fteval JOURNAL
for Research and
Technology Policy Evaluation

July 2025, Vol. 57, pp. e13, 1-18
DOI: 10.22163/fteval.2025.704

EXPLORING UNINTENDED CONSEQUENCES IN STI EVALUATIONS AND MONITORING

TOWARDS A FRAMEWORK FOR UNINTENDED CONSEQUENCES AND ITS USE IN EVALUATION AND MONITORING EXERCISES

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DOI: 10.22163/FTEVAL.2025.704

ABTRACT

With the turn to mission orientation and transformative policies, STI funding organisations increasingly aim for impacts beyond the research sector. In consequence, in the STI evaluation community an intensive discussion has emerged on the nature of intended effects of research funding proposing new concepts and methods for modelling and measuring these intended effects. In contrast, the understanding of unintended effects – despite the recognition of their importance - has remained limited. This paper seeks to address this gap by exploring and consolidating the dispersed knowledge on unintended consequences by a multifaceted approach. We perform a systematic literature analysis focusing on the characteristics of unintended consequences and explore how unintended effects have been addressed in different evaluation guidelines and evaluation studies. Based on this review, we conclude that the diversity of unintended consequences is a major bottleneck to advance both theory and practice. To overcome this challenge, this paper develops a reflection tool consisting of guiding questions that can be used to navigate through the diversity of unintended consequences.

Keywords: unintended effects, uninteded consequences, SIPER

1. INTRODUCTION

When conducting (programme) evaluations the focus is first of all on the intended effects that should be achieved by a funding impulse. Especially with the turn to mission orientation and transformative policies (Mazzucato 2018; Diercks et al. 2019), STI funding organisations have aligned with policy demands and have designed programmes aiming at impacts far beyond the research sector (e.g. on European level the "Green Deal Calls" in H2020, in Germany the Strategy for Research for Sustainability (FONA); The Swiss National Research Programmes (NFP) or the Swedish Strategic Innovation Programme (SIP). In recent years, the STI evaluation community has responded to the challenges posed by these new funding programmes: an intensive discussion has emerged on the nature of intended effects of research funding, leading to the development of new concepts and methods for modeling and measuring these effects. (Bruno and Kadunc 2019; Bührer et al. 2022; Spaapen et al. 2011; Dinges et al. 2020; Seus and Bührer 2021).

A side effect of this shift towards transformative policy-making and the interest in longer term effects of research funding is the growing need to understand unintended consequences of funding activities. This is important for the following reasons: Aiming for a more systemic approach and more complex programmes, funding can potentially result in multiple interdependencies and cross-cutting effects, given its broader reach and the involvement of a wider variety of stakeholders. At the same time, against the background of increasing budget deficits and necessary cuts, the question of efficient use of resources gains additional momentum, creating additional pressure to avoid negative effects deviating from initial policy goals. Moreover, moving beyond the focus on policy outputs alone and emphasising the need for formative evaluation and learning (Molas-Gallart et al. 2021) increases the need to better understand the consequences of funding beyond programme priorities.

While there is an ongoing debate among scholars about unintended effects (Braun 2009; Jabeen 2016; Meijer and Sivertsen 2020; Morell 2011; Morell 2005; Turcotte-Tremblay et al. 2021; Zwart 2015), the debate appears rather inconclusive and is characterised by multiple unconnected strands of discussion. At the same time, it remains unclear how unintended consequences are addressed in evaluation practice. Therefore, our contribution seeks to explore and consolidate the dispersed knowledge of unintended consequences dispersed so far, by bringing together scholarly debates as well as STI

evaluation practice. For this purpose, we draw on a systematic literature research approach and analysis of specialised evaluation databases (SIPER[1]) as well as evaluation guidelines (OECD, World Bank, Fteval) to analyze both a conceptual as well empirical perspective of unintended effects of STI activities.

Based on the analysis, we conclude that the high variety of unintended consequences is a major bottleneck to advance both theory and practice. In consequence, we argue in favour of a more pragmatic approach towards unintended consequences that focuses on specifying the focus of analysis. For this purpose, we provide some guiding questions that can serve as reflection tools for evaluators and actors in charge of monitoring. We end with a discussion on the future implications for evaluation and monitoring practice.

