest maximum threshold, i.e. that for experimental development as established in section 5.2.1.

Econometric studies consistently conclude that reducing R&D costs leads to increased Business Expenditure on R&D (of which around three-fourths is that of large enterprises) in the medium to long term and, therefore, that R&D fiscal measures have overall an incentive effect for enterprises. The Commission accepts such econometric evidence as sufficient proof that such aid has an incentive effect. As R&D fiscal State aid measures benefit a broad range of enterprises, they are less selective than other forms of aid such as grants, and the risk of market distortion, notably the distortion of rivals' dynamic incentives, is reduced.

STAFF PAPER
PRELIMINARY DRAFT

When notifying such R&D fiscal State aid measures, Member States are required to provide ex ante an estimate of the number of beneficiaries. Ex post, the list of beneficiaries having received State aid in the form of a tax relief in excess of [100.000 €], including the exact amounts of aid received, shall be provided in the annual report.

7.1.5. Matching clause

The matching clause was already included in the 1996 R&D-framework. It refers to the situation that an aid applicant can prove or demonstrate that a competitor has received a higher aid intensity than permissible under R&D State aid rules for a comparable project in a third country. In that situation, the clause allows under certain conditions to “match” this intensity, thereby exceeding the normal ceilings for intensities. This clause does not refer to the situation where an applicant claims that he could receive a State aid with a higher aid intensity in a third county. The matching clause in the 1996 Framework has never been used.

The Commission has decided to maintain this clause in substance, while deleting all procedural elements which are now covered by Council Regulation 659/1999.

7.2. Aid for technical feasibility studies

In order to target the market failure related to imperfect and asymmetric information, aid to increase the information about the feasibility of R&D&I projects is allowed.

Technical feasibility study precede the R&D&I activity. Thus, they are more remote from market than the project itself. This distance to the market justifies a higher aid intensity than for the project. While the 1996 R&D-Framework provided for 50% for feasibility studies preceding precompetitive development and 75% for such studies preceding industrial research, Regulation 364/2004³⁷ introduced a uniform ceiling of 75% for SMEs, regardless of the category of research that follows.

The new R&D&I framework now in principle aligns the aid intensities for feasibility studies to the adjusted maximum permissible aid intensities for project aid.

7.3. Aid for industrial property rights costs for SMEs

Without State aid, the risk/ratio for SMEs may be particularly low for R&D&I, because often they have more restricted resources to protect their inventions and thereby obtain a satisfactory return. To increase the possibility for an SME to appropriate returns and overcome the market failure related to positive externalities, aid for industrial property rights costs can indirectly increase the R&D&I activity by SMEs.

The provision on patenting costs of the framework and in particular the eligible costs were revised before integrating it into Regulation 364/2004³⁸, with the objective to cover all, but only those costs which occur before an SME can reasonably be expected to know whether a patent will eventually be profitable or not. The intention was to create an

³⁷ OJ L 63 of 28.02.2004 p.22.

³⁸ OJ L 63 of 28.02.2004 p.22.

STAFF PAPER
PRELIMINARY DRAFT

incentive for patenting, but to exclude unnecessary operating aid. Therefore, the scope of the formulation was enlarged to cover other industrial property rights. For the same reason, the costs of prolongation, still eligible under the 1996 R&D-framework, are now excluded. The wording of the regulation is taken over into the framework.

“Patenting costs” in the meaning of this measure should not be confused with costs for the purchase of patents or licenses from outside sources, which can form part of the eligible project costs if necessary in order to carry out the R&D&I-project or could be eligible as aid for intangible investment for SMEs or in regionally assisted areas.

7.4. Aid for young innovative enterprises

While young innovative enterprises are key to innovation and the renewal of industry, they are seriously affected by many market failures hampering the innovation process. In particular, owing to a lack of internal capital and/or shortage of the collateral needed to obtain funding, they may face very tight funding constraints. Despite the existence of market-driven solutions (e.g., seed capital and business angels) State aid may be necessary to support the funding of innovative start-ups to an efficient level.

Since a strict definition of the beneficiary and the costs are provided, the effect on trade and competition of supporting start-ups is likely to be fairly small. Young innovative companies may not always be able to precisely define eligible costs and the innovative projects they undertake may change rapidly because of the high uncertainty linked with setting up a new innovative company. In order to limit red tape, and to offer maximum flexibility regarding the type of costs that may be supported, the Commission chose to provide a measure that does not imply to define eligible costs, but to focus eligibility on the characteristics of the beneficiary.

Aid for innovative start-ups was initially proposed in the Communication on State aid for Innovation. The idea behind this measure is not to replace aid for R&D&I projects for young companies, which are available to any kind of firms. It is rather to support young and small companies, which can contribute to R&D&I but, due to their innovativeness, face high risk of failure. The measure gives these firms a ‘life line’ to overcome initial difficulties (e.g. temporary cash constraints, difficulties to cover operating expenses and/or launch the business venture) so that they can successfully strive on a lasting basis. There was overwhelming support for such a measure in the consultation, but many comments and suggestions were made in order to improve the proposal. To clarify the measure, and since eligibility goes up to 5 years after creation, it appeared desirable to change the name of the measure.

Notably, the Communication envisaged not only authorising aid as a lump sum of maximum EUR 1 Mio, but also aid in the form of tax exemptions (social contributions). Favouring one form of aid (tax exemptions) was considered inadequate, given the very different situations among Member States and the risk of unequal treatment between Member States with high levels of social contributions and others.

The criteria defining young innovative enterprises are largely taken from those proposed in the Communication. The consultation showed that in some sectors, where product cycles are claimed to be substantially longer, there were requests to increase the age criteria for eligibility (some stakeholders mentioned notably bio-tech and pharmaceuticals, suggesting 8 year eligibility period). By contrast, other comments were

STAFF PAPER
PRELIMINARY DRAFT

against a sectoral approach. On that basis, and in order to preserve the focus towards the start-up growth phase of the innovative enterprise, the duration of 5 years is maintained.

Compared to the definition proposed in the Communication, a change was made in order to clarify that services are also targeted by the measure, and that the requirement is to *develop* new products in a *foreseeable future*, since many argued it is not possible to prove that the venture will be successful in producing the new products.

The definition of innovativeness is related to two criteria: novelty and risk, which must be demonstrated by the Member States. The novelty character can be shown on the basis of a business plan and associated market analysis, or on the basis of availability of a patent or other property rights showing novelty of the product by comparison to the state-of-the-art in the industry in the Community. The novelty criteria would not be met, if another company in the European Union has developed, at the time of granting the aid, the same product, process or service as the one being developed by the young innovative company. This will be appreciated on the basis of the characteristics, as well as pricing of the product.

The criteria of risk of technological or industrial failure can be demonstrated on the basis of past examples in the same sector, probability that the company will not be able to develop the product, planned volatility of returns, maximum total loss associated with technological or industrial failure, time before break-even.

From a competition point of view, the risk with providing operating aid to young innovative companies is that the aid beneficiary would in fact not have a viable business, and that the aid would only prolong its presence on the market, thus harming competition and wasting State resources. In order to avoid keeping inefficient firms afloat, a beneficiary may only receive the aid once during the period it qualifies for the aid. In addition it should be recalled that firms in difficulty are outside the scope of the framework.

