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Consensus under strain: policy ideas and decline of Finnish public innovation funding in the 2010s

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Over the last three decades, the literature on innovation policy and ideas has expanded. Yet the ideas deployed by governments and elected politicians in day-to-day budgetary discourses have mostly escaped research attention. Against this background, this article provides an extensive empirical case study on the policy ideas (policy solutions and related problem definitions) invoked in the Finnish government and parliamentary discourses over budget allocations to the Finnish innovation funding and governance agency in the 2010s. The article argues that the interplay of three policy ideas motivated the Finnish governments and members of parliament to decrease public innovation funding in the 2010s. It is suggested that policymakers' interpretations of macroeconomic developments, institutions and industrial change shaped the salience and feasibility of these ideas. The Finnish case illustrates that during prolonged economic crises austerity and business subsidies are particularly powerful policy ideas.

Keywords: Innovation policy; ideas; policy change

1. Introduction

An ideational turn has occurred in various fields of the social sciences (Blyth 2002; Campbell 2004; Kamkhaji and Radaelli 2021), and here, a burgeoning stream of the literature is devoted to the role of ideas in public, economic and social policy scholarship (e.g. Béland and Hacker 2004; Blyth 2013). Innovation policy scholars have examined how ideas on the role of the government shift during wars and economic crises (Freeman and Soete 1997); they have extensively discussed the theoretical rationales behind science, technology and innovation (STI) policy (Bleda and del Rio 2013) and how ideas are developed in international organizations through the interaction of experts and public officials (Mytelka and Smith 2002). Moreover, ideational scholarship on the different types of ideas is constantly expanding in the field thanks to research on conceptual histories (Godin 2015), discourses (Niinikoski and Kuhlmann 2015), frames (Schot and Steinmueller 2018), paradigms (Veldhuizen 2021) and competing approaches to innovation and innovation policy (Laasonen, Kolehmainen, and Sotarauta 2020).

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However, the appearance and utilization of ideas in policy processes has received less scholarly attention (Henderson 2019). Some argue that innovation policy scholars too often assume that theoretical rationales translate into policy changes at the national and regional levels (for a critical review, see Flanagan, Uyarra, and Laranja 2011). Yet the deployment of policy ideas by policy entrepreneurs has been regarded as a promising research subject for developing ideational scholarship in innovation policy studies (e.g. Gironés, van Est, and Verbong 2020). Nonetheless, notable lacunae still exist in the innovation policy literature. The parliamentary context has rarely been addressed in this scholarship, apart from a few notable exceptions (Perren and Sapsed 2013; Alaja and Sorsa 2020). Furthermore, the deployment of ideas in day-to-day public innovation funding policy has escaped research attention so far.

The current paper addresses this research gap through an illustrative single-country case study of innovation funding policy shifts in Finland. The theoretical and conceptual framework of the article builds on the ideational literature within political science and policy studies (e.g. Mehta 2011; Béland 2019). Ideas provide a particularly promising avenue for explaining institutional and policy changes (Parsons 2007). The case study explores the policy solutions and related problem definitions that Finnish governments and members of parliament (MPs) have invoked during state budget allocation debates over the funding of the Finnish public innovation funding agency, that is, Tekes/Business Finland (hereafter: Tekes).[1] I map out the key policy ideas of these debates, provide explanations for the salience and feasibility of the ideas in these debates, and assess their uses. The current article is guided by the following research question: which policy ideas motivated the decisions to decrease and change Finnish public innovation funding in the 2010s and why? The time frame of analysis ranges from May 2011 to June 2019, a period of two government terms. This period has seen a major policy shift and the weakening of a long-established consensus on STI policy in Finland (OECD 2017).

The current article contributes to innovation policy studies through examining the interplay of three policy ideas, which motivated Finnish governments and MPs to decrease public innovation funding in the 2010s. Policymakers' interpretations of macroeconomic and industrial developments and institutional factors shaped the salience and feasibility of these policy ideas. The Finnish case suggests that during prolonged economic crises austerity and business subsidies are highly salient and feasible policy ideas. There is surprisingly little research on how austerity and business subsidies impact innovation policy in the European Union (EU) context (Veugelers 2014 is one of the exceptions). Moreover, the coincidence of prolonged economic crises and low productivity growth despite high R&D intensity can weaken the long-standing consensus on innovation funding. Finnish governments and MPs were, especially in the mid-2010s, debating why R&D does not translate into economic growth. This is what the research literature has called the innovation paradox.

The current paper is structured as follows: The next section introduces the theoretical and conceptual framework as well as presents a brief discussion on the impact of the ideational turn in the field of innovation policy studies. The third section introduces the case of the Finnish public innovation funding policy in the 2010s, the research materials and methods used in the case study. The findings section examines the policy ideas that were used to prescribe, legitimize, and contest public innovation funding policies, and discusses their origins and their changing salience and feasibility in the programmatic and parliamentary discourses. The fifth section presents concluding remarks and discusses the article's contributions to innovation policy studies literature.

2. Why do innovation policies change?

The theoretical and conceptual framework of the present article builds on the ideational literature, which contends that ideas are the key to understanding and/or explaining political behaviour (Béland and Cox 2011). Ideational explanations are one of the main explanatory theories in political science. In contrast to logic-of-position explanations in the materialist and institutional research literature, ideational research highlights the logic-of-interpretation, as, say, material developments (i.e. economic crises) can be interpreted in a variety of ways by policymakers. Ideational explanations seek to illustrate which beliefs are coupled with policy actions and how policymakers see the world. (Parsons 2007.) Crises are periods of uncertainty in which ideas have been considered exceptionally important (Hannah, Baekkeskov, and Tubakovic 2022). Empirical case studies typically examine the interplay of ideational, institutional and material factors and their relative roles (Béland 2019).