2. UNINTENDED CONSEQUENCES OR UNEXPECTED EFFECTS – WHAT TERMINOLOGY TO USE?

A first difficulty and source of confusion is the lack of clearly established terminology regarding the concept of unintended consequences. In the evaluation literature, largely related to the field of development studies, the terms 'unintended consequences' or 'unintended outcomes' are used most often (Oliver et al. 2019, p. 63; Bamberger et al. 2016; Jabeen 2016). These terms are commonly used to describe "effects [...] not envisaged by the originator of the intervention or policy" (Oliver et al. 2019, p. 63). Concepts such as 'spill-over effects', 'externalities' or 'negative trade offs' (Oliver et al. 2019; Bonell et al. 2019; Jabeen 2016) are often used as synonyms in the same publication are.

This inconsistent use of the terminology is also reflected in the evaluation guidelines and evaluation studies: the terms 'unintended' and 'unexpected' are used interchangeably (e.g. in the fteval evaluation standards (Kohlweg 2019) with 'non-anticipated' and 'unanticipated' without further analytical differentiation (for a more detailed discussion see section 4).

In the following, we will use the term 'unintended consequences' as an umbrella term that encompasses both immediate unintended effects of the intervention

1 www.si-per.eu

and intervention-induced outcomes and impacts. Therefore, we assume that the term 'consequences' includes different categories, such as 'results', 'effects', 'outputs' and 'outcomes'.

3. UNINTENDED CONSEQUENCES: MAIN DIMENSIONS BASED ON THE LITERATURE

To gain a better grasp of the fuzzy concept of unintended consequences, we conducted a literature review to explore the theoretical discourses on the topic and identify the existing definitions and dimensions of unintended consequences. Intentionally, we broadened our scope beyond STI evaluation literature to include general evaluation literature as well.

The inherent problems related to the concept of unintended consequences, especially the variety of terms, the diversity of (scientific) contexts and the lack of clear definitions have been discussed as early as 1936 (Merton 1936). Until today, different authors have put forward their definitions depending on the characteristics they see most important with regard to unintended consequences. In the following review, we strive to summarise the discussions on the nature of unintended consequences by proposing a classification of six dimensions and outlining their main characteristics:

A first dimension concerns the knowability of effects. Unintended consequences, according to this dimension, can be either anticipated, "known by the actor at the time of action" (Jabeen 2018, p. 264), or unanticipated. In the case of unanticipated consequences, a further distinction between foreseeable and unforeseeable outcomes is made. This division relates to the idea that effects can either be predicted or not (Jabeen 2018). Unforeseeable consequences occur where "adaptive and nonlinear phenomena make prognostication impossible" (Morell 2005, p. 445; Braun 2009). In contrast, foreseeable or predictable outcomes might still not be foreseen, leading to unforeseen effects, especially in those cases for which "applicable analytical frameworks and experience were not considered" (Morell 2005, p. 446). A last subcategory of effects in the knowability dimension, is that unintended effects can be overlooked, meaning they are "known but deliberately ignored for practical, political or ideological reasons" (Morell 2005, p. 445).

A second literature strand discusses unintended consequences with regard to the size of the unintended effects. Following Meijer and Sivertsen

(2020), the societal impact of a programme or research can be either normal or extraordinary. Normal societal impacts refers to "the results of active, productive, and responsible interactions between (units of) research organizations and other organizations according to their purposes and aims in society" (Meijer and Sivertsen 2020, p. 67). In contrast, extraordinary societal impacts are defined as "rare incidences where […] interactions between science and society have unexpected widespread positive or negative implications for society" (Meijer and Sivertsen 2020, p. 67).

Thirdly, unintended consequences are differentiated according to the direction of the effect - based on whether the effect is evaluated as positive, negative or neutral (Bonell et al. 2019; Derrick et al. 2018; Jabeen 2016; Meijer and Sivertsen 2020). By combining the dimensions of size and value, Derrick et al. (2018) provide the example of 'Grimpacts', which are impacts of extraordinary size (Meijer and Sivertsen 2020) but with negative implications for society. Braun (2009), however, cautions against generally equating unintended effects with negative ones, as unintended outcomes could also be beneficial.

A fourth dimension concerns the controllability of the unintended effects. Controllability refers to the fact that even if unintended effects are anticipated, it might not be possible to avoid them (Braun 2009). Following Braun's line of argument, the controllability of unintended effects depends on several different parameters. While simple effects, resulting from individual actions, are controllable, more complex or intricate effects are more challenging to control.

