

European Added Value of Community Research Activities

Expert Analysis in support of the Ex Post Evaluation of FP6

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WWTF – Vienna Science and Technology Fund

October 2008



Wiener Wissenschafts-, Forschungs- und Technologiefonds

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Preface and Acknowledgements

This paper is one of six expert contributions for the FP6 Ex Post Evaluation Panel 2008 and was commissioned by the Evaluation Unit of DG Research.

The topic of the European Added Value (EAV) is not easy to explore. Different manifestations and meanings need different approaches; and there has been a remarkably broad and not always consistent use of this term over the last ten years. Therefore I am grateful for the discussion with and great help from my colleagues at WWTF, Klaus Zinoecker, Daniela Frischer, Michaela Glanz and Roland Schneider. To include various perspectives over time Klaus and I had interviews with a number of experienced policy makers and experts in this field in Austria, namely Manfred Horvat, Raoul Kneucker, Sepp Mandl, Fritz Ohler and Wolfgang Polt. I am also indebted to a number of my fellow experts in this evaluation process. However, all opinions, errors and misunderstandings are those of the author (who hopes that some European Added Value can be drawn from this paper) and no one else is to blame.

Executive Summary

Taking stock of the discussion and use of the term „European Added Value (EAV)” over the last ten years shows us a multi-faceted concept difficult to operationalise.

A clear EAV vision is of great importance. Its claim works as a necessary condition for European RTDI policy formulation, execution and evaluation: Our policy field has been always a dominantly national prerogative where European action came in only as “additional” and / or “subsidiary” activity, though with a growing size and importance over the last decades.

The potential for new, clearer and more dynamic definition and use of a European Added Value is the positive side of the coin: The advent and embracing of ERA policies now slowly but surely brings in new elements of discussion, definition and also of opportunities. This goes partly beyond the spheres of pure ‘additionality’, ‘subsidiarity’ or ‘complementarity’ rationales, which tended to dominate the discussion on the division of labour between Member States and Community in this policy field until few years ago.

However, the concept as we stand today suffers from a certain lack of clarity and carries some deadweight. This also means that different rationales for added value through European intervention are on the market and in the minds of people. A common definition is

missing. The following points are drawn from a survey of numerous EC / EU documents and other literature plus a few discussions with Austrian experts.

First, definitions tend to be fuzzy and – even worse – vary over times, places and policy levels, sometimes drawing from ‘additionality’ sources or critical mass arguments, sometimes from a ‘subsidiarity’ argumentation, in other cases relying on the complementary nature of EU funding. As always with terms and definitions in EU RTDI policy making, shifts from one Framework Programme formulation to the next continue to be popular. These shifts build up different layers of locked-in memory states and allows sub-groups to come forward with their own definitions what EAV, additionality and other terms could mean. This does not mean that there are no ‘valuable’ concepts behind the EAV curtain, quite on the contrary; they just change frequently and different actors have different things in their minds. So EAV over times and places remains a cloudy concept, principally allowing all kind of interventions; and rare remain the popular stories of proposals for action *explicitly* sacked or stopped because an explicit EAV check could not be passed. Some new and hopeful definition elements however seem to evolve along with the ERA concept.

Second this leads to a ubiquitous use of the concept, perhaps because it comes along for free: Everybody can claim EAV everywhere. The two spheres of ‘EAV’ and of general important European RTDI goals are overlapping but not identical. Such EC / EU high level goals – according to the Meta-evaluation 2005 – are so abstract that they remain untestable, therefore untested.

Third EAV enters the room when the first big decision has been already taken: First comes the decision to start a next FP with 90% thematic and instrument continuity (though under new flashy headings), and only then the potential added value is being checked within the established system of funding. Given the immense amount of money, participants, memories, interests, stakeholders and governments involved, this approach is clearly understandable ... up to a certain degree. It becomes less understandable when we see how much better a European Added Value can be argued for other instruments like large shared infrastructures or common big missions. Some voices begin to question the value of “more of the same and better” of the existing FP approach. What comes as a consolation is ERA policies again and the instruments linked to this like the ERC or coordination tools which both show clearer rationales.

Fourth not only other instruments have better arguments on their side, the typical Framework Programme furniture has its drawbacks regarding EAV: There are many, relatively small and relatively unrelated projects around, all multi-goal ridden, all with their individual EAV claims, their special advantages. Taken together you can see this picture from two angles; one being the gigantic sum of thousand individual values added, adding up to a symphony of Europeanisation, the other being an opaque, blurred picture with few overall convincing evidence. The second view could be taken when you take into account that always something is happening at the backdrop of annual multi-billion spending. Again, positive

signals include larger, mission oriented initiatives, like the JTI's or single issue instruments like the ERC; the former to overcome the size problem, the latter to stand as an answer to the dire "catch all objectives, serve all purposes" approach of typical FP instruments.

Fifth EAV is difficult to break down into operational goals and has indeed been in the past not optimally broken down into operational goals, selection criteria and expectations for outcomes and impacts, which has been once termed as the law of the missing middle. It has to be noted that at the end of the programme cycle evaluators have to come forward with concrete evidence for all kinds of (European) value added. As the clearest sign for EAV is cooperation and multi-country participation, unsurprisingly "more and better cooperation" and "building up competences" are always heading the result tables in the ex post impact evaluations. This will and should remain an important part of European programmes and the cooperation goal in Europe will perhaps never consume itself. However, after twentysomething years of European RTDI policy the prominence of "EAV through more cooperation" becomes questionable (and a little self-fulfilling) on the backdrop of other, less easily traceable and visible outcomes and impacts. Note that a Court of Auditors evaluation of the EC / EU RTDI evaluation framework has been rather harsh lately. Contrary or in addition to ECA's plea for better intervention logics the real problem could be hidden in the design and goal overload of the instruments and not in any ill-constructed evaluation logic itself.

Sixth a positive outlook and a few recommendations from the EAV perspective centre around the evolving ERA story and co-ordination rationale while the conclusions part includes arguments to invest a larger fraction of the European RTDI budget block into infrastructures, large mission oriented ventures, single mission (and agency operated) instruments like ERC and into leveraging national / regional funding. This could go hand in hand with a certain de-framing and re-working of the existing programme architecture in the future and – difficult enough – with a turn in the overall logic of designing the European RTDI policy: Instead of 'goals have to follow the instruments' the other way round could be worth a try.

1. EAV: Definitions and use over time

a. History shows different approaches

When starting the Framework Programmes in the 1980ies, the Commission attempted to come forward with a coherent research (policy) strategy. The first FPs had a strong focus on industrial competitiveness without ignoring the need for high quality research; and they established the frame of multi-partner programmes, which became a key feature until today. Over the years and FPs, budgets, number of topics, goals and ambitions increased. The instrument of collaborative projects remained core over time but other forms of intervention were added. A similar extension can be seen as regards goals where some extras beyond quality goals came under the heading of the European Added Value (EAV): Cohesion, scale,

complementarity or contribution to unification. FP5 centred on hard-to-measure socio-economic goals, while with the beginning of FP6 the ERA element became stronger.

Above and within such goals the concept of a European Added Value served and serves as a prominent semantic construction to show that FP interventions can produce something special, something beyond the possibilities of the Member States and other actors. Now what does this term EAV mean? In the following some definitions shall be presented to show the scope and main contents of this concept. The main point here is not to tell a long story in chronological order but to show how diverse and soft this concept comes along:

An EU commissioned study from 2000, a time when the term EAV had been more on vogue than ever, presents the following definition: *“EAV is the value resulting from EU support for RTD activities which is additional to the value that would have resulted from RTD funded at regional and national levels by both public authorities and the private sector.”* (Yellow Window et al., 2000, p. 3). So not only the question matters whether public support shall be granted but also the proof or at least the claim (i) that the Community or another “European” level either is best suited for action and / or (ii) that the outcomes include profits for some or all Member States. According to this study mainly subsidiarity and additonality concepts have been developed to form the term EAV.

In a similar way the 2005 Ex Ante Assessment for FP7 considers as “(t)he essential rationale for the FP ... that it *finances activities in areas that will benefit from public sector support, and, crucially, that these activities can be more effectively carried out at a European level. In other words, the FP should target funding on those actions that can produce a value over and above that which could be achieved through national or regional programmes.*” This study states the complexity of the term EAV and sees a broad consensus on general contents of this concept; namely (i) pooling and leveraging of resources, (ii) fostering human capacity and excellence, and (iii) better integration of European R&D (European Commission, 2005a, p. 21; see also Muldur et al. 2007). Here we can spot other – more ERA related – arguments beyond additionality and subsidiarity going more in the direction of optimal resource allocation per se. We will come back to this work in Box 1 to show the extraordinarily high number of EAV manifestations.

