**FIRECE – Interreg CENTRAL EUROPE Project CE1131**

**WPT2 Implementation of the instruments, testing and transferability actions**

# Finalisation of the Ex-Ante assessment analysis and IFI´s implementation in Austria

*DELIVERABLE*
*D.T2.4.2*

## *Contribution of the Austrian region*


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# 1. Financial instruments overview

In an international comparison, Austria shows extraordinarily high expenditure on subsidies. Studies by WIFO (Pitlik et al., 2008) show that even when "structural factors" are considered, the actual government expenditure on subsidies and capital transfers is considerably higher than expected. From the perspective of financial science, the pronounced propensity of regional and local authorities (and their affiliated or spin-off subsidy companies) to provide subsidies may be due to the fact that the principle of institutional congruence of responsibility for tasks, expenditures and revenues is undermined in the Austrian fiscal constitution. In Austria, public subsidies are regularly granted by private law companies or public funds, which gives local authorities the opportunity to act outside their federal constitutional area of competence. As a consequence, an almost unmanageable network of funding priorities and actions has developed in Austria. Processes of inter- and intragovernmental coordination are largely lacking, which is why efficiency losses are to be assumed. [1]

## 1.1. Use and experience of financial instruments in 2014-2020

At the end of the current programming period of the European Structural and Investment Funds (ESIF) in 2020, the 25th anniversary of the use of resources from these funds or their predecessors in Austria will be celebrated. The preparations for the new program period 2021-2027 have already begun. Thus, it seems to be high time to subject the effects of these Community policy interventions (currently the European Rural Development Programme - EAFRD as the "second pillar" of the Common Agricultural Policy, the European Regional Development Fund - ERDF, the European Social Fund - ESF and the European Fisheries Fund - EMFF), which are (also) so important for spatial development in Austria, to a cross-fund and quantitative evaluation.

This is all the more so as the question of the sense and effectiveness of the use of the ESI funds and their predecessors has accompanied their activities in Austria and at the EU level ever since their creation. This applies not least of all to the regional dimension: although newer theoretical approaches to economics and not least the scale and persistence of spatial disparities in Europe have at least partially disenchanted the "convergence promise" of the neo-classical economy, more recent work in quantitative impact analysis is increasingly finding positive and significant growth effects of the interventions of the ESI funds in recipient regions and at the macroeconomic level. Nevertheless, voices proposing a reduction and/or "renationalisation" of EU funds earmarked for cohesion policy initiatives have by no means fallen silent. This is undoubtedly also due to the special features of the common policy, which in terms of architecture and logic must also satisfy political and economic constraints and thus remains vulnerable (see for example Mayerhofer, 2018). Above all, however, this probably has to do with the budget restrictions of

the (highly developed) member states in net contributor position (including Austria): After all, EU funds totaling around € 461 billion are estimated for the six ESI funds1 in the current program period (2014-2020), which are mainly financed by EU contributions from the Member States and supplemented by national co-financing totaling € 183.2 billion.2 For Austria, EU funds of € 4.92 billion are planned up to 2020 within the framework of the four ESI funds used here, which are to be backed by national financing of € 5.74 billion.

Thus, the scale of ESIF interventions in Austria (EU + national) in the current programming period remains rather limited, especially with regard to the ESF (EUR 875.7 million), ERDF (EUR 2.07 billion) and EMFF (EUR 13.9 million) (in contrast to EAFRD, which still accounts for EUR 7.70 billion). 7.70 billion), a comprehensive review of the impact and efficiency of the use of these funds appears to be the - still indispensable - basis for learning effects and thus an evidence-based foundation for the preparations for the new programme period 2021-2027, but also for documenting their benefit for the taxpayers in Austria. The results of the evaluations anchored in the EU legal bases are currently (only) available as a starting point. They carry out a process evaluation by fund in a clearly defined chronological sequence (ex-ante, accompanying, ex-post) and in theory-based analysis, and also provide efficiency analyses in detail. However, these evaluations (especially in Austria) primarily use qualitative methods. [2]

## 2. Ex-ante assessment-purpose and preliminary considerations

The ex-ante evaluation is based on the provisions of Article 37 of Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions for the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund, and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Regulation (EC) No 1083/2006 (SO).

Accordingly, support for financial instruments must be based on an ex-ante evaluation demonstrating market weaknesses or sub-optimal investment situations and deriving the estimated level and scope of public investment requirements, including the types of financial instruments to be supported. The contents of an ex-ante evaluation are specified by Article 37 (2) (a-g) of the Supervision Regulation.
With the Upper Austrian High-Tech Fund, the Federal Province of Upper Austria has set up a programme in 2011, which is intended to improve the equity base of small and medium-sized enterprises (SMEs) in the Federal Province of Upper Austria and

thus contribute to strengthening competitiveness. Based on the experience gained with the Upper Austrian High-Tech Fund, the Federal Province of Upper Austria is now planning to continue the fund-based economic development in the 2014 to 2020 funding period, analogous to the last funding period. To this end, the Federal Province of Upper Austria intends to re-launch the Upper Austrian High-Tech Fund with the support of the European Regional Development Fund (ERDF).

The ex-ante evaluation covers the contents of Article 37 (2) (a-g) in relation to risk capital financing, taking into account the orientation of the proposed financial instrument, as can be found in the ex-ante analysis in D.T.2.1.2.

# 3. Assessment of the added value of financial instruments

In the following chapters the added value of the financial instruments is evaluated.

## 3.1. Analysing quantitative and qualitative dimensions of the added value for FI

### 3.1.1. Quanitative dimensions

After the analyses in the context of Article 37 (2) (a) of the Financial Regulation have shown that there is a funding gap in the area of risk capital financing which can at least be reduced by the use of a financial instrument, the following aspects will be assessed in the context of the value added analysis under Article 37 (2) (b):

1. analysis of the qualitative and quantitative added value of the financial instrument,
2. consistency of the financial instrument with other types of public intervention,
3. implications under state aid law and
4. the proportionality of the proposed intervention

| Example 1: grant | Case specific assumptions | |
|---|---|---|
| | -Total financing requirements 1,5 Mio. €<br>-Fund intensity 50%<br>-Cofinancing for higher developed regions 50%<br>Amount of subsidy (EFRE)<br>Amount of subsidy (national/ regional)<br>Leverage = Total investment volume / EFRE subsidy = 4<br>Through the use of 1 euro of ERDF funding, 3 euro of additional funding is mobilised. | <br><br><br>1,5 Mio € * 50% * 50% = 375,000€<br>1,5 Mio € * 50% * 50% = 375,000€<br>1,500,000 €/ 375,000€ |

| Example 2: Participation | Case specific assumptions |
|---|---|

-Total financing requirements 1,500,000 €
-EFRE resources 375,000 €
-Regional participation 375,000€
-Mobilisation another resources 375,000 €
-Scheduled exit after 7 years
-Discount rate of 4% according to Art. 19 Delegated Regulation No. 480/ 2014
-Investment income covers the Fund's defaults and management costs, the net income from the investment is zero.

a) Leverage effect in present:

When determining the leverage effect of the present,
it must be taken into account that the participation is initially paid out in full. As with the grant of 4.

Leverage effect in the present = total investment volume / ERDF funds
= 1,500,000 € / 375,000 €
= 4

(b) Leverage effect in future

In addition, it must be taken into account that reflows after the exit can be used to grant further investments in the future ("leverage effect in the future"). Assuming that the investment income covers the costs of fund management and defaults (net income of zero), the exit takes place at the nominal value of the investment and taking into account a discount rate of 4 %, further investments with a total volume of EUR 1,186,964 can be granted ceteris paribus in the future. The revolving nature of the fund means that further investments of 3.2 times the original investment amount can be made in the future.

The total quantitative added value amounts to 16.7 (4 times 4.22).

If a 1-year default probability of 3 % is taken into account, this results in a leverage in the future of 1.6 and a quantitative added value of 10.5.

## Comparison:

The example cases are each based on a total investment volume of EUR 1.5 million. Assuming a maximum funding intensity of 50 % and a co-financing rate for more developed regions of 50 % of the investment costs, the potential share of ERDF funding is EUR 375,000. The leverage effect of the ERDF funds compared to the total investment volume thus results in a value of 4.

ERDF funding of EUR 375,000 is available for the investments. The Federal Province of Upper Austria and the banks are each participating to the same extent. The remaining financing requirement will be covered by other sources, e.g. by equity capital from private investment companies and/or by commitments from business angels. Assuming that the participation fees (including exit profits generated) cover the costs of fund management and defaults and taking into account the current EU discount rate of 4 %, the quantitative added value is around four times higher than in the case of "lost" subsidies. Even under more conservative assumptions - 1-year default probability of 3 %, EU discount rate of 4 % - the quantitative added value of the investment is still around 2.5 times higher than in the case of grant funding.

The example calculation shows that the granting of a participation is accompanied by a higher quantitative added value compared to the granting of a grant. This is due to the fact that the participation is basically designed to be repayable, so that after the exit, the return flow of funds from the ERDF share can be used for further participation commitments.

However, the higher quantitative added value of participation does not necessarily mean that participation is the preferred funding instrument in every case. As a measure of funding efficiency, it can nevertheless be used as a criterion for selecting the funding instrument if the grant and the participation have the same funding effectiveness.

### 3.1.2. Qualitative dimensions

In the area of financing young, highly innovative and growth-oriented companies in Upper Austria, there is a gap in the supply of venture capital. In recent years, the supply of private venture capital has declined sharply, particularly in the early and thus very risky phases of company development. The public sector at European, national and regional level, including Upper Austria, has countered this trend by increasing the supply of public venture capital.