Moreover, another dimension is related to the stakeholders affected by unintended consequences (Jabeen 2018). In most cases, the beneficiaries of the interventions would be the ones affected. However, unintended effects can also occur among groups not directly targeted by the interventions or policies. These groups could include unsuccessful applicants, peers who did not apply for the funding, and organisations within the wider system, such as research organisations hosting grant holders.

Finally, the last dimension to consider when trying to locate unintended consequences is the timing of occurrence: Does the effect already occur during the implementation of the intervention or can it be expected only after the end of the intervention (Jabeen 2018)?

In the following table we summarised these different characteristics discussed above into six distinct dimensions. For each we describe the underlying concepts and refer to the literature in which these characteristics are discussed.

It should be noted that the last two dimensions i.e. “stakeholders affected” and “timing” are crosscutting to the first ones. The describe the possible locations of occurrence, whereas the remaining dimensions describe characteristics of unintended consequences.

Table 1: Six dimensions characterising unintended consequences

Dimension	Characteristics	Literature
Knowability	Anticipated vs. unanticipated Foreseeable vs. unforeseeable	Jabeen 2018 Braun 2009; Morell 2005
Size	Normal vs extraordinary	Meijer and Sivertsen 2020
Direction	Positive vs. negative vs. neutral	Jabeen 2016; Bonell et al. 2019; Derrick et al. 2018; Meijer and Sivertsen 2020; Braun 2009
Controllability	Controllable vs. uncontrollable	Braun 2009
Stakeholders affected	Beneficiaries / external stakeholder / funding organisations / all / ….	Jabeen 2018
Timing	During funding period / after project ends / …	Jabeen 2018

4. UNINTENDED CONSEQUENCES IN EVALUATION STUDIES: AN EMPIRICAL REVIEW OF THE ACTUAL USE OF THE CONCEPT

As a starting point of our empirical analysis, we take the conclusion by (Bamberger et al. 2016) that most evaluation studies overlook unintended consequences. In a first step, we investigate how unintended consequences are discussed in evaluation guidelines. Focusing on a selection of main funding organisations provides a first hint at the use of unintended consequences in evaluation activities and their conceptualisation. In a second step, we conduct a systematic review of evaluation studies from the past 15 years. Drawing on the Science and Innovation Policy Evaluation Repository (SIPER) we employ both quantitative and qualitative text analyses to better understand the role of unintended consequences in evaluations and analyse the evaluations against our six dimensions discussed in chapt. 3.

4.1 UNINTENDED CONSEQUENCES IN EVALUATION GUIDELINES OF THE MAIN EVALUATION COMMISSIONING BODIES.

Because our particular interest is in the evaluation in the Science Technology and Innovation (STI) sector, we first looked at evaluation standards of the Austrian Platform for Research, Technology and Innovation Policy Evaluation (fteval) before expanding our screening to the guidelines and handbooks of evaluation societies and multilateral organisations, especially the OECD, World Bank and the UN.

The most relevant guidance is provided by the "Evaluation Standards for Research , Technology and Innovation Policy" (Kohlweg 2019) formulated by the Austrian Platform for Research and Technology Policy Evaluation - fteval. The concept of unintended consequences is mentioned twice in the glossary of the document. The search term "unintended" can first be found in the definition of the term 'Findings / Results': "Output, direct outcomes or longer-term effects of an intervention (intended or unintended, positive and/or negative)" (ibid p. 29). The second reference is related to explaining the term 'programme theory': "Impact modelling based on different presumed effects, showing how the activities and outputs of a programme contribute to the intended (and where relevant, also any unintended) outcomes and impacts." (ibid. p. 32).

Our screening of standards and principles of international evaluation societies, including the American, German and the European Evaluation Societies, yielded no results for search terms such as "unintended" or "unexpected".

Looking beyond STI policy, the guidelines and handbook of the OECD-DAC, the Independent Evaluation Group of the World Bank and the United Nations Evaluation Group (UNEG) mention the term "unintended" in glossary sections to characterise different forms of effects and highlight the positive and negative nature of effects (OECD 2021; OECD Publishing 2023; OECD 2019; Leeuw and Vaessen 2010; United Nations Evaluation Group 2016)

Especially in methodological guidelines, unintended consequences are discussed in a little bit more detail, e.g. to highlight the challenges related to capturing these unintended consequences and short discussions what data collection methodologies could be useful to detect and assess unintended consequences. (see in particular Leeuw and Vaessen 2010; Vaessen et al. 2020; UNEG Methods Use and Appropriateness Working Group 2022).