Finally, several comments insisted on the need to clarify the possibilities for cumulation. For technical reasons, the lack of eligible costs makes it impossible to allow other State aid, which would be based on different eligible costs. To preserve this key feature in the measure, two provisions were added, which cover possibilities for young innovative companies to receive other State aid, once they have effectively used the aid: either by default over a 3 year period, or if they can show that they have incurred costs corresponding to twice the aid amount.

7.5. Aid for process and organisational innovation in services

Services activities constitute an increasing part of the European economy. They are increasingly combined with product offerings in the manufacturing sector and constitute an important source of innovation, which can be affected by market failures too. The Oslo Manual makes clear that innovation in services is increasingly recognised and that it tends to be a more continuous process than for goods.

Product and process innovation in services activities can be organised through R&D projects, in particular if they derive from fundamental or industrial research. However, it may be that process and organisational innovation in services activities is not directly

STAFF PAPER
PRELIMINARY DRAFT

based on a specific R&D project, but rather builds on the diffusion of knowledge and technology.

Adopting a new technology or changing the organisation may require significant expenses, not only in terms of acquiring the knowledge and technology, but also in terms of complementary investment and learning required to make use of it, and in terms of sunk costs with the previous state of organisation.

Some market failures may affect process and organisational innovation in services activities. Information imperfection may hinder the appropriate diffusion of knowledge and technology; it may also result in uncertainty about benefits, costs and length of life of the innovation, thus negatively affecting the adoption of the process and organisational innovation. Process innovation may also be hindered by difficulties to appropriate the results of innovation, especially if knowledge is tacit or embodied in staff and has not been codified.

There are inherent difficulties in circumscribing process and organisational innovation in services activities from routine company activity. The Commission used the definitions provided by the Oslo Manual, as a starting point to circumscribe process and organisational innovation in services. However, to avoid risk of circumvention, it also considered a series of additional factors, whose aim is to secure that the aid will produce externalities, and that it will not equate with routine or operational costs. The Commission notably used suggestions provided during the consultation.

To limit the risk that the aid will benefit routine activities instead of innovative ones, the following conditions were elaborated: formulate the innovation as a project; exclude routine or periodic changes. In addition, for organisational innovation, a condition is that it must always relate to the use and exploitation of Information and Communication Technologies (ICT), in order to avoid that routine changes in organisation qualify for aid.

To secure the positive effects of the aid, the following elements were introduced: i) development of a standard, business model methodology or concept which can be systematically reproduced, certified and possibly patented; ii) novelty and iii) risk. The first aspect relates to the issue that process or organisational innovation may not be appropriated by other companies, because it can not be reproduced (e.g. because it is linked to tacit knowledge). In such instances, the probability that the aid beneficiary is affected by a market failure is very limited, since the company would have the possibility to keep the benefits to itself and the externalities are limited; State aid should thus not be warranted in such cases. Similarly, unless novelty and risk are secured, it is unclear that the aid would result in something worth supporting in the first place.

Eligible costs use project costs as defined for R&D projects, with the specificity for organisational innovation that only ICT instruments and equipment are covered. Aid intensities were fixed at a level creating incentive effect, but limited because the innovation may be so close to the market that it directly rewards the beneficiary and consequently reduces the need for large incentives to conduct the activity.

Large companies may be more likely to devote resources to process and organisational innovation than small firms. They may nevertheless be faced with a market failure when they have to collaborate with SMEs (notably suppliers or sub-contractors) to optimise their activities. Aid for large companies is limited to the extent that they collaborate with

STAFF PAPER
PRELIMINARY DRAFT

SMEs, in order to make sure that process and organisational innovation is spread across networks of collaborating firms.

7.6. Aid for innovation advisory services; aid for innovation support services

Economic research has shown that innovation is a non-linear process, and that it has a systemic nature. Transfer and diffusion of knowledge and technology plays an important role in increasing the level of innovation in the economy. This is especially the case for incremental innovation, which according to some studies, is as important overall as radical innovation.

However, market failures relating to imperfect information and coordination problems are hampering the transfer and diffusion of knowledge and technology. SMEs are particularly affected by this problem, while they often also present most needs for increasing their degree of innovativeness. The measure is consequently limited to SMEs. Innovation intermediaries are public or private entities providing infrastructure and services to undertakings involved in innovative activities.

Innovation intermediaries can help solve market failures due to insufficient information dissemination, externalities and lack of coordination, by providing services and infrastructure to undertakings. However, the market price for services may be at too high a price for start-ups, small and medium-sized enterprises, and the market may be insufficiently developed for private actors to be willing to enter it. State aid is an appropriate solution to change the incentives and increase the provision and consumption of the services provided by innovation intermediaries. Such State aid targeted at services supporting innovation, entails aid for the provision of advisory services or for the provision of dedicated infrastructures. This measure was put forward in the Communication on State aid for innovation. The originality of the measure is that it is not based on eligible costs, in order to account for the very important diversity among SMEs and for the corresponding differences in their needs for innovation services and to limit the bureaucratic burden associated with identifying eligible costs precisely and controlling application.

The consultation generally supported this measure, and the amount of aid and types of services were considered adequate, with the request however to disentangle advisory and support services, which in some Member States are kept distinct, and to take account of the important diversity among innovation intermediaries.

In order to avoid the risks of windfall gains, the total amount is limited, and it is specified that the SMEs can only purchase the listed services, which do not correspond to routine activities.

An important finding from the consultation concerned the need to have a register for innovation intermediaries in order to avoid that unqualified advisors take advantage of the measure to the detriment of SMEs. It was decided consequently to introduce a condition that the innovation intermediaries should be clearly identified by the Member States in order to secure some quality control. The name of innovation intermediaries should be publicised so that SMEs know where to find them. This should contribute to further develop the market for innovation services. If no list of eligible entities can be published or no certification can be made, the Commission may however be ready to

STAFF PAPER
PRELIMINARY DRAFT

consider co-financing of 25% by the aid beneficiary as an alternative method to secure that the quality of the services provided is adequate.

Admittedly, the requirement to clearly identify innovation intermediaries may constitute an initial administrative burden. But once in place, the system should be beneficial in terms of quality, professionalism, transparency, and in terms of establishing a market for innovation intermediaries, which can contribute to increasing innovation in the Union³⁹.

7.7. Aid for the loan of highly qualified personnel

The lack of highly qualified personnel is one of the main hurdles for innovation at the level of SMEs. Since innovation activities go beyond the normal activities of the firm, hiring highly qualified personnel for conducting R&D&I activities represent a course of action which is particularly heavy for them, and particularly risky since the benefits may appear only uncertain, and market failures may hamper appropriation of the benefits. In addition, imperfect information in the labour market may hamper the recruitment of highly qualified personnel by SMEs⁴⁰.

The present measure was presented in the Communication on Innovation. It was very much supported, with stakeholders recognising lack of qualified personnel as a major obstacle for innovation in SMEs and one suffering from market failures. The measure aims at increasing the innovative potential of SMEs, but also disseminating knowledge and creating networks between the different stakeholders involved in R&D and innovation across the EU. It allows aids for SMEs that recruit on loan from a university or a large enterprise, researchers, engineers and marketing manager with university degree and at least 5 years professional experience.

