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TITLE:

The role of human agency in shaping the regional growth paths of peripheral regions: a case study of Kirkenes (Norway) and lessons from other regions in northern Norway, Sweden and Finland.

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Foreword

I remember the day I was sitting in the office of Rune Fitjar, the Vice-rector for innovation at the University of Stavanger when he was explaining to me the aims of the international research project “Regional Growth against all Odds”, coordinated by the Lund University, and how my thesis could fit around it, and my astonishment at how my background (having lived under the Soviet rule, the first-hand experience of the fall of the Soviet Union, the knowledge of the Russian language, work experience in a municipality on a Russian border, previous tourism studies) were fitting into the proposal to build a case study about Kirkenes. I would like to express sincere appreciation to Rune Fitjar for believing in my ability to contribute to advancing current research by introducing me to this project. I find it a privilege to have worked on a worthwhile project together with established researchers. Not only it was a professional journey, through it I learned so much more about the history and politics and the society in Norway.

My special thanks goes to my supervisor Professor Bjørn Asheim, the ReGrow project leader Markus Grillitsch, researchers Silje-Haus Reve and Nina Hjertvikrem for their patience and goodwill, inspiring and stimulating discussions that showed me how to think and analyse the data, which considerably advanced my analytical skills.

I want to thank all the interviewees, Linda Beate Randal, Geir Torbjørnsen, Lars Georg Fordal, Vigdis Nygaard, James Karlsen, Jacob B. Stolt-Nielsen, Peter Steiness Larsen, Svein Sundquist, Rune Ulvang, Unni Sildnes, Kåre Tannvik, Rune Rafaelsen, Rune Rautio, Karl Eirik Schjøtt-Pedersen, Felix H. Tschudi, and Arve Henriksen for allowing a glimpse into their experiences and beliefs, which were enriching and at times inspiring. Special thanks to Mr Felix H. Tschudi for sending me the book, a documentary of the reopening of the mine, which provided me with incredible insights into the history of Kirkenes and motivations behind the reopening of the mine.

I owe thanks for interesting discussions to Asta Grušelionienė, a friend and a Deputy Director of the Museum of History of Lithuania Minor, with whom we were working once on initiating change in Neringa.

Last, but not the least, I am grateful for my family, my husband and my children, who showed a genuine interest in my work!

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1. Introduction

Persistent spatial inequalities – division between urban and peripheral areas – impose serious concerns for our society. While large metropolitan areas have become dynamic knowledge centres, peripheral areas experienced a loss of population, employment, and income. The division between urban and peripheral regions, which is occurring everywhere in the world, challenges political stability and democracy. United Nations (2020) predict that global population growth over the next 30 years will take place exclusively in urban areas, partially due to migration from peripheral regions. Since urban centres offer a better access to opportunities, such as jobs, education, health services, culture and infrastructure, they have attracted the most skilled people from the periphery, among them potential entrepreneurs.

In Europe the spatial inequalities became particularly prominent during the 1995-2008 period until the global financial crisis, which affected metropolitan centres more than periphery (United Nations, 2020). In northern Norway migration from coastal areas in Finnmark county was alarming: out of 19 municipalities only 5-7 managed to withstand the decline (see Figure 5). Grimsrud (2019) argues that in Norway “region-enlargement” strategies, introduced in 1992 in line with EU policy of integrated regions, which shifted the focus away from small municipalities to bigger regions and promoted the development of strong regional centres, contributed to the urbanization processes.

Despite overall growth, improved transport and communication as well as enhanced infrastructure, which were expected to improve access to opportunities for all, division between urban and peripheral areas persisted (United Nations, 2020). Yet certain regions benefited from these improvements more than others, and understanding *why* is crucial if negative trends are to be reverted. Even though the speed of urbanization in the past years has slowed down, the need to accelerate the reduction of disparities is urgent (United Nations, 2020). Therefore, accurate analysis of spatial inequalities that would inform the development of effective policies and strategies is needed (United Nations, 2020). Developing a body of knowledge that would help the regions to achieve a sustainable growth is an overarching goal of the current study.

Interestingly, research reveals that structural preconditions, such as regional industry composition, the size of the region, capital and labour endowments and infrastructure offer only a limited explanation of the regional growth – regions even with similar structural

preconditions show largely unequal development (Rodríguez-Pose, 2013). Thus, human agency, which is poorly integrated into evolutionary and institutional theories – two main theoretical traditions of economic geography that aim to explain regional industrial path development, could provide a solution. A shortage of knowledge about the role that human agency and different types of agents play in shaping the regional development paths has been identified (Grillitsch & Sotarauta, 2019; Raagmaa et al., 2019), and the present study seeks to address it. Understanding determinants of the regional economic growth and, more specifically, the role of human agency in turning structural regional preconditions into economic growth, is the key theme of this study. Moreover, while the regional development paths are shaped by a variety of agents at different spatial scales (local, regional, national and supra-national), this thesis approaches agency from a regional perspective and aims to investigate to which extent local (and at times regional) actors have exploited or created opportunities and have influenced the regional development trajectories.

This thesis has been developed as a part of an international research project “Regional Growth against all Odds” (ReGrow), coordinated by Lund University, in which the University of Stavanger participates as a partner. The project aims to develop a model of regional economic growth based on an in-depth analysis of 12 Scandinavian regions/ cases and an advanced understanding of why some regions grow more (or less) than others with similar structural preconditions (Grillitsch & Sotarauta, 2019). The project framework integrates both quantitative and qualitative research methods and is organized in four steps (Grillitsch et al, 2020).

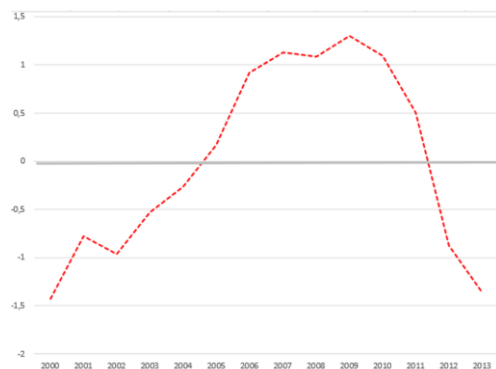
1. By employing econometric analysis based on changes in employment, regional industry structure, the composition of human capital and population composition, to calculate the effect of the above structural factors on regional growth.
2. Identify extreme cases – regions that in certain periods of time showed higher or lower growth than expected based on their structural preconditions.
3. Study the selected regions in detail through building deep qualitative case studies in order to explain the exceptionally high or low growth in these regions in certain time periods by focusing on the role of actors, networks, and institutions at multiple spatial scales (regional, national, global).

4. Integrate the findings from the case studies into a quantitative framework in order to develop a model of regional economic growth that in addition to structural factors draws of agentic processes.

This thesis contributes to step 3 of the ReGrow project by building an in-depth qualitative case study of the Kirkenes region, which during the period of 2007-2010 experienced an unexpected and exceptionally high growth. The econometric analysis, carried out in the previous step, revealed extremely high residuals (the unexplained part of regional growth after controlling for structural factors) (see Figure 1), which led the region to be chosen as a case study. Therefore, this thesis is mainly guided by the goals, theoretical underpinnings and methodology of the ReGrow project.

Figure 1

Model prediction residuals in Kirkenes based on register data



Note. From ReGrow (2020a)

This study is structured as follows: after the presentation of the theoretical framework and methodology, a case study analysis of Kirkenes region will follow. It consists of a short presentation of the region, a qualitative description of the regional development trajectories characterized by 6 development phases, qualitative analysis of human agency actions or inactions that explain the regional development paths throughout the 6 development phases. In the discussion the findings in Kirkenes will be interpreted by bringing insights from the other three northernmost case study regions in Norway (Mo i Rana), Sweden (Kiruna) and

Finland (Eastern Lapland) (see Figure 2) in the ReGrow project. Finally, a conclusion will be drawn.

Figure 2

Case studies of the ReGrow project. Adapted from Grillitsch et al. (2020)



2. Theoretical framework

A conceptual framework of the trinity of agency, proposed by Grillitsch & Sotarauta (2019), is used for the analysis of agency in the ReGrow project and this thesis. The object of analysis is human agency at the regional level, which through intended or unintended outcomes of intentional, purposeful and meaningful actions of local actors (individuals or groups of individuals) is able to transform the regional paths. Thus, researchers seek to address regional change agency that leads to the abandonment of old patterns and the emergence of new regional growth paths. Moreover, change agency is seen as not only influenced by the past – historically grown structures, but also by perceived opportunities and expectations about the future, which enable actors to construct or utilize time-specific, region-specific and agent-specific opportunity spaces. Researchers suggest that change agency can take three distinct forms that originate from three different theoretical perspectives: Schumpeterian innovative entrepreneurship (from the study of entrepreneurship), institutional entrepreneurship (from

institutional theory), and place-based leadership (from urban/ regional and leadership literature).

Schumpeterian innovative entrepreneurship goes beyond building firms, products and processes and creating value through entrepreneurial driven innovation, such as a novel combination of knowledge and resources – it drives a radical departure with the past and establishment of new bases of regional economies. Shane & Venkataraman (2000) argue that precisely because the entrepreneurship is a crucial engine of change, the study of the entrepreneurship should advance, however, instead focusing on who entrepreneur is or what he does, it would be much more valuable to advance our understanding why, when and how lucrative opportunities come into existence and why, when and how some people and not the others discover, evaluate and exploit them.

Institutional entrepreneurship is perceived as a force aspiring to change the status quo of institutional structures or establish new institutions in order to create opportunities for institutional entrepreneurship. Yet, a dilemma arises of how actors can change institutions when they are themselves embedded in the institutions they want to change (Seo & Creed, 2002). Does the change come from exogenous or endogenous forces? While neoinstitutional literature tends to see social actors as passive and driven by the logic of orthodoxy, more recent institutional theorists see them as active, ready to take action for institutional change in order to enhance their individual interests, driven by the logic of unilateral strategic compliance and resistance (Seo & Creed, 2002). Interestingly, Seo & Creed (2002) argue that human agency for institutional change may be summoned by the historical development of institutional contradictions (misaligned interests, interinstitutional incompatibilities, nonadaptability or inefficiency), which can not only facilitate the emergence of a transformative collective consciousness, but also trigger agent's ability to mobilize resources from the contradictory environments for collective action.

Place-based leadership constitutes a capability to reconcile a multitude of interests and visions of many actors and pool resources for a collective and coordinated action towards new path creation and development. While centralized governance systems provide unfavourable conditions for the formation of place-based leadership, Vallance et al. (2019), drawing upon their research in Newcastle City, maintain that place-based leadership even in the environments with constrained local governance capabilities can be facilitated by actors outside of the formal governance sphere, through foresight research and scenario building,

providing a regular forum for discussions between different stakeholders as well as acting as a collaborative platform for urban “test-bed” projects.

Actions that characterize each type of change agency, used by the project to identify change agency in each case study region, are outlined below:

Table 1

Types of Change Agency

Types	Description
<i>Schumpeterian innovative entrepreneurship</i>	Actions aimed at transforming existing or creating new economic activities through the novel combination of knowledge and resources.
<i>Institutional entrepreneurship</i>	Actions aimed at challenging and transforming existing rules and practices or aimed at creating new ones.
<i>Place-based leadership</i>	Actions aimed at co-ordinating and mobilising variegated actors and resources for the collective pursuit of a regional change strategy.

Note. From Grillitsch et al. (2020)

Researchers argue that all three forms of change agency contribute to the creation and utilization of opportunity spaces and are therefore essential for the creation of new regional paths. Moreover, the three forms of change agency are interdependent and thereby form a *trinity of change agency*, which means that a lack or absence of one of the three types of change agency prevents the emergence of new growth paths. However, it is believed that it is not change agency alone that is responsible for the direction the regional development paths take – the paths are shaped by an interplay between the trinity of change agency and other types of agency that can be agnostic or even act against change.

The proposed theoretical framework not only advances the understanding of the role of agency in the context of regional development by bringing insights from the micro level, it contributes to a better understanding of agency-structure relationship through a concept of opportunity spaces. The trinity of agency offers a holistic framework, which allows to study not only separate types of change agency, but also how their combinations shape regional paths.

In order to ensure that a common terminology is used for the description of new industrial paths, which have been identified in the case studies and will be described in detail in the section on regional development trajectories, the ReGrow project and this thesis employ a

typology of new industrial paths, developed by Grillitsch & Asheim (2018) (see Table 2). The typology draws upon the literature of industrial path development and regional diversification and confronts the inclination to view industrial path development as homogeneous. Thus, a nuanced classification allows for more precise evaluation and judgment of the outcomes of change agency. For example, while upgrading/ climbing general production networks, which requires the lower degree of innovation, might not stand out as a stark example of region's success in creating new paths, it could represent a significant achievement in certain regions, especially the ones, dominated by one single industry. As the typology suggests, two broad groups of regional path development are focused on upgrading and diversification of existing industries and only the last group represents the creation of new industries, unrelated to already existing ones. While importation of the industries, not new elsewhere, but new to the region can be easier attainable, the creation of completely new industries, which requires the most radical innovations, is the most challenging form of new path development that regions may find difficult to harness.

Table 2

Types of new industrial path development

Types	Mechanisms
<i>Upgrading</i>	
I – Climbing GPN	Major change of a regional industrial path related to enhancement of position within global production networks; moving up the value chain based on upgrading of skills and production capabilities
II – Renewal	Major change of an industrial path into a new direction based on new technologies or organisational innovations, or new business models
III – Niche development	Development of a leading position in a market niche.
<i>Diversification</i>	
I – Related	Diversification into a new related industry for the region, building on competencies and knowledge of existing industries
II – Unrelated	Diversification into a new industry based on unrelated knowledge combinations
<i>Emergence</i>	
I – Importation	Setting up of an established industry that is new to the region (e.g. through non-local firms) and unrelated to existing industries in the region.

II –New creation

Emergence and growth of entirely new industries based on radically new technologies and scientific discoveries or as an outcome of search processes for new business models, user-driven innovation and social innovation

Note. Adapted from Grillitsch & Asheim (2018)

3. Research objectives

The aim of this thesis is to contribute to the goals of the ReGrow research project by providing insights from the investigation of agentic processes in Kirkenes and how they shaped the region's growth path. Consequently, this thesis addresses the following research questions:

1. What explains an exceptionally high regional growth in Kirkenes during the outlier period 2007-2010.
2. To what extent the regional change agency has shaped regional growth paths in four regions: Kirkenes (NO), Mo i Rana (NO), Kiruna (SE) and Eastern Lapland (FI)?
3. What are the similarities and/ or differences in how change agency has shaped regional growth paths in four regions: Kirkenes (NO), Mo i Rana (NO), Kiruna (SE) and Eastern Lapland (FI)?

4. Method

The methodology employed in this thesis has largely followed the qualitative research design developed by the ReGrow project and used in the other case studies.