The added value of ERDF co-financed venture capital funds can therefore consist in particular in providing additional capital for innovative Upper Austrian companies in the early and growth phase. The study on the venture capital market in Austria by Jud et al. (2013) underlines the role of venture capitalists, who, through their specialized know-how, perform an important selection function and offer added value to companies through information, consulting and brokerage services, thus counteracting central causes of the lack of capital attributable to market weaknesses.

The financial instrument can also fulfil an important function from a macroeconomic perspective. For example, the fund can improve the economic framework conditions for technology-oriented and high-growth companies and thus contribute to the development of innovative structures in the federal province of Upper Austria, which is characterized more by traditional industries. The settlement of innovative companies that decide to locate in Upper Austria on the basis of the financing offer also plays a role in this connection.

The revolving character of the fund, the effect of which is shown in the following quantitative analysis, also represents a significant added value of the planned financial instrument compared with an alternative possible grant. [3]

## 3.2. Assessing the consistency with other forms of public intervention addressing the same market

In the following, it will be assessed to what extent the *Upper Austrian High-Tech Fund* complements the existing funding offers in a meaningful and non-overlapping manner and thus does not lead to the displacement of already existing offers. For this purpose, the coherence of the financial instruments under consideration or their interaction with other funding instruments will be analyzed. This should ensure that synergies are used and conflicts of objectives are avoided. This assessment step should in particular help to avoid the emergence of inefficient duplicate structures. For the coherence analysis, a screening of the main funding instruments at the regional, national and European level, which are available to innovative technology companies in early company phases in Upper Austria, was carried out. An overview of the relevant programs is seen in Figure 1.

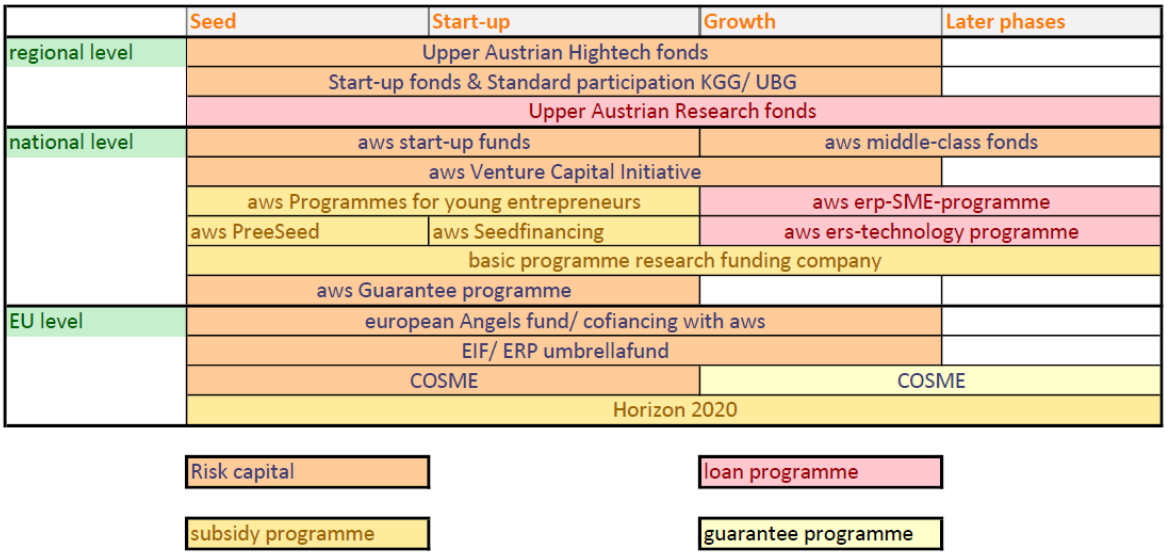


**Figure 1: Coherence with other types of public intervention**

A significant distinction between the programs is made by the type of financing. Venture capital is an equity instrument which serves to finance young, innovative companies with high "failure risks" but also high growth opportunities. At the regional level, further quasi-equity funding instruments such as "classical" silent partnerships are provided by *Kreditgarantiegesellschaft.m.b.H.* or *Upper Austrian Unternehmensbeteiligungsgesell-schaft.m.b.H. (KGG/UBG)*. A clear differentiation from the standard participation of *KGG/UBG* by concentrating the Upper Austrian high-tech fund on open participations or atypical silent participations is recommended. At the national level, the instruments of the *aws* in particular are available. A comparable venture capital instrument is the Start-up fund, which was launched in 2013. The Start-up fund is aimed at small companies that have been

active on the market for a maximum of six years. With dormant and open participations, it participates, among other things, in the development of innovative products or services with a volume of EUR 100,000 up to a maximum of EUR 3 million for a term of ten years. Under these aspects, the *Upper Austrian Hightech Fonds* represents a similar offer to the *aws* Start-up fund. However, according to expert assessment, there are no conflicts of objectives in this case; if it is structured in line with the market, *Upper Austrian HightechFonds* is rather positively regarded as a further capital offer on the market. In individual cases, both funds can also act as investors simultaneously, which has not been the case so far. Another equity or quasi-equity instrument is the *aws* middle-class funds, which focuses primarily on the growth phase with even larger volumes of up to EUR 5 million. In addition, there is a fund of funds, the Venture Capital Initiative, which is involved in a total of seven funds and through these invests in companies from the seed to the growth phase. At European level, the ERP/EIF Fund of Funds also participates in VC funds with an investment focus on technology companies in the early and growth phases. In addition, the Business Angels Fund, in which *aws* has a stake, contributes to improving the capitalization of high-growth SMEs from seed to growth phase. Paripassu investments are made through co-financing agreements with business angels. Overall, the venture capital programs are not expected to crowd out potential competitors because the supply of venture capital, especially for early development phases, is per se considered too low.

Other equity instruments, in particular R&D grants, can - for a limited period of time - also assume the function of basic financing for the companies concerned, but are mainly used for project financing. Here, there could be possible overlaps in the area of 'one-product companies', i.e. start-ups that want to establish themselves through a specific R&D project. Within the framework of R&D funding, companies have various programs at their disposal, ranging from regional (Upper Austrian research funding) to national (including PreeSeed and Seed Financing and basic programs of the Research Promotion Agency) to European level with Horizon 2020 or COSME2.

Guarantee programs, which partially exempt investment companies from default risks, are suitable for increasing the willingness of investment companies to provide venture capital to companies. For example, the possibility of combining with the *aws* instrument "double equity" in seed and start-up financing and other equity financing instruments makes it possible to mobilize additional funds.

Other support instruments such as "classical" loans are generally not suitable for financing high-risk investments due to their debt character. Like the *"aws erp- SME programme"* or the *"aws erp technology programme"*, they are typically used in later phases, but can also help to leverage venture capital.

The analysis shows a broad spectrum of available participation, grant, guarantee and loan instruments for innovative Upper Austrian companies. The instruments are predominantly suitable to cover the existing financing requirements of innovative companies in the early and growth phases in a complementary manner to the

contributions of *the Upper Austrian High-Tech Fund*. In our opinion, they are not in direct competition with the fund to be implemented.

However, the existing funding instruments can contribute to the overall financing of the companies in addition to the commitments of an *Upper Austrian High-Tech fund*. In summary, it can be stated that the *Upper Austrian High-Tech Fund* can meaningfully supplement the existing range of support instruments for young and innovative technology companies in Upper Austria, contribute to a reduction of the identified capital gap and ensure regionally anchored hands-on management.

It seems important to note that an ideal-typical freedom from overlap is difficult to achieve in reality. Therefore, it is important to minimize the overlaps and to avoid (i) unintended cumulative effects and (ii) multiple processing of the operations and related costs through effective control. We recommend deriving from the compilation of the funding programs operating in the relevant sub-market where cooperation with other funding institutions, in particular the *aws*, can be intensified and coordination improved in order to further limit duplication. [4]

## 3.3. Identifying possible state aid and non-state aid implications

Pursuant to Article 38(4) of the Merger Regulation, the use of financial instruments at national or regional level requires, among other things, compliance with the rules applicable to State aid.
The aim of the study in chapter 3.3 is to outline the design framework for the Upper Austrian High-Tech Fund that is permissible under EU state aid law. In doing so, we took particular account of the funding criteria already available in draft form as well as the state aid law principles already proposed by the client for the state aid-compliant design of the planned financial instrument. We would like to point out at this point that no detailed examination under state aid law was carried out within the scope of this assessment step, as this is not part of the present assignment.

In the following we assume that the new directive follows the previous directive in substance, as the fund is designed as a successor fund. In accordance with the Upper Austrian High-Tech Fund Directive, the province of Upper Austria intends to support SMEs by injecting equity capital. This is intended to support innovative and export-oriented companies in high-tech sectors. The aim is to attract new companies, facilitate the establishment of new companies and support existing companies. The previous Upper Austrian High-Tech Fund has provided support in the form of typical and atypical silent partnerships, open participations in the basic or share capital as well as limited liability capital and loans with profit participation or subordinated loans. The financing was used on the one hand for business start-ups and on the other hand for expansion financing to made available. The latter concerns financing for new business areas of existing companies, which include particularly innovative technology-oriented projects.

The funding amounted to at least 250,000 euros and a maximum of 1.5 million euros per company. The term of the investments, silent participations or loans was up to ten years. Since it can be seen from the documents provided to us with regard to the Upper Austrian High-Tech Fund that the fund could be designed without aid, we will deal with this option.

Firstly, Member States are free to design financial instruments in such a way that they do not contain State aid within the meaning of Article 107(1) TFEU, e.g. because they comply with the market economy investor principle (aid-free design of the measure). This case does not need to be notified or notified to the EU Commission.

State aid rules in the area of risk financing measures have been revised by the EU Commission. The new Risk Financing Guidelines (Risk Capital Guidelines) entered into force on 01.07.2014. In Chapter 2.1 of the Risk Financing Guidelines, the EU Commission has set out principles with regard to the design of risk financing measures free of aid (market economy investor principle), compliance with which means that such measures must be classified as free of aid and do not have to be notified to the EU Commission.