In the current article, policy ideas are conceptualized as problem definitions (such as stagnant economic growth) that constrain policymaking and as policy solutions (such as public RDI funding) (see Mehta 2011). It is useful to study solutions and problem definitions in tandem (Terlizzi and Esposito 2021). Policy ideas typically have an institutional origin in policymaking (e.g. Campbell and Pedersen 2014). Yet in actual policy processes policymakers interpret which status and role they give to different policy ideas. The feasibility of policy solutions depends on the political, economic and administrative context. For example, the adoption of Keynesianism in different countries depended on its feasibility within public organizations (Hall 1989). The relative salience of problem definitions in the public policy agenda evolves as a response to focusing events and indicators (Kingdon 1984; Birkland and DeYoung 2012). The use of indicators has been a neglected topic in ideas literature (Béland 2015).

This article examines the appearance of policy ideas in the foreground of policymaking (see Campbell 1998) and in discursive contexts. Following Schmidt (2008) discourses are conceptualized as interactive processes in which ideas are deployed. In this article, ideas appear in programmatic discourses in which policy ideas are deployed to rationalize and prescribe policies (Campbell 1998) and in communication discourses in which policies are legitimized and contested (Schmidt 2008). The current article explores how governments and MPs deploy policy ideas. Furthermore, MPs who actively partook in budgetary and innovation funding discourses are conceptualized as policy entrepreneurs (Petridou and Mintrom 2020). While agency has persistently been a seminal issue for ideational scholars (Campbell 2004), scholars have asserted that integrating individual agency with ideas remains a challenge in the ideational research literature (Kamkhaji and Radaelli 2021).

Much is already known about innovation policy ideas and public policy. First, innovation policy scholars have extensively discussed the merits and weaknesses of competing scholarly ideas in what Campbell (1998) calls the background of the policy debate. These include models, approaches and theories, such as the linear model of innovation, the national innovation system or market failures (e.g. Balconi, Brusoni, and Orsenigo 2010). These scholarly ideas stemming from economics and innovation studies are believed to influence public policy as they orient policymakers to fix, say, market or systemic failures (Mazzucato 2016). Second, expert ideas are disseminated by international organizations. For example, the OECD, has contributed to the ideational convergence of STI policy (e.g. Lemola 2002).

Second, innovation policy scholars have discussed the major ideational and institutional changes related to the role of the government and national innovation systems during different types of crises (see Hart 2009). For example, the experiences of World War II convinced policymakers in various industrialized countries to believe that large-scale public R&D would be beneficial to society (Freeman and Soete 1997). The slowdown of productivity growth in the 1970s and 1980s led policymakers in the United States (US) and Western Europe to take an interest in how Japanese institutions were supporting technological innovation (Freeman 1987). More recently, some argue that climate change and COVID-19 are bringing about a redefinition of the role of the government in the 2020s (Mazzucato et al. 2021).

Third, scholars have examined different types of ideas, such as conceptual histories, discourses and frames of innovation and innovation policy. In his pathbreaking studies, Godin (2015) explores formative developments, such as the conceptual history of the innovation idea. Sociologists have highlighted the discrepancy between anti-government public discourse and public institutions supporting technological development in the US (Block and Keller 2011). The narrow technological and R&D foci of early innovation policy discourse have been extended to service, social and sustainable innovation (Niinikoski and Kuhlmann 2015). Most recently, a surge of interest has occurred in the framing and frames of innovation policy, which is, for example, essential for adopting new technologies (e.g. Rosenbloom, Berton, and Meadowcroft 2016).

Yet the research literature on the adoption and use of ideas in actual policy processes is still limited (Henderson 2019). For example, Perren and Sapsed (2013) observe that given the political importance of innovation, there is a somewhat surprising scarcity of studies studying how innovation appears in political discourses in the parliamentary context. Notable exceptions exist, such as Hart's (2001) study on how contending ideas over technological innovation have historically framed the antitrust policy in the US, or Leceta and Könnölä's (2021) study on the idea of entrepreneurial innovation ecosystems within the European Institute of Innovation and Technology. In this context of ideas in policy processes the study policy ideas is one of the most promising strands of the literature within innovation policy studies. Huisman and de Jong (2014), for example, provide an account of how policy ideas were used to construct the European Institute of Innovation and Technology.

It is well known that R&D and national systems of innovation frames have been essential for the development of innovation policy in the OECD countries. The linear model of innovation underpinned the R&D frame. Moreover, the advocates of the national systems of innovation frame highlighted that national institutions supporting technological innovation were pivotal for the competitiveness of firms. (Schot and Steinmueller 2018.) Yet to this day it is less well-known, which ideas are deployed in the foreground of funding debates and what explains their salience and feasibility. Against this background, the current article focuses on those policy ideas deployed by governments and MPs that had an impact on Finnish public innovation funding in the 2010s.

3. Research design and methods

3.1. *Science, technology and innovation policy consensus under strain*

During the heyday of the mobile phone giant Nokia and the Finnish information and communications technology (ICT) boom in the late 1990s and 2000s, Finland was often depicted as one of the influential cases of innovation policy. Up until the 2010s there

was a public policy consensus around increasing public R&D spending and developing a national innovation system (e.g. Miettinen 2002; Deschryvere, Husso, and Suominen 2021). Yet research literature and policy reviews have suggested that the long-standing STI policy consensus weakened in the 2010s (e.g. OECD 2017) and that there was much confusion around Finnish innovation policy (Laasonen, Kolehmainen, and Sotarauta 2020).