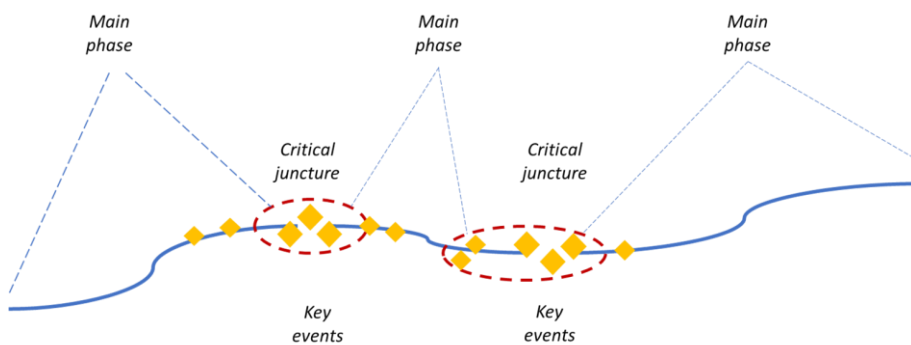
First, in order to develop an understanding of the regional development trajectories, desktop research was used –secondary data from newspaper articles, municipality and company websites, local/ regional/ national policy documents, consultancy reports, history books was collected and entered into a database. Data provided useful information about the key events and actors and was used to form a timeline of events. It was constantly updated and served as a very useful reference in later stages of analysis. In order to get a better understanding of the industry dynamics and socio-demographic trends in the region statistical data from national and regional databases was obtained and analyzed.

However, secondary data offered very limited possibilities to analyse change agency, especially motivations, intentions, perceptions of opportunities, cooperation/ support networks, enablers and obstacles informing the actions of individuals and groups of individuals intended to achieve change. Therefore, in order to obtain such information, the ReGrow project intended to carry out 15-20 face-to-face semi-structured interviews per case study, and an interview guide was provided by the project (see Appendix I). However, due to Corona crisis, the visit to Kirkenes was canceled and 16 interviews were carried out online. The interviews were carried out during the period March 30, 2020 – July 13, 2020, the average duration of the interviews was 70 minutes (ranging 36-129 min.). A balanced set of interviewees was chosen: the interviews included 8 local business representatives, 1 former government representative, 1 local government representative, 2 university representatives, 2 support organization representatives, 1 non-profit organization representative, and 1 research organization representative. The interview guide was used rather freely in order to allow people to speak and express emotions. The interviews were recorded and collected data processed and entered into the interview protocol template, provided by ReGrow project (see Appendix III). The findings were triangulated between the interviewees and secondary data in order to add missing information and correct errors. The previously developed event timeline was expanded and additional information was searched and included.

Once the data collection was completed, main phases, key events and critical junctures were identified, and a model, developed by the ReGrow project (see Figure 3) was used to develop a summary timeline of the regional development trajectories in Kirkenes.

Figure 3

Illustration of main phases, critical junctures and key events



Note. From Grillitsch et al. (2020)

A comparative approach was used in order to enrich the analysis of the findings in Kirkenes with insights from three other case study regions in Mo i Rana (Norway), Kiruna (Sweden) and Eastern Lapland (Finland). The cases for comparison were chosen by the ReGrow project management based on their geographical location and structural similarities (all regions had a strong industrial identity).

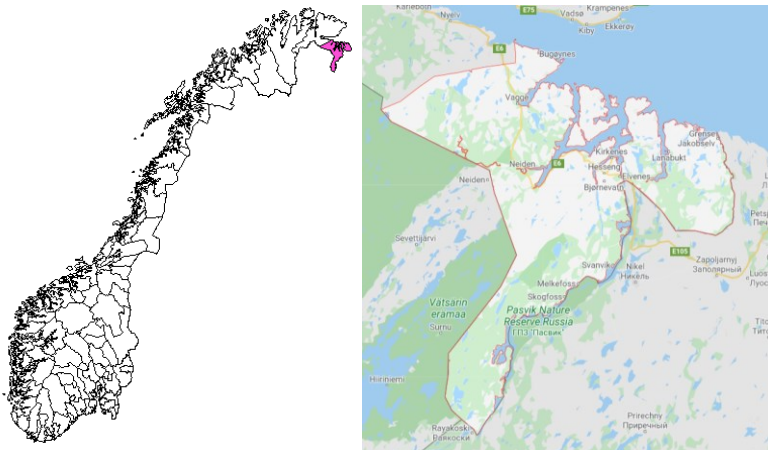
5. Case study analysis of Kirkenes region (Norway)

5. 1. Case Background

Kirkenes is the largest town and an administrative centre of Sør-Varanger municipality, which is situated in the northeastern part of Norway, Troms and Finnmark county, 400 km north of the Arctic Circle. The municipality has two international borders (one with Finland and one with Russia) and a large cost line with the Barents Sea, which explains its geopolitical importance despite a relatively small population of approximately 10 000 inhabitants.

Figure 4

Maps of Kirkenes region



Note. From ReGrow (2020)

Kirkenes is the last stop of the famous Hurtigruten cruise route to/ from Bergen. During the peak year in 2011 almost 170 000 Hurtigruten passengers passed Kirkenes port (Hurtigruten. Passangers to and from Kirkenes port 2006-2018). Most of the infrastructure of Kirkenes was

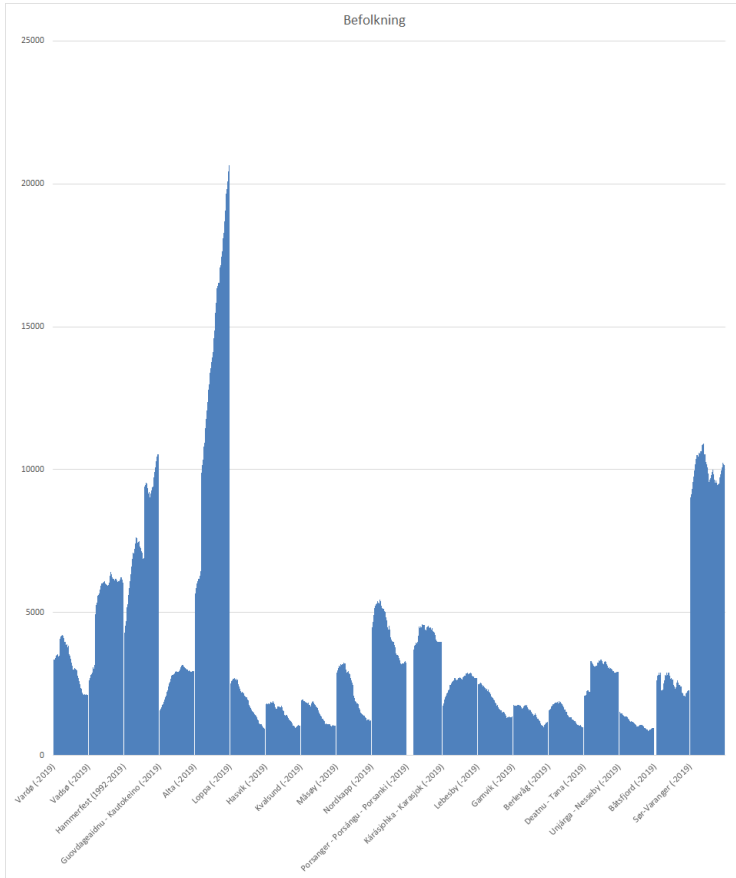
destroyed after the German army left the area in the end of WWII. Today it has quite developed infrastructure a new hospital, a small University of Tromsø campus, and leisure centers, and is considered attractive for business investments. An airport, an ice-free-port and two major European routes provide good access to Kirkenes for commerce. Other infrastructure is directly linked to the presence of an iron ore mine 8.5 km away from the city centre. The Kirkenes-Bjørnevatn railway line used to transport the precious mineral to the port and is still in use today.

With numerous restaurants, an ice hotel, a theater and two bigger hotels the region provides facilities, comfort, and is attractive for both business travelers and immigrants. Between 2000 and 2018, the region had an immigration surplus of about 1% of the total population (KommuneProfilen, n. d.a). Immigrants today constitute 13,6% of the total population (KommuneProfilen, n. d.a). This is slightly below a national average of 17.7% (Steinkellner, 2019). Although immigrants from Russia constitute the largest proportion of all immigrants in Kirkenes (4.1%), interestingly, several interviewees perceived it to be much higher at around 10% (KommuneProfilen, n. d.a).

Kirkenes region is currently the third most populated region after Alta and Hammerfest in the recently created Troms and Finnmark county. Figure 5 shows the dynamics of population in a former Finnmark county during the period 1959-2019. While bigger regional centers, like Alta and Hammerfest, have experienced the growth of the population, most of the peripheral municipalities suffered population decline. Figure 6 illustrates the dynamics of population and a clear relationship with the opening (2009) and closure (1986-1997, 2015) of the iron ore mine. After the last opening of the mine in 2009, the population rose to approximately 10 000 inhabitants and remained relatively stable despite the closure of the mine in 2015.

Figure 5

Population in Finnmark county 1951-2019.

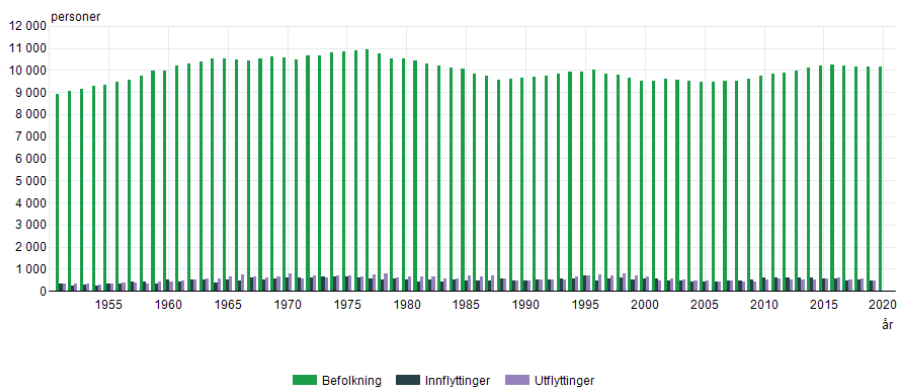


Note. From Statistisk sentralbyrå (n. d.a)

Figure 6

Population changes, immigration and emigration in Sør-Varanger 1951-2020

06913: Befolkning og endringer, etter statistikkvariabel og år. Sør-Varanger.

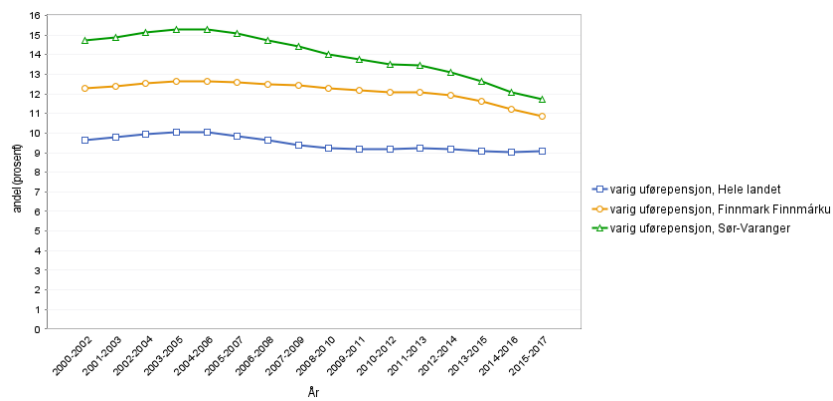


Kilde: Statistisk sentralbyrå

Note. From Statistisk sentralbyrå (n. d.b)

Figure 7

Recipients of disability benefits, share (per cent), 18-66 years 2000-2017



Note. From Folkehelseinstituttet (n.d.)

Table 3

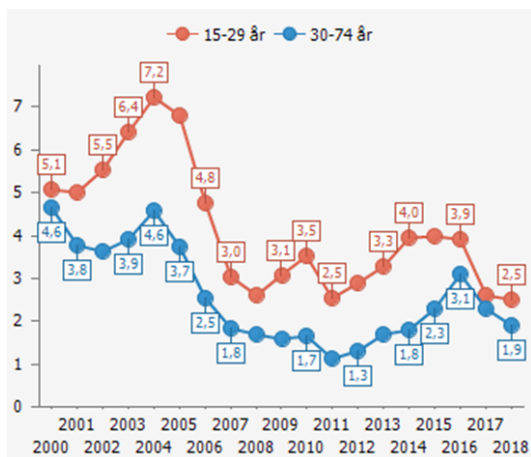
Business structure. Number of employees by industry in Sør-Varanger 2010-2019

	5444 Sør-Varanger									
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	5 233	5 168	4 966	5,038	5,056	5,678	5,720	5,541	5,386	5 156
01-03 Agriculture, forestry, fishing	129	131	142	135	136	145	164	175	176	173
05-09 Mining and Extraction	61	42	32	78	36	401	370	375	354	332
10-33 Industry	168	183	200	233	219	296	315	300	250	191
35-39 Electricity, water, waste disposal	45	42	40	30	30	31	35	32	34	34
41-43 Construction and civil engineering	440	478	401	460	410	426	462	419	377	385
45-47 Wholesale, motor vehicle repair	575	573	555	565	563	635	656	645	662	679
49-53 Transport and Storage	307	309	282	288	300	342	346	296	302	297
55-56 Accommodation and dining	283	258	233	200	207	201	181	168	184	153
58-63 Information and Communication	54	59	54	64	57	42	48	43	46	49
64-66 Financing and insurance	21	20	25	21	26	29	17	17	19	23
68-75 Technical services, real estate management	149	154	136	128	136	148	164	166	169	162
77-82 Business services	250	261	256	232	238	362	364	338	283	206
84 Public Administration, Defense	909	804	867	832	856	858	823	739	707	711
85 Teaching	482	465	477	490	495	481	468	504	504	483
86-88 Health and Social Services	1 210	1 238	1 128	1 156	1 209	1 143	1 158	1 182	1 162	1 125
90-99 Personal services	134	132	124	115	120	132	141	129	142	139
00 Unspecified industry	16	19	14	11	18	6	8	13	15	14

Note. From kommuneprofilen.no (n. d.b)

Figure 8

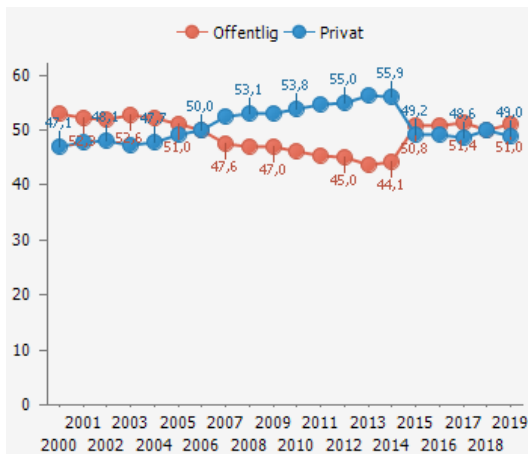
Proportion of unemployed by age, percent. Sør-Varanger 2000-2018



Note. From kommuneprofilen.no (n. d.c)

Figure 9

Proportion employed in the public and private sector, percent. Sør-Varanger 2000-2019



Note. From kommuneprofilen.no (n. d.d)

The public sector employs a proportionally large amount of the population in the region: in 2019 public administration, teaching, and health and social services employed 2601 people, which constitutes 50% of the total labour force (see Table 3). In 2015 the public sector absorbed all the jobs lost in the private sector (see Figure 9). Another interesting observation is that the total employment over the last decade has been remarkably stable despite the loss of employment in the mining sector in 2015. Over the last decade the number of people employed in the public sector increased by almost 200. As illustrated in Figure 8, unemployment peaked in 2004 and reached its lowest in 2011. A new unemployment peak was observed in 2016 and the situation has been improving until 2018. Similarly, the amount of people receiving disability benefits was the highest in 2004-2005 and since then kept declining (see Figure 7). The proportion of people receiving disability benefits in Sør-Varanger municipality is still high as compared to the national average.

