Public Support of the Processing and Marketing of Agricultural Products: A Driver of Innovation in the Food Industry?

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Summary

At issue in this paper is the role of innovation within the public support of food-industries under EU rural development policy. It is focused on the questions: Are there fundamental economic characteristics of highly innovative in comparison to less innovative enterprises? And, what are successful strategies to promote innovations by intervention of the state. Baseline information is given through the data ascertainment of investment grant applications and collaboration with local state departments.

Keywords: *Innovation, industrial policy, investment assistance, food-industry, state-intervention*

1. Inroduction

It is generally assumed that innovative and market oriented enterprises achieve better results as compared to enterprises with an established production and sales behaviour that make no particular effort to change or expand their range of products. The return of innovation should be indicated by an improved economic performance, expansive business development, or growing market shares. The benefits of these strategies for the overall economy are acknowledged by political decision makers and many are supported through various industrial policy interventions. Within the EU, the Lisbon Strategy stands for the central strategic orientation towards public promotion of economic dynamism and improved competitiveness (LISBON EUROPEAN COUNCIL, 2000). The EU Rural Development Programme (RDP) fixed in the Council Regulation CR (EC) 1257/1999 has to consider the strategy. RDP is financed jointly by the EU and the individual member states. Aim of the measure 'improving marketing and processing of agricultural products' is to support enterprises which process and/or market goods from agricultural production so that the delivering farmers get better marketing conditions for their products. Nevertheless investment has to target at least one of 12 objectives predetermined by EU Commission[1].

1. Objective 1: Targeting production to presumable market development
Objective 2: Supporting the development of new sales outlets
Objective 3: Improving or rationalizing the marketing channels
Objective 4: Improving or rationalizing processing methods
Objective 5: Improving the appearance and packaging of the products
Objective 6: Better use and removal of by-products and waste
Objective 7: Use of new technologies
Objective 8: Support for innovative investments
Objective 9: Quality improvement and monitoring
Objective 10: Hygiene improvement and monitoring
Objective 11: Environmental protection (i.e., resource conservation, waste water conditioning)
Objective 12 : Improvement of the animal wellbeing (animal appropriateness, animal protection, animal hygiene)

In the period 1991 to 2004, about nearly 2 billion Euros in public investments were granted in Germany. At the present time, these investment grants are one component of the rural development program 2000 to 2006 undertaken by the federal states of Germany[1]. The funding in this period and measure has been equipped with about 600 Mio. Euros in public funds.
Evaluation as part of EU Good Governance is obligatory for the programme. This leads to the development of an evaluation scheme via success indicators and economic figures. The paper presents interim results of an analysis in which we have compared an innovative and a non innovative group of investors. Afterwards, we show what we consider to be a successful example of state supported region-based innovation adopted in the southern German wine sector .

2. Innovation and industrial policy

In order to analyse the support programme regarding the impact on innovation and economic growth, it is important to give a brief overview of the economic literature on these aspects. We try to draw main statements regarding the importance and impact innovation could have on economic welfare, and about the role public policy could play.
One can find a formal definition of innovation in legislation. The German Patent Law (PatG) outlines that patents will be given for new inventions based on an inventive activity that is commercially applicable. An inventive activity is characterised by the fact that a specialist does not come to the state-of-the-art solution the inventor did in an obvious way (PatG, § 4).
From a more economics oriented view one can divide innovation into two categories: First, innovations which are the result of a routine research and development (R&D) activity in a normal company within established technology. Examples are all kinds of improvements of existing technological solutions. These innovations have a cumulative character, because they add to something previously available. The other category includes independent or disruptive innovations. These innovations came either from people outside established firms (Baumol, 2002, p. 56) or from companies which stay outside of established networks of producers and customers, or respectively markets (Christensen, 1997, p 31ff). They often cause stronger turbulences within branches affected by this new technology because these innovations offer completely different solutions or opportunities.
It is important to note that innovation need not be drastic or publicly acclaimed new solutions, but new activities that produce economic success (Porter, 1993, p. 67). Through these new and better activities, resources shift from established branches to emerging ones and cause structural changes. It is quite clear that these new innovative activities do not occur in a deterministic way so that public authorities or anyone else could forecast the path of progress respectively development (Sabel et al., p. 2). Thus, in addition, innovation will happen in every technology, industry or branch or like Rodrik explains: “It is impossible to ascribe these patterns of specialization to comparative advantage. They are more likely the result of random self-discovery attempts, followed by imitative entry. Indeed, we showed how whole industries often arise out of the experimental efforts of lone entrepreneurs.” (Rodrik, 2004, S. 10). Moreover it is usually a long and costly way from an invention, respectively innovation, to the point of concrete realisation and of market introduction (Scherer et al., 1990, p 614ff). Thus innovators and entrepreneurs have to overcome obstacles on different stages of product development and market introduction.
Due to this broad diversity of innovative activity it is quite clear that policies to promote innovation have to deal with complex conditions and systems. Hence, also the measurement and assessment of innovative activity faces various difficulties. One can use only proxy measures of