The share of R&D in the Finnish gross domestic product (GDP) substantially dropped during the 2010s (from 3.62% in 2011–2.79% in 2019) (Official Statistics Finland 2019b). Although the demise of the ICT sector and lacklustre development in key industries seem to account for most of this drop (Ali-Yrkko, Kuusi, and Maliranta 2017), public policies have also contributed to the decline. The sustained reduction of government R&D funding from 2012 to 2016 (see Table 1) during and in the aftermath of the Eurozone sovereign debt crisis epitomizes the weakening of the consensus. Within the public research system, innovation policy organizations operating under the Ministry of Employment and Economic Affairs, such as Tekes and the Technical Research Centre VTT, were hit more severely by cutbacks than the Academy of Finland (i.e. Finnish Research Councils) and universities (OECD 2017).[2]

3.2. *Changes in Tekes' role and funding*

The current article highlights the role of Tekes *as an innovation funder* providing research, development, and innovation (RDI) grants and loans for firms, universities and public or semi-public research organizations. In Finnish policymaking and public administration, Tekes was typically perceived as an innovation funder, and the discourse of governments and MPs over Tekes' allocations is regarded as representative of Finnish innovation funding more broadly. Although it is not the main interest of the current article, the scope of Tekes' activities in the 2010s both expanded and shifted. In 2014, Tekes established a new company that was given the task of supplying venture capital to early-stage growth companies. Tekes merged with Finpro to form Business Finland in 2018 (see Halme et al. 2021).

Table 2 shows the substantial variation in the development of the different categories of funding allocated by Tekes. Research funding, which is typically granted to or performed by universities and state research organizations, collapsed over the decade. Grants provided to firms stagnated in nominal terms, while loans to firms increased. It has been suggested that the emphasis of Tekes' activities shifted from radical innovations and traditional RDI to close-to-market activities, growth and internationalization (Halme et al. 2021). On average, 50% of funding was channelled to firms that were younger than six years old (Halme et al. 2021). The changes in Tekes funding should also be discussed

Table 1. Government R&D funding in state budgets (real change in percentage from the previous year).

2010	2011	2012	2013	2014
7.1	2.1	−3.6	−4.2	−2.7
2015	2016	2017	2018	2019
−1.0	−7.9	2.6	2.2	0.3

Source: Official Statistics Finland.

Table 2. Grants, Loans, Research Funding (RF) and European Regional Development Funds (ERDF) paid by Business Finland/Tekes 2010–2019 (million € in current prices).

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Loans	89	98	96	100	100	129	143	146	162	149
Grants	196	215	209	222	202	201	200	203	196	195
RF	209	229	222	207	185	168	131	157	126	89
ERDF	15	24	22	22	19	12	7	18	10	4

Source: Business Finland Financial Database.

in the context of broader changes within the business subsidy system. An expert group has suggested that the subsidies allocated by Tekes (often labelled innovation subsidies) were more pronouncedly affected by cutbacks in 2010 than subsidies in general (see Ilmakunnas et al. 2020).

The above-described policies were by and large pursued by two government coalitions. The government coalition led by Prime Minister (PM) Jyrki Katainen, consisting of the centre-right National Coalition Party (NCP), centre-left Social Democratic Party (SDP) and four smaller coalition partners, was appointed in June 2011. In 2014, the NCP and SDP elected new party leaders, and the government coalition was subsequently led by a new PM, Alexander Stubb, from June 2014 until May 2015. The Left Alliance and the Green League, junior partners, removed themselves from the coalition in 2014. In the following sections, this government coalition is called the right–left–green government. After the 2015 parliamentary election, the government led by PM Juha Sipilä was appointed in May 2015. The coalition consisted of two traditional centre-right parties – the Centre Party and the NCP – and the populist Finns Party.[3] Hereafter, it is called a centre–right–right government.

3.3. *Research material and methods*

To study policy ideas that appeared in the context of budgetary allocations to Tekes, documentary materials from the online archive of the Finnish parliament *Eduskunta* were gathered. Archive searches were conducted using the search strings ‘Tekes’ for the 5/2011–12/2017 time frame and ‘Business Finland’ for the 1/2018–5/2019 time frame, which reflects the fact that the name of the organization changed from Tekes to Business Finland at the beginning of 2018. The time frame extends the right–left–green and centre–right–right government terms. The string ‘Tekes’ was chosen because it is the widely accepted shorthand for the organization in day-to-day policy discourse, while no shorthand term can be applied for Business Finland. The initial number of different types of parliamentary documents that included the terms ‘Tekes’ and ‘Business Finland’ was vast, making it necessary to identify the most relevant documents, which include key government reports related to public finances, explanatory sections of government budget proposals and parliamentary plenary debate transcripts. In the findings section, the documents are cited using official abbreviations.[4]

Next, the primary material identified through the Eduskunta archive was supplemented. Government programmes and governments’ midterm reviews as negotiated by coalition governments were deemed necessary supplements for understanding governments’ priorities. Moreover, statistics provided by Official Statistics Finland have been

deployed in the findings section to describe major changes in GDP, general government debt-to-GDP ratio, and R&D funding because these statistics provide a macroeconomic context for the budget debates. Acts on Tekes were studied to understand the role of Tekes in the Finnish innovation system. In discussing the salience and feasibility of the identified policy ideas, the present article builds on secondary literature, namely the research literature on Finnish economic and STI policy and policy reports and reviews by key actors in the Finnish economic policy and knowledge regime (e.g. Ministry of Economic Affairs and Employment).