Another explanatory approach coming from the political sciences places EAV into two broader contexts; one being the general “value turn” in governance and public administration matters (like New Public Management) based on political ideas and on economic rationales. The second backdrop is EAV being used as a rationale for many policy fields also beyond our RTDI world – with the frequency, pervasiveness and ease of the EAV argument sometimes undermining its credibility and with different ‘epistemic communities’ creating their own worlds of definitions and interpretation (Tarschys, 2005, pp. 35-40). The author states that within the world of RTDI policy, the Community legal framework regarding EAV has been always rather soft and open, permitting much action on European level. Legal barriers have been always much lower than the financial restrictions. In this context the

development of the political rationale gets caustic comments: "... *arguments tend to evolve along with the general political agenda, following closely the fluttering of Zeitgeist and the shifts in political fads and fashions ...*" (Tarschys, p. 60). In the RTDI sector in general a thriving form of 'value opportunism' can be observed, few policy fields being stronger beset with lyrical and opportunistic rationales from the field ... according to this author, an academic himself. The observed definition finally rests more on economies of scale and more generally on economic rationales for public RTDI spending plus the effort not to loose out the cruel race against other world powers and less on an explicit subsidiarity debate.

So while FP6 was already running for a while the Five-Year Assessment of FP5 found the whole EAV set up puzzling and argued for better definitions: "*The concept of European Added Value has been evolving. Many of the conventional benefits identified in project-level evaluations imply such value: networking, especially international networking; facilities sharing; knowledge sharing; attaining bigger scale (critical mass) than is possible at the national level. ... Research is needed to develop guidelines, concrete criteria and, perhaps, checklists to be used in assessing European Added Value.*" (Ormala et al., 2004, p. 8; see also Ormala and Vonortas, 2005) We will come back on this approach several times.

b. FP6 and EAV

Where does EAV come in with FP6? The overall goals of the European Research Policy, '*Strengthening the scientific and technological base of Community industry and enhancement of its international competitiveness*'; and '*Promoting research for other Community policies*', are translated into the following five FP6 overall ex ante evaluation criteria in the Rules for Participation (European Parliament, 2002): (i) scientific and technological excellence and degree of innovation; (ii) management capabilities; (iii) relevance to the objectives of the specific programmes; (iv) "*European added value, critical mass of resources mobilised, and contribution to Community policies*" and (v) quality of dissemination and IPR plans. So EAV is one out of several criteria, less prominent than in FP5 but still here with a certain relevance.

Beside the two levels of goals and criteria also *instruments* come along with a EAV claim: The FP6 Council Decision (Council of the European Union, 2002) adopting the specific part of FP6 including the thematic programmes (Integrating and Strengthening the European Research Area) stresses EAV as one main objective and rationale for the new instruments Networks of Excellence (NoE) and Integrated Projects (IP) as well as for the choice of thematic priorities: The new instruments shall attain critical mass, management simplification **and** "*European added value contributed by Community research in relation to what is already undertaken at national level, an in the integration of the research capacities.*" (p. 1). So 'critical mass' here stands beside EAV and is not a part of it.

In the preceding overall Council and Parliament decision concerning FP6 (European Parliament, 2002a) critical mass serves as the EAV argument: “*In order to bring about European added value **by** assembling a critical mass of resources, this programme will focus on seven ... thematic priority areas where Community research efforts will be integrated ... on a European scale.*” So this time integration ranks prominently and EAV is used also to argue the choice of topics, which adds another layer on the different forms of meanings and interpretations. In the following this Council / Parliament decision presents all thematic and structural activities with a specific EAV rationale: These argumentations mainly remain very general, focus either on *market size* and *economies of scale* or on a *necessary European coordination effort for other policy fields* like environment in a global arena or health. A few exceptions like aerospace emphasize the need for an *integrated* (and already existent) *European approach* is brought forward. With the non-thematic areas, ‘Structuring ERA’ comes forward with the *European paradoxon* (innovation programme), *critical mass and wider mobility* (mobility programme) or *critical mass / complementarity* (infrastructures). ‘Strengthening the foundations of ERA’ finally sees EAV *in the better coordination between the European and national / regional levels*. Though abstract and sometimes lofty, we can see individualised EAV rationales (which can be interpreted both as necessary individuality or as total blurring of any conceptual approach), and they rather aim at critical masses and ERA policies than strictly arguing subsidiarity or more abstract additionality matters. While there is a link between subsidiarity and critical mass – brought forward also in the context of the new instruments – the coordination and complementarity arguments form a different strand.

Of course it is difficult to nail down EAV objectives and criteria into Council decisions where hundreds of stakeholders have to find a compromise. They have to be soft and adapt to all kinds of needs. But what about sources where learning from the past is being translated into ex ante policy-planning and hopefully to an integrated general model? Box 1 shows that the difficulties even do not go away when the real experts can create an ideal world.

Box 1: EAV as a set of arguments for FP7 derived from FP6

The discussion and narrative of EAV is one of many and different targets and forms of value added. The already mentioned Annex to the Commission Impact Assessment and Ex Ante Evaluation for FP7 (European Commission, 2005a, pp. 21-24) was written during FP6, drawing examples for EAV from this Framework Programme. It illustrates the wide range of values added starting from the three big EAV challenges of the day; with examples of different orders of magnitude, with a mix of expectations, results and observations:

Under the heading “Pooling and leveraging of resources” three EAV arguments are listed: (i) “Critical mass” comes in with the size and internationality of consortia otherwise difficult to establish, with two large networks as examples; (ii) “Leverage effect on private investment” draws its arguments from different impact studies and their level of input and output

additionality; and (iii) “Big Science”, which brings as FP examples network initiatives and design studies, as real Big Science ventures tend to be financed rather outside the FPs, admittedly more and more with a certain financial Community contribution.

The heading “Fostering human capacity and excellence in S&T ...” includes (i) “... researchers training, mobility ...” presenting as examples established European training networks within schemes like Marie Curie; (ii) “Improving S&T and knowledge across frontiers” with no examples and (iii) “Competition in research” with the ever growing number of FP participating countries worldwide as the main example for EAV.

The third heading “Better integration of European R&D” names “Facing pan-European policy challenges” with the need for scientific groundwork for the common fisheries policy or for more sustainable transport systems in Europe as examples; further (ii) “Encouraging the coordination of national policies”; (iii) “Carrying out research at an EU level; and (iv) “Dissemination of research results”, all three remain without concrete examples or much evidence for EAV.

We use this source as a first example because we find it telling in many ways: It shows us the complexity of the FPs – and their evolvement as all this evidence is brought forward in a document serving also as ex ante study for FP7. It also demonstrates that always something significant is happening when you spend a few billions a year. Further input / output, meso / macro evidence is brought forward in parallel. Further we can see that when more lofty and complex policy goals are concerned, potential impacts seem to be stronger but the evidence weaker. Finally we see that the concept of multiple (European) values is totally safe: One of these effects will always show up, either as a reasonable expectation or as a result (or both), either as one individual example or as a macro impact (or both). Finally the authors of this paper, i.e. people in strategy units within DG Research, use different wordings, headings, numbers and argumentations regarding EAV as official Commission communications of the same period do, as a comparison with the 2004 FP7 discussion kick off paper (European Commission 2004c) shows.

Note finally that the Commission used this source and arguments as the ‘official answer’ to the plea of the Ormala panel for a clearer EAV definition (European Commission, 2004b, p. 8). One is tempted to say: Please, just throw the whole EAV thing over board.

These few sources already show a different use of the concept and term EAV over times *and* places, even within a few months of the formal FP6 establishment. This is per se difficult as it affects consistent use and operationalisation and allows everybody to claim that their activity of course shows EAV. Whether, where and how an operationalisation and breakdown of this concept into concrete goals, criteria and indicators takes place we try to discuss below.

c. Subsidiarity, additionality ... and complementarity ... and ERA policy goals

In general such definitions lead to different conclusions depending on where and when they are applied in the realm of the Community RTDI policy; vertically spanning from general FP overall goals to detailed project selection criteria; and on the timescale from political ex ante expectations to the dire search for ex post outcomes and impacts. Further it is not surprising to see that each FP displays a different approach (and a different degree of earnestness) regarding EAV: Like a bell-shaped curve it was merely rhetoric first, then became more important, reaching a peak of concrete use in FP5 (with some disillusion) and going down afterwards again. This picture becomes even more opaque as we find explicit *and* implicit use of EAV argumentation over time; the latter for example in the form of additionality claims: There is a certain overlap between general additionality criteria and measurements and those to show the specific EAV and the farther we go away from cooperation as the thing to measure the more difficult the differentiation seems to become.