1. According to Council Regulation (EC) 1257/1999, applicable to German Federal States outside Objective 1, respectively Council Regulation (EC) 1260/1999 applicable to German Federal States of Objective 1 region.

innovative activity. Commonly used were a) R&D expenditures, b) patent statistics and c) different sources about innovative outputs (Acs et al., 1991, p 3ff). R&D expenditures cover input data, thus giving information about the financial efforts of companies to realise innovations. Excluded are information about inputs other than funding, like the use of external research outputs or external services. Obviously neglected is the fact that inputs in R&D are not connected in a deterministic manner with an output of these activities. It is not at all clear whether the actual activities lead to successful innovation and if so, when they do so. Patent statistics are problematic because a quite substantial part of innovation will not be patented. It depends on technologies, markets and companies (Scherer et al., 1990, p. 624ff). Other measures of innovative activity use special sources like manager and expert questionnaires s s, panel data, journals, information about product introduction, etc. (Acs et al., 1991, p.5ff). In general, all these approaches can't deal exactly with the differences of market valuation between innovations. Additionally, the time lag between market introduction and a wider acceptance of the innovation can't be considered accurately.

Nevertheless, almost all analyses about the effects of R&D, patents or other indicators of innovation show a positive impact of these activities on company success. On the macroeconomic level, innovations have an accelerator feature: a constant rate of innovation results in continued economic growth (Baumol, 2002, p. 51).

It is not surprising that public policy tuned into these opportunities innovation offers for economic growth and perhaps economic welfare. The impressive economic rise of Japan and comparable East Asian countries in 1950s and 1960s showed quite imposingly the strong positive impact that national strategies which support industrial development can have on the economic development of the whole nation. Concurrently economic research augmented the insights about the important role knowledge, research and innovation play for economic development. (Audretsch, 1998, p 22ff). Targeted support towards industries and branches with supposedly profitable future prospects should affect economic progress. In particular the industrial targeting was constantly a point of discussion. There are no plausible explanations on how to make the right choice, and important as well, is how to explain which industries and technologies should be kept outside of the public support stream. These industries then have to finance industrial policy for the supported branches (Grossman, 1990, p. 99, 101, 118). Despite several success stories, analyses more often show lacking positive effects of public support toward specially chosen industries (Pack et al., 2006).

The growing importance of small and medium sized enterprises (SME) since the mid 1970s focuses public support additionally on these smaller companies. It became clear that smaller companies are important due to their characteristic as young, flexible, and highly innovative firms with remarkable effects regarding economic growth and employment (Acs et al., 1993, p. 227). Research gained new insights through case studies about the development, commercialisation and effects of innovations carried out by individuals or young small companies. It was no longer only the research unit of bigger companies who seemed to produce innovation but also individuals – often non-conformists - who could play an important role for dynamic economic development (Baumol, 2002, p.55).

The environment of such innovative activities was characterised by close relations between the different elements of a system (researchers and entrepreneurs, industries, public authorities, etc.) (Andersen, 1995, p. 77ff). Other analyses show that knowledge wasn't a pure public good, but is to some extent transferable only via face-to-face communication (tacit knowledge, etc.) so that research centres, as well as industrial clusters, can function as catalysts for dynamic innovation-based economic development (Navarro, 2003, p. 12). Hence industrial policy focus additionally on the promotion of innovation of SMEs as well as the promotion of entrepreneurship and start-up activities in particular spin-offs in the area of research entities (Lundström et al., 2002). A further advantage of such industrial policies is, to some degree, the avoidance of in-