In sum, the standards, guidelines and handbooks of major evaluation commissioning bodies refer to the concept of unintended consequences

as something to keep in mind as a supplementary effect category. Further explanations or guidelines on how to handle unintended consequences are missing.

4.2 UNINTENDED CONSEQUENCES IN EVALUATION STUDIES

The second focus of our empirical analysis was to understand how unintended consequences are analysed in evaluations. In order to get an overview of the use of "unintended consequences" in evaluations so far, the online database SIPER[2] was systematically searched. SIPER provides an online access to a large collection of policy evaluations to enable support for academics but also policy learning for practitioners. In total the SIPER database contains 1127 evaluation studies published between 2006 and 2023 covering OECD countries, with an emphasis on UK, Germany, Austria, France, Canada, Scandinavian countries (if an English publication was available) and Latin American countries for the years between 2017 and 2021. As a comprehensive database of evaluation studies, it thus provides a valuable source to assess the integration of unintended consequences into policy evaluation practice.

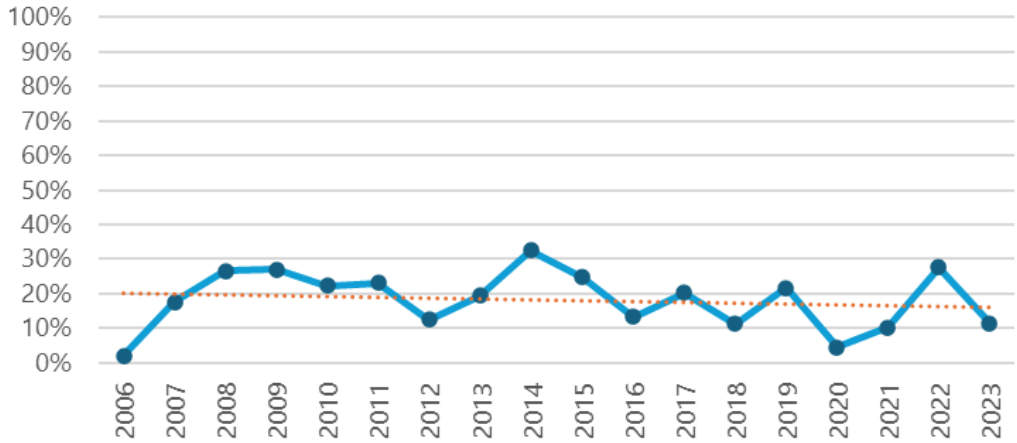
In a first step, we explored the relative frequency of evaluations published in a given year referring to a set of pre-defined keywords for unintended consequences.[3]

From 2007 until 2023, a total of 208 documents include at least one of the searched keywords, which amounts to 18% of all SIPER evaluations. Besides the rather limited reference to unintended consequences as such, the share of evaluations referring to them is also heavily fluctuating over time, with lowest results around 10% and peaks just over 30%. However, as can be seen from the figure 1, there is no trend towards an increased focus on unintended consequences visible over time. While one can assume a certain time lag with evaluations, the changing policy landscape with its shift towards transformative policy-making (cf. section 1) has, so far, not impacted evaluation practice.

2 www.si-per.eu; SIPER is part of the Research Infrastructure for Science and Innovation Policy Studies (RISIS)and management and maintenance of the database have moved to the Fraunhofer Institute for Systems and Innovation Research ISI.

3 Search terms were: „unintended" and "unexpected" each in combination with "result" "effect" "outcome", "output", "impact", "consequences". Further search terms were: "non anticipated" and "unanticipated". These keywords were selected based on the terminology used in the evaluation guidelines and validated by the literature review. The evaluation studies have been translated into English with the Large Language Models LLaMA (reference: [2307.09288] Llama 2: Open Foundation and Fine-Tuned Chat Models) using the prompt "You are a professional translator. Your task is to translate the text into English accurately. Translate the following text from {language} to English". The subsequent counting and analysis have been conducted with R and Python.

Figure 1 Percentage of evaluation studies per year with at least one keyword related to unintended consequences



Moreover, there is little evidence for a systematic use of specific terms, indicating the co-existence of multiple understandings on unintended consequences Analysing the co-occurrence of 'unintended' (and 'unexpected' as a potential synonym), the analysis revealed a rather unsystematic use instead of a clear pattern. As can be seen from the following table, most hits could be found with the term "unintended" followed by "consequences" and "effect". The term "unexpected" is mostly used in combination with the term"result" but again occurs in combination with a large variety of other terms (outcomes, effects, impacts, etc.).