The consultation on the communication on State aid for innovation led to requests to also include marketing personnel. This proposal was supported by a DG Enterprise study, which identified it as an important problem for SMEs, who may have technical abilities but not always the marketing expertise needed. The scope of the measure has therefore been increased.

The initial aid intensity proposed (35%) has been increased to 50% to match provisions under Marie Curie fellowships. Additional improvements resulting from the consultation were made in terms of better legal drafting and more specific provisions.

7.8. Aid for innovation clusters

Clusters are generally identified as groupings of innovative start-ups, small, medium and large enterprises as well as universities or research institutions, operating in a particular sector and region and designed to stimulate innovative activity by promoting intensive interactions.

³⁹ The Commission has contributed to such a process by supporting for instance the European Business Network, which developed the BIC label and certification (see e.g. <http://quality.ebn.be/Documents/1-Intro%20to%20the%20Quality%20System%20120105.pdf>).

⁴⁰ Either because the SMEs is not able to find the personnel it needs, or because highly qualified personnel may be reluctant to work for SMEs instead of large firms.

STAFF PAPER
PRELIMINARY DRAFT

Sources such as expert reports, studies by ENTR and RTD⁴¹, results from the conference on State Aid and Innovation organised by the Commission on the 17th November 2005, as well as the replies to the consultation on the communication on State aid and Innovation unanimously emphasised the key-role of clusters to promote R&D and Innovation through research, networking and transfer of knowledge.

A very important development in recent years in the field of innovation is the emergence of a new model of innovation, called Open Innovation⁴², whereby large firms increasingly use external ideas as well as internal ideas to advance their technology, employing external research and searching through external sources for innovation, new technologies, and products. One way to promote open innovation is through the creation of clusters around private companies, which join development efforts, make alliances, and build consortia with other members of the cluster. This can be supported through sharing access to a community of researchers and sharing research facilities, as well as through mutual learning and technology transfer in relevant and adjacent areas of science and innovation.

However, market failures (like externalities, coordination and network problems) may prevent the establishment and development of clusters. To increase the interaction between the firm and a series of partners, State aid may play a role by changing the incentives to engage in collaboration. State aid in such cases may substitute itself for insufficient funding, or for insufficient provisions of services and resources for R&D and innovation, thus correcting the market failure. Two elements were in particular underlined as problems for existing clusters: the lack of critical mass, and the lack of interaction between undertakings located in a same area, due to the lack of an entity in charge of animating the cluster and promoting interactions between firms.

For that reason, aid for clusters aims at delivering two joint objectives: supporting shared facilities and supporting interactions. The measure aims at supporting the establishment of open facilities that help creating and disseminating knowledge, through investment aid. The choice of such facilities was inspired notably from suggestions made during the consultation. It also aims at supporting the institutionalisation of clusters through the support of the managers in charge of animating the clusters and making it more attractive to potential members.

To that extent, the measure authorises aid exclusively to the benefit of the entity operating the cluster: i) investment aid only for the purpose of building specific facilities for the innovation cluster, as well as operating aid to animate the cluster.

Existing rules are available to Member States to grant investment aid and operating aid in assisted areas to all types of firms under the Regional Aid Guidelines⁴³, and to grant

⁴¹ ‘Creating an Innovative Europe’; Report of the Independent Expert Group on R&D and Innovation appointed following the Hampton Court Summit, January 2006; Clusters of innovation: Regional Foundation of US Competitiveness, Pr. Michael E. Porter, on the Frontier, Council of Competitiveness.

⁴² Chesbrough, Henry (2003) *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press.

⁴³ OJ C 74 of 10.03.1998 p.9.

STAFF PAPER
PRELIMINARY DRAFT

investment aid to SMEs under the SME BER⁴⁴. The measure regarding aid to innovation clusters may however be useful for Member States to stimulate the creation and expansion of open innovation campuses around private actors, which may also be large firms.

The measure avoids promoting just one way to organise clustering, in order not to prevent spontaneous development of clusters and in order to adapt to the wide range of approaches adopted by MS towards them. Moreover, Member States are free to use regional aid to support the creation and development of clusters in assisted areas.

In order to avoid crowding out and to avoid that clusters are created where there is no economic rationale for doing so, a series of conditions are attached, so that Member States demonstrate in economic terms that State aid will enhance innovation through clustering and not go against specialisation and critical mass. The Member States has notably to show that there is an economic rationale, in relation to the regional potential and the technological specialisation of the cluster. In addition, no aid is granted to firms coming to the cluster, which would lead to a risk that firms locate in a cluster to get the aid, and not because there are benefits in terms of innovation for them to locate in the cluster. The only aid granted goes to the undertaking, which runs the cluster.

7.9. The issue of eco-innovation

Eco-innovation is a sub-segment of innovation that deals with new products, processes or services, which entail an environmental component. To that extent, it is possible to give aid specifically for eco-innovation through the measures regarding aid to R&D&I activities.

In addition, in the context of the revision of the environmental guidelines, the Commission will consider the opportunity to integrate new measures that typically cover eco-innovation.

One example of such a measure regards eco-innovative design and packaging. Eco-innovative design and packing could cover the design of products which have the same properties as existing products but are designed in a new way which allows important energy savings, reductions in pollution levels, consumption of less material or of more environmentally friendly material, the use of recycled material, the possibility to recycle the product itself. Packaging is a critical issue for environmental policies. Packaging innovation with an environmental objective would aim at developing packaging that can be recycled, and to new ways of packaging that are environmentally friendly (e.g. biodegradable) or result in getting rid of disposable material, or promoting re-usable packaging. The need for such a measure in addition to R&D projects would result from the fact that eco-innovation may not be harmed by the lack of available technology, but rather by the lack of a market for eco-innovative products, which may be more expensive to develop and to produce. State aid in this case would address a clear market failure and stimulate the offer of eco-innovative products.

⁴⁴ OJ L 10 of 13.01.2001 p.33.

STAFF PAPER
PRELIMINARY DRAFT

8. OVERVIEW OF THE NEW ARCHITECTURE OF STATE AID RULES FOR R&D&I: THE FRAMEWORK AND THE BLOCK-EXEMPTION

8.1. Outline of new architecture of State aid rules for R&D&I

The framework for R&D&I should be seen in the context of the overall architecture on State aid rules for research and development. Until the entry into force of the new framework for R&D&I, there were two sets of rules on R&D: the 1996 R&D-framework and Regulation 70/2001 as modified by Regulation 364/2004 block-exempting R&D-aid to SMEs only. In its recital 12, Regulation 364/2004 clarifies that it is the framework which will be applied in order to assess all notifications.

The Commission envisages the following set of rules for R&D&I as from the entry into force of the general block exemption regulation:

There will be an expanded part on R&D&I in the general block exemption regulation (hereafter referred to as BER). Such a future general BER will cover the less problematic aid measures in the area of R&D&I. Individual project aid exceeding a certain ceiling will remain subject to individual notification. Such cases will be assessed in a “detailed assessment” under the framework, as described below.