dustrial targeting. Public authorities do not need to know in depth what technology or industry will have a promising future but only should support an environment where individuals can easily transform ideas into activities (Rodrik, 2004, p. 18). The special direction of the economic activities will be managed by these private actors themselves, or respectively, by the market mechanism.
In his summary, Audretsch describes these developments as follows: „ ... , it has simply shifted in three important dimensions. The first is from policies of constraint to policies of enablement. This shift involves a very different set of instruments, where the classic institutions of antitrust, regulation and public ownership are de-emphasized, but the creation and commercialization of new knowledge becomes the focal point. The second shift involves the focus on inputs, and especially knowledge inputs in the production process rather than targeting outputs and outcomes. The third shift involves a different locus of institutions, away from the national and federal level and towards the state and local level.“ (Audretsch, 1998 , p. 43). In sum, countries should “stimulate the animal spirit of domestic entrepreneurs” (Rodrik, 2001, p. 26).
One can translate the findings concerning innovation and industrial policy in order to propose aspects which should be considered in strategies for industrial development:

- Innovation is the central force in order to initiate or perpetuate economic growth.
- Innovation and economic development do not depend only on financial issues. Correspondingly, industrial policy isn’t limited to investment support. Platforms of coordination and cooperation, for instance between research units and industries or education and training facilities, may have better effects than simple investment support. Thus industrial policy should be oriented to a systems approach.
- Innovation isn’t predictable. Restriction of support to special industries or development stages ignores this fact and reduces the potential of the intervention.
- Policies should be oriented to regional or even local conditions so that not only specific potentials, chances and constraints could be taken into account but also the limited transferability of knowledge via technological/knowledge clustering could be considered.
- Coordination failures exist on the micro level. Industrial policy has to cover not only single aspects of product development but the whole system of innovation, namely knowledge, R&D, adequate infrastructure, financing, commercialisation, entrepreneurship etc.

Yet classical are instruments that take into account the changed view of industrial policy like a) pre seed/early stage financing, b) business incubators for start up creation and c) training of entrepreneurs (e.g. C(2003) 1422) (2003/361/EC), OJ-EU L124/36, 20.5.2003; European Commission, 2004; Lundström et al., 2002; Saatchi & Saatchi Business Communications (Belgium) et al., 2006).
Against this background, how can the public support in the Section for the Promotion of Processing and Marketing Enterprises for Agricultural Products of the Programme for Rural Areas be designed, or respectively, what impacts will be achieved?

3. Data

For the analysis we use two methodological approaches, (A) a qualitative analysis of official documents and (B) an analysis of concrete support data on project level.
(A) Programmes for rural development had to be elaborated in detail by the EU member states, respectively in the case of Germany, by the federal states. They build the basic information source for our analysis of the strategy chosen by the public authorities. These programmes follow detailed advices laid down in various EU Council Regulations (CR). Additionally the CR define and fix the general conceptual and content related orientation of the programmes with a list of objectives and of possible measures as well as target groups, by advices regarding financial division between the measures and by implementation rules.
(B) On a second stage we look closer to the direct impacts of public support on the project level. In order to evaluate the impact of the measure, it was necessary to develop a pragmatic evaluation approach. Comparing firms with and without support (counterfactual situation) fails because it is not possible to obtain data from firms which have not been supported from official statistics or surveys. Therefore our evaluation concentrates on (1) comparing supported firms before and after the supported investment came into force and (2) comparing desired and realised results of supported firms.
In the Section for the Promotion of Processing and Marketing Enterprises for Agricultural Products, the EU Commission has obligated the evaluators to answer five questions based on data analysis. These five questions deal with aspects of competitiveness, quality, producer (farmer) benefits, environment, health and welfare. Additionally EU Commission recommended including about 13 criteria and 28 indicators in addition to the five questions. We translate these guidelines into about 40 indicators and consequently into more than 250 variables of an Excel-based questionnaire (EB) for a complete survey of the projects. It is unavoidable to calculate multiple variables for each criterion and/or indicator. A full survey of more than 250 variables is a complex approach and the supported companies could be easily overwhelmed by it. Accordingly, mainly those variables could be chosen at first which had to be surveyed in a company for economic and tax purposes. Nevertheless, the attempt to use a formula-based survey of firm processes proved in many cases to be problematic. The questionnaire covers 2 different phases:

(a) baseline information as an element of application including data of the initial situation (t-0) as well as the intended effects (t-1a),
(b) realised results in the full business year one year after the investment comes into force (t-1b).