According to the market economy investor principle, economic transactions carried out by public bodies or undertakings on normal market conditions which do not confer an advantage on the undertaking concerned are not to be regarded as State aid.
In this respect, the State aid assessment must be carried out at the various levels concerned. Consequently, between

- the level of private investors,
- the level of the financial intermediary,
- the level of the fund manager and
- the level of the companies in which investment is made,

to differentiate.

The following assessment was made on the basis of the cooperation agreement to be concluded between the Federal Province of Upper Austria and Oberbank AG, Raiffeisen-Landesbank Oberösterreich Aktiengesellschaft, LV Holding GmbH, UniCredit Bank Austria AG, Volkskreditbank AG and BAWAG P.S.K Bank für Arbeit und Wirtschaft und Österreichische Postsparkasse Aktiengesellschaft (hereinafter "participating banks").

With regard to the private investor level, the European Commission takes the view that an investment complies with the market economy investor principle if it is made

under identical conditions (pari passu) for public and private investors, i.e. both categories of actors intervene simultaneously and the intervention of the private investor is of genuine economic importance.
In the case of investments by public-private financial intermediaries, the investments of the public and private investors are assumed to be made simultaneously (i.e. as co-investors investing in final beneficiaries).
Furthermore, the financial resources provided by the private investors must be economically significant in view of the overall size of the investment. In the case of risk financing measures, the EU Commission considers an independent private participation of 30 percent to be economically significant.

Therefore, the conditions of the participation of the Province of Upper Austria must be compared with those of the participating banks. First, the profit and loss participation is considered. The Federal Province of Upper Austria and the participating banks participate in the profit and loss in proportion to their share in the fund's capital. In the predecessor fund, the Federal Province of Upper Austria accounted for 50% of the respective profit and loss and the participating banks for 50%.1 In the newly planned fund, participation ratios in the fund of 1/3 (participating banks) to 2/3 (Federal Province of Upper Austria or ERDF) and a corresponding pari-passu distribution of profit and loss are provided for. This distribution of results remains the same for the duration of the contractual partner's position. Movements on capital or clearing accounts of the contract partners have no influence on this either. A subordination regulation cannot be derived from the cooperation agreement. This means that the conditions regarding profit or loss participation are identical.

Finally, the intervention of the banks must be of genuine economic importance. Real economic significance is assumed to exist if the banks have a stake of at least 30 percent. The participation of the banks was 50 percent in the predecessor fund and is to be 33 percent in the intended fund. This is an intervention of genuine economic importance. At the level of the investors, therefore, normal market conditions are to be assumed.

In the opinion of EU Commission, a financial intermediary is in general, insofar as it does not co-invest together with the Member State, merely an intermediary instrument for the purpose of passing on the investments in question, but is not itself an aid recipient, so that this criterion should normally be fulfilled.

The EU Commission then does not assume that a fund manager receives state aid if the manager was selected in an open, transparent, non-discriminatory and objective selection process or if the manager's remuneration fully reflects the current market level in comparable positions. In the case under consideration here, there is a subsidy from the ESI funds, where the delegates' legal acts specify ceilings for remuneration

graded according to financial products (e.g. for investment funds, 20 percent of the EU funds disbursed for the life cycle of the subsidised product). Insofar as the upper limits are complied with, the market level is deemed to be observed. In the predecessor fund, the annual remuneration was limited to 1.65 percent. If it remains at this level and the FI (eligibility period) from 2015 to 2023 is set at 6+3 years, the figure will fall below 20 percent.
Article 13 (3) of the Commission Delegated Regulation 480/2014 (dated March 3, 2014) defines the relevant period for the up to 20% margin as the end of 2023. According to Article 26 ESIF Regulation (AVO), the general duration of the programmes is until the end of 2020. Expenditure can normally be made until the end of 2023 ('eligibility period' according to Article 41 with reference to Article 65 (2)); for equity instruments, management fees can be paid for a further up to 6 years according to Article 42. These are limited in amount in accordance with Article 14 of Delegate Regulation 480/2014.

The upper limits defined in the regulations ensure that the market level is not exceeded. If the investment is in line with the market economy investor principle, the EU Commission does not consider the investments in the target companies to be state aid, as the corresponding investments are considered to have been made on market terms.

## Aid at the level of companies

The above description provides guidance on how to design the scheme in accordance with the market economy investor principle in order to avoid aid at the level of investors, fund managers and intermediaries. If the fees, interest and profit-sharing to be paid by the end customers are based on the ideas of the partner banks, freedom from aid is automatically given at the level of the companies. Notification is then not required.

As far as financial instruments in the form of loans are concerned, it must additionally be ensured at the level of the target enterprises that the conditions laid down in the Communication on reference rates are met. These companies are not considered to be aid beneficiaries.
In our view, the market economy investor principle should be applied in conjunction with the reference rate notice in the case of loans. [2]

## Additional public and private resources to be potentially raised by the financial instruments

Additional public and private funds can be generated at different levels of a financial instrument, as seen in Figure 2.

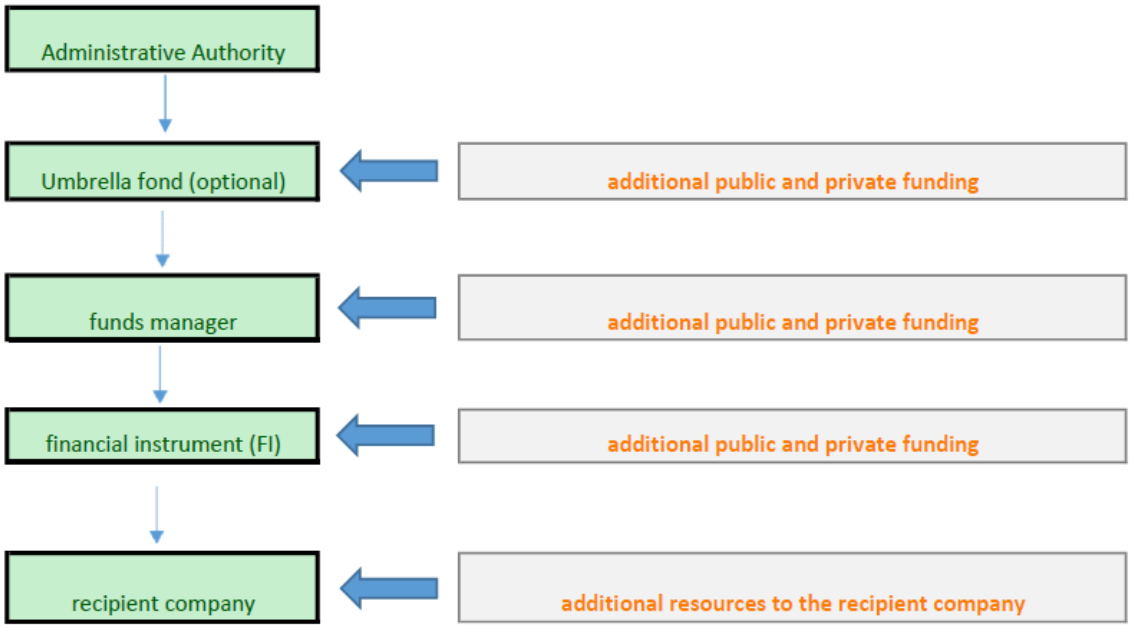


Figure 2: Levels to generate additional private and public funding

Additional resources are all resources outside the ESI funds. Conceivable here are funds from public financial institutions, fund managers or (institutional) investors. The funds contributed by the beneficiaries at project level represent another significant source of additional funds, although they can only be used to determine the leverage effect in cases where they flow to the company from outside.

The analysis is intended to assess to what extent and, if applicable, through which incentive elements additional funds can be mobilized through the use of ERDF funding. The fundamental aim is to achieve the highest possible leverage effect (financial resources to final recipients / EU contribution). Against this background, it should also be examined to what extent it is realistic and expedient to increase the willingness of co-investors to invest by granting priority compensation or risk shielding.

### Asymmetrical profit and loss distribution

We will start with the question of priority compensation. An asymmetrical distribution of profits or losses can create additional incentives for investors, especially in cases where an investment under economically equal conditions (pari passu) is unattractive from the perspective of a potential investor, so that a

mobilization of additional investor capital is not to be expected. The second major case group aims, given the willingness of private investors, to further increase their share through risk shielding or more advantageous remuneration.

Since in the present case a pari passu participation of private investors is possible, the first group of cases is not applicable. In the second group of cases, a higher leverage (and thus more triggered investments in the first investment cycle) must be weighed against a stronger preservation of or even increase in value of the revolving fund (and thus more investments in future investment cycles). The weighing has been done in the intended FI with a pari passu profit and loss participation in favor of the value retention of the fund.

### Additional resources at fund manager level

The fund management of the predecessor fund (*Upper Austrian high-tech fund*) is carried out by *KGG/UBG* in cooperation with the regional incubator *tech2b*. The fund management acts as a pure intermediary, which does not provide any additional funds. We therefore assume that a continuation of this structure or a comparable solution is also intended for the planned financial instrument.

### Additional resources at the level of the financial instrument

Raising additional funds at this level is the central approach of the proposed financial instrument. In the case of the predecessor fund, the third-party participation in the fund was 50 %. For the successor fund, 33 % is planned. However, this too represents a significant share in the sense of the European Commission's venture capital guidelines. As such an investment at fund level in the sense of a participation in a new investment portfolio is rather rare, especially in the case of smaller and regionally oriented funds, Upper Austria has achieved an important goal for financial instruments with the participation of a group of regional banks, also in comparison to other regions. The combination of the two successive funds results in a revolving overall fund of a size that can serve the segment of young, technology-oriented and rapidly growing companies in Upper Austria on a long-term basis.