Although Sør-Varanger is the biggest economic centre in East Finnmark, the business structure is rather weak and its economically performs worse than other regional centres Alta and Hammerfest (Stålsett et al., 2018). In 2019 there were 1054 registered businesses in Sør-Varanger municipality (KommuneProfilen, n.d.b). In 2019 the biggest employer was health and social services (1210 employees), followed by public administration and defense (909

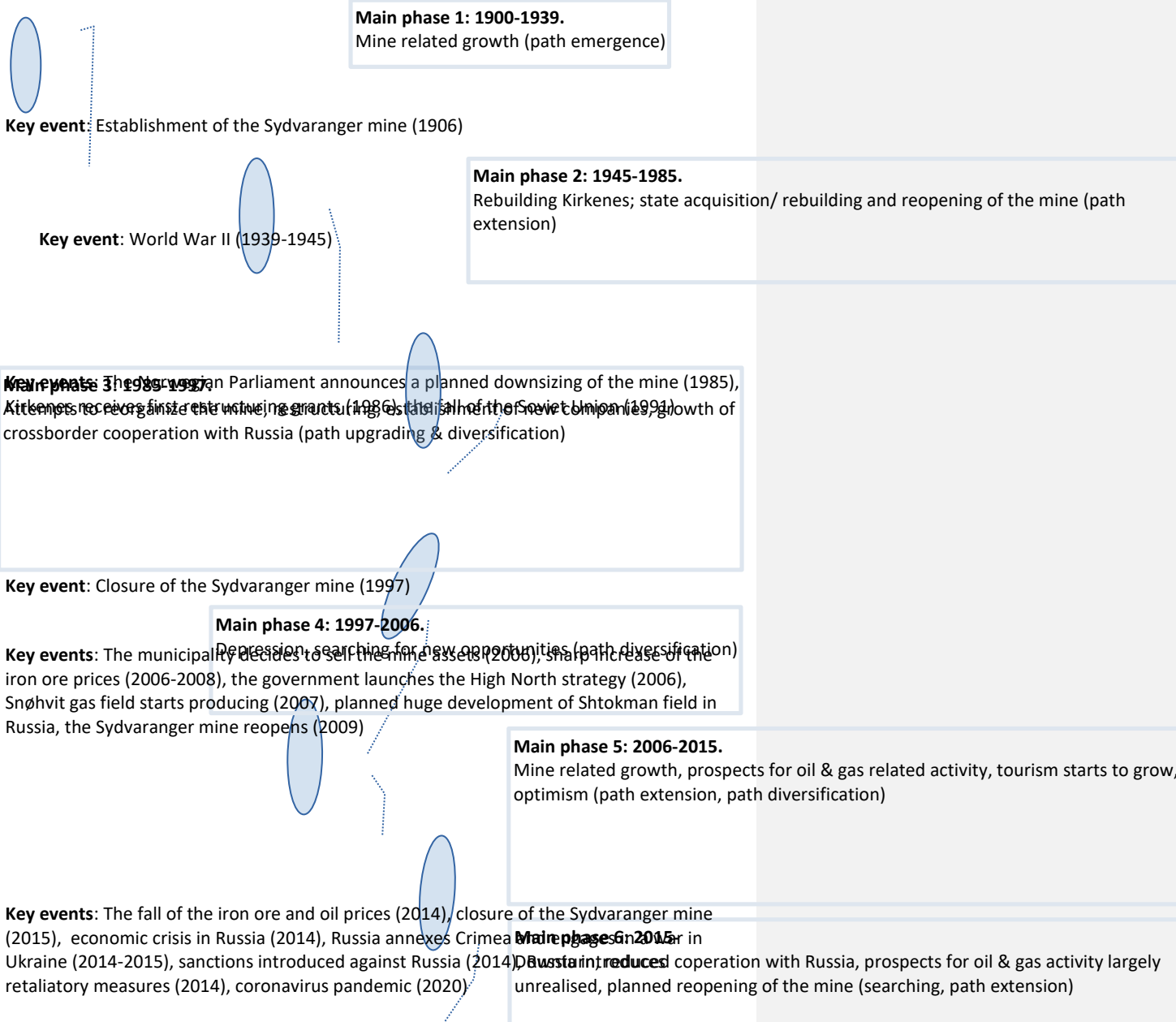
employees), wholesale and motor vehicle repair (575 employees), teaching (482 employees), and construction and civil engineering (440 employees) (see Table 3).

5. 2. Findings

Regional development trajectories

As outlined in the methodology part, a model provided by ReGrow project was used to plot six phases of regional development together with key events, and critical junctures:

- Timeline



- Main phases

Little did the Sami, who occasionally gathered in the wooden church in Kirkenes for celebrations, know what transformation was awaiting the place that once seemed a serene end of the world. The hidden treasures, different from the farming land, fish and reindeers, would drive more than 100 years transformation of the region – the veins of ore lying deep under the mountains as well as the strategic position of Kirkenes at the entry to the Arctic where golden veins of land and sea transportation and communications emerge on the world map today, connecting the East and West, North and South.

As Steinar Wikan discerningly remarks, Kirkenes “came to being almost by accident” (Wikan, 2010, p. 140). Indeed, it were not the locals who were driving the change, but the treasures – while indigenous people did not find Kirkenes attractive to live, and Kirkenes in 1900 consisted of a church, unoccupied municipal building and 4 estates, the fortunate discovery of a promising iron ore deposit in 1902 together with improved extraction technology set a completely new course of development. Christian Anker, a wholesaler, financier, engineer and industrial pioneer, bought the deposit and together with the Swedish and German investors established a Sydvaranger mine in 1906, which at the time became Norway’s largest industrial business (Wikan 2010, Wråkberg 2019, Sydvaranger 2018). Interestingly, Christian Anker, residing in Oslo, never saw the ore deposits in Kirkenes, and the transformation of Kirkenes was guided by the engineer Henrik Lund. It is amidst the building of the railway from the deposits to Kirkenes, processing plant, shipping port, administration headquarters and workers residences, all planned by Henrik Lund, Kirkenes emerged as a mining town.

Reflecting on the role of the mine on the region’s development Linda Beate Randal, the former mayor of Sør-Varanger municipality, on the occasion of the reopening the mine in 2010 (p. 13) wrote: “There is no other single factor which has contributed so much to making Sør-Varanger into the society it is today”. The repeated closure and reopening of the mine were discussed with all of the interviewees and can be seen as naturally delimiting the developments that took place in the region, the cyclical nature of the mining industry is very well expressed by Wråkberg (2019, p. 2): “A closed mine, wherein the mineral of value has not yet been depleted, or its use replaced by new technology, is commercially dormant rather than closed, dependent on global market prices”. Therefore, the main regional development

phases described further in greater detail are largely linked to the periods of activity and dormancy of the mine.

The Skolt Sami, originally Russian citizens of Russian orthodox faith inhabited the area until the demarcation of the border with Russia in 1826 when the majority moved to Russia. The Lutheran Sami (Norwegian citizens), encouraged by the Norwegian authorities in order to strengthen the Norwegian presence near the border, moved in around the same time (Wikan, 2010). The Sami traditionally practised fishing, agriculture and reindeer herding. Svend Foyn, a Norwegian pioneer in seal and whaling, introduced whaling in Varangerfjord (**path importation**) and at the end of the 1800s there were six whaling stations in the municipality (Store norske leksikon, 2005 – 2007; Teistevoll, 2006), however, following the conflicts with the fishermen the economic and political will was for the first time defeated in Finnmark and in 1903 whaling was banned in Nordland, Troms and Finnmark for ten years (Jakobsen, 2010; The Museums for Coastal Heritage and Reconstruction of Finnmark, 2020; Walløe, 2004). Since late 1830s Finnish immigration increased considerably and in 1860s-1870s Finns constituted the majority of the population (Wikan, 2010). With the goal to further strengthen the Norwegian administration the municipality was established in Elvenes in 1858 and the church was built in Kirkenes in 1861, nevertheless, the place did not attract the new residents, on the contrary, the Sami moved further inland to Sandnes (Wikan, 2010). The “norwegianization” policy, adopted by the central authorities against Sami and the Kven (people of Finnish ancestry) was aggressive and lasted from approximately 1850s to 1990s, it included the denial of their language, prohibition from practising certain occupations, denial of social welfare benefits, forced change of the basic values of their culture and national identity (Minde, 2003; Norske Kveners Forbund, 2014). In 1997 King Harald of Norway apologised for injustices to the Sami people followed by the Swedish government the next year (BBC, 1998). The iron near Kirkenes was discovered back in 1866, however, due to poor quality ore and a small size of the deposit it was not considered worth investing. In 1900 the population in the municipality consisted of 43% Finns, 36% Sami and 21% Norwegians (Lund, 2015). The tradesman Hans Petter Figenschou ran the postal service, the telegraph station, a guest house and a general store in Kirkenes, there was a steamship connection with Vadsø, a school, a vicarage and doctor’s office, the attic in the municipal building served as a lodge, and Kirkenes was for the most part a gathering place for 1900 residents of the villages nearby (Wikan, 2010).

Main phase 1: 1900-1939.

Mine related growth

The establishment of the Sydvaranger mine in 1906 (**path importation**) was a critical event in the development path of Kirkenes. Even before the preparations for the start were under way, hundreds of unemployed people from all over Norway, Sweden, Finland and Russia, driven by the optimism and prospects of better living conditions, started to flee to Kirkenes – in 1906 there was no place to live and conditions were catastrophic, people lived in tents, wooden boxes, in which machines were transported, and overturned boats on the beach (Wikan, 2010; Lund 2015). The situation was exacerbated by the aforementioned “norwegianization” policy, which put pressure on the mine to employ only Norwegian-speaking Norwegian citizens (Lund, 2015; F. H. Tschudi, personal communication, July 1, 2020). Even though Christian Anker resisted this requirement because it was setting a limitation on already scarce qualified labour force, workers with a Sami and Finnish background were not wanted, and the district physician and mayor Andreas B. Wessel helped many locals with the Sami and Finnish ethnic background to get their citizenship to increase their chances of getting employed (Lund, 2015). While the housing situation slowly improved, due to huge investments the salaries of the miners remained as low as possible, which sparked the emergence of a strong labour union Nordens Klippe right from the onset in 1906 (Wikan, 2010). In 1907 there were 1,000 people employed, in 1914 the number increased to 1,150, the production peaked around 1915, but due to the WWI and subsequent Depression operations started to decrease and the company went bankrupt in 1925 (Lund, 2015; PA-0383 – A/S Sydvaranger, 2014). The relationship between the union and the mining company remained tense throughout the first decades (Wikan, 2010).

The mine resumed operation in 1927 and 1928 marked a major uprising – the “biggest organizational scandal the union movement experienced in Norway” (Wikan, 2010, p. 146). The workers protested against the mining company’s plan to enforce individual as opposed to collective contracts. The union lost the strike and the workers who participated in the strike were locked out by the mining company until 1938 (Wikan, 2010). In late 1930s a wealthy ore deposit was mined and the financial outlook of the company improved. The society experienced some of the most prosperous time in the mine’s history so far – houses and

streets were beautified, cafes and restaurants boomed and cultural and sports life flourished (Wikan, 2010).

In 1917 the Finns regained independence from Russia, and in 1920 won the Petsamo Corridor providing an access to the Barents Sea. The Finnish introduced forestry to the region, which was based on Finnish timber that was transported down the Pasvik River. In 1920 the Northern Europe's largest sawmill "Pasvik Timber" was established (**path importation**), which employed 250 people at its peak, however, due to global economic downturn and poor quality of raw material the sawmill never reached profitability and was destroyed during the WWII. (Teistevoll, 2006; Randa, 2001, cited in Varanger Museum, n.d.). The Finnish geologists searching for iron deposits, potentially extending from Bjørnevatn, in 1934 discovered one of the largest and richest deposits of nickel just across the Finnish border and in 1939 a Nikkeli town with the modern mining facility was built by a Canadian trust (Jacobsen, 2010; Wikan, 2010). The informal collaboration between the two mines was started (Wikan, 2010) and the future might have taken a different path if the German troops had not crossed the Polish border in 1939.

Main phase 2: 1945-1985.

Rebuilding Kirkenes

During the World War II Kirkenes was occupied by Nazi Germany and served as a military base for the Murmansk front (Pettersen, 2014). Mining operations relied upon communication from Oslo. In 1940 Oslo was taken by Germans and Kirkenes was bombed, communication during the war was interrupted and mining discontinued. Later mining was resumed because the mines of Northern Scandinavia, especially nickel in Petsamo provided precious raw materials for the German war industry, and Kirkenes was used as an export harbour (Jacobsen, 2010; Wikan, 2010). In 1944 a small amount of raw ore (nearly 100 000 tonnes) and iron concentrate (around 40 000 tonnes) was produced, but due to intensified bombing towards the end of the war the mining operations had to be halted and a shelter for the population of 3000-4000 was built in one of the mine shafts – once again the mine played a very important role in the lives of the local community (Lund, 2015; Wikan, 2010).

After heavy Russian bombing (more than 320 air attacks) and extensive destruction by fire caused by retreating Germans, only 13 houses survived in Kirkenes (Pikene på Broen, n.d.).

Moreover, over 70,000 people in East Finnmark were ordered by retreating Germans to be forcibly evacuated, around 25,000 people refused to follow the order and went into hiding in the mountains (Norsk Folkemuseum, n.d.; Pettersen, 2014). In late 1944 Kirkenes and East Finnmark were liberated by the Red Army, which left Finnmark in the autumn of 1945. Finland, however, lost Petsamo Corridor to Russia and Norway not only came to have a border with Russia – in 1949 Norway became a North Atlantic Treaty Organization (NATO) member country sharing a border with the Soviet Union and Kirkenes became on a geopolitical front line between the West and East during the Cold War.

After the WWII everything in Kirkenes had to be rebuilt, the people who were evacuated to the south, moved back and participated in the rebuilding of the region. The mine suffered extensive damages, the former markets were gone and the future was highly uncertain, thus the old shareholders were unwilling to provide new capital, and state intervention was the only possibility (Wikan, 2010). In 1947 the government decided that the reconstruction of the mine, despite being economically unprofitable, should proceed out of social, national and security considerations (Wikan, 2010). The state acquired about half of the share capital of the mining company and the mine was fully rebuilt with the aid of the Marshall Plan and resumed open-pit mining operations in 1952 (**path extension**) (Lund, 2015). Wikan (2010, p. 149) stresses that this meant much more than the restoration of the company – it was “a reincarnation of the plant, the city and community”. Indeed, throughout 1950s and 1960s the mining company took care and contributed to the construction and development of major city infrastructure: electricity supply, roads, sewage, parks, housing, schools, sports facilities and hotels (Lund, 2015). The trade union Nordens Klippe resumed its activity after the war, but since the mining company was generous with the provision of welfare for its employees, the relationship with the company improved and in 1973 it merged with the company union (Wikan, 2010; Lund, 2015; Torgersrud, 2005a).