In the long run, three common denominators for EAV have been (i) the link to the concept of *subsidiarity*; mainly as a claim that something shall or can be achieved better or only on European level, in our RTDI policy discussions this term is closely linked to the overarching concept of *additionality*, (ii) the claim for *complementary* action and (iii) the last being *ERA* rationales.

(i) Subsidiarity and additionality

One of our discussion partners describes the political concept of subsidiarity as a very German legal term coming from the world of federalistic power struggle in the Bundesrepublik, first being seen as a kind of obscure argument but gaining more and more importance on European level over the years to define the boundaries of Community action.

Over the different EC / EU treaties the need to justify the value added of measures at the European level was strengthened and made more explicit. Subsidiarity, meaning the justification of Community action only in cases where sufficient achievement on Member State level is not possible, was formally introduced as a policy principle in the Maastricht Treaty together with the principle of proportionality which limits Community action to what is necessary to achieve the objectives of the Treaty. Today, mainly in the realm of ERA, subsidiarity arguments seem to be less important than arguments regarding optimal governance, economies of scale etc.

Regarding *additionality* the two main questions within and beyond EU RTDI policy are: What difference does State intervention make? And: Does this difference justify state intervention? (Georghiou et al., [eds]., 2002, p. 105 with further references). These first level questions being in general answered in a positive form, the additionality concept proved to be a strong rationale for public programmes for RTDI, with the EC / EU interventions in this policy sector replacing resp. joining private business with Member State governments as the principal "other". A second level of additionality discourse contains the design of conditions restricting

the granting of such subsidies like State Aid Frameworks (Tarschys, 2005, p. 22 f.). Regarding operative criteria we look back to a long discourse of the beauties and pitfalls of input, output and behavioural additionality in ex ante and ex post exercises on all levels (Georghiou et al., [eds]., 2002; Fahrenkrog et. al., [eds]., 2002; OECD 2006, European Commission, 2005a, p. 21). For the definition and implementation of FPs mostly input and output additionality are used as concepts.

On the level of RTDI policy and FP formulation, these two principles of subsidiarity and additionality were more and more transformed into criteria for choosing activities on (thematic) programme and project level. FP3 already included the explicit criterion of added value. The push for the obligatory use of transnational multi-partner projects has been one of the most concrete (and easily identifiable) results of the subsidiarity and of the additionality principle, making it a handsome criterion and indicator for the attainment of EAV. FP5 tried to stronger tie the selection of themes and projects to criteria related to Community Added Value and to subsidiarity, namely the achievement of critical mass, the contribution to other Community policies and addressing common problems (Yellow Window et al., 2000, pp. 4 ff.; Georghiou et al., [eds]., 2002, pp. 113 f).

(ii) Complementarity

Studies about benefits of actor sets in national innovation systems reveal complementarity between FP project funding and national funds. Though there is evidence that those who are successful nationally also tend to dominate the FP participation statistics – even using in both cases the same research strategies – they can use the European money for active internationalisation. This serves both for first steps and for prolonged (sometimes closed) clubs ... *“in order to access capabilities and knowledge that is in some sense missing from the [national] system ... [The] benefit (which the Commission would these days describe as ‘European Added Value’) tends to confirm the complementary nature of the Framework Programmes ...”* (Arnold et al., 2008, p. 21, see also p. 24). It is difficult for us to judge whether this complementary function, i.e. in an international funding programme you get money for international cooperation that you normally do not get from national sources, already constitutes real EAV or if we have a kind of circular reasoning here: This is of course additional and complementary and internationalisation is a value per se. However evidence shows that seldom priority setting in the home institutions happens due to participation in and inspiration through EU programmes and projects. EU money is sometimes seen as a less arduous way to increase the absolute volume of research (Arnold et al., 2008, p. 35). The positive side of complementarity is the collaboration between partners across Europe; they can form consortia beyond ‘more of the same’.

(iii) European Research Area

In FP6 and more in FP7 *ERA rationales* (see also chapter 6) entered the discussion and the sets of criteria. These elements include the better coordination between two or three levels of

governance where the uppermost (i.e. the European level) does not have to come forward anymore with daily excuses why it is there. Another part of the ERA rationale comes along with the stronger quest for critical mass. In this respect the Commission “kick off” paper for the FP7 discussion lists three elements of a recognised EAV stemming from different effects at several levels: First the establishment of critical mass of resources, listing some thematic areas, second strengthening excellence through competition and collaboration, and third exercising a catalytic effect on national initiatives and improving coordination of national policies in fields of common interests (European Commission, 2004c, with again an individual interpretation of EAV). Better cooperation, but in new forms to tackle grand challenges (European Commission, 2007a, European Commission 2008), has also been brought forward as EAV in the course of the ERA Green Paper discussion.

ERA has to be seen as a real progress both on the conceptual and practical level. There is good potential to better operationalise our European Added Value concept along the ERA challenges, given some ground rules regarding proper policy cycle management are being followed.

2. What to do with something you cannot talk clearly about?

“The evaluation record suggests that the FP is a very useful and flexible device, allowing the EC to pursue a wide range of RTD-related programmes, but that it is flawed as a way to (plan to) reach specific policy goals. In practice the low level goals pursued in individual actions within SPs tend to be well-grounded with the stakeholder community ... High-level goals, however, are so abstract as to be untestable and hence remain untested.” (Arnold, 2005, p. 29)

First of all, to prevent misunderstandings: All the goals and principles for division of labour, for further additionality, complementarity and for creating a European Research Area are fully understandable and legitimate. They form (and are formed by) a powerful political reality. Most of them are very useful and some even vital for the European RTDI policy. The same holds true for the change of meanings over time. It would be sad if the discussion what EAV means would have stopped in the 1980ies or 1990ies. In contrary it can be interpreted as a learning curve and an evolvement of our policy field from being a ‘subsidiary’ one towards an encompassing European Area. However, what seems to be problematic is that so many laudable goals have been packaged and sold under the heading EAV. While this again can be understood, it seems to have consumed the possibility to talk in a sensible way about our topic: EAV can stand for nearly anything. When we talked to five Austrian experts about EAV, we got five different pictures; all well grounded, all with a context, all ripe with personal experience and thus valid interpretations, but different nevertheless.

So what to do with something you cannot talk clearly about? The answer is: You can use it freely. Or better: You can use it for free. We already pointed out that the concept of EAV is

varying over time and that different contexts allow a different use. We will see below that the claim of EAV somehow vanishes when broken down to programme goals and selection criteria, while reappearing again when it comes to impact evaluation.

Numerous are the examples of justification. Reading dozens of documents reveals a rather casual use of the concept, with not much discriminatory power. Admittedly the nature of EU policy making with so many Member States, stakeholders and interests assembled does not allow too much rigidity in planning and decision-making processes. One size indeed does not fit all. On the other hand, the earnestness and credibility of the concept could be seen in a critical way: A lot can be said, as the examples in the definition part have shown.

The term EAV allows different uses and connotations but it is difficult to find much evidence for the counterfactual. Perhaps more avid observers and participants in the European RTDI policy can come forward with a number of examples where – after an *explicit* discussion and choice – a clear lack of EAV has *ended* a Community RTDI activity or *prevented* important policy initiatives. There must be some. Neither did a meta-evaluation (Technopolis, 2005, p. 18) “... *find any cases where it was argued EAV (or significant components of the concept) was **not** being achieved.*” In the same line this study did not find measurements when the claim of creating critical masses served as an argument for having attained EAV.

The point with all this is not to create the impression that the FP's cannot produce that kind of added value which is not achievable on other policy levels. Quite in contrary there seems to be much of it and even most critical Member States like the United Kingdom are able to come forward with a list of FP induced types of EAV in their national Impact Studies (DTI / OST, 2004, pp. 9 ff.; see also Arnold, 2005, p. 18 and Muscio, 2006, the latter with his own terminology mixing EAV and all kinds of FP impacts). The problem lies in the vagueness and rich diversity of the concept and in the impossibility to walk along a logic pathway from policy formulation to evaluation criteria and impacts. In such circumstances anything can be said.