Table 2: Number of documents in which the keyword occurs

	effect	*outcome*	*output*	*impact*	*consequence*	*result*
unintended	58	14	0	15	50	3
unexpected	7	12	3	9	2	22
unanticipated	69					
Non-anticipated	28					

In order to better understand how the evaluations use these different keywords and what their underlying definition of unintended consequences is, we proceeded with a qualitative text analysis. This analysis was carried out in two steps: Only 58 out of the 208 relevant evaluations contained the keywords at least three times. One may assume that a closer investigation of unintended consequences can be found in these studies, however, this was not the case. No in-depth discussion was found in these 58 evaluations, instead the keywords are mostly used as name-dropping. In most cases, the search terms occur in the introduction, e.g. as a stated goal of the evaluation, or they can be found in

the methodology section. Only rarely are unintended consequences discussed in the analysis and finding sections. From those evaluation studies that have a dedicated chapter on unintended consequences, we selected five for an in-depth review.

We screened along the six dimensions and their characteristics discussed in the previous section.

All studies use a logic chart model and a theory of change. In most cases, unintended consequences are detected with qualitative methods, mainly through exchange with different stakeholder groups. The list of unintended consequences can be quite long, leading to the impression that the effect size is rather small, affecting only parts of the target groups. In all cases, the main stakeholder group affected is the beneficiaries. Often, other stakeholder groups are discussed with regard to unintended consequences, in particular organisations supporting the programme or non-successful applicants. Both positive and negative unintended consequences are reported. Even though the screened evaluations have dedicated evaluation questions to unintended consequences, we have the impression that unintended consequences are a residual category for effects reported during the course of data collection but without clear link to an evaluation questions.

In sum, our analysis indicates that despite growing awareness of unintended effects, the concept is only partly enshrined in evaluation guidelines. While the concept is mentioned in guidelines from the past years, it often lacks further hints for practical implication. In a similar vein, the study of unintended consequences remains limited to a minority of evaluations. The combination of quantitative and qualitative text analysis reveals that the concept of unintended consequences is a) still rarely addressed and, in most cases, amounts to a superficial reference and b) when discussed in more depth, there is no systematic use of terminology or consistent application of the concepts.

5. AVENUES FOR DISCUSSION

5.1 SUMMARY OF RESULTS AND CONCLUSIONS

As demonstrated in the literature review, the discussion on unintended consequences suffers from multiple constraints. At the conceptual level, unintended consequences are a heterogenous phenomenon that manifests itself in different dimensions, potentially affecting different stakeholder groups at different points in time. In evaluation practice, despite the claim that unintended consequences are important, we observe only very few in-depth analyses of the topic. Despite regular reference to unintended consequences, these are often treated as a residual category that serves as a catch-all term without further specifying the focus of unintended effects.

From our perspective, this variety is also the key bottleneck for advancing both empirical analysis and conceptual debate, as it subsumes highly heterogenous types of unintended consequences. Against this background, it therefore appears necessary for both evaluation commissioning bodies as well as evaluators to specify the type of unintended consequences more clearly (out of the universe of unintended consequences they are interested in). This is a prerequisite for developing an evaluation design in a way that allows to investigate unintended consequences systematically. Therefore, we propose to disentangle the issue of unintended consequences, suggesting a pragmatic approach that deliberately focuses on conceptually relevant but also empirically feasible unintended consequences. This is in line with recent approaches (Turcotte-Tremblay et al. 2021) that consider a clear definition of terms as a necessity for all evaluations that deal with unintended effects.

5.2 TOWARDS A FRAMEWORK FOR UNINTENDED EFFECTS AND AN EFFECTIVE USE IN MONITORING AND EVALUATION EXERCISES

To better tackle unintended consequences in M&E exercises, there is the need to make the concept more tangible. Furthermore, we argue that different characteristics of unintended consequences are relevant for different M&E activities. We particularly differentiate between evaluation and monitoring exercises. To include the later in the discussion is deemed useful in view of the growing discussion on impact-oriented monitoring (OECD Publishing 2023; Roberts and Khattri 2012).