Therefore each beneficiary has to fill in the project form twice. First when the project starts, and second not earlier than one year after the investment is completed. Often more than one year lies between both dates in the food processing and marketing sector. The announced data, intended as a result of the investment, are automatically transferred into the second project data form in order to facilitate fulfilment of the second form by the beneficiary. A special problem arises from the introduction of the Euro in the year 2002. This demanded an exchange of the project forms fulfilled before into the new currency.
The project data forms allow to obtain key elements of the information needed for the mid-term evaluation as well as future ex-post-evaluation. This refers to a comparison of the initial situation with the plan and also with the results in reality. Furthermore deviations can be analysed between planned and realised results.
For the analysis presented here we used data of a self assessment concerning investment objectives. The objectives noted in the EB are closely related to the 12 objectives predetermined by EU Commission. These data serve as a starting point in order to measure how important innovative aspects have been in their projects and afterwards to order them into classes of innovation

intensity. Furthermore financial data of input, output and results as well as information about product quality and marketing efforts are used.

4. Strategic orientation of the measure promotion of marketing and processing of agricultural products

The measure mentioned here is part of the EU Rural Development Programme (RDP) fixed in the CR (EC) 1257/1999. General objectives are as follows: “Rural development measures shall:

- be integrated into the measures promoting the development and structural adjustment of regions whose development is lagging behind (Objective 1), and
- accompany the measures supporting the economic and social conversion of areas facing structural difficulties (Objective 2)” (CR (EC) No 1257/1999, 17.05.1999, OJ-EU L160/80, 26.6.1999, Art. 1, para. 3)

“The rural development measures eligible under this Regulation fall into two groups:

- Accompanying measures of the 1992 reform: early retirement, agri-environment and afforestation, as well as the less-favoured areas scheme;
- Measures to modernise and diversify agricultural holdings: farm investment, setting-up of young farmers, training, investment aid for processing and marketing facilities, additional assistance for forestry, promotion and conversion of agriculture.” (European Commission, 2007).

Thus, a general objective of RDP is to enable in particular the agricultural sector of rural areas economic and social development so that people within these areas (and sector) can live under conditions comparable to the average EU population. Programme content includes a mixture of structural, distributional, social, environmental and growth-oriented goals. It is quite clear that this programme can’t be interpreted as one oriented on industrial policy objectives. In addition RDP aren’t oriented on the rural area as a whole but mainly limited to the people, companies and organisations connected with agriculture. Thus, development opportunities in other branches and people with different economic orientations are not included. An aspect that limits the effect in the sense of industrial policy (Starbatty, 2000, p. 101f).
Special objectives of the measure mentioned here are the twelve listed in Footnote 2. Innovations don’t play a dominant, or even important, role within the support measure. Only two of these twelve objectives deal explicitly with aspects of innovation: Objective 7: Use of new technologies and Objective 8: Support for innovative investments. Because the 12 objectives are not classified hierarchically, in a formalistic way at least 17 percent (2/12) of the investment must be addressed to fulfilling these two of the 12 objectives. In fact, on average, less than 8 % are addressed to these two innovation oriented objectives. In addition it is sufficient, if a project fulfils one of these twelve objectives. Hence also this measure is a mixture of different strategies. It deals with structural and distributional aspects as well as with environmental aspects. Again, like the whole programme, this measure represents to a minor degree industrial policy. Furthermore the measure is limited to investments in the processing and marketing of agricultural products, thus excluding other possible activities like special product development activities, start up and pre-seed financing etc.

5. Analysis of Projects

Until now we have about 850 data sets at the application stage, of which 659 are analysable. 275 projects are finished so that we can analyse achieved results of this group (Table 1). The sample of finished projects isn't representative for all projects. In particular there are few finished projects in the milk sector and a preponderance of wine projects. As a result there is also a bias regarding project size, or respectively size of the connected production units. While average turnover of all projects considered is 28 Mill. Euros, finished projects have, on average, a turnover of less than 16 Mill. Euros. Projects in the wine sector are mainly small, whereas projects within milk sector are exceptionally large.