3. EAV is not consequently used at the highest level of decisions

“Having as the flagship policy one that focuses on remedies for perceived failings in the research system lacks ambition commensurate with this broader vision” (Georghiou, 2008, p. 935).

Each cycle of European RTDI policy making follows certain general assumptions and goals like the quest for scientific excellence, the creation of critical masses, efficient technology transfer and dissemination, the role of RTDI for other policy fields or the position of Europe in a global context. Each answer is a new Framework Programme over a time span of some years, including a growing variety of instruments and approaches but dominated by highly administrated, project-based, transnational collaborative research activities.

It seems that first – without explicitly discussing and deciding it – the main instrument is being kept, followed by a discussion of the strategic global challenges, followed by the formulation of specific European answers and added values, followed by the planning of a new Framework Programme, finally followed by the fine tuning of the pre-existent instruments.

If that is true why is that so? First history matters, change is hard and long term expectations are there, having been built up over decades. Second, large families cluster around big funding programmes on both sides of the fence. Third, related to this a lot of participants gain legitimate and considerable advantages from EU FP project participation. Fourth, FP programmes and projects have great advantages in mobilising communities and broadly advancing namely thematic fields ... and when they are here, they are here to stay. There are many other reasons.

However an alternative view could ask for strategic challenges and the appropriate European answer before confirming the proven model of typical FP interventions. The discussion of such a European answer would include the discussion of different optional instruments on the European level and their added value, i.e. *European Added Value* over that of other options¹. This point is not particularly new as a slow shift towards new forms and instruments can be observed both within FP6 and FP7: A slow and cautious approach towards network infrastructures like the ESFRI initiative, more ambitious EU participation in large intergovernmental infrastructures and agencies like ESA, a bold turn to 'no-cooperation, excellence only' research with the creation of ERC or the support for the collaboration and co-funding initiatives of national or regional funding agencies like the ERA-Nets.

Again however the typical collaborative projects – though often in larger and more sophisticated constellations² – still largely dominate the Framework Programmes, which again forms the core of Community RTDI policy. It ain't necessarily so. In contrary U.S. Federal research policy is mainly dominated by (i) public procurement, (ii) funding of excellent research via agencies like NSF and (iii) mission oriented approaches with a mix of laboratories, mission agencies and funding sources. The variety of federal or America-wide funding opportunities and the principle of flexible funding are further seen as helpful. Also in the U.S. case history matters and organisations did not appear out of the blue (Stokes, 1997; Lieske, 2000; Braun 1997; European Commission, 2008, p. 14). Again however, there is a lurking suspicion that some features of the Federal U.S. model could be more favourable to achieve added value, not at least because a link between a *specific* instrument and one or two *specific* forms of claimed and measurable added value exists. NSF tackles scientific excellence and not much else. NIH is – with institutes and funding grants – responsible for

¹ Note that the already mentioned FP7 ex ante assessment econometrically tested all kinds of options including "No FP" (with an econometric model called Nemesis) but did not think of a differently structured one as an option.

² In the context of this paper there is no use to distinguish between STREPs, IPs and NoEs. At the end of the day they are all collaborative transnational (applied) research projects.

excellent health research plus health policy foundations. DoE has specific National Laboratories plus funding sources for specific energy and climate change challenges, etc. None of them (... except defence research of course ...) has to save America in general and solve all problems taken together. Unfortunately this 'catch-all' burden rests on European programme funding quite often.

Some influential European voices acknowledge the progress within the Framework Programmes to better tackle great challenges, from ERA itself to societal issues like climate change or ageing, with tools like the ERC and JTI as real progress within the limited choices of the FP world, but criticise the broad picture: "*In essence Brussels has proposed 'more of the same and better' to make the public-research system more efficiently. These measures do not get to the core of why we need the ERA. ... Having as the flagship policy one that focuses on remedies for perceived failings in the research system lacks ambition commensurate with this broader vision*" (Georghiou, 2008, p. 935). One main criticism of this general view affects the relation between goals / ambitions and the instruments employed. This is followed by a harsh judgement how the bulk of the FP budget is employed, namely for a certain type of instruments and research with too much 'juste retour' thinking and limited range; opposed to great successes like CERN or Ariane when big challenges were approached with ambitious instruments.

The obvious connection to our topic is the relation between challenges and instruments, and the claim that the former should shape the latter, instead of pressing the challenges into existing forms. In his Nature contribution, Luke Georghiou states that Europe should abandon old and too narrow forms of intervention, with "*(f)irst to go should be Framework Programmes that are divided into large numbers of small, very loosely connected projects defined years ahead by 'work plans' with no clear provenance ...*" (p. 936) serving more to satisfy a clientele than to solve a big problem.

In our words: EAV in this view is the ability to tackle big problems. So the EAV discussion should – wherever possible – come before the establishment and prolongation of certain instruments. This is no doubt the harder way but arguably the more rewarding one, as we see all the lip services paid to EAV on the different levels.

4. Where can / could we find a clear cut EAV?

"The form of Community action shall be as simple as possible, consistent with satisfactory achievement of the objective of the measure and the need for effective enforcement." (European Communities, 1997)

The issue of the instruments deserves importance also because the typical Framework Programme "furniture" seems to have its drawbacks regarding EAV: There are many, relatively small and sometimes relatively unrelated projects around, all with their individual EAV claims, their special advantages. Taken together you can see this picture from two

angles; one being the gigantic sum of thousand individual values added adding up to a symphony of Europeanisation and overall value creation, the other being an opaque, blurred picture with few overall convincing evidence beyond “more cooperation”.

There are activities and instruments in Europe within and beyond the Framework Programmes with more distinct rationales where EAV is clearer to find and to argument.

a. Big Infrastructures

Europe shall be present on the global map of scientific research and large technological ventures; most of those are much too large for one or few countries to carry them alone. A lot of such infrastructures need many participating countries to fully realise their potential. In these cases EAV is easier to show, both from the subsidiarity / additionality side and from the ERA / coordination / critical mass side. In the last decades a number of great things have been achieved: CERN, EMBL/EMBO, ESA, ESO, GALILEO, ITER and many others, down to the ESFRI efforts in FP6 and even the strategic aerospace industry formation has been brought forward as evidence. The majority of them have come into life as multilateral initiatives, others within the realm of Community policies. We can see the growing role of the FPs and other Community instruments for the initiation, financing and management of such big infrastructures. The important issues for us are: Large infrastructures carry a distinct and easy to define EAV: We can either do it together or it cannot be done at all. There is a trend towards more “Europeanisation” – offering the Framework Programmes the role of a hub for negotiation and co-financing such ventures – and perhaps this should be even reinforced in future while coordination instruments both in ERA-Net and larger styles could more and more take over typical FP-style funding instruments and functions. For European infrastructures and their evaluation criteria also see Boekholt et al. (2006).

b. “Single issue instruments”

Such instruments have the advantage not to have to show all kinds of value included in one measure. They can concentrate on their mission. From our EAV view this has the advantage of one (or two) clear rationales why money should be spent on the European level. This rationale can be tied firmly to a small set of goals and criteria ... and at the end of the day evaluations can come forward with a clearer message if and how goals and the specified EAV contribution(s) have been met. The ERC for example only tries to foster scientific excellence in Europe by funding substantial projects of – mobile – researchers and contributes to the build up of critical mass. The EAV claim comes in with the support of the best scientists on the basis of a European competition, i.e. the creation of a new level playing field. This does not solve SME or patent or cohesion issues. This is fine. Other clear-cut instruments can do. A second advantage relates to the better ability to stick to one rationale over many years. If you only pursue excellence as a funding institution you pursue it also in ten years from now, even more if you act or should act as a specialised agency.

If you in contrary follow a catch-all approach there is a certain danger of shifting name-tags and prime priorities every five years. You risk the values of simplicity and continuity; discontinuation is bad *and* has often no effect as the same kind of 'more cooperation' style additionality results for FP5 and FP6 shows (see Polt et al., 2008, pp. 6 and 117). This all sounds familiar to you? Note, as a small sidestep, that in this respect the European RTDI world falls apart into two constituencies: One with a few thousand people always working on the design and management of Framework Programmes and able to keep track of all the history of different labelling, naming, top priorities and instrumental details; and the other wider constituency that follows / that has to follow; always eager, sometimes puzzled. A slight problem evolves when de-learning does not properly take place and all different kinds of people go around with different historically frozen mindsets.

c. (ERA) coordination instruments like ERA-Nets

In our context such instruments have the potential to relief over time the Framework Programmes from some of their burdens. If these instruments will further evolve and lead to a real financial opening up of the national funding agencies without falling into the bureaucracy trap, the *more European cooperation* goal would not have to come along automatically and exclusively with FP funding. Why this point? The question, whether after more than 20 years of FP funding more of the same is still necessary on this level, is legitimate in principle. Actors could have learned to work together across borders without such project funding or other forms of public intervention could have evolved.