Drawing on the insights from the literature review in section 3, we argue that one can distinguish six dimensions of unintended effects, requiring evaluators to clarify their priorities: Slight changes have been made with regard to the literature analysis: we have chosen not to include the aspect of "controllability" as it is closely related to the dimension of "knowability". Instead, we included the dimension related to the "scope of the effect", which seems to be more relevant for practical use. To translate it into a usable concept, we transformed the six dimensions into guiding questions for evaluators or other actors dealing with monitoring and evaluation.

iii. **Knowability**: Here we strive for the unintended consequences that could be anticipated, in comparison to those unanticipated and not foreseeable: What unintended consequences would we expect based on tacit knowledge? Tacit knowledge could come from the programme management or from similar types of funding or the evaluator's knowledge of specific contextual factors and challenges that derive from it.

iv. **Stakeholder groups affected** by unintended consequences: What group of stakeholders shall we choose for investigating unintended consequences? As discussed above, stakeholder groups can be beneficiaries of the intervention, but also other groups less directly targeted by the interventions. The selection of stakeholder groups will determine the object of the unintended consequences. Therefore, we suggest using this question as an entry point for analysis of unintended consequences.

v. **Scope of the effect**: Are you interested in unintended consequences affecting the whole group of stakeholders selected (i.e. average effects), or are you rather interested in outliers or effects on a specific subgroup? This comes down to the issue of how many individuals are affected by the unintended consequences.

vi. **Size of the effect**: How strong should the unintended consequence be that you are looking for? Are you interested in knowing about large-scale effects, e.g., with a big implication for the intervention or even beyond, or small-scale effects, e.g., reinforcing the existing trajectory of the intervention only marginally.

vii. **Direction of effects**: Are you primarily looking for negative unintended consequences, or are you also interested in positive or even neutral unintended consequences?

viii. **Timing**: Are you looking at mainly short-term effects that occur during the funding period? Or do you want to know about longer-term effects that materialise only after the end of the intervention?

Taking these guiding questions further, we suggest differentiating between monitoring and evaluation exercises. Depending on what exercise is undertaken, the focus of analysis within these six dimensions will be different. In the following table, we therefore illustrate three archetypical applications of M&E (Monitoring; Summative Evaluation; Formative Evaluation) and argue that different characteristics will be the priority of the analysis. While we are aware that priorities may vary even within these groups (e.g., a stronger focus on learning in monitoring systems), they underline the need to differentiate among different types of unintended effects.

Table 3: Different needs of Monitoring and Evaluation when looking at unintended consequences

	Monitoring	Summative Evaluation	Formative Evaluation
Knowability	Anticipated	Anticipated	Anticipated and Un-Anticipated
Affected stakeholder groups	Beneficiaries	Beneficiaries, unsuccessful applicants	Beneficiaries, unsuccessful applicants, funding organisations
Scope	Larger sub-groups	Sub-Groups	Sub-Groups, Individuals
Size of effects	Medium-sized to large	Medium-sized to large	Including small
Direction of effects	Negative, potentially positive	Negative, positive, potentially neutral	Negative, positive, neutral
Timing of effects	During funding	During and after funding	During (and after funding)

FURTHER DISCUSSIONS – HOW TO STRENGTHEN THE ANALYSIS OF UNINTENDED CONSEQUENCES IN PRACTICE

The most challenging dimension for practical implementation is the knowability-dimension of unintended consequences. The core question here is to what extent unintended consequences may be a priori identified and what context conditions can improve analysis. In the following, we outline the different implications for anticipated, potentially foreseeable and non-anticipated unintended consequences.

Particularly those unintended effects that may be anticipated (e.g., due to known challenges of certain types of funding or context-specific knowledge)

might be included from the very beginning in the development of programme theory or in the planning phase of an evaluation, especially through the reconstruction of a theory of change and a set of clear evaluation questions targeting unintended consequences. For these "knowable" unintended consequences, quantitative approaches might be a suitable method to detect their value and especially the size and scope of the effect. Types of knowable unintended consequences can be thought of already in the design phase of the intervention, as assumptions about them are made explicit (Jabeen 2018; Roberts and Khattri 2012; Oliver et al. 2019). As a consequence, taking anticipated unintended consequences seriously would require allocating appropriate (additional) budget and time for the analysis.

In contrast, *potentially foreseeable unintended* effects may require a further strengthening of capacities and knowledge on the subject by actors involved in evaluation and monitoring. Increased knowledge, for instance, could be achieved through a collection and mapping of unintended consequences for specific instrument types or funding mechanisms (e.g., collaborative research). A meta-review of existing evaluations would help to grasp the diversity and guide evaluators. Capacity-building related to the handling of unintended consequences should be provided for both evaluators and programme managers. Particularly evaluators can draw on a wealth of experience from many different situations and interventions. In contrary, programme managers often have (anecdotical) insights from the interventions and can point to the blind spots to look at. But it is only in the interplay of both programme managers and evaluators that potentially foreseeable but intended consequences can be anticipated.