Table 1. Distribution of projects regarding application stage and sector

	Projects					
	All Application Stage			All Finished		
Sector	[No.]	thereof [%]	turnover per project in 1000 EURO	[No.]	thereof [%]	turnover per project in 1000 EURO
Eggs & Poultry	30	5%	31.498	10	4%	32.762
Cereals	106	16%	10.170	37	13%	9.869
Potatoes	71	11%	11.407	22	8%	4.191
Milk	115	17%	122.368	16	6%	102.204
Fruits & Vegetables	172	26%	12.479	54	20%	9.790
Wine & Alcohol	165	25%	6.972	84	31%	5.921
Others	192	29%	21.413	52	19%	17.443
SUM	**659**	**100%**	**28.171**	**275**	**100%**	**15.830**

Source: Project Database; Own Calculation

5.1 Comparison of innovative and non innovative investors

A distinction must be made between innovators and non-innovators to see whether novelties in processing and products lead to an advantage on the market. Since we defined innovation as the application of a technology in an environment where it was not used previously, a mere classification via the table is not plausible. We used a self-assessment based on the ratio of investment to innovation to test success. The self assessment process bases on 12 questions about the investment aims. Two of them - use of new technology and innovative investments - explicitly deal with innovation. The sum of the 12 aim quotas has to be 100 percent. The assignment of investors to a certain type of innovation group is as follows:

- Non-innovator: If the sum of the two above-mentioned indicators is zero.
- Medium-innovator: If the sum is greater than 0 % up to 15 %.
- High-innovator: If the sum is greater than 15 %.

Table 2 shows the distribution of these 275 finished projects in the three innovation classes. Half of the projects have no investments in innovation objectives, and a quarter each invests up to 15 % as well as more than 15 % in innovation objectives. Within the group of 'Non-innovators' are the bigger enterprises measured by turnover/project. The 'high-innovator' group invests on average less than the others do, but there are big differences within these three groups. In some sectors, only very few projects are in the innovation classes. Thus, detailed statistical analyses can't be made.

Table 2. Distribution of finished projects regarding sector and innovation group

Sector	ALL finished			noninnovators finished			medium innovators finished			high innovators finished		
	Proj-No.	Inv_sum per Project in 1000	turnover	Proj-No.	Inv_sum per Project in 1000	turnover	Proj-No.	Inv_sum per Project in 1000	turnover	Proj-No.	Inv_sum per Project in 1000	turnover
Eggs & Poultry	10	1.376	32.762	4	1.295	23.847	5	1.396	44.285	1	1.600	56.573
Cereals	37	2.751	9.869	24	1.162	9.347	10	6.595	20.730	3	2.648	4.442
Potatoes	22	627	4.191	13	486	3.650	3	1.439	5.451	6	528	8.867
Milk	16	5.290	102.204	7	6.236	189.990	6	5.469	56.267	3	2.722	47.674
Vegetables	54	868	9.790	29	398	11.369	18	1.235	9.086	7	1.875	12.923
Wine & Alcohol	84	331	5.921	31	142	5.195	21	319	7.251	32	522	6.084
Others	52	1.802	17.443	34	2.008	25.042	12	1.860	19.382	6	522	19.024
SUM	**275**	**1.390**	**15.830**	**142**	**1.178**	**21.403**	**75**	**2.151**	**17.748**	**58**	**928**	**11.473**

Source: Project Database; Own Calculation

5.2 Economic characteristics of the different groups

Before we start the analysis we have to clarify some aspects about the data considered. Unfortunately we sometimes only had figures from a single production plant of a bigger company. Additionally results show gross effects only. This is in particular important for turnover and employment: there is no information about a shift in employment and/or turnover in other plants of the same company or of other companies. In these cases the results do not describe all effects and probably overestimate them. A closer examination has been done on the economic figures of the business venture. As important economic figures we chose turnover, new products, employment, labelling and Quality Management System (QMS).

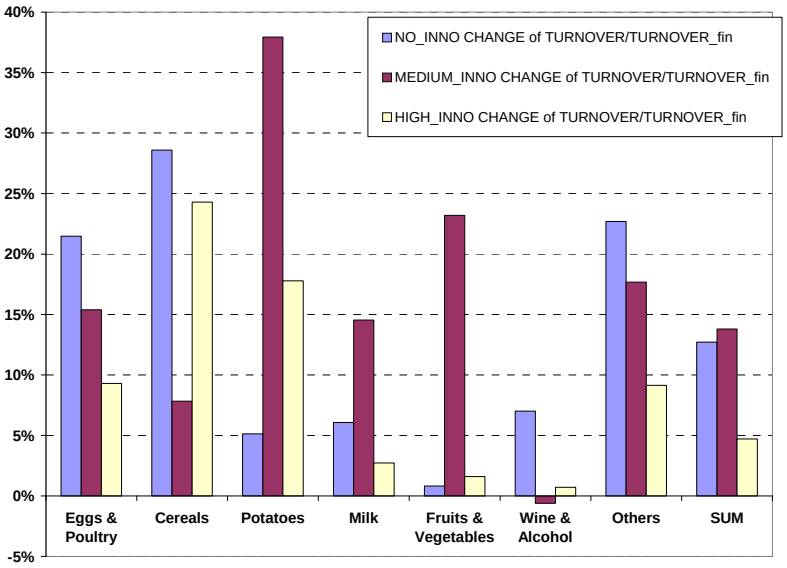

Figure 1. Development of turnover within the innovation classes and sectors
Source: Project Database; Own Calculation