### Additional resources of the final beneficiary

In quantitative terms, additional funds to the final beneficiary companies should also be an important source of additional financing contributions for the *Upper Austrian High-Tech Fund*.

The risk financing of innovative technology companies is usually carried out with the participation of several investors. The willingness of private investors to invest is generally greater in later phases of the company (growth phase), because the prospects of success of the company can be better assessed here and the risks of equity financing tend to decrease. This means that the quantitative contributions of co-investors are lower in the early phase than in the growth phase.

- According to information provided, further funds amounting to 33 to 50 % of the respective project volume could be raised within the framework of the existing Upper Austrian High-Tech Fund. The possibility of combining with the AWS instrument "double equity" for seed and start-up financing and other equity financing instruments could even mobilize further funds in the same amount of the project volume.

A direct comparison of the leverage effect with the results achieved by investment funds in other federal states is only of limited use, because the possibility of attracting co-investors depends, for example, on regional aspects, but especially on the concrete development phase and the sector affiliation of the portfolio companies. Therefore, the following results on the leverage effects of the ERDF-financed Bavarian and Berlin investment funds are for information purposes only.

- Within the framework of the *Bavarian ERDF* co-financed venture capital funds (*S-Refit ERDF Fund, BayBG Fund, Cluster Fund ERDF*), which cover both the early and growth phases, the investments of the three funds were supplemented by investments from other investors at a ratio of 1: 2.33 (status: 2011).
- The *Berlin ERDF* co-financed *VC funds* have a significantly higher leverage. The ratio of fund investments to investments by other investors was 1:8 for "*VC Fonds Technologie*" and 1:3 for "*VC Fonds Kreativwirtschaft*" at the end of 2012. The high leverage is due in particular to the extensive participation of private co-investors in follow-up financing rounds, but should also reflect Berlin's special attractiveness for regional, national and international investors.

For the future *Upper Austrian High-Tech fund* we consider a participation of additional investors at the current level to be realistic. [4]

## 3.4. Estimating additional public and private resources

### Venture capital fund of the Province of Burgenland

*BRM* (*Burgenländische Risikokapital Management AG)* supports small and medium-sized enterprises in Burgenland with equity investments in realizing their entrepreneurial opportunities, e.g. in phases of growth, acquisitions and company succession or also in restructuring processes. With *ATHENA* and *BRB, BRM* is involved up to a volume of EUR 2.5 million and EUR 1.5 million, above all, in high-growth, technology-oriented companies. The BRM is focusing a long-term and trusting partnership, but which also has the necessary flexibility to respond to individual challenges with tailor-made solutions in order to sustainably increase the profitability of your company.

*BRM* is focusing at 2 funds:

- The *ATHENA funds* which is tailored at running small and medium sized enterprises
- The *BRB funds* is focusing at SME which are in the growth phase.

*BRM* is offering the following types of participation:

- Equity,
- mezzanine capital and
- silent participation.

As mentioned the funds are mainly focusing in high growth and technology oriented companies and by analyzing their investments only some companies dealing with energy efficiency (f.e. *Lumitech*) or sustainability (f.e. *SOM Soja Ölmühle GmbH*) could be detected. [5]

## Upper Austrian High-Tech fund

The *Upper Austrian High-Tech fund* is managed by *Upper Austrian High-Tech Ltd.* The *KGG/UBG* acts as intermediary. The fund was launched with a volume of around EUR 11 million in 2011 to provide technology-oriented SMEs with equity capital focusing on the seed and start-up phase, but also for the growth phase. The regional banks hold a 50 % stake in the fund. The Federal Province of Upper Austria is participating in the same amount, with half of the public capital coming from ERDF funds.

The fund's procedural provisions stipulate that at least 70 % of its fund capital invested in target SMEs must be provided in the form of equity or quasi-equity. An investment can take the form of a typical (equity capital terms, without net asset value share) or atypical silent partnership (equity capital with net asset value share). In addition, the Upper Austrian High-Tech Fund can take an open participation in the nominal capital, share capital, limited partnership capital, or grant partial or subordinated loans. The target SMEs are small or medium-sized, young, innovative enterprises according to the EU definition of SMEs. In addition to equity capital of EUR 250,000 up to EUR 1.5 million, consulting services and network structures are also offered to the supported companies, primarily by *tech2b*, a service provider closely linked to the fund.

The fund focuses its support on the high technology sector and is aimed at companies in the information and communication technologies (ICT), life sciences, mechatronics and process automation, energy (energy efficiency, energy management and renewable energies), materials / lightweight construction and logistics sectors and corporate networks. The headquarters of the target companies or a permanent establishment must be located in Upper Austria. Furthermore, the company must be a member of the Upper Austrian Chamber of Commerce.

Between mid-2011 and the end of 2014, a total of seven portfolio companies were financed and closely monitored in their development. The committed investment volume amounts to almost EUR 7 million (as of December 2014). The average committed investment volume (deal size) thus reaches around EUR 1 million.

With three investments, the *Upper Austrian High Tech funds* was most heavily involved in the ICT sector. Furthermore, the fund invested in two companies from the life science sector. The fund made one investment each in the energy and mechatronics sectors.

Looking at the exposures according to their respective financing volume, the picture is largely identical. At EUR 2.95 million or 42 %, the ICT segment accounted for the majority of the total fund investments of EUR 6.95 million. A share of 29 % or EUR 2 million was invested in the life science sector. Mechatronics and process automation was supported with 1.5 million euros (22% of the fund volume). At 0.5 million euros or 7 %, the lowest amount was invested in the energy sector. To date, no investments have been made in the target sectors of lightweight construction/innovative materials and logistics, which also belong to the strength fields of the "*Innovative Upper Austria 2010*" programme.

A total of 99 participation requests were subjected to a preliminary examination. Here too, the ICT sector accounted for the lion's share (40 inquiries), followed by 26 inquiries from the mechatronics and process automation sector. The life sciences sector accounted for 23 applications in the preliminary examination phase. The sectors of energy (5 inquiries), lightweight construction/innovative materials (4 inquiries) and logistics (1 inquiry) contributed only to a small extent to the demand for funds.

In the expert interviews, lean decision-making processes in particular were highlighted as a factor in successful implementation for the fund. In addition, decision-makers should ensure that the programme pursues realistic investment objectives. Another key factor is that the financial instrument is geared to market conditions and is therefore a market-compliant programme without crowding-out effects. [6]

## 3.5. Estimating the leverage of the envisaged financial instruments

As the analysis of added value has shown, support in the form of participation is expected to have a higher quantitative added value compared to grant programs. The added value results primarily from the revolving character of the financial instruments, so that fund reflows can be used to grant further loans and equity investments. However, the revolving component is not to be included in the determination of leverage pursuant to Article 37 of the CPR (Common Provision Regulations).

The expected leverage for the *Upper Austrian High-Tech fund* is thus in a range of 1:4 with further funds of 33 % and 1:6 in the mobilization of further funds when using the combination option with "double equity". The leverage values are at a high level compared to the before mentioned German federal states of Bavaria and Berlin. [4]

## 3.6. Attracting additional private resources

Subsequently a short summary of possibilities of Crowdfunding in Burgenland respectively Austria was written.

### Crowdfunding Südburgenland

*Südburgenland plus*, the association for promoting the quality of life in the south region of Burgenland, has launched in September 2019 an alternative financing initiative: *CROWDFUNDING Südburgenland*.

Basically, it is about small and medium sized companies, organizations, farmers, and associations etc. being able to present their ideas in order to inspire donors to participate in the implementation with different amounts of money. On the one hand, possible providers / crowdfunders are informed, advised and accompanied in the planning of a crowdfunding campaign until implementation. On the other hand, citizens are made aware of this topic as potential donors and are given comprehensive information via the media.

The most important points:

- Only licensed platforms may collect crowdfunding funds
- Maximum investment of EUR 5,000 per year and project by one person
- Information sheet for crowd investors from a project sum of EUR 100,000

Crowdfunding Models:

Either the crowd investor receives an annually agreed return on his deposit (usually spread over 5 years) of e.g. 5% INTEREST or you get a special Product, where you can invest in the production, means in agricultural production or renewable energy production. [7]

### Solar power plant Burgenland

Another example is *"Solar power plant Burgenland",* where crowdfunding in local dimensions is made through citizen participation. In several small villages photovoltaic systems are installed mainly at roofs of the citizens and all the other citizens are able to invest in the photovoltaic systems. Every year they get an interest rate of approximately 2.5 % p.a. The *"Bluepower - Small Wind Power" is* a company, who gets money for investment and product-development in small Wind Power systems over crowdfunding. But also into big Wind Power Plants of *Energie Burgenland* or *IG Windkraft* citizens of Burgenland are offered to invest.

### Greenrocket Österreich

With a focus on sustainable and profitable startups and companies, *GREEN ROCKET* is the first crowdfunding platform that specializes in future topics such as energy,

the environment, mobility and health. As a result, *GREEN ROCKET* - since it started in October 2013 - has developed with several thousand investors into one of the largest crowdfunding platforms in Austria and is now the market leader in the field of "crowd investing for sustainable companies". As the first crowdfunding platform, *GREEN ROCKET* has received the e-commerce quality label *EURO label* for transparency and fairness in the investment process.

Everyone has the opportunity to simply invest online in selected companies (equity-based crowdfunding or "crowdinvesting" or lending-based crowdfunding) and to benefit from their growth. The variety of investment opportunities extends from startups and first-stage companies to financing for established companies. As an investor, you are a venture capital investor and manage your own portfolio of attractive, promising investments. It is possible to participate in a personally selected company for as little as EUR 250,--. [8]

## 4. Lessons learnt

With the *Upper Austrian High-Tech Fund* launched in 2011, Upper Austria already has experience with the implementation of an ERDF co-financed financial instrument. This experience forms an important basis for the conception and content orientation of the planned fund and is therefore analyzed in more detail below.