However we agree with all those who claim that the goal of inter-European RTDI cooperation will never fully consume itself. New actors and people and topics evolve, longer term cooperation needs renewed public support, partnering is easier with public funding etc. If the positive first steps of ERA-Nets can be further developed – and the potential is given due to the “real need within the policy armoury” (see Horvat et al., 2006) – burden and perhaps parts of the massive armour will be taken away from the FP setup to constantly meet large quantitative cooperation goals and impacts. As the Impact Assessments (see chapter 5) show us that “more and better cooperation” is the most distinct, universal and continuous impact of the FPs, a certain further liberation in thinking could take place about goals and instruments on the European level; an issue we have already discussed a little in the preceding chapters. ERA-Nets are one of a bunch of new developments: We could make a similar case with the Joint Technology Initiatives (JTI).

d. Now non-existent or blocked or implicit instruments

When we are talking about EAV in the European RTDI Policy Framework such instruments should be also on our radar: Remember the still infant discussion of innovation oriented procurement (see Edler and Georghiou, 2007), think of the nearly insoluble problem of transferability of social security and pension entitlements across borders now effectively hindering mobility, consider of the sad case of the European Single Patent. All these are

issues where EAV can perhaps be argued resp. implemented better and more clearly than in the classical catch-all FP instruments.

These four examples from infrastructures to implicit instruments just show that a look on EAV should not be restricted to what we are accustomed to associate with. Returning to the main bulk of funding within the FPs, namely FP6, we now take a look in which form and which degree of consistency EAV comes along in the linked chain of missions / goals, criteria and impacts.

5. FP6, FP's in general and EAV: A clear policy cycle?

“Numerous linkages can be drawn, but it is hard to make any systematic sense of them, or to know which are really valid. A lot more can and should be done to better articulate RTD programmes and their objectives.” (Polt and Vonortas, 2006)

In this chapter we go down from the big goals already discussed above and to different levels below. The task is to try to find some evidence where EAV shows up in or near FP6 on the levels of operational goals, selection criteria and expectations for outcomes and impacts. The second issue worth a quick look regards the links between the different levels: Is there a coherent red line in EAV argumentation from overall goals to evaluation criteria? Please note that with the FP6 impact assessment exercises not being done yet, we have included the FP5 assessment studies just to show the kind of EAV arguments over the whole policy cycle.

Note that such a stringent policy cycle logic with different linked logical steps had been proposed for FP5 by an EAV study (Yellow Window et al., 2000) but had not been adopted.

a. Mission, goals and selection criteria; and the issue of the policy cycle

There is no silver bullet in planning something like Framework Programmes. However, when it comes to set up programmes in R&D policy, there are some principles that are accepted within the community, including making clear statements of goals, which need to be non-trivial and testable. *“In fact, there is fairly general agreement that goals should be SMART: Specific, Measurable, Attainable, Realistic and Timely” (Arnold, 2005).*

Of course it is hard to develop non-trivial and testable goals for multi-billion, multi-actor programmes. “Strengthening the technological bases of industry” and “contributing to the quality of life of citizens” are fair goals, but impossible to trace on that level.

A Framework Programme is a multidimensional endeavour with different activity areas (e.g. thematic areas) and specific instruments different in detail. One might expect that on the *level of single thematic areas or single instruments*, it is easier to identify SMART goals and missions. But even here, goals stay rather unspecific, not measurable or vague, as the following examples illustrate: *“... the IST programme contributes to greater benefits for the European Citizens and addresses the key social and economic challenges”* or *“the IST*

programme ensures European leadership in the generic and applied technologies” (European Commission, 2003). *“Networks of Excellence (NoE): Durable integration of the participants’ research activities.”* (European Commission, 2004a)

How to translate these high-level goals into clear criteria for project selection? A number of evaluation criteria are common to all the programmes of FP6 and are set out in the European Parliament and the Council Regulations on the Rules for Participation. Anyhow, there is a ‘missing middle’ (Arnold, 2005) between high-level goals and selection criteria, or a ‘translation problem’.

As a phrase, European Added Value is not explicitly mentioned in this system of missions, goals, purposes or criteria. However, its spirit can be found in almost all of the high level goals of the FP, although the attribution of EAV to these goals is somewhat arbitrary and artificial. Leaving the missing middle behind, one can find EAV as one of five rules for participation in the evaluation criteria. For e.g. Integrated Projects and Networks of Excellence, there exists a list of fifteen to eighteen selection criteria³ in each specific programme (‘Annex B’, European Commission, 2002) that are intended as a basis for evaluating projects. One of these fifteen (eighteen) issues is ‘Potential Impact’: the extent to which the proposal demonstrates a clear added value in carrying out the work at European level. As the overall top score for IPs in project selection is 30, one might assume that EAV contributes to 2/30 to the overall aim of the FP. Note that aspects of EAV might be found also in issues like ‘relevance’ or ‘excellence’.

One method to assess the coherence of missions, goals, instruments and intended outputs is to use ‘Logic Charts’. By this method, one might try to visualize the logic of a programme and to trace (direct) links and causality effects between the levels. Polt and Vonortas (2006) have tried this for high level objectives and IST. *“Numerous linkages can be drawn, but it is hard to make any systematic sense of them, or to know which are really valid. A lot more can and should be done to better articulate RTD programmes and their objectives.”* Exhibit 1 shows a multitude of relations with no overall clear picture, illustrating the complexity you either address properly or try to reduce it. Even if this picture is drawn in the context of FP7, it is also valid for FP6.

³ With Integrated Projects EAV comes along as an explicit criterion for project selection with 17 (seventeen) other criteria, in Networks of Excellence there are 14 more criteria besides EAV, in STREPs we find 15 others etc. ... and other questions like the ethical review still not counted here. This tells us something about relevance, earnestness and visibility. Second, other criteria like “solving societal problems” or “minimum critical mass” also carry elements of EAV but this is no consolation either as it further blurs the picture. This being said is not a criticism of the “evaluability” of FP proposals but of the emptiness and somehow arbitrary use of our term EAV on the level of project selection. Anecdotal evidence from reviewers in both FP5 and 6 tells us that EAV is perhaps not one of the “hard” points whether a proposal makes it or not.