Frame analysis was used as a method for identifying what kind of issue Tekes/Business Finland was in the research material (Entman 1993). The primary documentary materials identified through the Eduskunta archive, government programmes and midterm reviews were inserted into Atlas.ti software. During the initial round of examination, five broad frames were constructed, which were inductively identified from the research material. Moreover, the frames were found to be plausible against the background of prior economic policy and STI research literature and the remit of Tekes. First, as with any major category in the state budget, Tekes was discussed as an issue of public finances. Second, Tekes was framed as an issue of business subsidies and services as well as research, reflecting the fact that Tekes was allocating innovation subsidies and venture capital funding for early-stage companies (from 2014 onwards) and RDI funding. Third, Tekes was coupled with economic development and environmental issues, which were pressing societal issues. To systematise the findings, every paragraph in which the terms 'Tekes' (time frame 5/2011–12/2017) or 'Business Finland' (time frame 1/2018–5/2019) appeared was coded.[5] Although researcher discretion is essential in identifying the frames in a text excerpt, a codebook consisting of broad thematic keywords and organizations was used to estimate the frequency of the frames. For example, 'cutbacks' was a strong proxy for a frame related to public finances and 'economic growth' for economic development. Each relevant paragraph typically entailed several frames. The coded documents, number of appearances of frames and keywords are listed in Annexes 1 and 2.

The connection between frames and policy ideas was established as follows. While the frames identified in this article illustrate the broad policy context in which Tekes was discussed in the research material, problem definitions and related solutions are more specific and a multitude of them can be potentially identified within frames (e.g. Entman 1993). For example, within the frame of public finances, governments may highlight problems, such as the growth of public debt, and propose solutions, such as austerity. Second, solutions within one frame can be coupled with problem definitions within another frame. Research and business subsidies may be coupled with economic development objectives. Consequently, the next round of analysis conducted in Atlas.ti sought to inductively identify key policy solutions and related problem definitions, which were used to prescribe, legitimize and contest public innovation funding policy. Lastly, government programmes, mid-term reviews, government reports on public finances and parliamentary debates on government programmes were examined in full.

The findings section highlights three policy ideas whose interplay motivated Finnish governments and MPs to decrease public innovation funding in the 2010s, which less than the number of five frames. First, this is because solutions within one frame can be coupled with problems within another frame. Second, after careful examination, it was concluded that environmental issues and climate change were not consistently coupled with public innovation funding policy. While Tekes programmes related to green growth or cleantech occasionally appeared in the parliamentary discourse, the

governments did not explicitly use the climate change challenge to prescribe changes in public innovation funding.

4. Findings

This findings section examines policy ideas that governments and MPs used to prescribe, legitimize, and contest public innovation funding policy. These policy ideas are: (1) across-the-board austerity as a solution to the unsustainability of public finances (hereafter: austerity) (2) public RDI funding as a solution to economic development challenges (hereafter: innovation-for-growth) and (3) downscaling unwarranted subsidies as a solution to economic injustices and economic inefficacy (hereafter: business subsidies). Each subsection first discusses the ways in which government deployed these policy ideas in programmatic discourse and then delves into parliamentary communication discourse. Moreover, explanations for the feasibility and salience of the policy ideas are discussed. The main findings are summarized in Table 3.

4.1. *Austerity*

4.1.1. *Programmatic discourse*

In the 2010s, Finland experienced a lost decade in terms of macroeconomic and industrial development, a fact also reflected in rising general government debt-to-GDP ratio in the early and mid-2010s (Official Statistics Finland 2021). In response to rising public debt levels after the GFC and long-term fiscal sustainability gap, both right–left–green and centre–right–right governments defined reducing public deficits and the public debt-to-GDP ratio as one of the key problems and pursued fiscal austerity and structural reforms as solutions to these problems accordingly. Although the right–left–green government raised taxes and cut expenditures, the centre–right–right government ruled out increasing the tax-to-GDP ratio (Prime Minister's Office 2011, 2015).

The feasibility of fiscal austerity as a necessary solution was further highlighted by the authoritative Ministry of Finance in Finland, which made the case that given the ageing population, related increases in social and healthcare expenditures and sluggish growth potential, a fiscal adjustment programme was needed (Ministry of Finance in Finland 2010). Its idea of a fiscal sustainability gap became ubiquitous in Finnish policymaking in the 2010s (Sorsa 2014). Moreover, the Eurozone sovereign debt crisis was a focusing event, after which the pursuit of austerity to boost 'confidence' and 'credibility' vis-à-vis markets became a salient issue of economic policy across the EU (e.g. Blyth 2013; Harjuniemi and Ampuja 2019). Consequently, fiscal rules were reformed in the EU to further constrain fiscal policy (Verdun 2015).

The right–left–green government pledged to raise taxes, reduce public expenditures, and implement structural reforms to bring the debt-to-GDP ratio into a downward trend. The government programme announced fiscal 'adjustment measures' worth 2.5 BEUR (Prime Minister's Office 2011). Consequently, Tekes funding was reduced as part of the cutbacks introduced within the Ministry of Economic Affairs and Employment (VNS 1/2011). With the Finnish economy facing another recession after GFC in 2012–2014, the government introduced new rounds of austerity. In 2014, a government report estimated that it had adopted policy measures that would strengthen the general government finances by 2.8% of GDP (VNS 4/2014). Thus, Finnish fiscal policy in the early and mid-2010s was procyclical.