With the entry into force of the enlarged BER, however, the R&D&I-framework will not lapse, but continue to exist as a second document setting rules for the assessment of aid for R&D&I. The framework will continue to apply to all measures notified to the Commission, be it because the measures are not covered by the BER, or due to an obligation in the BER to notify aid individually, or because the Member State decides to notify a measure which could in principle have been block-exempted under the BER, as well as for the assessment of all non-notified aid.

The framework includes rules for the assessment of the compatibility of certain aid measure for R&D&I (Part 5 of the framework) and, due to the increased risk of certain measures to distort competition and trade, additional provisions setting up a methodology to carry out a detailed assessment on such measures (Part 6 of the framework). The ceiling for detailed assessment is currently envisaged at [5] Mio € for project aid and could correspond to the ceiling for individual notification under the BER.

An overview over the architecture can be found in the annex to this document.

For project aid, the most frequent type of R&D&I-aid, this would result in the following setting:

The Commission in principle intends to block-exempt non sectoral schemes and all aid granted under such schemes as well as ad-hoc aid and to provide for a ceiling for individual notification beyond an aid amount of [5] Mio €. Beyond that amount, a case would have to be notified individually; the framework would apply and provide for the identical ceiling for a detailed assessment. Accordingly, all cases notified individually would be candidates for a detailed assessment under the framework. In cases where this ceiling is not met, but the Member State decides to notify such a measure (instead of block-exempting it), this measure would be assessed under the framework, but no detailed assessment would take place. If a Member State decides to notify a project aid-scheme, the same ceiling for individual notification (implying a detailed assessment) would apply under the framework as under the BER.

8.2. Possible scope of the block exemption regulation for R&D&I-aid

Reflections are currently under way on the scope of the future block exemption for R&D&I-aid, as part of the future General Block Exemption. While a formal proposal will have to be adopted at a later stage, the Commission could consider the following measures:

- project aid and feasibility studies for large companies and SMEs
- patenting costs (SMEs)
- aid to young innovative enterprises (small enterprises)
- aid for innovation services (SMEs)
- aid for the loan of highly qualified personnel (SMEs).

The intention is to block-exempt those State aid measures which are considered to be the least distortive to competition. These measures may include non-sectoral R&D-schemes in favour of large companies below a certain threshold with regard to project funding and feasibility studies.

The block exemption could cover also individual aid granted under schemes as well as ad hoc aid, unless it exceeds the ceiling for individual notification.

There will have to be a ceiling for individual notification of aid granted to a company for a certain project (project aid plus feasibility study). For the specific measures on innovation, no such ceiling appears necessary, since they are all sufficiently limited in amount or time.

Block-exempting certain types of aid for innovation may be justified on two grounds: first the necessity for speed and reduced administrative burden; second the limited harm to competition and trade of the measures identified, especially for those targeting SMEs only.

Sectoral rules should prevail over the general rules of the BER, since in the systematic of State aid rules, it should be for the sectoral rules to provide for the necessary procedural or substantive limitation, as was the case in the past. These rules may have to be repeated in the text of the BER due to the possible lower legal ranking of the sectoral rules in the hierarchy of norms, but there is no reason to exclude certain sectors per se from the application of the BER for R&D&I-aid.

It may be prudent, however, not to block-exempt sectoral schemes.⁴⁵ Sectoral R&D-schemes may entail an increased risk of distorting competition and trade, since the limitation to a certain sector renders them more specific and their real objective might even be rather to aid the sector than to create additional R&D&I. Such schemes could then remain subject to notification under the framework. A careful distinction will have to be made, however, between schemes limited to a certain sector and schemes aiming at certain field of research. Schemes aiming at certain fields of R&D often appear better

⁴⁵ While the previous paragraph deals with the question whether a general scheme may include companies in a certain sector, this paragraph deals with the questions whether a scheme which only applies to a certain sector may be block-exempted.

STAFF PAPER
PRELIMINARY DRAFT

targeted and better thought through by the MS than general-abstract schemes which can be used to approve all types of R&D in all fields of research.

The ceiling for individual notification of project aid could be envisaged at 5 Mio € per project per company. It will replace the twofold ceiling of the BER 70/2001, as modified by BER 364/2004⁴⁶: 25 Mio € eligible costs plus 5 Mio € aid. For reasons of simplification, it would be desirable to have only one ceiling. In addition, the 1996 rules meant that an aid between 5 and 10 Mio € only had to be notified if the aid intensity was low, not if it was high. This was not justifiable from the resulting potential of the aid to distort competition and trade. The Commission does not have the necessary data to determine how many R&D-notifications to expect with a 5 Mio €-ceiling, but one may assume that their number could increase. A more facts-based decision can only be taken following discussion with the Member States, who should be in a position to provide better estimates of the number of notifications to be expected.

In order to be able to adapt this figure based on its experience, the Commission intends to review both the BER as well as the framework in this regard after a three year period.

8.3. The new framework for R&D&I

The new framework will **apply to all aid which is notified to the Commission**, be it due to voluntary notification, or because the duty to notify a certain measure individually applies.

It provides for two different kinds of assessment:

- the normal assessment of compatibility, on the basis of rules setting certain criteria and thresholds for the maximal permissible aid to be granted;
- a detailed assessment, for which a different methodology has been developed on the basis of the new economic approach as adopted by the Commission in the State Aid Action Plan.

The detailed assessment is intended to apply to all cases which the Commission considers potentially to be more distortive than others. The framework includes a provision stating which type of assessment will be applied.⁴⁷ It will apply to

- all measures subject to an obligation of individual notification under the BER
- all measures covered by the framework exceeding an aid amount of [5] Mio €.

It must be noted that the detailed assessment is a proportionate assessment, depending on the distortive potential of the case. Accordingly, the fact that a detailed assessment will be carried out, does not automatically imply the need to enter into the formal investigation procedure, although this may be the case in certain cases.

⁴⁶ Which are identical with the ceilings in the 1996 framework.

⁴⁷ Point 6.1. of the framework.

STAFF PAPER
PRELIMINARY DRAFT

For project aid measures falling under the block exemption regulation, the ceiling for detailed assessment is identical with the ceiling for individual notification (proposal: 5 Mio €). Cases notified individually will in principle also be assessed in detail under the new framework.

The Commission intends to apply the framework to the assessment of all R&D&I-aid notified to the Commission, whatever the reason for the notification. The intention of the Commission is to create an easy, simple architecture. The Commission believes that it is preferable to apply the framework to all notifications than to let the BER take the function of a framework in case of notifications and assess such notifications against the substantive provisions of the BER. While this double-character of the provisions is the rule for the BERs 68/2001, 70/2001 and 2204/2002, whose substantive rules are also applied for the assessment of notifications, it must be kept in mind that the previous texts were abolished when those BERs entered into force. This will be different for R&D&I, where two instruments (BER and framework) will continue to co-exist. If an individual notification under the BER triggers a detailed assessment, it will automatically be assessed under the methodology described in Part 6 of the framework. In that situation, it is preferable if the substantive rules for the assessment can also be found in the same document, i.e. the framework, and the assessment is not based on two different documents.