Further experience with comparable programs in Austria can only be found in Burgenland, which is explained in this chapter first.

Because of the small size of Burgenland (4,000 km², 300,000 inhabitants in rural area) it was decided to establish the funds with a more “general” focus only restricted to SME. Therefore, SME with relation to energy technology or to reduction of greenhouse gases are only a part of the portfolio of the tool. So, the Venture capital fund of the Province of Burgenland is more aligned the growth of companies than to the direct reduction of greenhouse gases or to the higher production of renewable energy.

Although Upper Austria is about 3 times bigger than Burgenland (with 1.4 Mio. Inhabitants) their fund is also dedicated in a more general and technology-oriented manner. Therefore, from 99 requests only 5 of them could be assigned to energy technology. In addition, in that case, the Venture capital fund of Upper Austria is more dedicated the growth of companies than to direct reduction of greenhouse gases or to the higher production of renewable energy.

One reason why there is no significant venture capital fund in Austria for SME which is only or mainly dedicated to energy efficiency or the production of renewable energy could be the fact, that there exist a lot of direct funding schemes like subsidies for nearly every kind of energy related action (e.g. reduction of greenhouse gases or the implementation of renewable energy) at state level as well as at

province level. Another reason for SME could be the minor priority of energy saving within their direct business.

In addition, energy-contracting offers already exist in Austria, which means that there is no need to invest in energy related actions with own resources because the "contractor" is taking the energy related investment for the company.

Reasons for a better acceptance of energy related venture capital funds in Austria could be:

- ***Increasing of the obligation to reduce greenhouse gases for companies***
- ***Reduction of direct subsidies in cash***
- ***Significant increase of energy costs which effects the economic performance of companies***

Further general success factors that contribute to the successful implementation and realisation of the financial instrument:

- ***Good regional networking to facilitate cooperation between companies and the public sector***
- ***Hands-on-Management, "soft" success indicators play a role here***
- ***With regard to the terms, our experts recommend 8-10 years, 5 years during the growth phase***
- ***Strengthening awareness of the funding opportunities among companies***

## 4.1. Gathering relevant information lessons learnt

With the increased focus of the ESI funds on the objectives of the Europe 2020 strategy and their integration into the governance and coordination system of the Union in the context of the European Semester, the European funds have been given a central role in the common investment policy to promote growth and employment in Europe. At the same time, their task, already defined in the Single European Act (1987), of contributing to the economic, social and territorial cohesion of the Union as an instrument of cohesion policy, remains unchanged. While the need to focus on promoting smart, sustainable and inclusive growth as a means of overcoming structural weaknesses in the European economy and improving its competitiveness is largely uncontroversial, debates on the appropriateness of its focus on redressing economic (especially regional) imbalances have accompanied the work of ESIF funds and their predecessors since their inception. This is all the more so as recent theoretical work in "New Economic Geography", with its emphasis on external economies of scale and agglomeration advantages, has made explicit a possible conflict of objectives between regional balance and macroeconomic efficience: If such (external) economies of scale actually exist, consistent cohesion policy, which aims at a more even distribution of resources in the area, tends to inhibit growth because it prevents the exploitation of agglomeration advantages.

## 4.2. Identifying success factors and pitfalls of past experiences

Overall, thus clearly support our initial hypothesis that growth and cohesion policy activities of Community fund policies are necessary (and complementary) under the given framework conditions, and that their importance has increased even further under the influence of new economic development trends. The ESIF policy can thus indeed be a central anchor in securing the further development of the Union and its economic, social and territorial cohesion - but only if this policy, measured against its tasks, actually "delivers", i.e. if it demonstrably contributes to growth and the reduction of regional disparities.

Our work will therefore present empirical results for Austria in the following. As a framework, however, it seems to make sense to first take a look at the insights gained in other (international) analyses of the effects of the ESI funds and their predecessors. This should make it possible to place the results we have achieved in a broader context and to supplement them with aspects not considered in our work. [2]

## 4.3. Applying lessons learnt to enhance the performance of the FI

### Model ASCIANO

The direct effects of the projects supported by the ESI funds can be derived from the information contained in our funding database, which was built up on the basis of data provided by the funding institutions. They allow an assessment of the contribution to (regional) gross value added (and gross regional product), investments and employment. In the economic cycle, however, this is only the first step: Production interdependencies between the sectors mean that other companies are also indirectly linked to this (promoted) investment activity via supplier relationships. In addition, value added is generated in both stages - this consists of wages and salaries, depreciation and operating surpluses (profits). These induce additional effects in the economic cycle: income flows into private consumption, depreciation and profits trigger further investment demand (both replacement and possibly expansion investments). In addition, taxes and duties are incurred at all levels: Taxes on goods (most importantly value-added tax), income and wage taxes, corporate taxes and social security contributions.

For the estimation of these effects ASCANIO is used, a multi-regional and multisectoral economic model for Austria and its provinces. ASCANIO depicts the interrelationships between economic sectors at the level of the Austrian federal provinces (as well as 42 other countries, including the EU 28 countries). The basic structural information is based on the Austrian input-output table presented by Statistik Austria in 2011. It is supplemented by equations of behaviour based on economic theory. ASCANIO is part of a model family that is located at different geographical levels. These models share a theoretical core, which is supplemented

by detailed statistical information at the respective regional level. The structure of this model family is shown schematically in Figure 3.

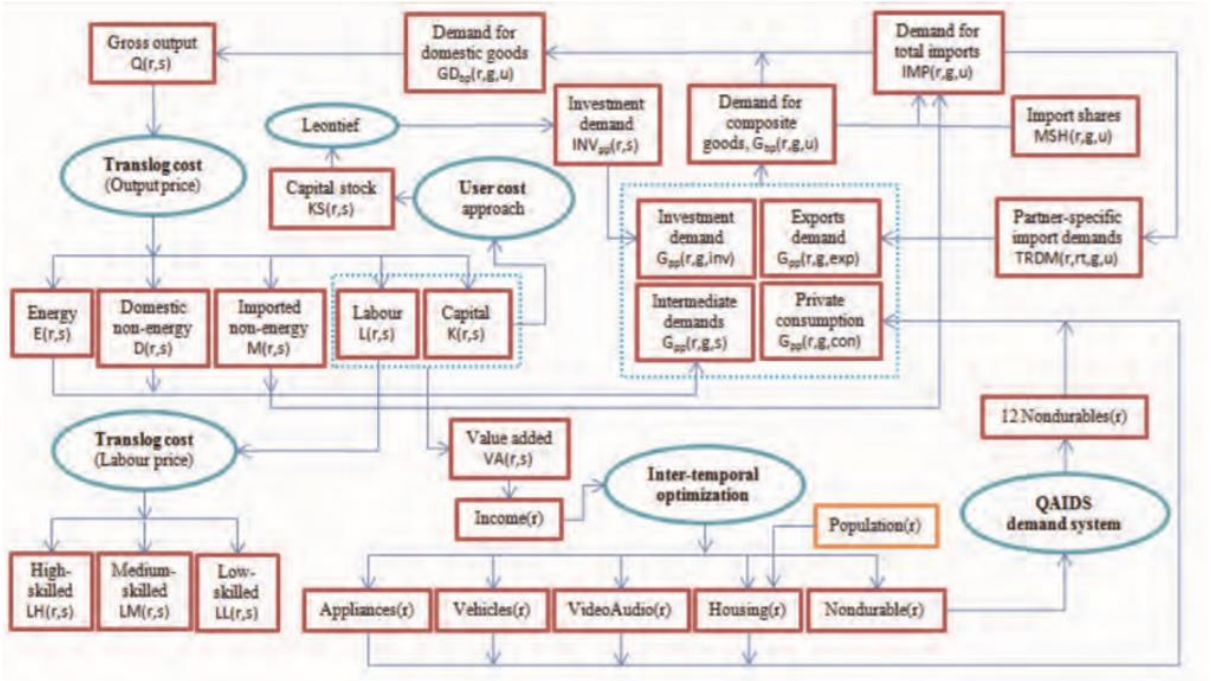


Figure 3 Structure of ASCIANO

ASCANIO essentially consists of the elements that are also typical for international models: National supply and use tables describe the production and consumption of goods, while trade matrices depict the import-export relations with foreign countries. As a federal state model, however, ASCANIO has some additional components which depict mechanisms that can be described as "regional redistribution processes":

**- Commuter networks**

These cause a redistribution of disposable income from the working region (where the income is generated) to the residential region (where the resulting consumption is primarily made). Such interrelationships between the federal provinces of the eastern region are particularly important: about 250,000 of those employed in Vienna live in other federal provinces (primarily in Lower Austria and Burgenland), while conversely about 80,000 Viennese commute to workplaces outside their region of residence.

**- Domestic tourism**

Similar to commuter networks, tourism causes a redistribution from the place of residence to the holiday region. If the latter is also in Austria, this implies a transfer of consumer spending within Austria. Federal provinces with predominantly domestic tourism are mainly Burgenland or Styria. For the "large" tourist regions in

the west and for Vienna, on the other hand, foreign guests are clearly more important than domestic tourism.

**- Interregional purchases**
Not least because of "institutionalised" shopping facilities, such as shopping centres, there is a systematic - and not inconsiderable - regional redistribution of consumer spending between the federal states. Here, too, the Vienna conurbation offers a few examples, with Shopping City Süd being the first and still the largest, if not the only example of such "institutionalised" shopping facilities.