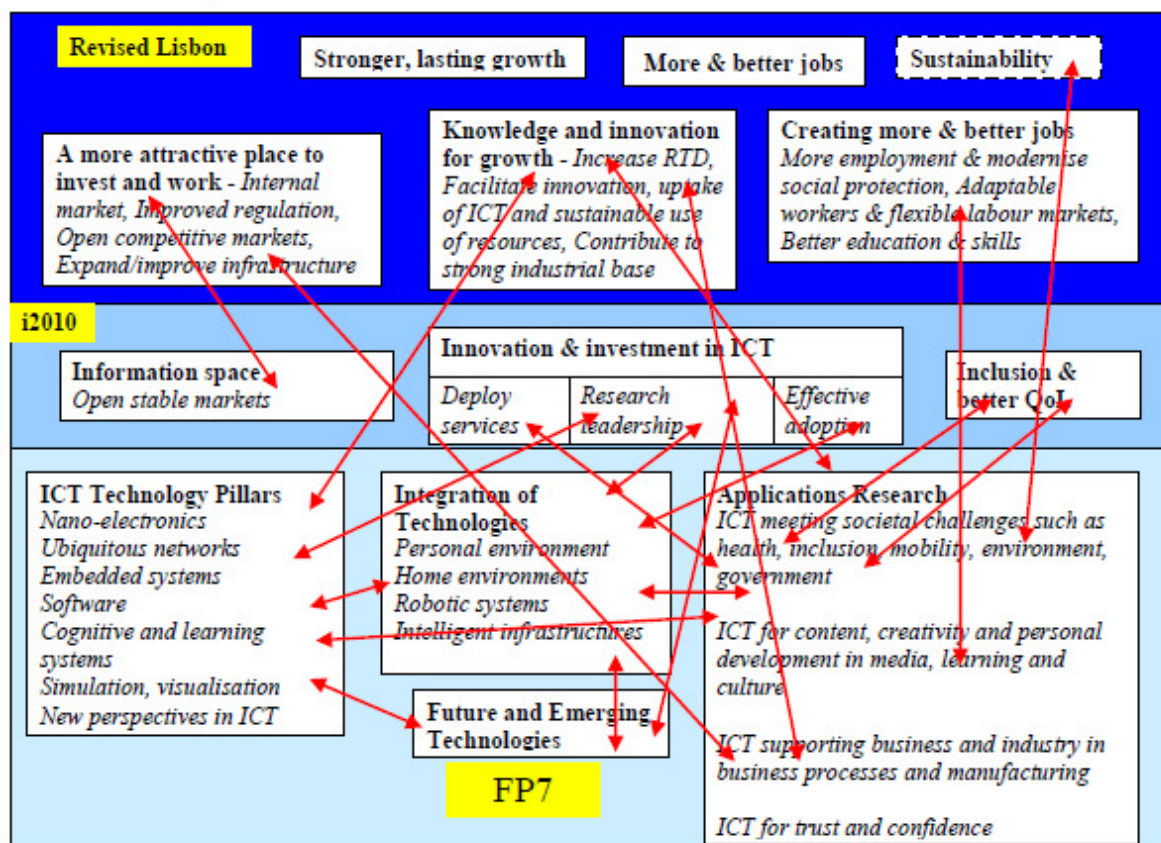


Exhibit 1, source: Wolfgang Polt, Nicholas Vonortas: IST Evaluation and Monitoring. 2006

b. Evaluation exercises

(i) Monitoring

Annual monitoring (European Commission 2004e, European Commission 2005b, European Commission 2006, European Commission 2007b) does not place EAV as a highly important topic. In the four reports EAV is mentioned only twice, which is not a bad sign as monitoring shall rather follow basic management, effectiveness and efficiency topics and allow appropriate management decisions. When these reports touch more strategic questions the value added component follows the topic – e.g. ‘critical mass’ relating to infrastructures or new instruments – just as we know it from other documents.

(ii) Self evaluations

When it comes to evaluations, **self evaluations** as a logical first step provide interesting insights in what is going on in a programme from the view of those who run it. The FP6 self assessment reports of the different directorates and units produced for the ongoing evaluation (available on CIRCA for the FP6 evaluation panel) claim both high quality and equally high relevance of research with high indications for achievement of specific

objectives. However for our topic EAV a clear cut picture is not easy to draw, as (i) some of the EAV claims fall into the category “will happen much later and only difficult to find” and (ii) an explicit EAV question is missing in the self evaluation questionnaire. Some of the respondents bring examples, others not. Some examples fall into “helped to set standards” others into “created critical mass”, again others into “would not have happened without FP funding”. Some self assessments do not go beyond the “very fruitful outcomes, although in some cases further steps are necessary” prose and this is not a criticism of the valuable instrument of self assessments.

However what we cannot find here (in a way to draw conclusions from it) is the question after EAV or structured information about other outcomes and impacts relating to EAV. It is granted that such a try would even be a nearly impossible task. On the other hand what to do with all the bits of information about what has been happening? Of course it provides valuable and realistic evidence and examples for achievement (see also Feller, 2008, p. 2), not at least for the FP6 evaluation panel. Again however and this is a standard claim (or if you want: a standard disclaimer) in this paper, a lot happens and a lot can be reported when you spend some billion Euro a year.

A more ambitious exercise in this line is the **structured self assessment of the IST programme in FP6** (European Commission, 2007c). Interestingly this study never mentions the terms EAV or added value but uses the heading of “strategic impacts” (pp. 16 ff.) being met. DG INFSO comes forward with some well-structured evidence regarding (i) fostering European leadership in some fields on a global basis; (ii) some standard setting activities; (iii) formation of some ICT policy initiatives; and (iv) help for some other Community policies, in other words indications for EAV beyond the individual project and partner level and beyond the “more cooperation” goal. The **FP6 IST effectiveness ex post evaluation** (Aho et al., 2008), building on this exercise, acknowledges these achievements and points to the now ongoing step towards larger and more persistent consortia. However this study also calls for broader measures beyond project funding like developing new markets or improving infrastructures, standards and interoperability (pp. 8-9). So we are – as in some other high level evaluations – led to the question of the context and rationale why all this valuable project funding takes place. This issue always returns: Evidence for good, sometimes very good research; often a mixed picture regarding commercialisation, some examples for standards, policy formulation etc., always much cooperation; and a feeling that the instrument of project funding shall stand in as a standard answer for all big goals with the danger of being caught between two stools.

(iii) Evaluation of new instruments

The **Marimon Report** (Marimon, 2004) provided information on the effectiveness of the **new FP6 instruments** two years after the start of FP6. Direct EAV was no topic altogether and added value only came when the size of the new instruments was discussed.

(iv) FP Impact Assessments

No Impact Assessment Survey has been produced yet for FP6, so earlier work has to **stand in** just as a reference what such overall evaluation exercises can provide. For the following please remember that the EAV definition differentiated between FP6 and FP5 and the answers just give us an indication what can be said with a big user survey, however, the individual FPs are not that different from each other. Note also that the global picture of this exercise is quite in line with the results of its predecessor study around 2000.

The **Survey for the FP5 Impact Assessment** (Atlantis et al., 2004) comes forward with evidence on different levels regarding outputs and impacts on participants level (“What do they get out of it?”). Based on thousands of responses⁴ some clear outcomes can be identified: At least for FP5 soft goals like cooperation, reputation and knowledge base enhancement ranked first: Important goals attained and ‘impacts’ for research teams and organisations were enhanced knowledge bases, enhanced skills, development of new tools and techniques, new partners and networks, access to complementary expertise, enhanced reputation and image; use of results in own organisation. The goals and impacts achieved matched well with the expectations and they came forward with rather low risk, low-to-medium cost projects and such of more “strategic” nature. ‘Improving collaboration and networking across the EU’ came out as the most important match between the FP5 goals and the objectives of the participating organisations⁵. Reading this we tend to say the following: The shape of instruments has a stronger ‘impact’ on the outputs, outcomes and impacts achieved than the policy goals. Cooperative transnational project funding being offered primarily seems to generate more and deeper cooperation plus related outcomes; whatever the EC/EU treaty and the goal hierarchy of an FP comes forward with as goals. This being said, we of course value the advantages of such cooperation, namely higher visibility and impact (see Polt et al., 2008, p. 154). Again, this is all about FP5 and not FP6. However we guess that the main outcomes and claims for outcomes, impacts and their relation to EAV would not be too different.

The **FP5 Five-Year Assessment (aka Ormala Report)** itself states a considerable degree of additionality for FP5 and manifold forms of EAV in different contexts but criticised the rather fuzzy overall concept: “*The reported benefits notwithstanding, the Panel found it appropriate to emphasise the importance of explicitly defining the added value of Framework Programmes in a more consistent manner than has been the case until now. ... There has, however, been very limited concerted effort at systematic measurement. ... The Commission should take a leading role in developing a simple and robust definition of European Added*

⁴ Are there too many small projects with too different rationales? Yes, says a study on the innovation impact of FP5 and FP6 funding (Polt et al., 2008): These projects and their impact are not only limited in themselves, but for each larger participant only one in a portfolio of many research projects; and often even a peripheral one; so steering becomes an illusion and project fallacy reigns (pp. 3 and 6).

⁵ For a national FP perspective compare Arnold et al., 2008, p. 37.

Value taking into account the latest research on the need for government intervention and the need to develop lead markets for European solutions, which often involve measures from other policy domains such as common standards and easy access to the Single Market.” (Ormala et al., 2004, p. 8) The report proposes a better manufactured net of definitions and objectives to catch all the different and colour-changing EAV birds in the sky. However another interesting approach could be to ask for clearer shaped instruments where the definition of EAV should pose not such an encompassing scientific challenge.

Comparable exploratory and definition initiatives of this period include an **Analysis of ‘high impact’ research activities under Community FPs** (TEEC, 2005), a case study work related to the Five Year Assessment. Nearly 20 cases were analysed to provide evidence for special impacts. To be brief, all of these projects showed considerable impacts (sometimes rather outputs) in all different forms conceivable. All definition elements ever used for EAV are such touched, and EAV therefore appears without being properly defined in different forms, ranging interestingly from pure input questions (“would never have taken off without European funding”, TEEC, 2005, pp. 5, 50) to capacity building and infrastructural elements.