The alternative would have been to assess for example the individual notification of a measure granting project aid with regard to procedure on the basis of the rules on detailed assessment in the framework and with regard to substance on the basis of the provisions in the BER, while deleting all provisions on project aid in the framework. This would have made the framework somewhat shorter, but would have had the effect that it would no longer have been a complete document, providing a complete set of substantive and procedural rules for detailed assessment.

9. WHICH CRITERIA FOR DETAILED ECONOMIC ASSESSMENT AND WHY

9.1. Why is a detailed assessment of some R&D&I State aid cases justified?

While the Commission takes a positive view towards State aid for R&D&I, it also considers that it would be wrong to believe that State aid for R&D&I has beneficial effects in each and every case. Given that State aid entails direct financial support to companies, State aid for R&D&I has the potential to distort competition. It may not only diminish private investment in R&D&I on the part of the recipient firm, but also on the part of competing firms. For that reason, State aid should be well targeted, and it can not be taken for granted that State aid for R&D&I will always have a positive overall impact, even though it tends to generate positive externalities.

In this context, it must also be recalled that State aid is only one element in a policy in favour of R&D&I. State aid may generate very limited additional R&D&I activity in an economy suffering from unavailability of trained workforce and researchers, for instance.

STAFF PAPER
PRELIMINARY DRAFT

A general policy for research, development and innovation is necessarily more comprehensive than just State aid and includes a series of policy instruments⁴⁸.

In particular governments may invest in university education, research programmes and facilities, to support the provision of R&D&I capabilities in the economy. Economic theory shows that R&D&I capabilities influence technological change, which has an impact on the level of productivity, the rate of economic growth and therefore on living standards. The objective of R&D investment reaching 3% of GDP by 2010, up from 1.9 % in 2000 can be understood in that context.

State aid essentially impacts as an instrument to change incentives and optimise the output of R&D&I activities on the basis of the capabilities offered by the market. Even if R&D&I capabilities are present in the economy, private markets may be unable to generate an optimal quantity of R&D&I. This is due to significant market failures in R&D, or, more generally, in the innovation generating process.

The Commission considers that especially in cases of high aid amounts, there is an increased risk that competition may be distorted to an extent contrary to the common interest. State aid will have a positive impact towards R&D&I only if it addresses a well-defined market failure hampering R&D&I, is well targeted and results in limited distortions to competition and trade. For that reason, in cases that have an important potential to distort competition, the Commission considers that each element in the balancing test should be demonstrated, and that it can not be taken for granted that aid following the rules on eligible costs and maximum intensities will automatically result in a positive balance by comparison with the negative effects of the aid.

Accordingly, the Commission has developed a more detailed methodology of assessment to cover cases that are a priori problematic for competition and trade.

9.2. Selection criteria for the aid measures subject to a detailed assessment

The Commission considers a detailed economic assessment to be necessary in order to make sure that problematic cases do not result in excessive distortions to competition and trade. The detailed assessment aims at conducting an analysis of the likely effects of the aid measure, both positive and negative.

The Commission used three main criteria to determine which cases a priori raise competition concerns:

- Aid amount: the higher the more likely the problematic effects
- Type of beneficiary: State aid for SMEs tend to produce fewer negative effects
- Closeness to the market: the closer to the market, the more problematic the aid may be

As a result, measures with a limited amount of aid and measures only to the benefit of SMEs will not be subject to a detailed assessment. This involves: aid for industrial

⁴⁸ Notably: university education, research programmes and public research facilities, IPR rules favouring innovation, attractive framework conditions for firms to do R&D&I.

STAFF PAPER
PRELIMINARY DRAFT

property rights costs for SMEs, aid for young innovative enterprises, aid for innovation advisory services, aid for innovation support services, aid for the recruitment and loan of highly qualified personnel.

For the other measures, detailed assessment will be carried out above a certain amount of aid. The amount was determined on the basis of past experience with notified aid measures.

In cases involving relatively high aid amounts, the Commission would expect from Member States that they have routinely conducted some cost/benefit analysis before granting a selective advantage to a private undertaking to conduct R&D&I. These could form an important input into the Commission's analysis.

9.3. Criteria for investigating the presence of a market failure

A market failure is said to exist when the market, if left to its own devices, does not lead to an economically efficient outcome. It is in those circumstances that State intervention, including State aid, has the potential to improve the market outcome in terms of prices, output and use of resources for all stakeholders concerned.

The most robust type of market failure in the field of R&D is externalities. Due to technological or knowledge spill-overs, e.g. through information dissemination, the social returns of R&D tend to be higher than the private returns which companies are able to make when doing R&D⁴⁹. There are also other market failures of relevance in the field of R&D, such as imperfect and asymmetric information giving rise to capital market imperfections and to incomplete contracting issues in IPR protection (especially relevant for research joint ventures and other types of research collaboration), as well as to coordination or network problems among companies doing R&D.

Market failures hampering innovation are essentially the same as those hampering R&D. The difference is that innovation is closer to the market. Accordingly, innovation may bring more predictable benefits, and a higher possibility of appropriation. Technological or knowledge spill-overs, problems of appropriability, coordination or network failures and imperfect and asymmetric information may thus affect the innovation process as well, albeit to a lesser degree than for R&D.⁵⁰

Member States can illustrate the existence of a market failure through benchmarking. Such benchmarking may show that other regions, markets or sectors witness a higher level of R&D&I than the relevant market in question. This may give an indication that the level is lower than what could be expected. However, benchmark analysis may be

⁴⁹ For empirical evidence, see in particular Griliches et al. (1998) and Bloom et al. (2005).

⁵⁰ Innovation market failures and State aid: developing criteria. Report prepared for DG Enterprise and Industry, European Commission, by Oxera, November 2005 (http://europa.eu.int/comm/enterprise/library/lib-competition/doc/innovation_market_failures_and_State_aid.pdf).

STAFF PAPER
PRELIMINARY DRAFT

inadequate because comparisons are imperfect, or because the market failure is so widespread that all benchmarks suffer from it⁵¹.

The identification of a market failure in the field of R&D&I requires that existing R&D&I capabilities are evaluated. Market failures only prevent the market from reaching the optimal output that could be made out of existing R&D&I capabilities. If a low output level is identified, in terms of R&D&I, it may thus not be due to a market failure, but rather to insufficient R&D&I capabilities (absence of university or research and training centre, lack of human capital, lack of research facilities, lack of technology and knowledge transfer). If the economy only has few R&D&I capabilities available, efficient markets will only be able to deliver low levels of R&D&I activity.

Member States should therefore start with analysing their R&D&I capabilities and potential, and possibly address shortcomings at e.g. the level of higher education, university funding, R&D&I infrastructures, before automatically concluding that unsatisfactory levels of R&D&I can be addressed through State aid. In assisted areas, which suffer from unfavourable framework conditions, other types of State aid support (like regional aid or compensation for Services of General Economic Interest) may thus constitute a useful complement to R&D&I State aid, to step up R&D&I capabilities.

Member States may on the basis of a qualitative analysis obtain indication of the type of market failure, which is most likely to hamper the activity in question. As a minimum, the Member State should explain the type of positive spill-overs that are expected as a result of the State aid induced R&D&I and the likely direct beneficiaries of these spill-overs.