- **Other mechanisms** that systematically decouple demand from the region in which the person lives (or works) are found, for example, in the school and health sectors. However, they are hardly relevant for the present study. [2]

### 4.3.1. Proposed investment strategy

Thus, according to the contract, only the target programmes of the European Regional Development Fund (ERDF) were required to cover the entire period of operation in Austria, which could be implemented by the Austria Wirtschaftsservice Gesellschaft mbH (AWS) by processing the ATMOS database provided by the ÖROK for the periods from 2007 onwards and by re-evaluating the individual data information for the funding periods 1995-1999 and 2000-2006. In addition, it was also possible to locate the payments of the numerous Community Initiatives, especially in the ERDF and the early periods, in terms of time and space by means of complex additional evaluations of the AWS51 and, in some cases, the use of matching procedures by WIFO. This makes it possible to fully include ERDF payments in Austria in the analysis. The same applies in the finally created funding database for the interventions of the European Rural Development Programme (EAFRD) or its predecessors as well as for the European Maritime and Fisheries Fund (EMFF). Here, the EAFRD was mandated to use the already existing community database of the Federal Ministry for Sustainability and Tourism (BMNT) with data since the turn of the millennium. It was updated by the BMNT to include information on the Community Initiatives relevant here (above all the major LEADER programme) and made available to WIFO in a form that was already easy to use. Above all, the BMNT was able52 to supplement this basic data set with fragmented information on the spatially relevant measures of the "second pillar" of the Common Agricultural Policy in the period 1995-1999. This made it possible to reduce our subsidy data set also in the field of EAFRD until the beginning of EU interventions in Austria. This makes it possible to analyse the spatial measures of this (because it is the largest) programme, which is so important for Austria, over the entire period of operation (1995-2017), which ultimately also applies to the (much smaller) EMFF. This is despite the fact that it was still unclear until the contract was awarded whether it would be possible to take its interventions into

account at all from a data technical point of view, so that no specifications were made in the contract.

Even during the contract phase, it was ultimately clear that a complete coverage of European Social Fund (ESF) interventions in spatial allocation would hardly be possible due to its "horizontal" orientation, especially in the early stages of funding. The contract therefore only required that the interventions of the ESF target programmes from 2007 onwards be taken into account - a requirement which, of course, was clearly overfulfilled here as well thanks to the increased efforts (also) of the bodies responsible for and implementing the funds. Thus it was also possible for the ESF to integrate payments under its Community Initiatives into the funding database at least from 2007. Above all, however, on the basis of extensive and costly evaluations of its databases by the Public Employment Service Austria (AMS), the ESF has also succeeded in returning data on the majority of its target funding to the year 1998 or, in a usable form, to the year 2000. They are also included in our funding database, prepared accordingly. The total of the payments recorded can be seen in Figure 4.

| Programm | EU-Förderung | Öffentliche Kofinanzierung | ESIF-Mittel insgesamt |
|---|---|---|---|
| **Fonds für regionale Entwicklung (EFRE)** | | | |
| EFRE 1995–1999 | 367.733.298 | 607.998.551 | 975.731.849 |
| EFRE 2000–2006 | 884.231.838 | 534.860.675 | 1.419.092.512 |
| EFRE 2007–2013 | 585.698.567 | 608.977.695 | 1.194.676.262 |
| EFRE 2014+ | 254.448.032 | 378.037.870 | 632.485.903 |
| **Programm für die ländliche Entwicklung (ELER)** | | | |
| ELER 1995–1999 | 1.912.306.818 | 2.838.479.645 | 4.750.786.464 |
| ELER 2000–2017 | 9.017.363.006 | 9.634.591.319 | 18.651.954.325 |
| **Fischereifonds (EMFF)** | | | |
| Fischereiförderung 1995–1999 | 2.060.654 | 4.047.796 | 6.108.450 |
| Fischereiförderung 2000–2017 | 10.650.399 | 12.464.986 | 23.115.385 |
| **Sozialfonds (ESF)** | | | |
| ESF 1995–1999 | 127.235.873 | 146.860.911 | 274.096.784 |
| ESF 2000–2006 | 425.073.517 | 462.259.648 | 887.333.165 |
| ESF 2007–2013 | 509.569.018 | 552.873.045 | 1.062.442.063 |
| ESF 2014+ | 254.386.239 | 249.283.573 | 503.669.812 |
| **Gemeinschaftsinitiativen** | 402.732.855 | 240.565.210 | 643.298.067 |
| **Förderungen seit 2000** | 12.456.378.053 | 12.832.395.050 | 25.288.773.104 |
| **Förderungen seit 1995** | 14.753.490.114 | 16.271.300.924 | 31.024.791.041 |

Q: Fondsverantwortliche bzw. abwickelnde Stellen, Förderdatenbank, WIFO-Berechnungen.

Figure 4 Total of payments of structural fonds in Austria (1995-2014+)

A consideration according to (absolute) funding volumes is only suitable to a very limited extent for a comparative analysis of the significance, distribution and time course of the use of funds of the ESIF and its predecessors in Austria from a spatial perspective, because the order of magnitude of the disbursements in a region is always influenced or dominated by its size (and thus the number of potential recipients of funding). In the relevant literature, therefore, the funding of the ESIF and its predecessors in Austria has been used for the comparative analysis of funding efforts. intensity - an indicator that compares the funding volumes flowing to a

region with its population. It is also the central indicator in our analysis, although - unless otherwise stated - it is shown for the entire period of operation and separately by fund. In most cases, the funding intensities shown taking into account both the EU funds used and the national (public) co-financing, which is indicated by a plus in the figures and overviews (i.e. ERDF+ for payments of European and national origin in the ERDF).

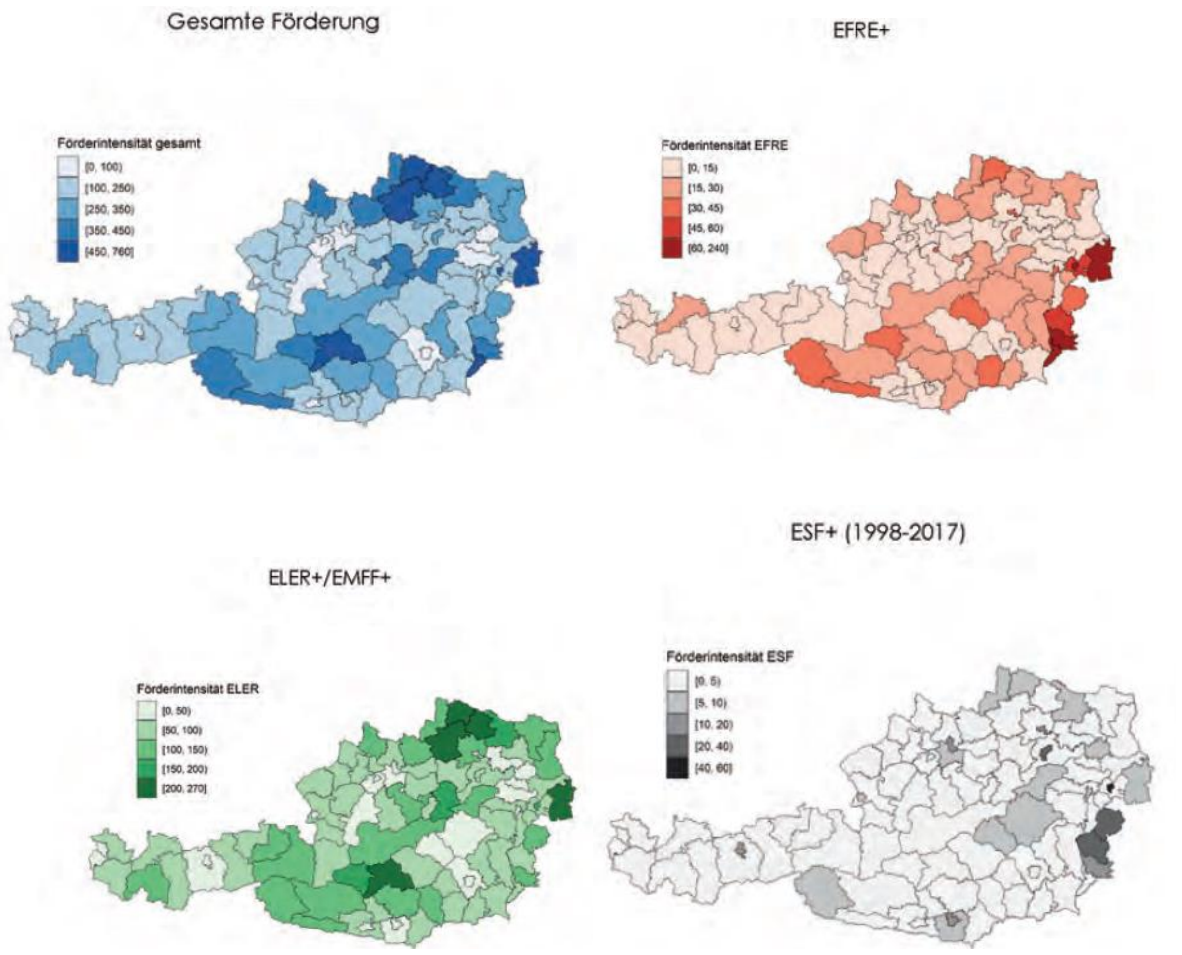


**Figure 5 Regional distribution of subsidies by fund Payments per inhabitant (1995-2017) in €**

First of all, it becomes apparent here (panel top left) that the ESIF funds distributed over the entire period of operation, even when added together across all funds (and including national public co-financing), were by no means a "watering can" of funding. Instead, even at the level of the political districts, the funding intensities varied considerably, with higher disbursements per
inhabitants tend to live in more rural or peripheral regions.61 The disbursements of the individual funds (other panels) also vary considerably in their spatial distribution, although their priorities are by no means the same in the region, depending on their different tasks.

These differences by fund are expressed even more clearly in a presentation of the individual fund-specific funding intensities in the individual districts. Here the regions are ranked according to their district code, which also shows the funding levels in the individual federal states.