Table 3. Summary of findings.

Policy idea	Austerity	Innovation-for-growth	Business subsidies
Description	across-the-board austerity as a solution to the unsustainability of public finances	public research, development, and innovation funding as a solution to economic development challenges	downscaling unwarranted subsidies as a solution to economic injustices and inefficacy
Explanations for (in)feasibility of the solution	the authoritative position of the Ministry of Finance; budgetary rules of the EU	The loss of authority of the Research and Innovation Council; public R&D not exempt of spending limits	The waning influence of Nokia and the Finnish ICT sector
Explanations for (non)salience of the problem	Eurozone sovereign debt crisis as a key focusing event; indicators on GDP growth and public finances	Indicators on economic development and RDI funding	Industrial restructuring as focusing event; normative resentment towards subsidies in post-GFC context.
Uses in programmatic discourse	The right–left–green and centre–right–right governments defined unsustainable public finances as one of the key problems and pursued structural reforms and across-the-board fiscal austerity. The reduction of public innovation funding was prescribed as part of austerity measures.	The ambitious programmatic statements of the right–left–green government on public RDI funding to revive economic development were not in sync with actual budgetary policies. The centre–right–right government abandoned the 4% target for R&D intensity and highlighted commercialization of R&D. Later it readopted the R&D intensity goal.	The right–left–green government prescribed the reduction of business subsidies. Tekes funding was reduced as part of the reductions of subsidies. The reduction of business subsidies was not a programmatic goal for the centre–right–right government, but its austerity measures targeted business and industry.
Uses in communication discourse	The governments legitimized across-the-board austerity policy through invoking the 'alarming' public deficits and through insisting that all ministries must contribute to balancing of the public finances.	During both government terms the opposition parties challenged public RDI policies for undermining economic development objectives, but governments downplayed policy changes as marginal. In 2015 the government provided a more assertive legitimation: the economic yields of public RDI were inadequate.	There was tug of war over the question if innovation subsidies were warranted and if innovation subsidies should be targeted. During the centre–right–right government term opposition MPs criticized the government for neglecting subsidies that contribute to renewal.

Austerity was sustained by the centre–right–right government in 2015. The dire economic outlook of the government programme highlighted that the Finnish economy was in a negative spiral and balancing the public finances and improving cost competitiveness were key policy priorities. The programme included immediate cutbacks worth 4BEUR. The government made the normative case that fiscal austerity 'measures will be directed very widely at different segments of society and will affect all Finns'. Tekes funding was reduced as part of the austerity measures directed at businesses and industry. Tekes R&D funding declined by 23.2% in 2016 and government funding for Strategic Centres for Science, Technology and Innovation, a major public-private initiative, was terminated (Prime Minister's Office 2015; Official Statistics Finland 2016).

The economic recovery in the mid-2010s was interpreted by the centre–right–right government to allow targeted education and RDI investments. This illustrates the procyclical rationale of the government fiscal and investment policy. While the government did increase R&D funding (see Table 1), the downward trend in public innovation funding was, in fact, not substantially reversed in the latter part of the 2010s (see Table 2). Yet in its 2017 mid-term review the government decided to introduce a major Tekes programme to boost public–private collaboration, as measures to boost growth and employment were deemed essential for the sustainability of public finances (Prime Minister Office 2017).

4.1.2. *Communication discourse*

In the parliamentary plenary discourse government ministers and MPs of both the right–left–green and centre–right–right governments legitimized austerity and the reductions of public innovation funding through invoking the problem of unsustainable public finances. For example, in 2011, key ministers made the argument that given the high deficit, there was no alternative to cutbacks or that 'savings' are necessary to heal the economy (PTK 50/2011; PTK 89/2011). As the centre–right–right government gave its statement on the government programme in the parliament, Prime Minister Juha Sipilä legitimized austerity through the failure of earlier efforts of economic reform and through the spectre of European Commission's excessive deficit procedure. Thus, the government had to, inter alia, to cut Tekes appropriations. (PTK 13/2015.)

Moreover, the normative argument that all branches of the government and parts of the society must contribute to austerity efforts was used by both governments to legitimize austerity. Minister of Economic Affairs Jan Vapaavuori put forward the argument that all ministries and categories of state funding, including the Ministry of Economic Affairs and Employment and business subsidies, must contribute to balancing the books:

> But yes Member of Parliament Pekkarinen is exactly right when he says that Tekes appropriations have decreased. This is the way it is! (Mauri Pekkarinen: And VTTs!). On the other hand, one must keep two background issues in mind. First, this government has pursued [fiscal] adjustment immensely, which has required that adjustment be pursued in all administrative branches. On the other hand, one must remember that we have had a societal sentiment, which has emphasised that business subsidies must be reduced, and this has been demanded by the industry as well, and as we have specific subsidies that one cannot touch, this has unfortunately led to that. In my opinion, this is boring and lousy, and I would hope that Tekes appropriations were higher, but facts are nevertheless facts. (PTK 82/2014, 74, the author's own translation)

The communication discourse in the parliament further illustrates that, in essence, government ministers interpreted the possibilities for public innovation funding in a procyclical

manner. While in the early 2010s across-the-board austerity was perceived as inevitable, a government minister argued in 2017 that because of earlier hard policy choices and economic recovery, there was now some room to fund 'good causes', such as Tekes (PTK 109/2017). Prime Minister Juha Sipilä made the case that due to 'minor economic leeway' the government was able to fund organizations, such as Tekes and the Academy of Finland, which boost high-productivity exports (PTK 47/2017).