In addition some observations can be made as regards which market failure is likely to be present:

Knowledge spill-overs are, in general, more likely to occur:

- where such knowledge spill-overs are in themselves an important objective of the project (as in public research; public private partnership);
- the more general the knowledge created by the activity or firm i.e., the less product-, process-, firm-, or market-specific that knowledge is;
- the more problematic it is to 'codify' the knowledge generated; e.g., intellectual property rights (IPR) may not guarantee appropriability (or at least full appropriability) because knowledge leaks.

Imperfect and asymmetric information problems are more likely to occur:

- the higher the overall uncertainty in relation to the success of the project;
- the more complex the project is, and the earlier the company/project is in the cycle;

⁵¹ In risk capital, the task is less complicated because the gap is between actual demand and actual supply of risk capital, and not between a social optimum and actual supply as it is for R&D&I.

STAFF PAPER
PRELIMINARY DRAFT

- the greater the need for external finance and the less the firm undertaking R&D&I has a track record;
- the higher the costs of the project

Coordination failures of the type affecting collaborative R&D projects are more likely to occur:

- the larger the need for firms to interrelate, for the project to succeed e.g., because it requires a wider variety of competencies;
- the higher the number of cooperating firms and the greater the intensity of cooperation
- the more there are diverging interests between cooperating partners;
- the more it is problematic to design adequate contracts governing the cooperation (e.g. due to imperfect and asymmetric information) or where it is difficult for third parties to coordinate cooperation;
- the greater the risks associated with the project, and the more difficult it is for investors to price such risk.

In addition, general assumptions can be made about the relative size of market failure depending on the size of the beneficiary, the distance of the activity from commercialization and to what extent cooperation and diffusion of knowledge is part of the activity.

9.4. Criteria for checking whether State aid is an appropriate instrument

Economic research shows that State aid is just one component for fostering increased levels of R&D&I. A widely accepted role for State intervention may also be seen in providing a general R&D infrastructure/framework conditions. Within such a comprehensive (“systemic”) approach the need for State aid plays, however, a much more limited role. The systemic approach focuses on positive complementarities between different policy instruments – like IPR policy, competition policy and education policy. The systemic approach justifies putting greater emphasis on the question as to whether State aid is the appropriate instrument⁵².

To that extent, for cases a priori raising competition concerns, the Commission finds it important and legitimate to verify whether Member States have at least considered the possibility of using alternative policy instruments from State aid.

Public intervention to support R&D&I can take many forms:

1. Provision of public goods that are used as inputs in the production of innovations, such as education and basic research (government or university performed).

⁵² References can be made to papers by Mohnen/Röller (2005); Jaffe (2002), Röller/Friederiszick/Neven (2003) and Veugelers (2005).

STAFF PAPER
PRELIMINARY DRAFT

2. Alleviating market failures in input (financial and labour) markets and in output markets, by strengthening market competition. Specifically, to correct market failures in financial markets, governments can intervene through
 - Risk capital measures, or supporting venture capital markets
 - Guarantees for loan or equity financing
3. Regulatory measures that address appropriability problems generated by spill-overs, such as an effective patent system. These measures must however be combined whenever possible with measures emphasizing the need to enhance information sharing and dissemination. This implies that:
 - A high degree of dissemination is allowed from basic research undertaken by the public sector that is used as an input by the private sector
 - A licensing system is established that effectively rewards information sharing between private firms and between private firms and public research organisations (including Universities⁵³), and
 - Mechanisms that enhance coordination and information sharing and thus interconnectedness between firms and other actors of the research and innovation system are promoted. These include RJVs, and efficient networking and clustering between horizontally and vertically related research and innovation organisations.
4. Financial incentives to private R&D&I affecting directly firms' anticipated net returns from investing in R&D&I. These may be:
 - Direct government funding of business-performed R&D.
 - This includes R&D procurement (where results may belong to a recipient that is not necessarily the performer), and R&D grants or subsidies (where results belong to the performer). The latter includes various forms of grants, interest rate subsidies etc. These often include specific constraints aimed to simultaneously promote framework conditions e.g. firms may be required to establish joint-ventures.
 - Indirect (fiscal) incentives. These include: (a) tax credits – amounts deducted from tax liability; (b) tax allowances – amounts over current business expenses deducted from gross income to arrive at taxable income; (c) tax deferrals – relief in the form of a delay in the payment of a tax.

The choice of the appropriate instrument is a standard question addressed by impact assessment. In the case of high aid amounts, the Commission will take a less favourable stand towards State aid for R&D&I when it is clear that the notifying Member States has not conducted any evaluation whether other instruments would be better placed than State aid to address the targeted problem.

9.5. Incentive effect

In the field of R&D aid the assessment of windfall gains – and hence of the incentive effect – is at the centre of the assessment. Where the public authorities give aid to companies to do R&D&I, where they would have done the R&D&I in any event, there is a particular risk that R&D aid crowds out private investment on the firm level and on the part of competitors, thereby distorting competition⁵⁴. In this context it should be recalled that given the desire of Member States to increase the overall level of R&D carried out in

⁵³ Such as the “Law on Technology License Organisations” of Japan (1998).

⁵⁴ See for instance David et al.(2000), Klette et al., Jaffe (2002); Yager and Schmidt (1997).

STAFF PAPER
PRELIMINARY DRAFT

their country, R&D intensive firms have significant bargaining power vis-à-vis individual Member States and may be able to set off subsidy races among Member States. This is why the Commission will pay particular attention to the incentive effect in its detailed assessment.

To analyse the incentive effect, the Commission will require evidence at the level of the aid beneficiary, which shows as concretely as possible that without State aid, the targeted activity would not take place, or not to the same extent. This includes analysis of risk and of profitability of the activity targeted by the aid, on the basis of a counterfactual analysis (i.e. comparing what would happen with and without the aid).

9.6. Proportionality of the aid: aid kept to a minimum

Proportionality is normally secured through the eligible costs, conditions and aid intensities specified in the measures for State aid to R&D&I. However, an aid could create such a selective advantage for the aid beneficiary that it may not deserve as high intensities as those foreseen in the framework. Where it is verified that State aid changes the behaviour of the company and leads to more R&D&I (incentive effect), it still needs to be verified that the amount of aid is kept to the minimum. In practice, the analysis will derive largely from the one conducted under the incentive effect, since it corresponds to the exact level of aid needed to produce the incentive effect. However, in certain cases, additional elements may also be relevant. For instance, where there are multiple (potential) candidates for undertaking the R&D&I project in a Member State, this requirement is more likely to be met if the project has been subject to an open tender procedure.

9.7. Analysis of the distortion to competition and trade

R&D&I aid is essentially targeted at activities, which precede the introduction of new or improved products, processes and services. It may however have negative effects on competition in the existing product markets or in product markets that will be created as a result of R&D&I activities.

In the assessment of the anti-competitive effects of R&D State aid measures a purely static approach is of limited value; market definition and market share analysis is a reasonable starting point but has to be adapted to the specificities of innovative industries. Understanding of the dynamic rivalry process is key for the assessment of the anti-competitive effects.