It is immediately apparent from this graph that the spatial distribution of total ESIF disbursements over the districts (top left) is obviously strongly determined by the distribution of funds in the EAFRD+ (incl. EMFF+; bottom left). This is hardly surprising against the background of the strongly varying orders of magnitude of the funds used by the individual funds: after all, more than 5½ times as much money was available for measures in the rural development programme and the predecessor initiatives attributable here in the entire period of impact as for those of the Regional Development Fund (ERDF), which in turn was somewhat larger than the European Social Fund (ESF), even if the latter takes into account the parts missing from our data set. As can be seen, the disproportionately greater manoeuvring mass of the EAFRD is expressed both in a much wider regional range of funding activities of relevant size and in a superior average level of funding. In contrast, for the ERDF+ and even more so for the ESF+, a significantly higher regional concentration of the use of funds with comparatively high funding intensities can be seen only in some districts. [2]

## 5. Specification of expected results consistent with the relevant programme

In accordance with the "ERDF Programme Investments in Growth and Employment Austria 2014-2020" approved by the EU Commission on 16 December 2014, the planned financial instrument is part of investment priority 3d "Promotion of the ability of SMEs to participate in the growth of regional, national and international markets and in the innovation process". However, the financial instrument is intended to be used for the entire priority axis 2 "Strengthening the competitiveness of small and medium-sized enterprises" and thus also contributes to the "Promotion of entrepreneurship, in particular by facilitating the economic exploitation of new ideas and encouraging the creation of new businesses, including through business incubators" as described in priority axis 3a. In addition, the financial instrument can also be used for projects under investment priority 1b "Promotion of business investment in R&I" and thus also contributes to the objectives of priority axis 1 "Strengthening regional competitiveness through research, technological development and innovation". The integration of the financial instrument into the relevant priorities and objectives is illustrated in the following overview.

**Table 1: Classifiaction of the financial instrument within the priorities and objectives of the OP**

| | **Beschreibung der Prioritäten und Ziele** | | |
|---|---|---|---|
| **Prioritätsachse** | Prioritätsachse 1: FTI | Prioritätsachse 2: KMU | |
| **Thematisches Ziel** | Thematisches Ziel 1: FTI | Thematisches Ziel 3: KMU | |
| **Investitionsprioritäten** | 1b) F&I-Investitionen der Unternehmen / Synergien | 3a) Unternehmergeist, Unternehmensgründung | 3d) Förderung KMU für Wachstum und Innovationsprozesse |
| **Spezifische Ziele** | 1) Stärkung der Innovations-fähigkeit der Unternehmen<br>2) Ausbau der Technologie-führerschaft durch Erhöhung der Zahl der Frontrunner-Unternehmen in Österreich | Steigerung der Zahl von Unternehmens-gründungen, insb. innovations- bzw. technologieorientierter Gründungen | Verbesserung der Wettbewerbsfähigkeit in KMU als Grundlage für Wachstum der Unternehmen |

The financial instrument provided for here contributes to securing the overall financing for innovation projects which would otherwise not be realised or not realised to the planned extent due to the financing gap. Overall, the financial instrument will thus provide clearly positive impulses for the increase in the competitive and innovation capacities of Upper Austrian SMEs. In connection with the demand-oriented development of the business-related infrastructure, the financial instrument contributes in a coherent manner to the achievement of priorities and objectives.

## 5.1. Establishing and quantifying the expected results of the FI

The following chapters include the different indicators for the expected results of the financial instruments.

### 5.1.1. Output indicators

The output indicators defined in investment priority 3d are the "number of enterprises receiving support" and the "increase in employment". A precise target value for the financial instrument is only given for the number of enterprises. In addition, for the grants, the "private investments complementary to public support" are determined, which have already been identified for the financial instrument in chapter 4 of this ex-ante evaluation. The cumulative target values of the output indicators for 2023 are shown in the following Table 2.

Table 2 Output indicators

| | Investitionspriorität 3d | |
|---|---|---|
| **Outputindikatoren** | Zahl der Unternehmen, die Unterstützung erhalten | 410 |
| | Zahl der Unternehmen, die Zuschüsse erhalten | 400 |
| | Zahl der Unternehmen, die andere finanzielle Unterstützung erhalten als Zuschüsse (Venture Capital) | 10 |
| | Steigerung der Beschäftigung | 1600 |

The number of companies to be supported with venture capital is ten. With a planned fund volume of nine million euros, this corresponds to an average financing volume of 900,000 euros. This value corresponds to the average of the investments made in the early phase according to the surveys of the EVCA, but is lower than the previous commitment by the Upper Austrian High-Tech Fund, in which about seven investments were made with a commitment of about EUR 1 million each. In addition, management fees must also be taken into account, for which further external funds are to be provided according to the information provided. All in all, the number of companies indicated should be regarded as an approximate estimate, which may not be fully achieved in light of the experience with the previous Upper Austrian Hightech Fund.

A target value of 1,600 persons in total is planned for the increase in employment. If the share of the funds earmarked for the financial instrument in the total funds available under priority axis 2 is taken as a basis, the financial instrument would contribute to an increase in employment of about 30 jobs. With a target value of ten enterprises, this would roughly correspond to three persons employed per enterprise, which can be regarded as a plausible value. [6]

### 5.1.2. Result indicators

In investment priorities 1b, 3a and 3d, which are relevant to the financial instrument, the OP has defined the result indicators shown in Table 3.

Table 3 Result indicators

| | Investitionspriorität 1b | | Investitionspriorität 3a | | Investitionspriorität 3d | |
|---|---|---|---|---|---|---|
| **Ergebnisindikatoren** | **Indikator** | **Basis/ Ziel** | **Indikator** | **Basis/ Ziel** | **Indikator** | **Basis/ Ziel** |
| | Zahl der F&E-Beschäftigten im Unternehmenssektor | 36.172 (2011)/ + 5% | Unternehmens-gründungsrate | 5,9%/ stabil | Zahl der wachsenden KMU (Beschäftigte) | 4.600 (2012)/ +5% |
| | Zahl innovierender Unternehmen | 5.900 (2012)/ + 3% | Neue Unternehmen in High-Tech und Medium-High-Tech Branchen | SG: 190 DL 7.250/ + 3% | | |
| | Zahl der als Frontrunner | 485 (2011)/ + 5-8% | | | | |

The financial instrument can contribute to the achievement of the objectives defined in the investment priorities. However, the result indicators cover all forms of financing across the entire federal territory. A specific consideration of the indicators for the financial instrument is therefore carried out in the context of the output indicators.

### 5.1.3. Performance indicator

As a performance indicator, the "fair value valuation" collected in the reporting for the former Upper Austrian High-Tech Fund can be used. However, it must be taken into account that final statements concerning the economic success of a VC fund are only possible after the last exit has been realised. For example, the VC Fund Berlin, which made its first investment in 2005 and whose investment phase ended at the end of 2008, was still involved in 14 of a total of 26 companies at the end of 2012. The income and returns generated up to the end of 2012 just covered the write-downs and defaults. In some cases, the returns were also used to cover the agreed administrative costs.

The final investment result will therefore depend on the successful sale of the remaining portfolio. Nevertheless, final results on the economic success of the fund will not be available for several years.

### 5.1.4. Other indicators

In addition to the output indicators outlined above (mandatory) and the fund-specific performance indicator, we recommend including further indicators in the fund monitoring. Due to the heterogeneity of the projects or enterprises supported, however, we recommend refraining from setting target values. Rather, the

additional indicators can provide a valuable information basis for the evaluation of the financial instrument that may be planned (e.g. in the mid-term evaluation).
In addition, we recommend that the inclusion of the following indicators in the monitoring at company level be considered:

- number of new/further developed products and services

- Number of successful market launches of new and/or further developed products and services

- Number of companies with a successful market launch

- Total sales of the portfolio companies (of which sales of new products or services)
A total of 139 million euros is available for more developed regions, of which three million euros is for financial instruments, which represents a share of around two percent.[1]

## 5.2. Monitoring and reporting

In the interest of performance measurement, the output indicators outlined above - as well as the performance and other indicators to be provided - must be recorded within the monitoring system of the Upper Austrian High-Tech Fund. In addition to the indicators described above, the monitoring system of the fund must map further contents that are specified in the implementation provisions of the AVO. Among other things, this is intended to ensure that the managing authority is able to fulfil its reporting obligations under Article 46 of the Implementing Rules. The fund management must therefore ensure that the necessary information is collected from the subsidised companies and can be made available - even at short notice - to the managing authority or the specialist department.
For components of the monitoring system for financial instruments, we refer to the corresponding Commission implementing regulation of 28 July 2014.
In the case of the currently existing financial instruments, the fund manager provides regular reporting in the form of a monthly report to the Federal Province of Upper Austria. This ensures that the responsible specialist department and the managing authority are kept constantly informed of the status of implementation and, in particular in the event of undesirable developments, can advise promptly on adjustment measures. We also recommend the establishment of quarterly reporting for the future financial instrument.
There are three main reasons why a review of the ex-ante evaluation may be appropriate:

- Material non-compliance with the objectives, measured against the defined indicators;

- A (too) strong or (too) weak demand for financing compared to the planned financial implementation as an expression of a possible over- or underestimation of the financing gap due to market weaknesses or a structural improvement or deterioration in access to financing;

- an unplanned development of write-downs or total losses on equity investments entered into, which calls into question the revolving nature of the financial instrument.

Quarterly reporting on a quarterly basis, as recommended by us, enables the bodies of the Federal Province of Upper Austria responsible for or in charge of implementing the financial instrument to continuously monitor the implementation status of the Fund.