While some modernization of the operating methods in the mine and the separation plant took place (old briquetting was abandoned and pelleting introduced in late 1960s) (**path upgrading/ climbing GPN**), the closed-pit mining, which would have meant a major change in the mode of operation and the sustainability of the mine (**path upgrading/ renewal**), was not adopted as the investments were considered unprofitable (Lund, 2015). On the other hand, open-pit mining sustainability was dependent of technological improvements, and it was getting difficult to secure investments into increasingly bigger machines and trucks (Wikan,

2010). Multiple attempts to shift to closed-pit mining were made: it was initiated before the war, considered at the beginning of the reconstruction, the CEO of the company Johan Kraft Johansen advocated shifting to close-pit mining in 1956 and preparatory works for underground operations were carried out in mid 1960s, but the open-pit mining continued and as the amounts of waste rock kept increasing, it “gradually became a curse” (Wikan, 2010, p. 149; Lund, 2015).

1970s marked the beginning of a downturn. Below follows an account of events provided by a local historian Oscar A. Torgersrud (2005a). As the price of iron concentrate during 1958-1968 fell by 45%, the production of iron concentrate was increased in order to reach profitability. However, the amounts of waste rock grew. Since the pellets production gave good results, the focus was on pellet production, and the surface rock removal programme in order to access new ore was lagging behind. Iron concentrate had to be imported (until 1979). In 1970s a lot of investments in infrastructure were implemented – roof for pellet silo, raw iron silo, mechanical yard, salt water pumping station, quay facilities, new pellet plant, etc. The number of women working in the mine increased. In 1975 the number of employees was the highest – 1547 people were employed, out of them 173 women. 1976 was the first year the company had a negative equity, in 1981 the negative equity amounted to NOK 230 million. In 1978 the company transferred the responsibilities for water, road and sewage to the municipality together with NOK 50 million to assist the municipality in coping with the new duties. In 1982 the state subsidy was increased from NOK 50 million to NOK 100 million with another NOK 100 million in state guarantees for the purchase of new equipment. In 1983 the head office was moved from Oslo to Kirkenes, and there was frequent rotation in the management (this started already in 1970s, new CEOs were appointed in 1982, 1984, and 1985). In 1982 the pellet silo was full, the company was lacking tugboats, renting prices were high, which resulted in a failure to ship the pellets and subsequent lay-offs. More lay-offs came in 1983 and for the first time external local crews were used to break the mountain in order to access new ore. In 1984, a newly built pellet reduction plant in Germany utilizing natural gas (**path upgrading/ renewal**) went bankrupt, incurring huge losses. It is estimated that during the period of 1980–1985 Sydvaranger mine received NOK 2,236,000,000 in state subsidies (St. prp. nr. 44, 1985-1986). Wikan (2010) attributes the decline of the company to the waste rock problems, increased competition from new and richer mines around the world, low iron ore prices, insufficient income as well as poor management. The state reasoned that a

number of state companies (A/S Sydvaranger, A/S Norsk Jernverk and Store Norske Spitsbergen Kulkompani A/S) required such large capital injections that it created problems for balancing the state budget. In addition, it was pointed out that the above mentioned state companies had an overly dominating role in local community and showed weak competitiveness. Moreover, the state believed that such big state support to selected state companies distorted fair competition where a number of competitive companies did not receive state support (Innst. S. nr. 282, 1983-1984). As the mine was running out of accessible ore to ensure long-term operation, in 1985 the administration prepared a proposal for the removal of surface rock in Østmalmen field (**path upgrading/ climbing GPN**), which required significant state subsidy. However, the proposal was not supported by the state. Instead, it was proposed to continue operations without the removal of the surface rock in Østmalmen field, further explore possibilities of underground mining and downsize the company reducing the number of employees from 920 in 1986 to 570 in 1992 (St. prp. nr. 44, 1985-1986).

WWII was detrimental to the entire business ecosystem in the region, and many business tradition carriers disappeared after the war (Aarnes, 2005). Aarnes (2005) argues that the trade over the border with Enare community in Finland rather than Pomor trade between fishermen in East Finnmark and Archangelsk was the most meaningful for Sør-Varanger. However, as the road infrastructure improved, the trade over the Bugøyfjord with the Finnish lost its rationale. Local people, driven by the past experience of trade with neighbours were willing to revive trade over the border and in 1963 the delegation, established by the Norwegian Ministry of Foreign Affairs, attempted to establish cooperation with Soviet Russia. Unfortunately, these efforts gave little results – A/S Nordhandel, which was established in 1964 and unsuccessfully organized the exchange of Norwegian goods (paint) for Russian berries, went bankrupt and was closed down in 1973, which reduced the interest in cross-border trade (Aarnes, 2005). In 1978 according to an agreement between Norway and Russia to develop water power along Passvik river, Norwegian builders completed the construction of two power stations in Norway and two in Russia (Boris Gleb, funded by the Russian government) (Torgersrud, 2005a).

Main phase 3: 1985-1997.

[Gradual closure of the mine and the opening of the border with Russia](#)

The state's disapproval of the removal of surface rock in Østmalmen resulted in strong opposition and protests. The CEO Knut H. Hübner resigned and after being proclaimed illegal and unlawful the protests subsided (Torgersrud, 2005a). In addition to the subsidy, the first restructuring grant of NOK 40 million to ease the downsizing and search for alternative industries was approved, it included a preparatory course for engineering studies in Narvik and a pre-project for the development of tourism, among others (St. prp. nr. 44, 1985-1986). The works at A/S Sydvaranger resumed and it can be argued that the company entered the most innovative period attempting to reach financial profitability and secure its future. The company worked together with external consultants on a number of new initiatives. The new chemical Diamin gave very good results in producing superclean magnetite concentrate (95 to 98% magnetite). Despite some health concerns the production of superclean magnetite concentrate increased from 5 700 tonnes in 1989 to 63 000 in 1990, the superclean concentrate was sold to a Swedish company for the production of iron powder to be used in the automotive industry, and it was planned to further increase the production to 170 000 tonnes in 1994 by shifting to a fully continuous process (**path upgrading/ renewal**) (Torgersen, 2005; St. prp. nr. 80, 1990-1991). Even though by 1990 the company's financial performance improved since mid 1980s, it did not manage to reach profitability. In 1990 the state proposed that once all accessible ore is removed, open-pit mining should be discontinued and already in 1992 preparations should be started for close-pit mining focused on the production of special products (St. prp. nr. 80, 1990-1991). At the same time the restructuring grant of NOK 400 million for the development of new businesses was approved (St. prp. nr. 80, 1990-1991). During 1991-1994 the first pellet plant was converted into a place for handling ferrite (for use in automotive and electronics industry) and colour pigment (for use in concrete products) (**path upgrading/ renewal**). The trial pigment bags were produced in 1995 and full-scale production was planned for 1996 (Torgersen, 2005). Consultants proposed that the mining company should be split into separate business units in order to diversify the business community and in 1992 the company organised an internal workshop in search of new ideas – as a result, many solutions were presented and several separate enterprises (A/S Anlegg, SM Barents Services AS) were established from different departments, where 70 employees were relocated (**related diversification**) (Torgersen, 2005; St. meld. no. 18, 1998-1999). Entire electrical department was transferred to a newly established Kirkenes mechanical yard (Kimek A/S), which was founded in 1987 together with the Finnish partners to repair the Russian vessels, built by the Finnish (**related diversification**). Kimek A/S

received state subsidies of NOK 18,75 million in 1987 and NOK 23,7 million in 1988 for the construction of the facilities, employed 120 people in 1990 and is the biggest employer in East Finnmark today (Torgersen, 2005; St. prp. nr. 80, 1990-1991; Rune Rafaelsen, personal communication, June 22, 2020). Samples of ore, planned to be used as décor, were sent to SINTEF (**path upgrading/ renewal**), however, were not approved. In 1994 the company applied for a patent for a new raw material to be used in ferrosilicon industry (a briquette produced of fine-grained coal and iron concentrate) (**path upgrading/ renewal**), unfortunately, the production was deemed not financially viable. In 1994 the company sent an application for ISO 9001 certification. During 1992-1995 NOK 162 million were spent on preparations for closed-pit mining, and according to Lund (2015) in 1995 the works for underground production were completed, yet another NOK 88 million were needed in order to reach full-scale production (**path upgrading/ renewal**) (St. prp. nr. 62, 1995-1996). The mine employed approximately 240 people in 1996 (St. prp. nr. 62, 1995-1996). But despite all the improvements, the company did not manage to reach financial profitability, and in the business plan for 1996-2000, it estimated that capital investment of NOK 430 million in addition to an already approved grant of NOK 352,5 million would be needed in order to reach self-financing in 2000 (St. prp. nr. 62, 1995-1996). The fall of the Soviet Union and the end of the Cold War in 1991 changed the political environment, and more democratic processes in Russia opened a possibility of developing more amicable relationship with Russia, thus the rationale of having a big industrial actor on the border weakened. At the same time there was a stagnation in steel production and overproduction of traditional iron ore in international markets (St. meld. no. 18, 1998-99), and in 1996 the Parliament decided to discontinue the mining operations.

To ameliorate the loss of workplaces in relation to the closure of the mine the state established about 120 jobs in a number of state institutions. The Social Insurance Agency's collection centre (Trygdeetatens innkrevingsentral) was established in 1992 and provided 105 jobs, the remaining jobs were spread among Eastern Trade Center (Østhandelssenteret, established in 1992), the Environmental Center at Svanhovd (established in 1992) and the Norwegian Barents Secretariat (established in 1993) (Innst. S. nr. 289, 1995-1996).

The state provided early retirement scheme for about 60 A/S Sydvaranger employees aged 60 to 70 during the period 1994-1996 and for about 50 recently laid off people, which turned 60 in the period 1997-2001 (St. meld. no. 18, 1998-99). The closure of the mine may also explain

an exceptionally high number of people in Sør-Varanger receiving disability benefits, which amounted to almost 15% of the population in 2000 (see Figure 7) (F. H. Tschudi, personal communication, July 1, 2020).

In addition, the state provided NOK 180 million for the Investment Fund for Northwest Russia, out of which NOK 30 million were designated for project-based cooperation with Northwest Russia (St. prp. nr. 62, 1995-1996). After the fall of the Soviet Union in 1991 the cooperation with Northwest Russia became of a national importance, and the location of Sør-Varanger was seen as perfect in that respect – not only could such cooperation contribute to the growth of business activity in Sør-Varanger after the closure of the mine, but also secure peace and stability and promote cooperation in the Barents Region. Fishing, forestry, mineral extraction and oil & gas activity were foreseen as the main areas for business cooperation (St. prp. nr. 62, 1995-1996). People-to-people cooperation was considered of key importance in establishing the foundation for co-operation in the Barents Euro-Arctic Region and constituted the core activity of the Norwegian Barents Secretariat (L. G. Fordal, personal communication, April 2, 2020). This cooperation was further strengthened by an EU supported Kolarctic Cross Border Cooperation programme, established in 1995 following Sweden's and Finland's membership in the EU to strengthen cross-border cooperation between the countries in the North Calotte and Northwest Russia (Swedish Ministry for Foreign Affairs, 2018).

In 1995 almost 25% of registered companies in Sør-Varanger engaged in business cooperation with Northwest Russia – a sharp increase from 2 companies in 1988 to 114 in 1995 (Innst. S. nr. 289, 1995-1996). Henriksen Shipping Service AS (established in 1992, specializing in port agency) (**related diversification**) and Barel AS (established in 1993, specializing in manufacturing of electronics) (**emergence/ importation**), which have successfully expanded and exist today, were often used as a best practice example of Norwegian-Russian cross-border cooperation.

As a part of restructuring process in 1987 Sør-Varanger Trade, Crafts and Industry Association was allocated Kr 750 000 to strengthen the creative powers in the private sector, the allocation was used for the creation of a new position, after which the members' interest slowly declined from 108 members in 1990 to 4 in 2000, and the association was closed (Aarnes, 2005). Likewise, private sector was passive in providing capital for Sør-Varanger Invest A/S, which was established in 1985 to assist with the share capital for new

establishments and envisioned to be financed in part by local businesses (Teistevoll, N, 2006). When Nina H. Teistevoll started working as a new tourism coordinator in Sør-Varanger municipality in 1986, she remarked that there were many more small companies than she expected, however, she pointed out that despite the national focus the development of tourism industry (**unrelated diversification**), her work in Sør-Varanger was a huge endeavour due to a strong scepticism towards an industry with an intangible product, dominated by small and medium size enterprises, which was seen as less valuable than traditional industries (Teistevoll, 2004). Perhaps this was exacerbated by the perception of tourism as mass-market, which was a characteristic feature of tourism in 1980s, when seeking activities and adventure just started to emerge (Holloway, 2006). An ambitious Grenseland project, focusing on the border with Russia as tourist attraction, was initiated in 1983 and aimed to redefine the identity of Sør-Varanger as a mining town to a borderland and included a number of initiatives, such as trips from Kirkenes to the border, the sale of souvenirs, the watchtower as well as a visitor centre Grenselandsenteret (a conference centre, a museum, a gallery, a library, a planetarium, an activity centre, a swimming pool, and a high standard hotel) (Fors, 2018). In spite of initial support the project was gradually reduced to a museum Grenselanmuseet and a hotel built by private actors with public support Torgersrud (2005b). A local travel agency Pasvikturist was established in 1990.

There was little action in general as well as engagement of The Nature Conservation Association (Naturvernforbundet) over growing environmental concerns about the dumping of discharge waste in the fjords until 2006 (Lund, 2015). The action Stop Deadly Clouds from the Soviets (Stopp Dødsskyene fra Sovjet), directed at environmental pollution from Nickel in Russia, was the first large scale environmental action, which also fought against the dioxin emissions in Sør-Varanger (Lund, 2015).

Main phase 4: 1997-2006.

Depression. Searching for new opportunities

The impact of the closure of the mine on the region during the interviews was described as an “earthquake”, “crisis”, “difficult time”, “big problems”, “a huge challenge”, “a very big blow”, “depression”, which pushed Kirkenes into a period of pessimism.

During 1997-1998 the assets of the closed mine not directly related to the industrial part (power station, central workshop in Bjørnevatn, the administration building in Kirkenes, two tugs, all rolling mining equipment and residential plots) were sold (St. meld. no. 18, 1998-99, Torgersrud, 2005a; F. H. Tschudi, personal communication, July 1, 2020). However, the industrial part (the mine, the plant, the port), everything, which could contribute to the reopening of the mine was kept in one company (F. H. Tschudi, personal communication, July 1, 2020). This constrained the development plans of the municipality since any city development proposals that would negatively affect the prospects of reopening the mine were met with resistance from the local community (F. H. Tschudi, personal communication, July 1, 2020).

In 1997 an Australian company Australian Bulk Minerals expressed an interest in restarting ore extraction operations and in 1998 submitted an application for the mining license, but in 2000 the company announced that restarting of production was postponed to indefinite time (St. meld. no. 18, 1998-99; Torgersrud, 2005a). Felix H. Tschudi (personal communication, July 1, 2020) noted that there were three attempts made by knowledgeable mining operators to reopen the mine since 1997, all of which failed because the interested parties could not raise required financing. Arve Henriksen (personal communication, July 13, 2020) also remarked that the expectation of the government that private companies would take over the mining operations was too optimistic, since “the cost of taking away the waste rock and renewing the mine, which was too old and had to almost be rebuilt from scratch, was too much for any private owner”.