4.2. *Innovation-for-growth*

4.2.1. *Programmatic discourse*

The 2010s was one of the worst decades in Finnish economic history in terms of GDP growth. It was only in 2018, after a decade, that the volume of GDP reached the pre-GFC level of 2008 (Official Statistics Finland 2019a). As the Finnish economy was struggling, both right–left–green and centre–right–right governments set expectations on public RDI funding to provide solutions to economic development challenges. Moreover, the belief that public RDI funding is essential for economic development can be characterized as constitutive for innovation policy (e.g. Lemola 2002; Schot and Steinmueller 2018). Within the public RDI system, innovation funders were most directly expected to contribute to the renewal of industrial and service firms (e.g. Act on Innovation Funding Agency Tekes 717/2008).

In its government programme the right–left–green government pledged to guarantee 'sufficient' RDI funding and it reiterated the goal of achieving 4% R&D intensity, which had been originally set in 2005. The main goal of the government's industrial and innovation policy was to steer Finland 'on a strong and sustainable growth path' (Prime Minister's Office 2011; for R&D intensity goals see Deschryvere, Husso, and Suominen 2021). Despite ambitious statements in the government programme, which signified continuity with the long-established RDI funding consensus, actual budgetary policies decreased government R&D funding and public innovation funding was hit particularly hard (OECD 2017). Moreover, in 2013, the government also agreed on a major research reform, which envisioned strategic research instrument under the Academy of Finland. Thus, 10 MEUR of Tekes funds were reallocated to strategic research (Prime Minister's Office 2013).

Besides the strong institutional feasibility of austerity in the early 2010s, two institutional developments are critical for understanding why increasing public RDI funding to overcome economic recession was not a feasible policy solution. First, in the 2010s STI policy domain lacked an authoritative institution promoting and coordinating public RDI funding within the government and the state administration. The once mighty RDI policy institution, the Research and Innovation Council, had lost clout (e.g. Alaja and Sorsa 2020). Second, in budgetary processes public investments, such as public RDI funding, were not exempt from spending limits established by the government and promoted by the Ministry of Finance (e.g. Ministry of Finance in Finland 2010).

The centre–right–right government programme did not include a policy goal for R&D intensity, which epitomized a major policy change in the history of Finnish STI policy. The prevailing concern was not the level of public funding per se but inadequate commercialization (Prime Minister's Office 2015). Thus, in essence, the government was prescribing RDI funding policy in which more economic results were to be achieved with less funding. Yet as noted, the government had second thoughts on RDI funding in the latter part of its term. The OECD's (2017) innovation policy review of 2017, which was requested by the government, was highly critical of cutbacks to public innovation

funding, which had a negative impact on the business sector. Declining R&D intensity was perceived as a major problem. Thus, the government and the Research and Innovation Council once again committed to the policy goal of 4% R&D intensity (HE 123/2018).

4.2.2. *Communication discourse*

In the era of economic crisis, austerity and declining RDI budgets, the parliamentary opposition parties were eager to criticize governments funding policies for undermining economic development and presented increasing RDI funding as a solution out of the economic impasse. Throughout the right–left–green government term, the opposition Centre Party, which has historically been a major political force, repeated this message in its communication discourse. It was a particularly staunch advocate of public innovation funding. In contrast, the other major opposition party, the populist Finns, mostly disregarded the issue of Tekes in plenary debates. During the centre–right–right government term, opposition parties of different ideological stripes challenged the government's policies for undermining competitiveness, economic growth and Finland's future (PTK 69/2015).

The Centre Party MP and former Minister of Economic Affairs Mauri Pekkarinen was the key policy entrepreneur in the parliament during the right–left–green government term. Pekkarinen constantly highlighted the discrepancy between government's programmatic statements and its actual budgetary policies (PTK 23/2011). Second, Pekkarinen portrayed cutbacks to public innovation funding as a problem for economic growth and development (PTK 49/2011). In its defence of its policies the right–left–green government often focused on its own innovation initiatives (e.g. PTK 83/2013). Moreover, the government argued that Finland was still among the most R&D-intensive economies in the world (PTK 82/2014).

During the next government term, the Green League MP and party leader (2011–2017) Ville Niinistö was one of the most prolific policy entrepreneurs in debates on RDI funding. He suggested that austerity measures directed at education and RDI budgets were detrimental to future prospects and economic growth (PTK 70/2015). One of the key issues in the parliamentary discourse was the claim that the government had broken its promises on not to pursue cuts in education, science and innovation. In a plenary debate a conservative opposition MP likewise denounced the government for mistaken priorities:

> Balancing the economy is necessary, but the research, development and innovation activities should not be at the top of list of cutbacks. As it is also the aspiration of the government to ascent Finland through innovations, cutbacks in these activities are in stark contrast to this goal. Cutbacks to Tekes will also hit the activities of the Technical Research Centre of Finland VTT, which was previously owned by the state, through decreased orders. (PTK 37/2015, 84, the author's own translation)

If the right–left–green government had recurrently downplayed the changes of public RDI funding, in 2015 the centre–right–right provided a more assertive legitimation for the reductions, which, in essence, highlighted the Finnish innovation paradox. The discussion suggests that there existed confusion over the discrepancy between high R&D intensity and weak economic growth. Minister of Economic Affairs Olli Rehn stated the following:

> Member of Parliament Haglund mentioned Tekes funding mandate. They must be reduced, which is a consequence of the fact that we must bring the state's revenues and expenditures

> into balance and stop indebtedness. Finland is among the top in the world, among the top five in the world, in innovation research funding in quantitative terms, but, simultaneously, one must ask if we are only so in qualitative terms or why these investments do not show in economic development or export statistics. (PTK 37/2015, 36–37, the author's own translation)

The tone of the debate changed substantially in 2016. A perception began to gain ground that the government had gone too far with public RDI funding and that innovation indicators were developing for the worse. MPs highlighted worsening indicators, such as the declining R&D intensity or pointed out that Finnish government subsidies for firm R&D were below the OECD average (PTK 41/2015; PTK 100/2016). It is emblematic that the government rhetoric now portrayed Tekes as an investment for economic growth and future (e.g. PTK 137/2016). During the rest of the government term, the opposition parties were adamant in claiming that cognitive dissonance still existed between the government's communication discourse and its actual budgetary decisions (e.g. PTK 47/2017).

4.3. *Business subsidies*

4.3.1. *Programmatic discourse*

The Finnish economy was going through a major industrial transformation after the GFC. Nokia-led ICT sector and Finnish export industries were in crisis. Expectations were set on start-ups and growth companies to revive the economy (e.g. Koskinen 2020). It is comprehensible that amid the industrial transformation business subsidies emerged as a major policy idea on the political agenda. The European Commission institutionally regulates the use of state subsidies in EU member states and the issue of warranted business subsidies has long appeared in public policy debates in Finland (e.g. Ylä-Anttila and Palmberg 2007). Yet a more immediate motivation for the emergence of subsidies was the surge of the subsidy debate after the GFC. Prominent economists advocated the reduction of subsidies and there was suspicion towards large companies receiving subsidies (e.g. Koski et al. 2010).

In its 2011 government programme, the right–left–green government prescribed a reduction of business subsidies and reform of the business subsidy system. It stated that the appropriateness of different types of subsidies will be examined. Moreover, the government emphasized that future policy measures should especially target small and medium-sized (SMEs) companies. Lack of growth companies and long-term risk finance was perceived to be failure when businesses proceed from product development to production and marketing (Prime Minister's Office 2011). A government report explicitly stated that reductions of Tekes funding were part of the reductions of business subsidies (VNS 1/2011).

It is somewhat startling that Tekes and innovation subsidies were targeted by business subsidy reductions in the early 2010s (see Ilmakunnas et al. 2020), because in economics studies innovation subsidies were typically regarded more favourably than other types of subsidies, and expert evaluations on Tekes were mostly favourable (e.g. van der Veen et al. 2012). The positive expert evaluation of Tekes was also acknowledged by the government in its budget proposal (HE 95/2012). One plausible reason on why downscaling innovation subsidies was feasible relates to Nokia's waning influence in the Finnish economy and politics. During the heyday of Nokia, which was the giant in the Finnish innovation system, reducing innovation subsidies for large R&D intensive companies would have been much more of a political and economic risk (e.g. Linden 2021).

While the austerity measures of the centre–right–right government targeted business and industry, the reduction of business subsidies was not itself a programmatic target (Prime Minister's Office 2015). It has been suggested that this was because cost competitiveness was a key policy priority for the government, and it had pledged not to increase the costs for industries. This might also in part explain why subsidies related to energy and climate increased and why subsidies related to RDI funding, internationalization and entrepreneurship decreased (Ilmakunnas et al. 2020). It has been observed that in the 2010s the emphasis of competitiveness policy changed from innovation to labour costs (Kaitila 2019). Later in the government term a work group consisting of parliamentary parties was established by the government to find solutions to the subsidies issue. Yet the group could only agree on a framework on how to evaluate subsidies (Ministry of Economic Affairs and Employment 2018).

4.3.2. *Communication discourse*

The push of the right–left–green government to prescribe the reductions of Tekes funding as a mere business subsidies issue sparked a counter-reaction in the parliamentary debates. Mauri Pekkarinen countered that innovation subsidies were not subsidies in the traditional sense of the word (PTK 50/2011). Moreover, a government MP argued that reducing Tekes subsidies 'might feel good in the short-term, but in the long-term it is perhaps a significant cause for regression'. Moreover, it was suggested Finland had recovered from the last depression due to research and subsidies (PTK 51/2011, 38). Yet the Minister of Finance Jutta Urpilainen defended government policy through highlighting that a business leader and an economist had advocated for a reduction of subsidies (PTK 50/2011).

During the centre–right–right government term several opposition parties challenged the government for failing to reduce environmentally harmful and inefficient subsidies while neglecting the innovation subsidies that promote economic renewal (PTK 49/2017). The Left Alliance MP Hanna Sarkkinen was one of the most active policy entrepreneurs in this debate:

> Research and development expenditures are still at a worryingly low level despite that research and development inputs especially through Tekes have been noted to be the most efficient and effective forms of business subsidies. The current structure of business subsidies encourages sustaining the old rather than building new even though business subsidies and industrial policy should specifically support the creation of new solutions and new jobs. One often gets the idea, as business subsidies that sustain the old are lobbied hard that who would speak for the jobs and industries that have not been born yet. Who would speak for the future? (PTK 93/2017, 50, the author's own translation)

In 2017, PM Juha Sipilä concurred that some existing subsidies were harmful and that some could be reallocated to Tekes (PTK 90/2017). At least in the parliamentary debate innovation subsidies were perceived in a more favourable manner in the latter part of the 2010s.