In the event of actual developments that deviate significantly from the estimates made when the financial instrument was launched, there is thus a timely opportunity to adjust key fund parameters within the framework of a review or update of the ex-ante evaluation. [1]

## 6. Provisions for the update and review of the ex-ante assessment methodology

A review or update of the ex-ante evaluation shall be carried out in particular if the indicators show that the successful implementation of the financial instrument concerned - measured against the targets set - under the ERDF OP is at risk. In this case, an examination should be made of the extent to which the deviations from the plan are due to parameters which are primarily to be seen in the context of an inappropriate investment strategy or changes in the financing environment. This may also require an update of the market weakness analysis.

We recommend a mandatory review of the implementation of the financial instrument after one third of the planned investment phase of the financial instrument in order to be able to make any necessary adjustments with regard to the investment strategy. Furthermore, we recommend that a further mandatory review be carried out after two thirds of the investment phase, but no later than the end of 2019, in order to be able to make any necessary reallocations of funds if necessary.

## 7. Ex-ante assessment completeness checklist

| Have you considered? | | |
|---|---|---|
| Key check points | CPR reference | (Yes/ No) |
| Identification of market problems existing in the country or region in which the FI is to be established. | Art. 37 (2) (a) | yes |
| Analysis of the gap between supply and demand of financing and the identification of suboptimal investment situations. | Art. 37 (2) (a) | yes |
| Quantification of the investment (to the extent possible). | Art. 37 (2) (a) | yes |
| Identification of the quantitative and qualitative dimensions of the value added of the envisaged FI. | Art. 37 (2) (b) | yes |
| Comparison to the added value of alternative approaches. | Art. 37 (2) (b) | yes |
| Consistency of the envisaged FI with other forms of public intervention. | Art. 37 (2) (b) | yes |
| State aid implications of the envisaged FI. | Art. 37 (2) (b) | yes |
| Identification of additional public and private resources to be potentially raised by the envisaged FI and assessment of indicative timing of national co-financing and of additional contributions (mainly private). | Art. 37 (2) (c) | yes |
| Estimation of the leverage of the envisaged FI. | Art. 37 (2) (c) | yes |
| Assessment of the need for, and level of, preferential remuneration based on experience in relevant markets. | Art. 37 (2) (c) | yes |
| Collation of relevant available information on past experiences, particularly those that have been set up in the same country or region as the envisaged FI. | Art. 37 (2) (d) | yes |
| Identification of main success factors and/or pitfalls of these past experiences. | Art. 37 (2) (d) | yes |
| Using the collected information to enhance the performance of the envisaged FI (e.g. risk mitigation). | Art. 37 (2) (d) | yes |

| | | |
|---|---|---|
| Definition of the level of detail for the proposed investment strategy (maintaining a certain degree of flexibility). | Art. 37 (2) (e) | yes |
| Definition of the scale and focus of the FI in line with the results of the market assessments and value added assessment. | Art. 37 (2) (e) | yes |
| Selection of the financial product to be offered and the target's final recipients. | Art. 37 (2) (e) | yes |
| Definition of the governance structure of the FI. | Art. 37 (2) (e) | yes |
| Selection of the most appropriate implementation arrangement and the envisaged combination of grant support. | Art. 37 (2) (e) | yes |
| Set up and quantification of the expected results of the envisaged FI by means of output indicators, result indicators and FI-performance indicators as appropriate. | Art. 37 (2) (f ) | yes |

## 8. Feasability study

The present study "Quantitative Effects of EU Structural and Cohesion Policy in Austria – A Contribution to 25 Years of Austria in the EU" offers for the first time a cross-fund and quantitative impact analysis of the use of funds from the European Structural and Investment Funds (ESIF) and their predecessors in Austria, which are: ERDF (European Regional Fund), ESF (European Social Fund), EAFRD (European Agricultural Fund for Rural Development) and EMFF (European Maritime and Fisheries Fund). The related data basis has been created for the first-time by merging and harmonising individual information on all funding projects or cases of the individual funds which are available in different decentralized systems.

By analysing this database using descriptive-statistical methods, (spatial) econometric regression analyses and simulations with a multi-regional, multi-sectoral model, it is possible for the first time to provide a comprehensive assessment of the quantitative effects of the ESI funds and their predecessors in Austria at a small-scale spatial level. In view of the congruence of the results achieved for different regional levels and using different methodological approaches, a predominantly positive summary of almost a quarter of a century of Structural Fund policy in Austria can be drawn.

**No signs of spatial polarisation in Austria during the period of fund interventions**

First of all, our analysis of the development of spatial disparities in Austria during the implementation period of the European subsidies shows encouraging results: Tests on σ- as well as ß-convergence show a consistent tendency of decreasing regional differences in essential economic variables – a finding that differs significantly from the empirical evidence found for Europe, where regional imbalances within the majority of countries have increased.

Thus, cohesion policy objectives of EU policy have been achieved at least partially in Austria. However, this finding does not yet allow conclusions to be drawn about the effectiveness or efficiency of the funded initiatives, since the reduction of regional disparities may also have had other causes. A relevant contribution of the ESIF funding initiatives to the identified cohesion processes can be regarded as assured if – as a necessary condition primarily the "weaker" regions have actually benefited from the funds , and – as a sufficient condition – these funds have actually had an effect, i.e. have made a significant contribution to the growth performance of supported regions.

**Economic "accuracy" of ESIF expenditure despite fund-specific differences**
The necessary condition for a contribution of the ESIF initiatives to the reduction of regional disparities in Austria can be regarded as fulfilled according to our analyses of the spatial distribution of ESIF expenditure. On the one hand, the ESI funds were used for funding interventions in a differentiated manner at the district and municipal level, and the spatial distribution structures of the individual types of funds – in accordance with their different tasks – were not identical. However, on the other hand, the expenditures of different funds were largely complementary, and overall especially directed towards regions with structural or economic disadvantages. Our results thus show a considerable "accuracy" of the disbursements of the ESI funds – a result which, despite programmatic changes over time, proves to be robust over funding periods.

**Positive and significant correlation between ESIF expenditure and the development of the regions supported**
The extent to which the ESIF initiatives – as a sufficient condition for their cohesion impact – have also contributed to growth and employment in the assisted regions is shown at the small-scale level by the results of econometric regression analyses. Even if no clear statement on the causality of the analysed relationship is possible due to data availability, the great concordance of the estimation results of our basic model with the results of various extensions with respect to data, methodology and regional granularity militates in favour of a robust and positive (significant) correlation between ESIF funding per capita and growth at the regional level.

According to our estimates for the Austrian labour market districts and the period 2000–2017, an increase in funding intensity by 1 % was associated with an expansion in the growth rate of the number of employees by 0.2 percentage points (PP), and with an increase of growth of municipal tax revenues by 0.14 PP. Extensions using the panel structure of the database as well as estimates at the municipal level confirm robustness of these results. In addition, they indicate that ESIF interventions in rural areas have been more effective than those in more urbanised regions.

**Noticeable effects on Gross Value Added at the level of the federal states**
Positive funding effects of the ESIF are ultimately confirmed by a series of model simulations with W IFO's ASCIANO multi-regional model for the Austrian federal states. According to these simulations, assuming "additionality" of EU funds as well as national co-financing, demand-side value-added effects (direct, indirect and induced) of more than € 33 billion were associated with the funding. Even if a (budget-neutral) "counter-financing" of the deployed national funds is assumed, relevant value-added effects from the subsidies remain, with the highest absolute impact in Lower Austria and the largest relative effects in Burgenland. The spatial distribution of ESIF expenditure and its effects differ, because the latter spill over to other regions in the course of triggered production and circulation processes.

Longer-term supply-side effects can be captured by our model simulations (only) in the case of investment subsidies. The largest impacts from associated capital stock effects are shown for Styria (with a cumulated value added of +2.5 billion €), while in relative terms the supply-side effects are highest in Burgenland (with almost 1.4 % of the BRP in the year of the highest funding effect), followed by Styria and Carinthia (with +0,25 % of BRP respectively). After the simulated end of the funding period, the effects in all provinces fade away gradually, but remain positive in the decade after.

**Positive summary; impact analysis of the entire funding system as a remaining task**
All in all, based on our results a predominantly positive conclusion can be drawn regarding the effects of European ESI funds and their predecessors in Austria: Despite task-related differences by funds, the regional distribution of expenditure was largely " accurate". At the same time the initiatives were also "effective". A relevant contribution of the interventions co-funded by ESI funds to the reduction of regional disparities in Austria thus appears to be assured. This statement grounds on our confidence in the validity of the empirical results. In fact, our analysis builds on an information base that is clearly superior to the past state of knowledge. Above all, however, the largely concurring results of our "multi-level" analysis allow to draw such a conclusion: Based on different methodological approaches and for different spatial levels, very similar findings were obtained. Thus, our results provide evidence

in favour of continuing the ESIF-initiatives in Austria also in the new funding period 2021–2027.

Nevertheless, our analysis faces limitations. In terms of content, this concerns the sole focus of our impact analyses on growth and employment in the regions. This is due to the overarching research question of our study, but it does not fully mirror the very different objectives of the individual funds. Our findings regarding the differences in impact across types of funds and measures therefore do not allow any conclusion to be drawn about their efficiency in fulfilling their different tasks. Hence, our study cannot replace a comprehensive monitoring as well as (ex-ante, accompanying and ex-post) evaluations at the level of the individual funds and their measures.

Methodologically, uncertainties remain with regard to the causality of the identified correlations between ESIF funding and regional growth, but also with regard to the influence of all other (non-ESIF) funding in Austria and its interaction with European funding. This is due to restrictions in data access at the firm level, but even more due to a lack of information on other promotional activities of the various local authorities in Austria. Progress is urgently needed here. Reliable data on this topic would allow an improved impact analysis of the entire public support system in Austria at the regional level and would make it possible to place the results in the context of this larger overall framework. [2]

## 9. references

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## 10. Index of figures



## 11. Index of tables