When it comes to assessing the potential negative effects of the aid measure on competition, the Commission will focus on the foreseeable impact the R&D&I aid has on competition in product markets. The impact on rivalry in the innovation race will be relevant insofar as it has a foreseeable impact on the outcome of future product market competition. In certain cases the results of R&D&I, e.g. in the form of intellectual property rights, are themselves traded in so-called technology markets, for instance through patent licensing. In these cases, the Commission may also look at competition in the technology market. Firms engaged in R&D&I activities compete in innovation with the prospect of introducing new products, processes or services. Where two firms are competing in innovation, their decisions regarding innovative strategy tend to be influenced significantly by the innovative strategies employed by rival firms — failure to innovate successfully will lead not just to loss of potential profit but also to the risk of

STAFF PAPER
PRELIMINARY DRAFT

falling behind innovative rivals. An assessment of the anti-competitive effects of R&D&I State aid has to take into account specificities of innovative industries⁵⁵

Distorting dynamic incentives

If well targeted, State aid in support of R&D&I has an impact on the process of innovation. As R&D&I aid changes the behaviour of the recipient, it has an impact on the innovation race, i.e. the rivalry in terms of R&D&I which takes place upstream of product markets. The main concern related to R&D&I aid to companies is that rival companies' dynamic incentives to invest are distorted. When a company receives aid, this generally increases the likelihood of successful R&D&I on the part of this company leading to an increased presence on the product market(s) in the future. This increased presence may lead rivals to revise their future revenue prospects from R&D&I downward.

Two reactions from rivals can be envisaged. Either they reduce the scope of their original investment plans (crowding out effect), or they maintain or increase the scope of their plans. It is clear that in both cases rivals are affected. However, the Commission is concerned primarily about crowding out effects, as they may result in a lower overall increase (or even in an overall decrease) in the level of R&D&I activity in the markets. When rivals are likely to respond by stepping up their efforts, the Commission is less likely to view the effect on rivals as a negative effect of the aid measure. A number of factors influence the way in which rivals are likely to respond. A rival company is more likely to maintain or increase its investment plans when exit barriers to the innovation process are high. This may be the case when many of the rival's past investments are locked in to a particular R&D&I trajectory. When most of its costs are specific to a particular R&D&I trajectory this makes the firm less willing to exit the innovation race or to reduce investment plans.

Another relevant factor is whether the aid leads to an increase in the asymmetry in R&D&I positions of the various market players. R&D&I aid which leads to the recipient firm becoming an undisputed leader in the R&D&I race (in terms of the degree of technological advance or in terms of timing) may negatively affect rivals in particular when competition is "for the market" rather than "in the market". Competition "for the market" is often associated with "winner takes all" competition, implying that there is a sharp difference between the revenue prospects of the winner and the company that comes second. Whereas without the aid, several companies are competing to become the winner with a certain probability of success, after the aid, rival companies' probability of success has become much weaker. If so, these rival companies' response may no longer find it profitable to participate in the innovation race.

Competition "for the market" is often related to innovation which is radical rather than incremental, and where the innovation leads to products which consumers uniformly view as more attractive or to improved production processes (vertical innovation). Competition "for the market" can arise in particular where IPR rights enable the first company to legally prevent followers to enter the product market, or to do so profitably. It is also more relevant where there are strong first-mover advantages, e.g. in the form of

⁵⁵ See for instance Encaoua et al. (2002).

STAFF PAPER
PRELIMINARY DRAFT

network effects, i.e. where a higher number of customers increases the attractiveness of the product so that the market tends to tip towards one product, or by learning-by-doing effects, allowing first-mover companies to acquire efficiency by being the first.

Where product innovation is rather about developing differentiated products which attract some customers more than others (horizontal innovation), the effect on the incentives of competitors which develop differentiated products may be more mitigated. However, also in such circumstances, increased asymmetry may lead to a significant enough downward revision of future market shares and, hence, of market revenues, leading rivals to scale down their effort. In the extreme, when the sales volumes drop below minimum viable scale, rivals may decide to abandon the innovation.

The more the aid measure is aimed at R&D&I activity close to the market (the stage of pre-competitive development and, to a lesser extent, industrial research), the more it is liable to develop the type of asymmetry described above. Aid geared towards fundamental research is less likely to produce lasting asymmetry given that results from fundamental research tend to be disseminated. The more the aid is aimed at R&D&I activity close to the market, the more any resulting asymmetry is likely to have a foreseeable impact on competition in the (future) product market.

Aid measures which involve significant amounts of aid are more likely to create the type of asymmetry positions described above. For that reason, the Commission will pay specific attention to the size of the aid amount. The significance of the aid amount will be measured with reference to total private R&D expenditure in the sector, and the amount spent by the main players.

Crowding out effects give rise to particular concern where firms are affected that, in the absence of the aid, would have been very well placed to deliver the innovation (because of the state of their R&D&I and their capabilities to further develop). Where the supported research projects are tendered out or where the grant is given on the basis of objective and non-discriminatory criteria, the Commission will take a more positive stance. Such procedures enhance the likelihood that it is the best placed company that will benefit from the aid, thereby limiting the distortive effects of the aid. By contrast, where the procedure is highly selective, the aid may be viewed as more problematic.

Creating market power

Aid in support of R&D&I may also have distortive effects in terms of increasing or maintaining the degree of market power in product markets. Market power is the power to influence market prices, output, innovation the variety of quality of goods and services, or other parameters of competition on the market for a significant period of time, to the detriment of consumers.

R&D&I effort on the part of the recipient inherently has a tendency to provide consumer benefits, because it leads to new or improved products (product innovation) or to more efficient production processes (process innovation). For this reason, the Commission will tend to be concerned only about those R&D&I measures allowing the aid beneficiary to transfer or strengthen market power held on existing product markets to future product

STAFF PAPER
PRELIMINARY DRAFT

markets. When as a result of the increase in market power consumers end up being worse off in the foreseeable future, a market power concern is warranted.⁵⁶

The degree to which the recipients of State aid have a degree of control over the various markets concerned is important. Where the recipient is already dominant on a product market, the aid measure may reinforce this dominance by further weakening the competitive constraint that rivals can exert on the recipient company.

Similarly, State aid measures may have significant impact in oligopolistic markets where only a few players are active. It may be that as a result of the aid, the number of active players in the future product market is reduced, leading to a reduction in price competition due to unilateral effects or coordinated effects.

In order to assess the market power of the aid beneficiary and its competitors, market shares in the product markets are an element of analysis. The Commission will assess market shares both *ex ante*, that is before the aid is granted, and *ex post*, that is after the aid is granted and the targeted activity is carried out. If future market shares can be assessed with a reasonable degree of precision, e.g. on the basis of business plans and market forecasts, the Commission will put more weight in its assessment on future market shares as a basis to assess the market position the aid beneficiary will acquire as a result of the aid.

In some markets, market power in existing product markets may be a good indicator of the market power of the aid beneficiary in the future as well. This is the case where market shares tend to change only gradually, for instance, due to inertia in consumer preferences or due to network effects.