Finally, a particular challenge are those *unintended consequences that are non-anticipated and not potentially foreseeable*, as they cannot be a priori included in a theory of change. Possible avenues here are either a stronger reliance on explorative and qualitative approaches during the course evaluation exercises or relying on beneficiaries and stakeholder engagement (Peterson and Skolits 2019; Bamberger et al. 2016; UNEG Methods Use and Appropriateness Working Group 2022). While the detection of this type of unintended consequences will necessarily partly be coincidental, the choice of methods and thereby the possibility to create space for capturing such effects may make the difference.

6. PUBLICATION BIBLIOGRAPHY

Bamberger, Michael; Hesse-Biber, Sharlene; Tarsilla, Michele (2016): Why so many “rigorous” evaluations fail to identify unintended consequences of development programs: How mixed methods can contribute. In Evaluation and Program Planning 55, pp. 155–162. Available online at https://doi.org/10.1016/j.evalprogplan.2016.01.001.

Bonell, Chris; Lorenc, Theo; Oliver, Kathryn; Tinkler, Jane (2019): Understanding the unintended consequences of public health policies: the views of policymakers and evaluators. In BMC Public Health 19, Article 1057. Available online at https://doi.org/10.1186/s12889-019-7389-6.

Braun, Dietmar (2009): Evaluation und unintendierte Effekte — eine theoretische Reflexion. In Hildegard Matthies, Dagmar Simon (Eds.): Wissenschaf unter Beobachtung. Effekte und Defekte von Evaluationen. Wiesbaden: VS Verlag für Sozialwissenschaften, pp. 103–124. Available online at https://doi.org/10.1007/978-3-531-90863-2_7.

Bruno, Nelly; Kadunc, Martina (2019): Impact Pathways: Tracking and communicating the impact of the European Framework Programme for research and innovation. In fteval Journal for Research and Technology Policy Evaluation (47), pp. 62–71. DOI: 10.22163/fteval.2019.330.

Bührer, Susanne; Feidenheimer, Alexander; Walz, Rainer; Lindner, Ralf; Beckert, Bernd; Wallwaey, Elisa (2022): Concepts and methods to measure societal impacts – an overview. Karlsruhe (Fraunhofer ISI Discussion Papers Innovation Systems and Policy Analysis, 74).

Derrick, G. E.; Faria, R.; Benneworth, P.; Budtz-Petersen, D.; Sivertsen, G. (2018): Towards characterising negative impact: Introducing Grimpact. In : Proceedings of the 23rd International Conference on Science and, pp. 1199–1213. Available online at http://hdl.handle.net/1887/65230.

Diercks, Gijs; Larsen, Henrik; Steward, Fred (2019): Transformative innovation policy: Addressing variety in an emerging policy paradigm. In Research Policy 48 (4), pp. 880–894. DOI: 10.1016/j.respol.2018.10.028.

Dinges, M.; Meyer, Susanne; Brodnik, Christoph (2020): Key Elements of Evaluation Frameworks for Transformative R&I Programmes in Europe. In fteval Journal for Research and Technology Policy Evaluation, pp. 26–40. DOI: 10.22163/fteval.2020.486.

Jabeen, Sumera (2016): Do we really care about unintended outcomes? An analysis of evaluation theory and practice. In Evaluation and Program Planning 55, pp. 144–154. Available online at https://doi.org/10.1016/j.evalprogplan.2015.12.010.

Jabeen, Sumera (2018): Unintended outcomes evaluation approach: A plausible way to evaluate unintended outcomes of social development programmes. In Evaluation and Program Planning 68, pp. 262–274. Available online at https://doi.org/10.1016/j.evalprogplan.2017.09.005.

Leeuw, Frans; Vaessen, Jos. (2010): Impact evaluations and development: NONIE guidance on impact evaluation. Edited by World Bank Group. Washington D.C. Available online at http://documents.worldbank.org/curated/en/411821468313779505/Impact-evaluations-and-development-NONIE-guidance-on-impact-evaluation.

Mazzucato, Mariana (2018): Mission-Oriented Mission-Oriented Research & Innovation in the European Union. A problem-solving approach to fuel innovation-led growth. Edited by European Commission Directorate-General for Research, checked on 5/21/2022.