Business cooperation with Russia was one of the pillars that supported the local community after the closure of the mine. Retail start-ups and big chains flourished as the number of border crossings rose from 5 315 in 1989 to 83 068 in 1996 (Finnmark Police District, 2020, Felix H. Tschudi, personal communication, July 1, 2020). In 2005 a local entrepreneur Brede Sæther established Kirkenes Trading AS, which became one of the biggest exporters of fish to the Russian market (**upgrading/ climbing GPN**) (Rautio et al., 2018). Moreover, several previously established companies grew and expanded: Kimek Offshore AS was established in 2000 in response to the prospects of oil & gas activity in the Barents Sea (**related diversification**), in 2002 Barel AS opened a subsidiary in Murmansk (**path upgrading/ renewal**) and Arve Henriksen, through the Shipping Cargo Kirkenes AS, engaged in the first Russian oil trans-shipment in 2002, followed by Kirkenes Transit AS in 2005 (established in

1997 and owned by Tschudi Shipping Company AS) (**related diversification**). But in 2006 a new regulation, linked to the designation of national salmon rivers and salmon fjords, and environmental protests led to the termination of all industrial activity in Bøkfjord, and ship-to-ship oil transfers had to move to Honningsvåg (Nordkapp municipality).

Since 1994 king crabs invading the Barents Sea became to be seen not only as a problem, but also as an asset and income from the catch and sales and king crab benefited the declining fishing industry in Finnmark (**related diversification**) (Seipajærvi, 2003).

Some local experience-based tourism initiatives, such as Barents Safari, H. Hatle AS, focused on reindeer, dog sledges, tasting king crabs, Russian border, the mine site, emerged (**path emergence/ new creation**). In 2002 Kirkenes Snowhotel was established (**path emergence/ importation**), but as Kåre Tannvik noted, the first steps were very difficult – nobody believed in tourism in the beginning and it was not until 2008-2009 that a more positive attitude, results and economy started to emerge after the hotel attracted the interest of the international media and was featured among the 25 best adventure trips by the National Geographic Adventure Magazine (personal communication, June 17, 2020).

Kirkenes Business Park (Kirkenes Næringshage) was established in 2000 and several interviewees mentioned that after the closure of the mine the entrepreneurial environment improved, people tried to think differently, and the business community became more diversified. Nevertheless, despite available funding for new business development, support measures for local entrepreneurs were not very successful and gave only limited results, “because you can’t just tell people to become entrepreneurs” (Felix H. Tschudi, personal communication, July 1, 2020). There was a considerable focus of competence development, distance learning, but recruitment to the engineering studies did not work, the attempts to organize a three-year computer engineering education programme failed due to too few prospective students, who showed interest (Unni Sildnes, personal communication, June 16, 2020; Sandø, 2016). Aarnes (2005, p. 316) speculates that after the closure of the mine a lot of fanciful projects were conceived, which, unfortunately, were based on “airy plans”.

A similar disillusionment followed business cooperation with Russia. While in the beginning many businesses, encouraged by the availability of funding and political support, attempted doing business with Russia, the optimism both among the entrepreneurs and politicians

started to fade as problems, often related to a lack of understanding of business, political and cultural environment in Russia, emerged:

When the border opened in 1992 all the way into 2000, all the politicians were very supportive of developing business cooperation with Russia – we support you, go to Russia, do businesses, finally the Cold War is over, communists are history, now we are going to integrate Russia into the open market. . . . Politicians became sceptical in the end – they saw that they were not succeeding with the blue paper print of the Norwegian/ Scandinavian democracy. (Arve Henriksen, personal communication, July 13, 2020)

Aaland (2019) points out that business cooperation was the weakest domain of the Norwegian Barents Secretariat and that most of the local companies, established in 1990s, did not survive. Well established Norwegian companies, such as Norwegian bank (DNB), Telenor also failed to establish activities in Russia (Arve Henriksen, personal communication, July 13, 2020). Economic problems in Russia following the fall of the Soviet Union in 1991, ruble devaluation in 1998, inability or failure to pay on the Russian side, corruption, bureaucracy on both Russian and Norwegian sides, short-term planning and seeking fast profits, and language problems were among the reasons why cooperation with Russia was difficult to sustain (Arve Henriksen, personal communication, July 13, 2020; Thor-Egil Paulsen, 2005).

Furthermore, according to Felix H. Tschudi (personal communication, July 1, 2020) around 2005 there were plans to close the hospital in Kirkenes, and it is amidst the above pressures and a lingering dream of reopening the mine the municipality decided to sell the mining assets and in 2006 Felix H. Tschudi became a new owner of the mine. While the mine was not a primary interest of Felix. H. Tschudi, whose attention was more focused on the port as one of the mine's assets, he acquired the mine after the previous plans of Kristian Nordberg (a real estate developer from Oslo), who won the municipality's bidding competition, did not materialize. Incidentally, a local bid, prepared by Kåre Tannvik together with the partners Store Norske, CCB and Barlindhaug (a real estate developer in Tromsø), was also submitted, but the initiators had to fight to even be able to present their proposal to the municipality's board as it was seen as inferior and lacking financial feasibility (Felix H. Tschudi, personal communication, July 1, 2020; Rein, 2006).

In 2005 the Labour government took power and made the High North the main strategic priority for development – the High North strategy was launched in 2006 and became the main priority of the Norwegian foreign policy – a political framework for developing cooperation with Russia. The opening of the border gave an impression of a huge market on the Russian side and opportunities in the High North received much more attention of the government. At the same time it was expected that the policy will help to stabilize negative demographic trends in entire Finnmark, where coastal areas experienced huge outmigration (see Figure 5). In Sør-Varanger too the population was steadily declining: after peaking to 10010 in 1996 it fell to 9463 in 2005 (Statistisk sentralbyrå, n. d.b). Thus the northernmost areas were even higher on the political agenda than before and Kirkenes area with its strong relationship to Russia and increased cross border activity, now perceived not only as a mining, but also as a border community, was instrumental in the implementation of the policy (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020).

Oil & gas exploration in the Barents Sea began already in the 1980s, declined in the 1990s and resumed again in the beginning in the millennium (Norwegian Petroleum Directorate, 2020; GlobalData Energy, 2020). An abundance of undiscovered petroleum resources in the Barents Sea, rising oil prices and the alleviation of the rules and regulations governing exploration in frontier areas created an opportunity for oil related activity in the northernmost areas. Snowwhite (Snøhvit) field outside Hammerfest started producing in 2007, Statoil (now Equinor) was investing, and Kirkenes looked forward to become the hub for oil related activity (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020; Norwegian Petroleum Directorate, 2020; GlobalData Energy, 2019).

The above events created a lot of optimism and “changed the mindset of the local people from looking at themselves as a problem area into looking at themselves as an area of opportunities” (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020). The sale of the mine coincided with sharply rising iron ore prices during the period 2006-2008 (see Figure 10) and despite the fact that at the time the mine was completely dead and as a brownfield project needed very large investments (USD 250-300 million), Felix H. Tschudi managed to convince Australian investors in the future of the mine, and in 2009 the mine was opened by Northern Iron Ltd (Felix H. Tschudi, personal communication, July 1, 2020; Rein, 2006).

Main phase 5: 2006-2015.

Optimism

Preparations to reopen the mine brought a lot of activity for local subcontractors and construction companies. Young entrepreneurs saw an opportunity to build a business around constructing new housing (Peter Steiness Larsen, personal communication, June 5, 2020). The mining company outsourced a lot of the tasks to local subcontractors who virtually did not feel the impact of the global financial crisis in 2008 (Svein Sundquist, personal communication, June 15, 2020). Norconsult (2016) estimates that a ripple effect factor of employment in Sydvaranger mine on local business and community was equal to 1.7, which means that 422 direct jobs created in Sydvaranger mine indirectly created about 300 jobs outside the mine. The number of people employed in Sør-Varanger municipality during the period 2003 to 2013 grew by 1545 (KommuneProfilen, n. d.d). Other industries that experienced growth during the period include staffing and recruitment, architecture and technical consultancy, shipping, accommodation as well as food industry (Statistisk sentralbyrå, n. d.c). Furthermore, the reopening of the mine contributed to the increase of salaries and keeping the Kirkenes hospital open and later to the building of the new hospital (Felix H. Tschudi, personal communication, July 1, 2020). The negative demographic trend was reversed and population during the period 2006-2016 increased by about 8% (Statistisk sentralbyrå, n. d.c).

Cooperation with Russia was important and huge investments and developments in the oil & gas sector in Northwest Russia opened an opportunity for Kirkenes not only to assist oil & gas activities in the Barents Sea, but also to become a secondary base to Murmansk serving Russian oil & gas market and other trade with the east. Shtokman field development attracted a lot of interest from the Western oil & gas companies, big hopes we associated with a renewed Hydro's and Statoil's (now Equinor) involvement in the development of the field (Leirset, 2006).

While the volumes of oil & gas production on the Russian side were growing, due to capacity constraints in Murmansk (not enough suitable locations for ship-to-ship transfers and not enough suitable places where land based terminals could be built), the ships coming from worldwide to pick up the cargo had to wait, and it was expected that "eventually Russians will require some support from Kirkenes in order to run the pipeline efficiently without

interruptions, interferences and waiting time” (Jacob B. Stolt-Nielsen, personal communication, 2020, June 4). Since the industrial activity in Bøkfjord in Kirkenes was forbidden, Kirkenes Transit AS, owned by Felix H. Tschudi, performed ship-to-ship transfers in Honningsvåg during the period 2006-2009 and resumed operations in Kirkenes in 2014. During the period 2014-2016 Norterminal AS, owned by another external investor Jacob B. Stolt-Nielsen, performed major oil reloading operations for Lukoil (Staalesen, 2018) (**path upgrading/ climbing GPN**). Henriksen Shipping Service AS reported the peak number of port calls in 2014, when a lot of vessels came to perform seismic operations and because of the Russian king crab contract (Arve Henriksen, personal communication, July 13, 2020). The number of Norwegian-Russian border crossings in Storskog checkpoint almost tripled during the period of 2005 to 2014 (and in 2014 reached the peak of 318 135) (see Figure 14).

Two other transport infrastructure projects linked to Kirkenes becoming a maritime transport hub were on the development agenda in Kirkenes. In 2008 Felix H. Tschudi on the basis of the High North Center in Bodø and in collaboration with the Norwegian Shipowners’ Association and BI Norwegian Business School initiated the establishment of the Center for High North Logistics. The centre was partially funded by the Ministry of Foreign Affairs and aimed at developing a cross disciplinary knowledge network between business, public and academic partners in order to unlock the potential of efficient and sustainable logistical solutions in the High North (Departementene, 2009). Later the centre was brought under the auspices of Nord University in Bodø. The centre played a crucial role in the preparations for the first shipment of iron ore through the Northern Sea Route from Kirkenes to the mine’s main market in China, which was implemented by Tschudi Shipping Company in collaboration with Danish Nordic Bulk Carriers and Russian Rosatomflot in 2010 (**path upgrading/ renewal**). This was the first non-Russian shipment of non-Russian cargo, which sailed through the Arctic and reached China in 22 days vs 45 day via Suez Canal (Felix H. Tschudi, personal communication, July 1, 2020).

Another initiative, strongly supported by the Finnish authorities, was the railroad from Rovaniemi in Finnish Lapland to Kirkenes. An ambitious project, planning to lay almost 500 km railway and connect the High North with Central Europe via the tunnel from Helsinki to Tallinn, however, did not receive the support of the Norwegian authorities. In 2008 Jonas Gahr Støre, the Minister of Foreign Affairs after discussing the project with Paavo Väyrynen, the Finnish Minister for Foreign Trade and Development, concluded: “There is no point in

building a railway just because it looks good on the map” (Fjellheim, 2019). Nevertheless, the project created an excitement in the region and is still strongly advocated for by the local authorities in Sør-Varanger.

In line with an increased focus on opportunities in the northern areas, several networking initiatives and meeting places were established. These cover a wider region and include Arctic Frontiers (established in 2006 in Tromsø), High North Dialogue (established in 2007 in Bodø), Arctic Business Forum (established in 2009 in Rovaniemi), Agenda Nord-Norge (established 2014, organized in various locations), Arctic Innovation Week (established in 2019, focused on Troms and Finnmark and Svalbard). Two local initiatives, Barents Spektakel (2004) and Kirkenes Conference (2008) became important arenas for the political, business and cultural dialogue. Furthermore, in 2007 the High North Center was established at Nord University in Bodø, aimed at linking policy with innovation and business development in the northern areas, and in 2010 the Fram Centre, aimed at the sound management of the environment and natural resources in the north, was established in Tromsø. In Kirkenes Barents Institute was established in 2006 with a goal to better understand the development in the border region between Norway and Russia and relationships in wider Barents region. The institute became a part of the University of Tromsø in 2008. Finnmark University College opened a Barents International School in Kirkenes in 2007 aimed at international border-related and regional studies. The offer included a Bachelor in Business Studies, a 1-year Tourism and Nature Guiding program, and a 1-year Norwegian Language Course. However, due to little interest from the local community, the bachelor level studies had to be closed (University of the Arctic, 2007; Hamran, 2009). In 2008 University of Tromsø in cooperation with Sør-Varanger municipality and Kirkenes competence centre offered a range of online or partially online studies in a range of subjects, including a Master of Business Administration (Kirkenes kompetansesenter, 2008). There was a great demand for Russian language courses and a Master of Business Administration proved to be a success (Unni Sildnes, personal communication, 2020, June 16). In 2013 University of Tromsø Kirkenes campus was established following the merger of the University of Tromsø and Finnmark University College. Three full-time study programmes were offered the following year: a Master in Teacher education, a Bachelor in Engineering, process and gas technology, and a Bachelor in Child welfare (Kirkenes kompetansesenter, 2014). However, recruitment continued to be a challenge, according to Unni Sildnes (personal communication, June 16,

2020) very few students enrolled in teacher studies and overall people were lacking necessary pre-qualifications, especially in maths and physics. Later education for nurses every fourth year was introduced.

In 2010 Barel AS signed a NOK 10 million contract with Airbus, which was a new milestone for the company and created 10 more workplaces (Madwar, 2011) (**path upgrading/ climbing GPN**). In 2007 Norway King Crab AS was established in Bugøyenes with an ambitious goal to become a leading provider of alive king crabs worldwide (**related diversification**). The company saw an opportunity in a problem of invasive king crab spreading from Russia along the coast of northern Norway and started its journey in a closed fish farm that went bankrupt in late 1980s. It grew to deliver fresh king crabs to the best restaurants in the world all year round. Moreover, it had a positive effect for tourism in Kirkenes attracting the existing and potential customers to visit Kirkenes for unique food experiences (Ruud, 2016). Tourism started to show economic growth: the number of overnight stays in Finnmark increased from 496 506 in 2005 to 609 398 in 2015 (Statistikknett Reiseliv, n. d.b). During the period of 2008-2015 the employment in businesses offering overnight accommodation in Sør-Varanger increased by almost 60% and amounted to 115 in 2015 (Statistisk sentralbyrå, n. d.c). The reopening of the mine had some negative effects on tourism business – due to high salaries paid by the mining company, it became more difficult to recruit people (Kåre Tannvik, personal communication, June 17, 2020). Since 2000 Hurtigruten, a cruise operator sailing between Bergen and Kirkenes, was experiencing financial problems, and in 2012 the number of passengers arriving in/ leaving from Kirkenes fell by 66% from the previous year (Statistikknett Reiseliv, n. d.a). In 2012 a destination development project was initiated by the mayor Cecilie Hansen, which introduced a more planned approach to tourism development (Steine, 2013).