Evidently the ‘no’ and ‘medium’ innovators achieve higher increases of turnover than high innovators. We can’t explain this result satisfactorily. A possible explanation is that the time lag of one year between investment and data collection isn’t long enough to see the effects of in-

vestments in innovative activities. Investments which simply increase production capacity, for instance, may have more directly effects on turnover.
The analysis of the introduction of new products shows the expected results: Innovation oriented projects have not only a higher share of turnover with new products but also more introduction cases than Non-innovators.

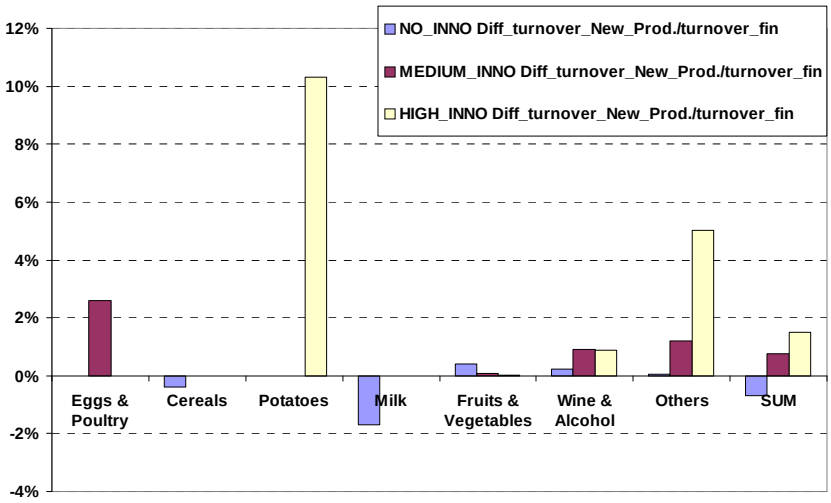

Figure 2. Change of turnover with New Products within the innovation classes and sectors
Source: Project Database; Own Calculation

Regarding employment we find only small changes overall. Nevertheless innovation oriented projects have greater effects than the others. In particular, successful start-up companies have remarkable positive effects on employment. This becomes apparent in Fig. 4 with the exceptionally high column of high innovators in the sector ‘Others’, which contains start-up companies.

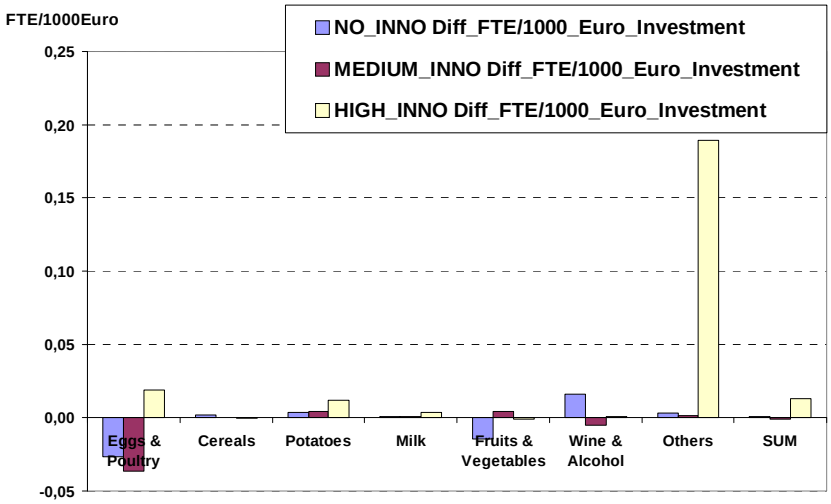

Figure 3. Employment change (FTE) within the innovation classes and sectors
Source: Project Database; Own Calculation

The use of product labels and QMS, we suppose, are indicators for market orientation. Furthermore our assumption is that innovative firms are highly market oriented because they want to launch new products, which need a strong customer orientation. Differences between the three

classes are not obvious regarding QMS but companies with investments in innovation purposes use much more product labelling.