5. Discussion and conclusion

The ideational scholarship is constantly expanding in the field of innovation policy studies. Yet research on the appearance and deployment of policy ideas in the foreground of day-to-day discourses over public innovation funding is still limited. The current article builds on ideational theory within political science and contributes to innovation policy

studies through studying the interplay of three policy ideas that motivated the Finnish governments and MPs to decrease the funding of the innovation funding agency Tekes in the 2010s. It is illustrated how these policy ideas were used in programmatic and communicative discourses to prescribe, legitimize, and contest public innovation funding policy. The evolving salience and feasibility of policy ideas is explained through policymakers' interpretations of economic developments, institutions structuring public policy and industrial transformations.

The current article explores policy ideas used in the foreground of policy debates and in programmatic and communication discourses. While the study illustrates which policy ideas motivated governments and MPs to reduce public innovation funding, future studies on Finnish innovation funding in the 2010s can shed more light on ideas, which were influential in the background of policy debates. These include experts debates and behind-the-scene budget negotiations within political parties and governments. Moreover, while the issue of Nokia and the ICT sector was shortly discussed in the context of business subsidies, the influence of interest groups on Finnish innovation policy needs to be further examined.

Prior innovation policy studies literature has discussed the merits and weaknesses of scholarly ideas, such as market failure theory. These ideas in academic and expert discourses guide civil servants and policy consultants to formulate rationales for public funding and state intervention (Mazzucato 2016). Moreover, scholarly ideas may constrain the range of useful policy alternatives (Campbell 2004). Yet as Flanagan and Uyarra (2016) have suggested, innovation policy scholars should not idealize theoretical rationales and policymakers or assume that these ideas appear in different policy contexts. The case study of Finnish innovation funding policy illustrates that in day-to-day policy processes innovation funding may be coupled with policy solutions and problem definitions related to economic development issues. For example, the use of economic and R&D indicators and the evolving salience of problem definitions is an interesting topic for further studies on innovation policy.

Innovation policy studies scholars have long known that wars, economic crises or economic developments, such as globalization (Sharif 2006), are prone to change ideas on the role of government. Yet researchers have devoted surprisingly little attention to the deployment of policy ideas, such as austerity and business subsidies, which shape and constrain innovation policy especially during crises. The current research literature on the impact of austerity on innovation policy within the European Union is surprisingly scarce (Etzkowitz and Etzkowitz 2015 is one of the exceptions). Moreover, there is extensive economics literature on R&D subsidies within innovation studies (e.g. Bronzini and Piselli 2016), but one struggles to find studies on the deployment of business subsidies as a policy idea within innovation policy studies. The Finnish case illustrates that austerity was a taken-for-granted policy idea during much the early and mid-2010s. Moreover, there was strong normative ethos that different types of activities (including innovation funding) should be targeted by austerity.

While the concept of innovation paradox was not explicitly deployed by Finnish governments and MPs, the article illustrates that politicians perceived a gap between high private and public R&D spending (as Finland was one of the most R&D intensive economies in the early 2010s), low productivity growth and prolonged economic crisis. To use a popular idiom, policymakers were expecting more bang for the buck. Hence, the article adds to research literature on innovation paradox, especially in the context of R&D intensive Nordic countries (Bitard et al. 2008). The perception of innovation paradox may also explain why Finnish innovation funding policy in the 2010s was in

such contrast to the Finnish great depression in the 1990s. During the 1990s depression Tekes was one of the few categories in the state budget whose appropriations were increased (Miettinen 2002).

Finally, it is also worthwhile to discuss discursive silences, that is, those policy ideas that did not consistently appear in the day-to-day budgetary discourses. Following Schot and Steinmueller's (2018) conceptualization, Finnish public innovation funding policy in the 2010s was still entrenched in an innovation-for-growth perspective, and environmental and climate issues were only haphazardly invoked. It may well be the case that in the 2010s, climate change was still not as salient as a public policy issue as it is today or that it takes time for new ideas, such as mission-oriented innovation policy (Mazzucato 2018) or transformative innovation, to enter policy debates. Future research on national cases and comparative research can shed more light on the question of the emergence of transformative innovation and climate change in the foreground of innovation funding discourses.

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Notes

1. Tekes was the widely used shorthand for the organization in policy discourse from the mid-1980s until 2017. It was officially known as the *Technology Development Centre* until being renamed the *Finnish Funding Agency for Technology and Innovation* in 2007. In 2013, the official name was changed to the *Finnish Funding Agency for Innovation*. Tekes merged with the trade promotion organization Finpro in 2018. Hereafter, innovation funding was allocated by the public innovation funding organization *Business Finland*, and a new public company, *Business Finland Oy*, oversaw business and internationalization services (Halme et al. 2021).
2. The relative share of Tekes in state R&D decreased in the early and mid-2010s. In 2011, 28.6% of state R&D funding was allocated through Tekes, but by 2017, the relative share of Tekes had dropped to 17.9% (Official Statistics Finland 2011, 2017).
3. In 2017, the Finns Party split into two, but the moderate segment of the party remained in the government.
4. The letters denote the document type, the first number signifies the document number, and the last number points out the year of the document. The following abbreviations are used in this article: PTK = transcript of a plenary session in the parliament; VNS = government report; HE = government legislative or budget proposal.
5. Plenary debate transcripts in which 'Tekes' or 'Business Finland' only appeared on the agenda were excluded from the research materials.

Supplementary data material

Supplemental data for this article can be accessed at https://doi.org/10.1080/13511610.2023.2202831

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