The first signs of the awaiting decline could be observed already around 2010. The expectations related to the reopening of the mine were diminished by the cultural differences and the Anglo-Saxon way of top-down management, which prevented capitalizing on the local knowledge and created tension (Peter Steiness Larsen, personal communication, June 5, 2020). Some people considered the business model of the new mine as unsustainable and driven by a short-term vision, both in terms of the choice of the open-pit mode of operation and the focus on economic benefits lacking social responsibility (Vigdis Nygaard, personal

communication, April 3, 2020; Peter Steiness Larsen, personal communication, June 5, 2020).

The mining company contested:

There were some old people who believed that what was done in the old days was a good thing, but they were focused on the bottom line, because the state was just transferring money to the company. And nobody will do that today. And the state wouldn't do that today. Maybe it did that under the Cold War out of strategic considerations, but you don't do that today. . . . The company received subsidies year after year. And that is not how it works today. So you need to make sure that you are efficient and profitable. Otherwise you will not survive. (Peter Steiness Larsen, personal communication, June 5, 2020)

Peter Steiness Larsen considers that a lot of problems arose because the project was underfunded and under-engineered (personal communication, June 5, 2020). Furthermore, the environmental concerns were rising among the local population over the planned use of a toxic chemical Lilaflot in large quantities, release of Magnafloc together with growing amounts of waste into the fjords, use of water from the lakes and well as noise pollution (Lund, 2015). Felix H. Tschudi pointed out that the changes that were introduced in 2009 to the national tax policy, calling for company tax revenues to be collected and redistributed by the central government, prevented the mine and subcontractors contributing to the economic growth of the region (personal communication, July 1, 2020). The only opportunity to reap the benefits from the mining activity was to increase the amount of people who lived in the region and paid tax to the municipality – this put a pressure on the municipality to attract more people to the region and the mine to employ more people who lived in the municipality. However, a lack of housing in Kirkenes led to the increase of housing prices and in order to create the conditions for people to move to the region, the municipality had to borrow a lot of money to build houses and improve facilities. This created tensions between the mining company and the municipality, the initial support from the community was fading and “suddenly the mine became a problem” (Felix H. Tschudi, personal communication, July 1, 2020).

Afterwards an accumulation of unfortunate events followed. The most promising Shtokman field never developed – the project was postponed due to the expansion of shale gas and lower oil prices, and in 2012 Statoil and Total abandoned the project (Staalesen, 2019a). The oil and iron ore prices fell simultaneously. In 2015 the Sydvaranger Gruve AS, unable to sustain the

lowered cost of production, which was introduced to combat the falling iron ore prices, went bankrupt (Felix H. Tschudi, personal communication, July 1, 2020). Russia engaged in a war in Ukraine during the period 2014-2015, which prompted the USA, EU and other partner countries, among them Norway, to impose sanctions against Russia (a ban on exporting petroleum-related technology and military goods to Russia, denying loans and financial services as well as travel restrictions), to which Russia responded with counter-sanctions (a ban on food imports) (Aaland, 2019). The sanctions contributed to another financial crisis that hit Russia in 2014. Moreover, Russia enacted a policy of import substitution, which advocates replacing foreign imports with domestic production (Felix H. Tschudi, personal communication, July 1, 2020). These events were devastating for Kirkenes and sent the regional economy spiraling rapidly downwards.

Main phase 6: 2015 onwards.

Downturn

In addition to more than 400 workplaces lost in relation to the bankruptcy of the mine, many subcontractors, who had invested in expensive heavy machinery, also experienced financial losses and many went bankrupt (Vigdis Nygaard, personal communication, April 3, 2020; Hykkerud, 2017). Nevertheless, Svein Sundquist, who himself lost NOK 10 million after the mining operations were halted and had to look for work outside the municipality (Hykkerud, 2017), considers that the local society and business community was better prepared for the second closure of the mine – the region had a more varied business structure and for many local suppliers the mine was not the sole client (Svein Sundquist, personal communication, June 15, 2020). Several infrastructure projects, such as building of the new hospital in Kirkenes, new roads and bridges contributed to the survival of the local enterprises (Grønvik, 2017; Vigdis Nygaard, personal communication, April 3, 2020; Peter Steiness Larsen, personal communication, June 5, 2020).

The focus on the High North decreased after the new government came to power in 2013 (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020). According to the CEO of Norterminal AS Jacob B. Stolt-Nielsen, Kirkenes is lacking infrastructure that would attract investment – port facility, roads, higher capacity power grid (personal communication, June 4, 2020). Likewise, due to a lack of road accessibility and capacity at the Kirkenes airport, in 2015 Svein Ruud, the CEO of Norway King Crab Production AS, opened a crab

hotel in Nes municipality near Oslo to be able to ship alive crabs worldwide without interruptions (Mortensen, 2015). Nevertheless, the current mayor Rune Rafaelsen remarked that “the last years the state has been very passive – very little investment from the state, especially in the eastern part of Finnmark” (Rune Rafaelsen, personal communication, June 22, 2020). The plans to build the a new port in Kirkenes failed due to many stakeholder interests at play and a lack of political determination and financial resources (Peter Steiness Larsen, personal communication, June 5, 2020).

The friction in the international relationships between Norway and Russia caused repercussions over Kirkenes region and was further exacerbated by the speech of the Foreign Minister Børge Brende, made during the annual Kirkenes conference in 2015, in which he strongly criticized Russia’s annexation of the Crimea and the incursions into other parts of Ukraine (Ytreberg, 2015; Unni Sildnes, personal communication, June 16, 2020). For Kirkenes, where hopes to continue cooperation with Russia despite the sanctions were high, this meant a waste of opportunities and destruction of arduous business relationship building. This particularly affected the Norwegian seafood industry, for which Russia had become the biggest market. Local entrepreneurs like Brede Saether, who over decades had developed a prosperous fishing enterprise, “lost his business overnight” (Vigdis Nygaard, personal communication, April 3, 2020; Rune Rautio, personal communication, June 22, 2020). The introduction of the policy of import substitution in Russia affected the oil & gas transshipments in Kirkenes – in 2016 Norterminal AS lost it’s only customer, the Russian oil company Lukoil, who moved its activities to Murmansk (Jacob B. Stolt-Nielsen, personal communication, 2020, June 4). In 2016 SpareBank 1 Nord-Norge, the largest bank in northern Norway, withdrew from activities in Russia because of challenging economic, political and legal environment in Russia (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020; “Nå er SNN”, 2016). Due to a lack of socio-economic profitability the former Investment Fund for North-West Russia and the Investment Fund for Eastern Europe were merged and the Investment Fund for Northwest Russia and Eastern Europe was established in 2019, the headquarters were moved to Kirkenes and the focus of its activity shifted to creating value in northern Norway (the counties of Nordland and Troms and Finnmark) (Grünfeld et al., 2015; Innovasjon Norge, 2019).

The results of drilling activities in the Norwegian Barents Sea did not live up to the expectations – while the exploration activity was growing steadily until the oil price fall in

2014 with a technical success rate of 69%, around 65% of the discoveries made were minor-sized and too challenging to be developed due to a lack of available infrastructure and high development costs (GlobalData Energy, 2019). After the sanctions the international oil companies providing technological solutions for ambitious projects in Arctic and Siberia had to abandon their partnership with Russia (Astrasheuskaya, 2019). Arve Henriksen recorded that after 2014 international offshore vessels totally disappeared from Kirkenes port, however, Russian vessels still came (Arve Henriksen, personal communication, July 13, 2020). The challenges, caused by the sanctions to Russia's oil industry, were mitigated by China moving in as a partner, which is well exemplified by the opening of a 3,000 km long Power of Siberia pipeline in 2019 to transport gas from eastern Siberia to China (Arve Henriksen, personal communication, July 13, 2020; Soldatkin, 2019). China's interests extended over the North Sea Route and reached Kirkenes, where Chinese showed interest in the port, storage facility and the railway from Kirkenes to Rovaniemi as well as a fiber cable from Kirkenes to Asia (Rune Ulvang, personal communication, June 16, 2020; Staalesen, 2019b). Thus, Kirkenes was once again amid geopolitical maneuvers, this time also involving US-China relationships (Rune Rafaelsen, personal communication, June 22, 2020). In 2018 the municipality signed a friendship agreement with Harbin town in China, which in 2010 was home to over 10 million inhabitants (Sør-Varanger Utvikling, 2018).

Local businesses with a more diversified market portfolio fared better after the introduction of the sanctions – exports of king crab to Russia could be replaced with other markets in the US, China, Korea, Middle East and Europe (“Bom stopp”, 2014) (**path upgrading/ climbing GPN**). Barel AS signed a NOK 20 million contract with Aker BP in 2019 (Innovasjon Norge, 2000) (**path upgrading/ renewal**). The closure of the mine, disillusionment about the prospects of oil & gas developments in the Barents Sea and difficulties in business cooperation with Russia contributed to the formation of a negative outlook on heavy industries, and tourism was the only pillar that was left for the economic growth in the region (Svein Sundquist, personal communication, June 15, 2020). The employment in the accommodation sector during the period 2015-2019 in Sør-Varanger increased by more than 40% (Statistisk sentralbyrå, n. d.c) and the number of overnight stays in hotels during the period 2015-2019 increased by more than 10 000 and in 2019 constituted 92 442 (Statistikknett Reiseliv, n. d.b). The Chinese market grew considerably from 297 hotel overnight stays in 2013 to 4176 in 2019 and almost surpassed the number of German hotel

nights, which in 2019 amounted to 4304 (Statistikknett Reiseliv, n. d.b). The tourism sector was undergoing consolidation: in 2014 Hurtigruten AS, experiencing financial difficulties, was sold to foreign investors and underwent revival (“Hurtigruten er i spill”, 2016). In 2018 Hurtigruten Barents AS was established, owned by Hurtigruten Onshore Operations AS and a local enterprise Ulven Investment AS, with an intention to buy all the services of Kirkenes Snowhotel. In 2019 Kåre Tannvik, the founder of Kirkenes Snowhotel, exited the business, which was acquired by foreign investors (Randa, 2019). Although tourism in Kirkenes has been growing, not all developments can be seen as positive. Seasonality, focus on increasing tourist numbers, high market influence of tour operators in Finland and Hurtigruten, leakages from the local economy (e.g. high proportion of foreign labour, overseas leakages of the earnings), dominance of big players following consolidation are aspects of tourism, which call for a well articulated tourism strategy and management.

In 2016 Sydvaranger mine was bought by Felix H. Tschudi and has been maintained with the intention to reopen it in 2021 (**path extension**). While the attitude in the society towards the reopening of the mine has been positive and the plans to reopen the mine secured political support (Peter Steiness Larsen, personal communication, June 5, 2020), there has been less enthusiasm about the reopening of the mine, which because of repeated delays has been a tiring exercise – people are tired of waiting and some doubt whether it would ever reopen (Svein Sundquist, personal communication, June 15, 2020; Rune Ulvang, personal communication, June 16, 2020). On the other hand, people have come to accept a cyclical nature of the mine and a need to build other industries that could support the region in the times of a downturn (Trellevik, 2016a).

In 2016 the municipality received a NOK 45 million restructuring package from the state for new business development and local economic transformation and assigned itself a goal to restore the workplaces, lost after the bankruptcy of the mine – to create 300 new local jobs (Staalesen, 2016a). The current mayor Rune Rafaelsen initiated the establishment of Sør-Varanger Utvikling AS to administer the restructuring grant and in a few months restructuring work started covering five strategic focus areas: industry, adventure industry, the Barents Sea, value creation in the border area and new industries. The funding is designated for pre-projects and early phase business development (before the establishment of a business), however, financial resources are not adequate to provide support to the establishment of the enterprises (Svein Sundquist, personal communication, June 15, 2020).

Other efforts to strengthen entrepreneurial environment included the establishment of the incubator Tivoli North AS in 2015 as a private initiative and a merger of Kirkenes Business Park with Origo Knowledge Park in Alta in 2020 with a goal to broaden the offer for the businesses through increased competencies and capacity (Kirkenes Næringsshage, 2020). In 2018 “Designregion Barents” – a joint project of Tivoli North AS and Kirkenes Business Park with the support of Sør-Varanger Utvikling AS and Finnmark County Council – was started. The project is aimed at improving entrepreneurial culture and innovation through a range of events targeted at existing companies and prospective young entrepreneurs and stimulating collaboration between the private and public sectors (Kirkenes Næringsshage, 2018a). As a part of the project a “Change management and innovation” programme has been introduced seeking to improve the change management skills in existing companies and equip them with tools to better utilize/ create opportunities (Kirkenes Næringsshage, 2018b). In 2018 in order to facilitate new business development in the region Kirkenes Business Park initiated Gründerakademiet – the first entrepreneurship course in 20 years offering guidance, gatherings and online training for prospective entrepreneurs (Kirkenes Næringsshage, n.d.). Sør-Varanger Utvikling AS in cooperation with the Norwegian University of Science and Technology in Trondheim in 2017 organized a course of operational leadership development in order to improve leadership skills of both public and private organizations (Stålsett, 2018). Efforts have been put to establish collaboration between Barel AS and local technology companies (e.g. Gamnes & Bror) with an intention to build a technology network across local companies in Kirkenes and the surrounding area (Barel, 2020). In 2019 Kenneth Stålsett, the CEO of Sør-Varanger Utvikling AS, reported that from the start of its activity the restructuring company invested NOK 8,8 million in 43 feasibility studies and preliminary projects, which created 63,5 new jobs and projected to create 536 jobs (Stålsett, 2019).

During the last years there have been several unification initiatives in the business community. In 2018 Sør-Varanger Retail and Service Association (Handels- og Service Forening Sør-Varanger) was established to promote the growth of retail businesses and Kirkenes as a retail destination (Sør-Varanger Utvikling, 2019a). While no business association exists in Kirkenes today, in 2019 a project has been initiated with a goal to establish Kirkenes Business Association as a spin-off of Kirkenes Business Park, which today acts as a member organization for more than 80 local businesses (Rautio, 2020). As an implementation of the tourism strategy, Visit Kirkenes SA (a tourism marketing organization,

uniting 17 key tourism players) was established in 2017 (Sør-Varanger kommune, 2019). The tourism strategy was revised in 2019 with a greater focus on sustainability and a goal to receive a Sustainability label for Nordic tourist destinations (Sør-Varanger Utvikling, 2020a).

The work on the Arctic Railway from Kirkenes to Rovaniemi has continued and in 2019 Sør-Varanger Utvikling AS signed an agreement with Finestbay Area Development Oy (FI) (a development company from Helsinki also responsible for the planning and development of a tunnel between Helsinki and Tallinn) seeking collaboration of all stakeholders in order to raise international funding (Sør Varanger Utvikling, 2019b). The project has secured considerable political support from the local and regional parties and public institutions, and the previous skepticism of the Labour party leader Jonas Gahr Støre has started to fade (Fjellheim, 2019).