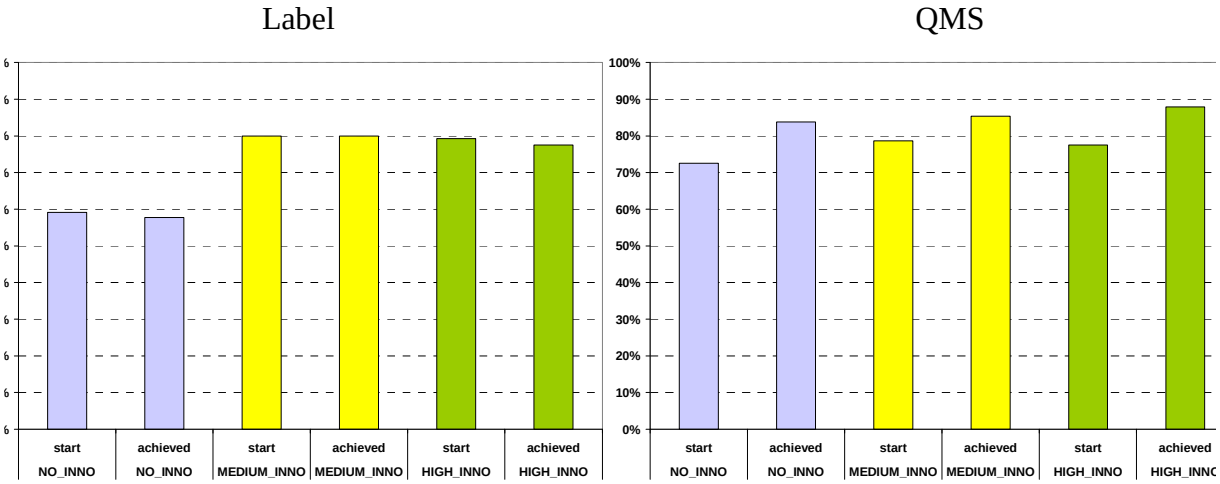

Figure 4. Use of labelling and QMS within the innovation classes
Source: Project Database; Own Calculation

5.3 Evaluation of the projects with multiple goals

In addition to the analysis of single factors, the study of multiple factors provides the opportunity to assess the total effectiveness of projects. This can be done, for example, with a ranking process. Ranking systems are especially useful when many factors affect the subject being considered, but no individual factor can be characterised as a "Total indicator." In such cases the sum of the weighted or unweighted factors can permit an evaluation. The strength of the system lies in the tolerance for unclear absolute influences of individual factors and non measurable relations between single factors. Only the total composition of many factors permits an adequately secure judgement on the status of the considered object (Matthes, 2005, p. 13 f). The consideration of factors of influence and their weighting has a decisive impact on the placement (Forker, et al., 2001, p 199f). The comprehensibility of the evaluation schema reduces with increasing complexity, so that the quality and focus of the evaluation are difficult to understand (Kladroba, 2005, p. 95; Matthes, 2005, p. 13 f).
Table 3 presents such a ranking scheme. Thirteen factors were selected to illustrate the achievements of the project for the promotional measure. In addition, two different evaluation patterns were applied: a standard evaluation in which all factors were equally evaluated with one point, and a more competitive, innovation-oriented variation which rated higher aspects like value added, QMS, new products and investments in innovation targets.

Table 3. Catalogue of Criteria for Judging Projects for Market Structure Improvement

Criteria	Time*)	Valuation	'Standard'	'Innovation & Competition oriented'
1 Positive occupational development	t1b>t0	=	1	0,5
2 Positive development of added value	t1b>t0	=	1	1,5
3 Use of at least one QMS Instrument	>0	=	1	1,5
4 Positive development of the value measured sales of a newly developed products	t1b>t0	=	1	1,5
5 Investment in objectives of innovation	>0	=	1	1,5
6 Use of Seal of Quality, Trademark or Seal of Origin in t 1	>0	=	1	1
7 a) price indexing = yes, b) Quality surcharge = yes, c) Contractual fines = yes	Yes? 2	=	1	1,5
8 Positive difference to average market price in t1	>0	=	1	1,5
9 Women's participation; positive development	t1b>t0	=	1	0,5
10 Apprentice occupation; positive development	t1b>t0	=	1	0,5
11 Share in contracts for delivery increased	t1b>t0	=	1	0,5
12 Use of energy per value of sold products	t1b<t0	=	1	0,5
13 Packing costs per value of sold products	t1b<t0	=	1	0,5
TOTAL:	max. 13		13	13

*) = t0 = situation before project implementation; t1b = situation one year after project realisation

The evaluation of the data shows a much higher fulfilment of achievement parameters by medium and high innovators, regardless of which scale is used. The results support the assumption that innovation oriented enterprises have a more positive impact on economic development than non-innovators.