A less benevolent conclusion for all these exercises goes like this: *“Despite some significant achievements, successive evaluations strain to provide any overall picture of impact. Existing structures have in general failed to provide the kind of linkage that could allow research to efficiently support economic and social priorities.”* (Georghiou, 2008, p. 935). However, it is important to see that not the evaluations are flawed.

c. The Evaluation of the Evaluation System

Apart from the 2005 meta-evaluation effort already mentioned (Arnold, 2005), the **European Court of Auditors evaluated the RTDI evaluation framework** (European Court of Auditors, 2007). The harsh main finding of the latter states that *“... the lack of an explicit intervention logic and the presence of poorly defined programme objectives and weak performance measurement undermined effective monitoring and evaluation”*; with evaluation panels in the role of filling the gaps (pp. 4, 17 ff.). In the same tone the whole policy cycle set-up was criticised. As a remedy – besides other elements like a comprehensive evaluation strategy – ECA called for explicit intervention logic in future legislation with explicit assumptions and goals being linked to appropriate performance indicators. The interesting thing in our EAV context is the ECA verdict (objected by the Commission) that a clear red thread cannot be found for any kind of rationales. From our view the dissent between ECA and Commission perhaps does not sufficiently touch one important point: with the present catch-all instrument set-up (and the multi level stakeholder negotiation process around a new FP) it could be too difficult to develop straightforward intervention logics. And again, though not explicitly touched in the ECA report, the same could be true for all kinds of EAV definitions.

6. The rise of ERA rationales

“Attainment of FP6’s stated objectives ... rests on ... building the European Research Area, with its attendant benefits of improved cooperation and coordination among the multiple actors and nations that comprise the European science and technology innovation system and the subsequent exploitation of economies of scale and scope in EU-funded research” (Feller, 2008, p. 1).⁶

The ERA concept from 2000 started a fresh discussion about a European RTDI policy, its ambition and suitable instruments. Not surprisingly for a period ERA and FP did not overlap too much (see also Technopolis, 2005, p. 6 and Larédo, 2008) but progress was made both when starting FP6 in 2002 and even more with FP7. Interestingly the ERA core document “Towards a European research area” (European Commission, 2000) never used the term EAV or the words ‘additionality’ or ‘value added’. However what matters more is that our topic has been set in a new perspective through this document: As regards governance structures ERA means dynamisation (see contributions in Edler et al., [eds]., 2003), more cooperation and the replacement of rigid political and organisational hierarchies. Regarding output this new governance set up shall “... *make for the essential ‘critical mass’ in the major areas of progress in knowledge, in particular to achieve economies of scale ... The European market of supply and demand in knowledge and technology still remains largely to be created*” (p. 10). Regarding instruments and tools finally more coherent cooperation tools, networking and mobility instruments and large infrastructures stand in the middle of this policy approach from 2000.

ERA policies have been closely related with the Lisbon process and shall help to materialise its famous “No. 1 in the world” claim, but only from 2005 on some considerable progress could be made also outside and beyond the Framework Programmes. FP6 and to a larger degree FP7 serve(d) as test beds for ERA policies with new coordination and single issue instruments, including also incentives for other policy levels to better cooperate and join forces. With the 2007 ERA Green Paper (European Commission 2007a) these challenges have been reviewed and the agenda further elaborated. A number of working groups then came up with proposals for further discussion.

The intricacies regarding ERA evolution and ERA-Lisbon relations are not followed here but belong to another expert report (Larédo, 2008). So here only a few remarks:

For our EAV debate the ‘instrumental use’ of the FPs for ERA is quite important. This support for the evolution of ERA can be seen a European Added Value in itself (if someone needs just another definition): Clearly the two big, overarching ERA goals (i) ‘*critical mass*’ and (ii) ‘*better governance / alignment / mobility / cooperation*’ are such added values not achievable without European policy making. Even more important, ERA would have had no starting

⁶ This is one of two pillars, the second according to Irwin Feller being knowledge production and transfer into products / services helping to contribute to European competitiveness and quality of life.

place outside the FPs: Some budgetary room has been made for ERA instruments in FP6 and considerably more in FP7. While it is clear that the FPs pioneered ERA action, the speed and the appropriate scope of Framework Programme driven ERA evolution are legitimate questions for the FP6 evaluation effort. The simple question is: If ERA is that important, why do you still use 95% of the Framework Programme money in the same way as before? One answer could be: 'Look how big the tanker is and turning takes its time!' Another one: 'Well, the established instruments can be interpreted as a perfect match to approach ERA.' Not everybody will agree to the second answer.

Within FP6 some of these ERA related rationales have been introduced. It led to some new forms of intervention: The first big goal *Critical mass* has to do with much larger initiatives and with common infrastructures / networked resources. The second big goal *Better governance / alignment / mobility / cooperation* includes ERA-Net style instruments (and all that followed in this line) and approaches to more mission oriented action and broader problem-solving approaches.

Also the traditional FP instruments in their FP6 shape also got some ERA-related EAV claims and rationales. This materialised in a rather blurred form. As regards the famous two new FP6 instruments, Integrated Projects and Networks of Excellence, all written EAV claims are fuzzy, drowned in a high number of other goals and criteria, and finally topped by a plethora of highly individualised claims what has been achieved. Note that IP and NoE as instruments seem to be much closer to traditional FP transnational cooperation projects than to any new ERA instruments.

In the world after FP6, 'Grand Challenges and missions' plus 'overcoming of fragmentation' have become main headlines for the ERA discussion described above (European Commission, 2008). They shall be tackled with a suitable tailor made instrument tool case and new multi level governance structures: "*It is important also to note that systemic failures may occur not because the prescription of cooperation is wrong but because the measures to promote and implement it are not well-designed or managed.*" (p. 22) Cooperation, coordination and competition shall redress systemic failures. In this context the questions of (in)sufficient levels of cooperation to progress effectively in Europe and the justification of public support are labelled as elements of the future EAV discussion. Different ERA configurations and their dynamics have to be taken into account (Larédo and Kuhlmann, 2007). Essentially we come back, this time in a broader multi-level arena, to the question of less rigid instruments, their right positioning and their relation to goals. An ultimate rationale for ERA however concerns "Grand Challenges", i.e. big missions, their definition and handling in such multi level settings with the checklist of criteria starting with the first relevance question: "Does it show European added value?" (European Commission, 2008, p. 39) Well, we stop here and do not ask further for the ultimate EAV definition and which one is meant; but the whole argumentation and logic will most probably accompany the policy discussion for the next time to come.

In the line with this ‘one size does not fit all’ argument, a final remark refers to the staircase model of Europeanization of RTDI policies as discussed by the Lisbon Expert Group (LEG 2007; LEG 2008a; LEG 2008b). Their policy staircase model includes ‘higher’ steps, namely ‘intra-European’ trans-border instruments (level 3) and European-level research activities and institutions (level 4). The main bottleneck for the advancement of ERA – in the notion of a true European knowledge based society – is seen in the lack of appropriate governance structures, e.g. the consequent inclusion of national policies. The two levels of the staircase model are strongly interlinked, namely by the means of co-financing and a clear and robust division of objectives and responsibilities. Issues that can be handled at the level of trans-border instruments are to be handled there and not at the level of European-level instruments and vice versa, nevertheless both are contributing to the European Added Value through *intra-European cooperation*. In this context – coming back to our topic – the question remains whether at the moment the FPs are still doing the right thing within a changed rationale; even more when thinking about the long-term appropriateness of the current FP set-up and instruments applied. This is important as EAV will only fully show up if the appropriate governance structures with the right degree of adapted complexity are in place (LEG, 2008) and if the need for differentiation is not only stated but also effectively translated into diversified instruments.

7. Conclusions

As long as Europe is a set of Nation States, a rationale must be given why money is being spent on European level. The term EAV has been serving as a core element for such an argumentation in a number of policy fields with mixed responsibilities between EU and Member State levels, RTDI policy being one of them. We tried to show in the preceding chapters how different the approaches to define and to operationalise EAV have been over the last ten years: Underlying concepts and rationales have been changing and overlapping. Soft and broad notions have been preferred to clear definitions. The transformation of these added values into clear goals, criteria and outcome / impact measurements led to many different and equally soft interpretations; with the different levels and points in time sometimes non-related to each other. The most important point however relates to the hierarchy between missions / goals and instruments: Much of the EAV confusion comes from (i) the a priori character of the typical Framework Programme instruments (already there before goals and missions are set), (ii) their overload with too many and changing goals and (iii) the loss of any clear red thread in the following policy cycle according because of (i) and (ii). Thus we cannot come forward with a magic formula what EAV exactly is or should be and how it should be measured.