Meijer, Ingeborg; Sivertsen, Gunnar (2020): Normal versus extraordinary societal impact: how to understand, evaluate, and improve research activities in their relations to society? In Research Evaluation 29 (1), pp. 66–70. Available online at 10.1093/reseval/rvz032.

Merton, Robert K. (1936): The Unanticipated Consequences of Purposive Social Action. In American Sociological Review 1 (6), pp. 894–904. DOI: 10.2307/2084615.

Molas-Gallart, Jordi; Boni, Alejandra; Giachi, Sandro; Schot, Johan (2021): A formative approach to the evaluation of Transformative Innovation Policies. In Research Evaluation 30 (4), 431–442. DOI: 10.1093/reseval/rvab016.

Morell, J. A. (2011): Evaluation in the Face of Uncertainty: Anticipating Surprise and Responding to the Inevitable: Guilford Publications. Available online at https://books.google.de/books?id=sOZSu8vN2eMC.

Morell, Jonathan A. (2005): Why Are There Unintended Consequences of Program Action, and What Are the Implications for Doing Evaluation? In American Journal of Evaluation 26 (4), pp. 444–463. Available online at 10.1177/1098214005281354.

OECD (2019): Better Criteria for Better Evaluation. Revised Evaluation Criteria Definitions and Principles for Use. Available online at https://doi.org/10.1787/15a9c26b-en.

OECD (2021): Applying Evaluation Criteria Thoughtfully. Edited by OECD Publishing. Available online at https://doi.org/10.1787/543e84ed-en.

OECD Publishing (Ed.) (2023): Glossary of Key Terms in Evaluation and Results-based Management in Sustainable Development (Second Edition). Paris.

Oliver, Kathryn; Lorenc, Theo; Tinkler, Jane (2019): Evaluating unintended consequences: New insights into solving practical, ethical and political challenges of evaluation. In Evaluation 26, pp. 61–75. Available online at https://doi.org/10.1177/1356389019850847.

Peterson, Christina; Skolits, Gary (2019): Evaluating unintended program outcomes through Ripple Effects Mapping (REM): Application of REM using grounded theory. In Evaluation and Program Planning 76, p. 101677. DOI: 10.1016/j.evalprogplan.2019.101677.

Roberts, Dawn; Khattri, Nidhi (2012): Designing a Results Framework for Achieving Results: A How-To Guide. World Bank Group. Washington D.C. Available online at https://documents.worldbank.org/en/publication/documents-reports/documentdetail/331541563854787772/designing-a-results-framework-for-achieving-results-a-how-to-guide.

Seus, Sarah; Bührer, Susanne (2021): How to Evaluate a Transition-Oriented Funding Programme? Lessons Learned from the Evaluation of FONA, the German Framework Programme to Promote Sustainability Research. In fteval Journal for Research and Technology Policy Evaluation (52), pp. 10–18. DOI: 10.22163/fteval.2021.514.

Spaapen, J.; van Drooge, L.; Propp, T.; van der Meulen, B.; Shinn, T.; Marcovich, A. (2011): Social impact assessment methods for research and funding instruments through the study of productive interactions (SIAMPI). Final report on social impacts of research. Edited by Royal Netherlands Academy of Arts and Sciences. Amsterdam.

am Turcotte-Tremblay; Gali, I. A.G.; Ridde, V. (2021): The unintended consequences of COVID-19 mitigation measures matter: practical guidance for investigating them. In BMC MEDICAL RESEARCH METHODOLOGY 21 (1). DOI: 10.1186/s12874-020-01200-x.

UNEG Methods Use and Appropriateness Working Group (Ed.) (2022): Compendium of Evaluation Methods Reviewed – Volume II. Real time learning Remote data collection Stakeholders engagement Assessing causal relationship, checked on 1/13/2025.

United Nations Evaluation Group (Ed.) (2016): Norms and Standards for Evaluation. New York.

Vaessen, Jozef Leonardus; Lemire, Sebastian Thomas; Befani, Barbara (2020): Evaluation of International Development Interventions : An Overview of Approaches and Methods. World Bank Group. Washington D.C. Available online at https://documents.worldbank.org/en/publication/documents-reports/documentdetail/942511608652015232/evaluation-of-international-development-interventions-an-overview-of-approaches-and-methods.

Zwart, Frank de (2015): Unintended but not unanticipated consequences. In Theory and Society 44, pp. 283–297. Available online at 10.1007/s11186-015-9247-6.

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