In general, the Commission is unlikely to identify competition concerns in markets where each aid beneficiary has a market share below [25%]. Equally, markets having a market concentration with Herfindahl-Hirschman Index (HHI) below [2000] do normally not raise concerns. In both cases, however, care must be taken when special circumstances such as, for instance, one or more of the following factors are present:

- There are significant cross-shareholdings among the aid beneficiaries;
- indications of past or ongoing coordination, or facilitating practices.

Where the recipient of the aid has a market share above [40% to 50%], the State aid measure is liable to warrant scrutiny.

In the field of R&D&I, significant entry barriers may exist for new entrants. These barriers comprise legal entry barriers (in particular IPRs), capacity constraints (limited R&D facilities), economies of scale and scope (e.g. firms need a critical mass to carry out large scale R&D projects), absolute cost advantages (e.g. a firm may have preferential access to publicly financed research laboratories or tacit knowledge), privileged access to supply (e.g. a firm may hold essential IPRs necessary for other to

⁵⁶ The Commission considers a period of 5 to 10 years after the aid is granted as an appropriate timeframe to assess the negative effects of an aid measure. Effects arising in the very far future are unlikely to raise competition concerns.

STAFF PAPER
PRELIMINARY DRAFT

compete effectively in the innovation race), a highly developed distribution or sales network allowing the firm to maintain its market position, the established position of the aid beneficiary in the product markets or other strategic barriers to entry or expansion.

The market power of a firm may also be limited by the market position of the buyers. The presence of strong buyers can serve to counter a finding of a strong market position if it is likely that the buyers will seek to preserve sufficient competition in the market.

In its assessment of the likely effects of an aid measure on the market power of the aid beneficiaries, the Commission will pay particular attention to the selection process of the aid. Aid measures which allow firms with a strong market position to influence the selection process, e.g. by having the right to recommend firms in the selection process or influencing the research path in a way which disfavours alternative paths on unjustified grounds, are liable to raise concern by the Commission that the aid will be distortive to an extent contrary to the common market. Similarly, selection processes which increase the likelihood of coordination of behaviour between the aid beneficiaries in the product market will raise serious doubts as regards compatibility of the measure.

Maintaining inefficient market structures

As R&D&I aid supports firms in an activity which is key to their business, it has the effect of supporting their continued existence in the market. When R&D&I aid takes place at too large a scale and on a repeated basis, a market structure may arise which features many players operating significantly below efficient scale.

In particular, aid granted in markets featuring overcapacity and aid given in declining industries is likely to be problematic in that it risks creating or maintaining inefficient market structures. These industries normally witness exit or consolidation so as to restore the profitability of the industry to normal levels. R&D&I aid to individual companies may alter this process by cementing the market position of any given recipient, creating the risk that a wasteful subsidy race develops among Member States.

The above scenario is more likely to be problematic for innovation measures, which are closer to routine activities. The risk is here that State aid may defer market adjustments and maintain inefficient market structures.

Distortions in terms of trade flows and location of economic activity

The above described effects on competition in future product markets, which by themselves can be viewed as negative, are also likely to result in an effect on trade in the common market. For instance, where R&D&I aid leads to the crowding out of rivals, the aid measure may essentially result in a shift of trade flows and location of economic activity, especially if the product concerned has a high degree of tradability.

A separate concern arises where the object or effect of the aid is to attract R&D&I activity by a given recipient away from other Member States, which are by themselves more attractive locations for the recipient. In such circumstances, wasteful subsidy races among Member States seeking to attract R&D&I activity may arise. Information showing that the location supported by the Member State indeed provides a comparative advantage for undertaking the envisaged project is relevant in this respect.

STAFF PAPER
PRELIMINARY DRAFT

Aid measures which merely result in shifts of R&D&I activity are less likely to be viewed as positive by the Commission in view of the wasteful character of the subsidy race which evolves with it. However, where subsidy races lead to a further increase in the level of R&D&I activity, the Commission will take a more positive view.

10. REPORTING AND MONITORING

The framework obliges the Member States to provide details on the beneficiaries and the individual aid measures granted under approved schemes in their annual reports. In addition, Member States will have to continue to demonstrate and explain how the incentive effect of the aid was verified before granting aid to a large company under an approved scheme.

The framework introduces a new reporting obligation on certain cases which are not subject to the individual notification obligation, but exceed certain aid ceilings. For such cases, Member States must send information on the aid measure to the Commission within 20 days following the granting of the aid. The Commission will publish this information on the internet, thereby considerably increasing transparency, as foreseen in the SAAP.

The reinforced annual reporting and the immediate reporting obligation must be seen in the context of the whole new State aid architecture for R&D&I as an attempt to implement a consistent system of State aid control while at the same time limiting the administrative burden for all sides to the minimum necessary.

11. STATE AID POLICY AND GLOBALIZATION

Currently, potential harm to EU industry caused by State subsidies of third countries' government is addressed through the instruments of common commercial policy, i.e. WTO dispute settlement. One of the reasons for this approach is the risk of intra-EU competition distortion and possible undermining of other common objectives (e.g. cohesion) which are recognised by State aid rules. The only State aid rules that foresee a possibility of matching the aid intensity granted to a third country competitor by a Member State, after examination by the Commission, is the 1996 R&D framework. The matching aid can be granted, also above the aid intensities allowed in the R&D framework, if it can be shown that similar project received or is going to receive aid outside the EU. The matching clause is maintained in its current form in the new framework.

STAFF PAPER
PRELIMINARY DRAFT

ANNEX: Overview over architecture of the State aid rules for R&D&I

<p>Detailed assessment under R&D&I-Framework</p> <p>For aid amounts exceeding [5] Mio € :</p> <ol style="list-style-type: none"> 1. project aid plus aid for feasibility study 2. process and organisational innovation 4. innovation clusters 	
<p>R&D&I-Framework</p> <p>Assessment:</p> <ol style="list-style-type: none"> 1. Sectorial schemes and all measures which are in principle block-exempted, in case of voluntary notification or non-notified aid 2. Process or organisational innovation 3. innovation clusters 	<p>Ceiling for detailed assessment : [5] Mio €</p> <ol style="list-style-type: none"> 1. Same ceilings as for individual notification under the BER 2. aid exceeding [5] Mio € 3. aid exceeding [5] Mio € (per cluster)
<p>BER</p> <p>Measures which could be exempted:</p> <p>(Horizontal schemes, aid granted under non sectorial schemes and ad-hoc measures unless exceeding notification ceiling)</p> <ol style="list-style-type: none"> 1. project aid 2. feasibility studies 3. patenting costs SMEs 4. young innovative enterprises 5. innovation services 6. acquisition/loan personnel 	<p>Ceiling for individual notification leading to detailed assessment:</p> <p>1.+ 2: above [5] Mio €</p>

SITUATION on 1.1.2006

<p>FRAMEWORK</p> <p>Assessment:</p> <p>R&D aid to large companies</p> <p>R&D schemes applicable to SME and large companies</p> <p>All notifications (including SMEs)</p>	<p>Ceiling for individual notification in BER-SME and in framework:</p> <p>Aid amount > 5 Mio € and eligible costs > 25 Mio €</p>
<p>BER</p> <p>Exempted measures:</p> <p>R&D aid to SME</p>	