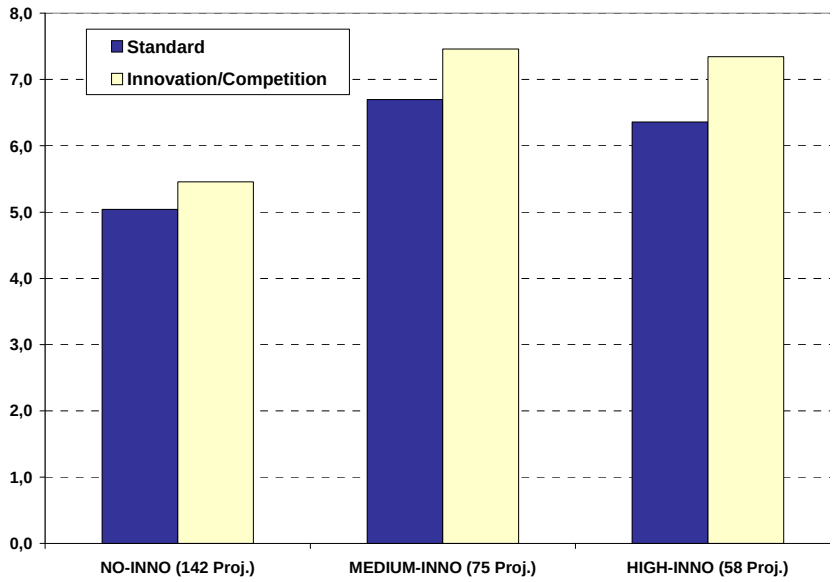

Figure 5. Average score subject to different scoring scenarios
Source: Project Database; Own Calculation

5.4 Successful strategies to promote innovative investments; the case of wine in Baden Württemberg

An exceptional situation exists in the wine sector of Baden Württemberg (BW): There are not only numerous and small projects, respectively enterprises, but also a high share of projects with remarkable investments in innovative activities. For this reason, we looked a bit more closely at this group and at what influence the concrete shaping of the support measure can have with regard to innovation. Different from the usual way public authorities carry out the measures, the administration in BW started with round table negotiations about future perspectives and adequate strategies within the wine sector. Discussion partners came from regional research centres, public administration, and wine organisations. Beforehand, first ideas about a new strategy and about future challenges facing the wine sector of BW came from scientists of the wine research centres. They state that innovation and quality have to be the key issues of public support as well as of strategies for improvements in the wine sector. Results of the negotiations were as follows:

- Regional production differs increasingly from international trends in wine production because the majority of the wine will be consumed within the region.
- The small companies do not have enough money for R&D nor adequate capacity to recognize new trends.
- Potential beneficiaries are numerous, but financial public resources are limited.
- There are different technological possibilities to improve the quality of the wine and to fulfil demand of food retailers. These are, in particular, speedy and careful processing, fermentation improvements, reduction of turbidity.
- There are special technological details which could be supported and which provoke further investments and adjustments in line with the necessary future market requirements.

As a result the public administration fixed a ‘positive list’ of investments which could be supported by them.
First results indicate that numerous enterprises use these possibilities and furthermore invest additional money in modernization and market adjustment in order to meet the needs of national and international markets. Thus the creation and implementation of a positive list have encouraged innovative investments. However, to establish such a positive list, public agencies need detailed information about the relevant markets and technologies. This means, they need to act and cooperate with the relevant local actors (Evans, 1995, p. 250). Consequently this special measure in BW promotes using a bottom up approach in order to focus support on sensible aspects of markets and technologies which single enterprises can’t find out, or respectively can’t implement, without support. In addition, this example addresses the need to consider local and micro level information distortions and coordination failures within industrial policies. Furthermore, such a strategy probably produces significant leverage effects.

6. References

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