A few new initiatives are currently being developed: in response of tourist interests Kåre Tannvik has been working on establishing a tourism business on the Russian side of the border (Kåre Tannvik, personal communication, June 17, 2020) (**related diversification**). Arve Henriksen has been involved in building a recycling plant for ocean plastic (Arve Henriksen, personal communication, July 13, 2020) (**unrelated diversification**). Several seaweed cultivation projects were established (Unni Sildnes, personal communication, June 16, 2020) (**related diversification**). Varanger Kraft (30% owned by Sør-Varanger municipality) has been a partner in an EU project, aimed at building a hydrogen factory in Finnmark (Berlevåg municipality) and selling hydrogen instead of electricity (**related diversification**) – as a result a demonstration site in Berlevåg has been built in 2019 and further developments might lead to renewable energy usage in industrial activity in Sør-Varanger, including mining (Varanger Kraft, n.d.; Felix H. Tschudi, personal communication, July 1, 2020).

The Corona virus pandemic this year hit the tourism industry in Sør-Varanger hard, which according to Kåre Tannvik completely stopped (Kåre Tannvik, personal communication, June 17, 2020). To fight the negative impacts of the pandemic The Norwegian Barents Secretariat launched an online competition inviting creative individuals to join forces to develop innovative solutions to societal challenges (Barentssekretariatet, 2020). Visit Kirkenes SA was awarded NOK 425 000 to attract tourists back to Kirkenes (Sør-Varanger Utvikling, 2020b). Corona pandemic negatively affected shipping companies: Arve Henriksen has been working hard since the spring to keep the border with Russia open (Arve Henriksen, personal

communication, July 13, 2020). Due to Corona crisis the sales of king crab to China and other markets has fallen and Norway King Crab Production AS experienced a 50% drop of total sales (Lund, 2020). However, the outlook for mining operations is more positive – due to very negative effects of Corona pandemic in Brazil, Australian companies are taking advantage to serve the Chinese market, which is pushing the iron ore prices are on the rise (Smyth and Hume, 2020).

Change agency

Main phase 1: 1900-1939.

Mine related growth

Christian Anker, who bought the ore deposit near Kirkenes, came from one of the richest, most powerful and politically influential families in Norway. He was an industrialist who started many industrial developments and factories in Norway. It was therefore difficult for the local people and authorities to contest his economic and political power and a wish to secure exclusive rights to use the mining license area, which previously had been used by the locals to practice traditional industries. Even though Christian Anker did not receive full rights to the licence area, he bought the land stretching over almost all the peninsula, which nevertheless secured the mine the future for many years to come. The intention of Christian Anker to open the mine in Kirkenes coincided with the state's strategic goal to populate the northern areas rather than the willingness to develop the region as such. Too few people lived in Kirkenes 40 years after the establishment of the municipality in 1858, and the community with unique characteristics of a place had not been formed yet. Together with the mine a new community emerged, mainly composed of new people who fled to the region because of economic prospects and thus were loyal to the mine. A new mining identity was born, very strongly anchored in the place and the land that held within the ore. It can be argued that low citizenry, centralized decision-making, the power of property (land ownership), economic/ political power and a new mining identity prevented the emergence of regional change agency.

The only manifestation of **innovative entrepreneurship** that could be observed during this phase was the opening of a sawmill by "A/S Pasvik Timber Co.", which was a Norwegian private initiative seeking to utilise the opportunity of a newly opened border with Finland. The industrial activity on the Finnish side of the border after the Finns won the Petsamo

Corridor and gained an access to the Barents Sea increased considerably and the amount of Finnish timber was much bigger than was available from the Norwegian state owned forests in Pasvik. The sawmill was not the first one in the region, where the mine owned its own sawmill, but came to be one of the largest and most modern in Scandinavia (Hanssen, 1994). Nevertheless, it failed to reach financial profitability, was ruined during the WWII and not rebuilt because the production was not possible after the Soviet Union became the new neighbour on the other side of the Pasvik river (Varanger Museum, n.d.). Even though the enterprise did not break an existing industrial path, it was driven by a combination of the existing knowledge and a notion of new time- and place-based opportunities, and can be considered an attempt to develop a local private sector.

Four other instances of agency have been observed and even though they did not have direct impacts on regional change, they influenced the formation of change agency indirectly in a long-term perspective.

First, the efforts of the mayor Andreas Wessel to both resist the sale of the land and to prevent the mine taking over the interests of the local farmers and reindeer owners can be perceived as *maintenance agency* aimed at *path continuation*. The struggle was only of limited success and generally forfeited, nevertheless, this type of leadership can stimulate the region's ability to 1) resist outside influence and protect own identity, 2) resist being administered from the centre, and 3) shape its own future. These qualities of local political leadership seeking sovereignty were important for the formation of **place-based leadership** and could have become change agency in the long-term or in the absence of a threat. Thus the failure of this type of agency could explain weak place-based leadership in this and later stages.

Second, the new people who fled to the area were jobless attracted by economic prospects and thus easy to control. Therefore, the foundation of the trade union movement and a major uprising in 1928 were important for the formation of **place-based leadership** – the region's ability to advocate for social policies and legislation. After the strike throughout 1930s the society got divided into those who participated in the strike and those who did not. The union workers were thrown out of the companies' homes, blacklisted and locked out by the company until 1938, but due to the mining of the richest deposit, exports to Germany in late 1930s and vigorous city growth, followed by the blossoming of the cultural life and sports associations, the incident was soon forgotten or was deliberately neglected (Wikan, 2010; Lund, 2015). The union was ruined and did not recover until after the war, instead, internal

company-run associations with compulsory membership were established (Lund, 2015). The defeat of the trade union movement and the efforts of the mining company to secure loyal working force thus strengthening the identity of Kirkenes as a mining and a company town can explain not only a lack of place-based leadership, but also a lack of **institutional entrepreneurship** in the region.

Third, together with the mine a considerable deal of entrepreneurs established themselves in the area and ran shops, hotels, cafes and diners. Incidentally, the tradesman Hans Petter Figenschou perhaps in anticipation of increased activity situated in Kirkenes even before the mine was open. At the onset of the mine when a lack of housing constituted a huge problem, Wikan (2010) accounts that there were particularly enterprising souls who rented beds on shifts for 8 hours/ 24 on rotation. Even though these enterprises served the local market and cannot be interpreted as an example of **innovative entrepreneurship** aimed at changing regional paths, their existence was crucial for both the entrepreneurial environment and the economic growth of the region as they provided a source for the capability to engage in innovative entrepreneurship.

Fourth, as the mine created prosperity, many cultural and sports associations were founded. These community initiatives were important for building the capacity for change agency – growing individuals who could later become or inspire others to become change agents (**individual entrepreneurs, institutional entrepreneurs and/ or place-based leaders**). The value of community leadership was acknowledged by the local people, for example, Kåre Tannvik, considered the cultural festival Barents Spektakel and a wrestling coach Willi Bangsund, who came into being much later, as the “force that can lift Kirkenes up to where it has always belonged” (2005, p. 380). Likewise, a legendary cross-country skier and repeated Olympic gold medal winner from Kirkenes Vegard Ulvang wrote: “It is not the buildings, but enthusiasts and environment inside them that creates the results” (2005, p. 300).

Main phase 2: 1945-1985.

Rebuilding Kirkenes

No regional change agency could be observed during this phase. But there were important developments in the other types of agency and the roles of key agents, which could explain why the regional change agency did not emerge.

During the previous stage mining became the new identity of the region. During the WWII when the communication with Oslo seized, the local administration of the mining company took the lead not only in protecting the interests of the company, but also the community and built a shelter for the entire population. This strengthened the mining identity. Furthermore, during the WWII East Finmark suffered heavy damages and after the war there was a focus on rebuilding, restoring what was ruined. Entire Kirkenes had to be rebuilt, and thus rebuilding the mine was in line with the post-war mentality, a natural and obvious goal and motivation of the local community. These cognitive constructs prevented the emergence of **institutional entrepreneurship**. Moreover, the disruption caused by the war was not perceived as an opportunity to develop new industries (**innovative entrepreneurship**) because 1) the region did not create alternative resources during the previous stage, 2) the region did not possess human and financial means and was dependent on external investments and 3) the time was not favourable since there was great uncertainty after the war. Also, despite the destruction, caused during the war to the mine and the mining company, the lifecycle of the mine was not exhausted. These circumstances created preconditions for a strong *maintenance agency* and path *continuation* at the regional level. After the WWII the state had an even stronger strategic goal to keep economic activity in the region, driven not only by the social and national but also security considerations. And since besides the ore there were no other obvious alternatives for such activity, the state also became a strong *maintenance agent* and provided resources for the rebuilding and existence of the mine. The regional growth was created by the regional and the state *maintenance agency*. When after the restoration the mine became the world's most modern mining facility (Wikan, 2010) and the mine, the town and the community entered into its golden age, there were little incentives for searching for or creating new opportunities for change.

While it would have been expected that the regional change agency should have been triggered at the first signs of the decline, it was not. There could be several explanations for this. First, the open-pit mining mode chosen when the mine was reopened determined the lifecycle of the mine and the mining company. While the ore was not depleted, due the chosen mode of operation and management it was becoming less and less accessible, thus the lifecycle of the mine and the mining company was much shorter than the potential lifecycle of the mine from the perspective of the ore deposit. Since the investment needed to revert the decline was not economically viable, the state became a *change agent* and initiated the

liquidation of the mining company and the mine. However, the region believed that the optimum value from the physical asset had not been achieved and resisted the liquidation scenario by seeking to revitalize the mine (*maintenance agency*). Second, the focus of the state policy on creating economic rather than sustainable regional growth in the area, combined with centralised management and unequal appropriation of municipal functions between the mine and the municipality prevented the development of preconditions for proactive **place-based leadership**. While the transfer of the responsibilities for water, road and sewage from the mine to the municipality as well as moving of the head office of the mining company to Kirkenes might appear as granting sovereignty to the region, however, since the region's fight for sovereignty had been lost in the previous phase and little had been done to evolve local governance capabilities, the region was poorly prepared to take advantage of this opportunity.

Main phase 3: 1985-1997.

Gradual closure of the mine and the opening of the border with Russia

In the beginning of the period the regional *maintenance agency* was very strong. The board of the mining company split into two camps: 1) the chairman Carsten H. Schanch and two members who did not support the extraordinary mining to uncover the ore deposit in Østmalmen (minority) and 2) CEO Knut H. Hübert, two employee and two shareholder representatives who supported extraordinary surface rock mining (majority) (Torgersrud, 2005a). The trade unions demanded subsidies for extraordinary mining, and the fight between the trade unions and the Minister of Industry Jan. P. Syse lasted for two years and was known all over the country (Torgersrud, 2005a). The state argued that the requested subsidy was too high, the company's long-term operating prospects unclear and in 1985 it was decided that the extraordinary surface mining should be discontinued (Torgersrud, 2005a). In the aftermath of the state's decision the CEO resigned and the trade unions suspended all ore mining. The action continued for 3 weeks even after it was brought to the Labour Court and proclaimed illegal and unlawful (Torgersrud, 2005a). The outcomes of this incident were three-folded. First, as in the previous attempts the region's fight against the centralized pattern of decision-making was lost, which suppressed the development of capacity for **place-based leadership**. The fight against the mode of asset management, which on one hand represented *maintenance agency*, but on the other hand intended to secure long-term future for the mine and the region

through renewed practices, was also lost, which could be perceived as a discouragement to the development of **institutional entrepreneurship**.

Second, the regional *maintenance agency* became even stronger as the mining company aspired to validate its utility and improve its future prospects through innovative processes. However, even though developing a plan to become self-financing seemed as an opportunity to safeguard the company's existence, in reality it was hardly attainable since the company was unequipped for such assignment and the cost was too high.

Third, the change initiated by the state was accepted and a regional *change agency* was activated. The efforts were focused primarily at **innovative entrepreneurship** – establishment of alternative businesses to sustain the region in the absence of the mine. This process was facilitated by the availability of funding after the state's approval of the restructuring package of NOK 400 million in 1990 and the change of geopolitical situation after the fall of the Soviet Union in 1991, which created opportunities for cross-border economic activity and created a basis for new national priorities. As the need to “normalise relations and build confidence across former dividing lines in the north” (Norwegian Government Security and Service Organisation, 2015) became the goal of the foreign policy, the need for the mine in the border area decreased and new measures (the Barents Secretariat, the Investment Fund for North-West Russia, Kolarctic Cross Border Cooperation programme) were established to support the change.

While the local community believed that the state “had and should continue to have an extensive responsibility for the local community in the restructuring process” (Teistevoll, 2006), several interviewees were critical of the easily attainable money, which has been the case in Kirkenes and Finnmark (James Karlsen, personal communication, May 19, 2020), and viewed it as hindering learning and the development of entrepreneurial thinking:

Those kind of packages are like an extra mattress – it seems comfortable, but in the long term it's absolutely counter productive. Every time we have a positive development and we are doing stuff to develop ourselves, every time the mine closes we have to have a new emergency package. So what happens is that if you don't do this right, you can always have an emergency package. But you have to decide, are we going to view ourselves as a self-supplied developed region, or are we going to be dependent on those kind of packages. And none of the packages, not the old ones and

this one, which is actually now in circulation is good for Kirkenes in the long run. Because every statistics of those packages shows that they give an absolute minimum of development in the long term – companies, which can employ more people. It goes like in a vicious circle. So I am not very positive. I see the same thing happening with the package, which is now available – there are some consultants who have some income, like artificial breathing into some consultancy companies, but the main problem is not keeping consultants happy, it's developing Kirkenes and all of East Finnmark in a way that is sustainable both for the environment and for the whole community in a longer term. (Arve Henriksen, personal communication, July 13, 2020)

Moreover, large sums of restructuring money available locally led to conflicts among different parties, who “felt that they did not get their share of the new opportunities that the restructuring millions created” (Andersen et al., 1997, p. 156). The attempts to establish an oil base Barents Base Kirkenes failed due to internal disagreements between the private sector (Kirkenes Trading and Supply Service A/S), the mine and the municipality. The restructuring work was paralysed, the municipality was seen as unable to act as a unifying coordinator and the Ministry of Industry took over the management of restructuring funds since 1990/ 1991 (Andersen et al., 1997). The incident became an “open wound” in the relationship between the private and public sectors for many decades to come (Aarnes, 2005, p. 314). This example demonstrates how a lack of **place-based leadership** hampered **innovative entrepreneurship**.

Furthermore, while the newly created state jobs provided safety, several interviewees remarked that the provision of public employment restricted the development of the entrepreneurial attitude and there were less people who could actively engage in business activities (James Karlsen, personal communication, May 19, 2020; Svein Sundquist, personal communication, June 15, 2020; Felix H. Tschudi, personal communication, July 1, 2020; Arve Henriksen, personal communication, July 13, 2020). The passive private sector and the diminishing membership in the Sør-Varanger Trade, Crafts and Industry Association indicate a lack of **place-based leadership**. The establishment of separate enterprises (A/S Anlegg, SM Barents Services AS) from different departments of the mining company as service providers to the mine and external clients could be perceived more as adaptation and reuse of existing competencies focused at job creation than true innovative entrepreneurship, yet, the ability of the mining company's employees to actively engage in the searching process and produce

business solutions denotes entrepreneurial capability. The opening of the border with Russia gave a new dimension to the society: “everything was so positive and seemed possible” (Unni Sildnes, personal communication, June 16, 2020). The proliferation of businesses in Sør-Varanger engaged in business cooperation with Northwest Russia represent **innovative entrepreneurship** and Kimek AS, Barel AS and Henriksen Shipping Service AS are examples of new businesses that successfully harnessed such cooperation.