We can only provide some conclusions:

Conclusion 1: Not another formal definition, but use pragmatically

Following this argumentation a newer, better or more simple *sharp* definition of European Added Value for the task of evaluating FP6 is seen as not feasible and also as potentially dangerous.

Why so?

- It would be one more when already many are around, and the old ones definitely do not go away just because a new one has entered the scene.
- In the light of the ‘multi topic’ and ‘catch all’ approach of the FP set up and goal hierarchy it would come forward as one more bloated and therefore empty formula.
- As chapter 5 has shown there is no clear entry point for such a definition.
- Regarding FP6 evaluation, It would also mean to use an *ex post* 2008 definition for the interpretation of a set of activities that took place some years before instead of analysing the goals set in 2002.
- Finally taking the considerations in this report seriously, it could be another step into a wrong direction of stabilizing and legitimizing things that should be discussed openly.

Having said this, there might be two alternative ways for the Panel to proceed:

- (i) The Panel can use the formally established FP6 goals as written down in 2002, with all the difficulties associated with, namely the danger to lose the red thread because of ‘the hole in the middle’ and in the absence of clear EAV definitions *or*
- (ii) It can come forward with a most pragmatic exercise to write down a list of those (supposed) values added the Panel wishes to verify regarding their impact; these should have a certain evidence base in the original FP6 documents.

Our strong opinion is that ‘a convincing formula’ should *not* be developed for the sake of FP6 evaluation (for the future: perhaps yes). We also think that when benchmarking FP6 impacts against formal 2002 EAV definitions, this process would get lost at some point. We believe that the second alternative is much better suited, i.e. to enumerate on one ppt. slide a number of pragmatic positive and evaluation-relevant EAV aspects.

In fact such a slide already exists (see *Box 2*), produced in consensus by the panel itself. Note that the positive aspects include many different aspects of EAV and views on it. Add ‘... *has allowed ERA to evolve, but at which speed and scope?*’ and then you have a nice set of criteria. Note also that this list of ideas pragmatically includes ‘additionality’ and ‘complementarity’ claims as well as ‘ERA policy goals’ or ‘critical mass claims’. So: Do not look for the magic formula. Note finally that only one aspect has been put by the panel on the negative list: “*Appropriate understanding of EU added Value*”.

EU Added Value	
Status Quo:	Principles of „Subsidiarity“ and „Juste Retour“
Positive Aspects:	<ul style="list-style-type: none">- bringing together partners from different backgrounds- working in international consortia is much more than doing research- the added value of co-working for users, academia and industry is of utter importance- aim at quality and search for EU added value in evaluation and funding of projects- a real and substantial EU added value does exist- MSs take part in and lead large-scale research that otherwise is beyond their capabilities- EU can run world-class facilities (JET, ITER)- avoids unnecessary duplication of facilities and themes- MSs trash out common conclusions- supports national, EU or international policy development
Negative Aspects:	- appropriate understanding of EU added Value

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Box 2: FP6 evaluation panel “Aspects of EU Added Value”

Why this recommendation? This list is as good as any other, and it is at least legitimized by the panel. So from here take a number of useful approaches for the task to pragmatically evaluate FP6 funded research from a EAV viewpoint.

Conclusion 2: In the future, link EAV stronger to ERA goals (and stick to it)

For future Framework Programmes a close link between the European Added Value and the European Research Area seems to be essential. Such a vision / broad definition could include the following two elements linked to the two big, overarching ERA goals:

- (i) ‘*Critical mass*’ is the first of these two big goals. The main question on the first level should go in the well known direction *whether the envisaged goal can really be only met with action on the European level*. This sounds familiar but the execution should be much stricter than today and – see conclusion 3 – the proper *instruments* have to be there. On this level a second EAV question comes in, whether European fragmentation can be really overcome and whether the actors themselves have to change something in their own agenda instead of taking part just in another project. Typical examples are infrastructures or big missions which need more than a bunch of projects. With less transnational cooperative RTDI projects in the FP portfolio more such real big things could take place or be co-financed within future FPs; but also all other ERA style multi-level configurations could and will be there (like in the real early history of a European Research Area the intergovernmental build up of CERN). In short: EAV is the ability to tackle big problems.

- (ii) *'Better governance / alignment / mobility / cooperation'* is the second big ERA goal. The main question on the first level is less easy to formulate as the activities are much more diverse. In a number of cases the mobilisation and proper integration of different ERA policy levels and resources could be one form of EAV in itself (and also its prerequisite at the same time). The next level is the question which effect should be achieved, e.g. more European cooperation or more European competition. The third question asks if the instrument (and its underlying architecture) is properly chosen to materialise what is hoped for. More concrete EAV definitions come in at the level of the individual instruments.

These two big goals could also be seen in a 'top down' and 'bottom up' dichotomy, with the first having large expenditures to share as rationale. "*Sharing costs and risks makes big European projects possible*" is a good headline for that. The second, bottom up strand relates to collaboration, mobility, curiosity driven approaches, complementary expertise, benchmarking and transfer. "*Sharing knowledge promotes European scientists and science*" can also be seen as a very good headline (both quotes Rietschel, 2008, pp. 3 and 4). The synopsis leads to "*Global Excellence through European Collaboration and Competition*" (Rietschel, 2008, p. 6). We are not discussing here the issue of operationalisation of such goals but would like to come forward with another proposal: Why not use this as the ideal mission statement for FP8 and just throw over board the term European Added Value with all its different meanings, historic interpretations and conceptual problems?

Conclusion 3: Form follows function (I) – First goals, then (more specific) instruments

"A simple and robust definition of European Added Value is needed for the design and implementation of future Framework Programmes." (Ormalá et al., 2004, p. 8). Perhaps it is just the other way round as cases like national institutions / programmes in Europe or U.S. Federal Instruments show: 'Simple and robust instruments allow a simple and robust definition of (European) added value within and around the design and implementation of future Framework Programmes' (our wording).

Within an ERA-oriented vision / broad definition of EAV, the shaping of instruments should follow and not precede the elements of both ERA goals and EAV definitions. While now – admittedly with some encouraging signs of change – the typical FP set up is sacrosanct and collaborative transnational RTDI projects form the chalice to transport (and transcend) all different kinds of goals, visions and ambitions, in the future the different elements of a European ERA policy rationale should lead to different specialised instruments and perhaps even organisations like agencies to deliver. Each of these specialised tools then can be better employed with a clear cut and specific European Added Value for rationale and goals.

If for example *European* scientific excellence and mobility will remain an ERA definition element also in the future, then ERC will be able to continue its work with clear anticipated value added, the creation of a competitive level playing field for the best European scientists with the second order goals / impacts / "values" of enhanced mobility and some support to

the creation of a premier league of European universities / research institutions. With big infrastructures as another example, the added value is even simpler to display. Other instruments and also specialised agencies with specific mission statements could follow, both to disentangle the knot of manifold goals and to create specific, EAV based intervention logics. This is contrary to today where the typical FP instruments including the “new” FP6 instruments bear the burden to deliver all kinds of results and meet all kinds of expectations, while their individual size still remains rather modest, their interlink cannot be considered as very strong and their power to influence institutional agendas tends versus nil. The reduction of these instruments’ catch-all use should materialise even easier as ERA-Nets and similar instruments could step in much more to fulfil the ‘more cooperation’ need and make room for other things in the FPs⁷.

Conclusion 4: Form follows function (II) – Clearer EAV based intervention logics

It is a tricky thing to develop non trivial goals, it is almost a heroic endeavour in the context of multi-billion Euro programmes. Anyhow, a lot more should be done to better articulate European programmes. Even if high level goals have to be to some extent abstract, it is worth to put more emphasis to keep the purposes of instruments and initiatives specific, measurable, attainable, realistic and timely. Whether EAV as a concept can help remains an open question. We have seen in this report many times that the EAV concept produces a lot of different poetics, different prose and open cycles.

To close the often mentioned hole in the middle according to Erik Arnold three things have to be there: Besides the clearer goals we need explicit links from them to selection criteria and from there to the sphere of evaluation and impact measurement.

⁷ “... Implementing the ESFRI roadmap would cost € 14 bn over 10 years ... EU budget not big enough to provide core financing for the construction of new pan-European infrastructures ...” (European Commission 2007a, p. 13) Why not? Even not, if ESFRI could theoretically come forward with an overwhelming case for a European Added Value? It depends on the priorities you set.

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