Even though the entire electrical department was transferred to a newly established Kirkenes mechanical yard (Kimek A/S), the circumstances surrounding the establishment were different. Torgersrud (2005a) provides a detailed account of the events. Driven by the aspiration to enter the oil & gas industry, Sør-Varanger municipality hired the leader of Research and Innovation in Education (FINNUT) Svein Randa, and in 1984 the delegation from Sør-Varanger visited the oil exhibition in Stavanger and met representatives of the Russian oil industry. Despite the opposition from the state and the Norwegian oil industry since the establishment of direct contact with Russian oil & gas sector as well as subsequent visit of Neftgass exhibition in Moscow were perceived as a threat to the state’s and industry’s control, the initiative proceeded. The course of events was altered unexpectedly when the representatives of the Finnish delegation, Valmet shipyards, after failed attempts to enter the Norwegian oil & gas industry expressed an interest for building a ship repair yard in the northern areas for maintenance and repair of fishing vessels they built for Russian shipowners. Kirkenes with its proximity to Murmansk, a good connection with Finland, excellent harbour and established industry provided perfect preconditions for such development, and in 1986 an agreement of intent was signed between Valmet, A/S Sydvaranger and Sør-Varanger Invest with a goal to establish a ship yard with up to 250 employees. Svein Randa during the visits to Oslo presented the plans the Ministry of Trade and the State Secretary Arne Synnes and convinced the state to approve subsidies for building the necessary facilities. Therefore, the establishment of Kimek AS represents not only **innovative entrepreneurship**, but also **place-based leadership**.

Another example of **innovative entrepreneurship** is the establishment of Barel AS. The search of Glamox, a Norwegian manufacturer of lighting products, for a location for the production of electronic elements to its heaters, was embraced by Geir Torbjørnsen, a local engineer, as an opportunity to realise his childhood dream to establish an electronics business in Kirkenes. In 1993 Barel AS was established as a subsidiary of Glamox and employed 12

people. In 1996 the company had 49 employees and a turnover of NOK 24 million (Nilsen, 2007). Work invested in building good cross-border relations and cultural understanding enabled Barel AS to utilize cheap labour on the Russian side and open a subsidiary in Murmansk in 2002, which helped the company to stay competitive despite being located far from customers and suppliers (Morison, 2011). Later the company became an independent local enterprise.

Utilizing new business opportunities in Russia, helping the Russians exactly where the help was needed after the economic downturn in Russia that followed the dissolution of the Soviet Union, focusing on long term sustainable development of the region – creating something successful, something beautiful out of nothing for at least 20 years were the motivations that encouraged Arve Henriksen to establish Henriksen Shipping Service AS in 1992, which serves as another example of **innovative entrepreneurship**. The company aimed to provide port agency and ship supply, especially targeted at the Russian market. Favourable historical preconditions and infrastructure in Kirkenes facilitated the establishment of the company, yet in order to secure customers, trust needed to be built, which required arduous work before the first really good contract came in 1998, which enabled the company to scale:

I was not afraid of them in any way. I knew about the communistic problems and that the whole nation was wrecked with all the poverty and corruption. At the same time there was no reason to be afraid of the people. I established a few people and asked if they wanted to talk to me – we talked about what we could do for each other. I said: I will keep an open book system with you – you will never have to worry about being cheated, because I know that this is against the Russian culture – you can have any paper, any invoice, any price check at any given time, I will even show you the profit I have on each item. And the reason I did this was that you have to establish trust before you do business with Russians. We started with a simple plan – to make friends with them and to keep the promise with a surplus – in that way I established trust on both sides. Then we separated serious ones from the pirates. (Arve Henriksen, personal communication, July 13, 2020)

The business was a success from the beginning. Later the rapidly growing fishing industry created hundreds if not thousands of jobs. When reflecting on the company's success Arve Henriksen remarked: "in my case it was a case of being at a perfect place at a perfect time with a perfect setup" (Arve Henriksen, personal communication, July 13, 2020).

Tourism was another sector where **innovative entrepreneurship** emerged. The establishment of Pasvikturist, a local travel agency still in operation, in 1990 is one example. Fors (2018) reports that tourism enterprises sought to sell the Norwegian-Russian border as a tourist attraction: sales of souvenirs, guided border tours and even border flights were organized. However, Nina H. Teistevoll (2004), who worked as a tourism coordinator in Sør-Varanger municipality during the period 1986-1992 remarked that the restructuring process was lacking long-term vision and was not consistently attuned – it was not clear whether the priority was to develop big start-ups, natural resources or small and micro enterprises. Tourism in the community was perceived as “not good enough”, and she found it difficult to argue that small and medium size tourism enterprises could provide a diversity of jobs and like other industries needed facilitation, start-up support and competence development. It’s with a great regret she recalls the failing of the Grenseland project, which was initiated by the local community members Bente Braaten and Steinar Wikan in 1983 (Torgersrud, 2005b) and aimed at developing the border as a tourist attraction (Fors, 2018). The broader goal of the project was to redefine the identity from mining to borderland – “unite the community and create belief in the future” (Fors, 2018, p. 167). Cultural heritage and industrial history were also a part of a plan (Teistevoll, 2004), at the centre of which was a several thousand square meters visitor centre. A funding application was sent to the Ministry of Culture and Science in 1983, the project was further expanded by a special committee of the State Secretary Committee and in 1986 awarded a grant by the District Development Fund (Distriktenes Utbyggingfond) (Torgersrud, 2005b). However, in 1988 it was revised and essentially abandoned by the municipality not only because of excessively high cost of more than NOK 200 million, problematic location and time but also a lack of municipal resources and lack of belief that selling border related experiences would create value worth the effort (Torgersrud, 2005b; Fors, 2018). While the tourism development is an example of **innovative entrepreneurship**, it was constrained by a lack of both **institutional entrepreneurship** and **place-based leadership**. The mining identity prevented the growth of the new paths and this could be perceived as the first signs of *cognitive/ institutional lock-in*.

There were several other initiatives, which even though not intended to change the regional paths, yet indirectly affected change agency. The environmental action was weak under the state ownership of the mine as tension was undesired between different state institutions. After the initiation of the mine liquidation process environmental concerns were also subdued

since acting against the pollution and environmental degradation at the time when the mining company was fighting for its and the mine's existence would have meant fighting against the well-being of the region. Yet in 1990 Kåre Tannvik initiated a large scale environmental action Stop Deadly Clouds from the Soviets (Stopp Dødsskyene fra Sovjet) directed at air pollution from the nickel plant on the Russian side of the border. As Kåre Tannvik (2005) accounts, several people responded to his advertisement in the newspaper and the action started to materialize. The sales of 4000 printed member blocks attracted the interest from Oslo and a goal to raise NOK 300 million (1 million for every ton of SO₂ emissions) to start the cleaning operations on the Russian side was set. It was sought to secure Nordic engagement and cooperation of Norwegian and Finnish industrial companies Outokumpu and Elkem. Harald Henriksen, the chairman of Sør-Varanger Invest and the director of the Industry Bank (Industribanken AS), who was an influential figure and authority in Norway, helped to engage the Norwegian and Finnish industry actors. The state's interest in the movement kept growing and the action culminated with the organization of a concert with the showcase of pictures from Nikel in Oslo Concert House with an audience of 1100, during which the Prime Minister Jan. P. Syse agreed to assign the financing. However, after the change of the Norwegian government in 1990 the cooperation between Oslo and Sør-Varanger weakened and due to a lack of political will in Russia, which after the fall of the Soviet Union was struggling with economic problems and not willing to prioritize environmental issues, the funds remained unused. Yet, in Sør-Varanger the activists raised awareness of dioxin emissions from the Sydvaranger mine and the action contributed to the establishment of Svanhovd Environmental Centre in 1992 and the Norwegian Barents Secretariat in 1993 (Lund, 2015; Tannvik, 2005). Thus due to unintended results it can be considered as an example of **institutional entrepreneurship** and a form of leadership that demonstrates the potential for **place-based leadership**. Also the bottom-up artistic movement was significant and laid the groundwork for the establishment of the Norwegian Barents Secretariat (Rune Rafaelsen, personal communication, June 22, 2020). Nina H. Teistevoll (2004) noted that at that time there were different perceptions among men and women related to the value of the jobs that were created and that a certain scepticism against the outsiders and women was present. The inclusion of women oriented actions into the restructuring plan and designation of funding to the women's project "Grenseløse deg" was an important achievement, since it not only helped to raise women's competences and create more varied jobs for women, but also contributed to the attitude changes in the community as the

perception of the value created by softer infrastructure, such as schools and kindergartens increased (Sør-Varanger Avis, n.d). As a result, there was more focus on the establishment of kindergartens, lifelong learning and education (Sør-Varanger Avis, n.d). Therefore, even though the action did not intend to change the regional paths, through united action it has contributed the change in attitudes and establishment of alternative jobs and could be considered as example of **institutional entrepreneurship** as well as **place-based leadership**.

Main phase 4: 1997-2006.

Depression. Searching for new opportunities

The search for new alternative businesses after the closure of the mine was only moderately successful. Business cooperation with Russia did not develop as fast as it was hoped for (Karl Eirik Schjøtt-Pedersen, personal communication, June 25, 2020) and most of the newly established businesses dissolved (Aarnes, 2005; Aaland, 2019). Several reasons could account for this. First, after the fall of the Soviet Union living conditions on the Russian side of the border were harsh and basic consumer goods were lacking (Felix H. Tschudi, personal communication, July 1, 2020). Many local start-ups used the opportunity to bring western goods to Russia and left after making a quick profit (Aaland, 2019). Economic problems in Russia were growing and the Klondike period ended in 1998 when the ruble collapsed and the purchasing power of the Russians decreased (Aaland, 2019). In fact, the situation on the other side of the border was so bad and shortage of food was so severe, that in 1998 the governor of Murmansk had to ask for humanitarian help and between 1999 and 2000, in response to the local action “Nabohjelp”, sixteen shipments of humanitarian aid from Kirkenes were organised (Paulsen, 2005). The economic downturn in Russia was also a threat to Norwegian companies, which relied on the supply of the fish from Russia as the food now was needed in Russia (Paulsen, 2005). Second, unfavourable business environment in Russia – corruption, legislation that was not adapted for private business transactions as well as bureaucracy were impediments to the success and scared potential entrepreneurs. Moreover, Aaland (2019) reports several cases where Norwegian investors, often backed up by the public funding, fell victims to illegal takeovers and were squeezed out of the contracts and the country. Third, in the beginning the opportunities were ample and it was “very hard to know exactly where to begin, what to focus on and what not to focus on” (Arve Henriksen, personal communication, July 13, 2020). Aarnes (2005) remarked that pre-assessment of many businesses start-ups was

too optimistic. Wrong cultural assumptions, poor planning and careless market research (Aaland, 2019) demonstrate that coordination, strategic planning and business facilitation efforts (**place-based leadership** and **institutional entrepreneurship**) in the region were not sufficient. The establishment of Kirkenes Business Park (Kirkenes Næringshage) in 2000 represents an attempt to remedy the situation and is an example of **institutional entrepreneurship**. Fourth, a divergence of views between Oslo and Kirkenes on how to deal with Russia as a business and/ or political partner contributed to a lack of agreed strategy and discouragement as the local people felt not heard and the local knowledge of cross border cooperation was not seen as valued by the central government (Arve Henriksen, personal communication, July 13, 2020; Geir Torbjørnsen, personal communication, April 1, 2020). In an interview back in 2006 Arve Henriksen remarked:

There is something seriously wrong, when I as a businessman have to spend most of my time arguing with politicians and bureaucrats who introduce schemes that prevent and confuse the development of both industry and trade here in the north. ... In several areas, the authorities themselves are the biggest brake on a positive development in the High North". (Johansen, 2006, p. 9)

Therefore, it was not surprising that not many people perceived the opportunities in Northwest Russia the same way as the CEO of Barel AS when he opened a subsidiary in Murmansk in 2002 taking advantage of cheap but well educated, qualified and creative labour force. "The train goes now", he said back in 2003 (Barel satser, 2003, para. 1), but there were few companions.

After the change of government in Russia in 2000, the new economic policy largely focused on the oil & gas industry (Aaland, 2019). The oil prices were rising sharply towards 2008 and the intentions to develop several large-scale oil & gas related projects, such as Shtokman and Yamal LNG started to materialize (Aaland, 2019). Several previously established businesses in Kirkenes took advantage of the new opportunities by diversifying into the oil and gas related activities: Kimek Offshore AS was established in 2000 as an oil & gas service company, followed by Arve Henriksen with Shipping Cargo Kirkenes AS and Felix H. Tschudi with Kirkenes Transit AS, who engaged in Russian oil & gas trans-shipments in 2002 and 2005 (**innovative entrepreneurship**). But the new ship-to-ship oil & gas activity near Kirkenes had to stop next year due to new regulations aimed at protecting salmon stocks in designated national salmon rivers and salmon fjords. The Norwegian Society for Nature

Conservation had been fighting against oil & gas trans-shipments in Bøkfjord near Kirkenes since 2003 and rejoiced the ban as a well deserved victory (Naturvernforbundet i Finnmark, n. d.). Environmental action could be perceived as encouraging the development of **place-based leadership** in that it is a collective pursuit directed against the choice of heavy industries as the basis of economic activity in Kirkenes and could mobilize local actors for the development of alternative routes and a more sustainable approach in developing the region. Yet Felix H. Tschudi pointed out that the ban was largely a result of central political decisions, driven by political parties' wish to gain score points and better position themselves in political battles – in a new coalition government the Labour Party despite disapproval let the Minister of the Environment Helen Bjørnøy, the representative of the Socialist Left Party, win the case. Unintentionally such decisions could stop the very few economic activities small places like Kirkenes had (personal communication, July 1, 2020).

Since 1994 king crabs, spreading from Russia and threatening the coastal ecosystems in Finnmark as well as causing damage to fishing equipment, increasingly became a resource in a small fishing village in Bugøynes and a hope for the struggling fishing industry in entire Finnmark (Sepajærvi, 2003). Fishing and handling technology was improved, courses for producers were organized and a cooked and “ready to eat” product was exported (Sepajærvi, 2003). Export prices for king crab grew and in 2003 there were 200 to 300 fishermen and 10-15 producers in East Finnmark living largely off the catch of king crabs. As the quotas in late 1990s increased, exports expanded into new markets and in 2002 60% of king crabs were sold to the Japanese, 30% to the USA and 10% to the European and Norwegian markets, and the value of exports in 2002 amounted to NOK 80 million (Sepajærvi, 2003). A new product and expanded markets created opportunities for further innovations in the next phase and serve as an example of **innovative entrepreneurship**.

Kåre Tannvik, who started working with tourism in early 1990s serving groups of American tourists, realized that it was possible to cater for tourists' needs and wants locally and driven by the desire to create something worthwhile for his hometown in 2001 established Radius Kirkenes AS, which became the owner of the snow hotel in Kirkenes (**innovative entrepreneurship**). He recalls that there was a lot of support from the local community and that he managed to secure the land close to the town almost for free. Yet the start was challenging – in the beginning nobody believed in tourism and regarded people working for such an endeavor as strange, to say the least and if not for the closure of the mine,

establishment of the snow hotel would have been impossible (Kåre Tannvik, personal communication, June 17, 2020). Due to the closure of the mine it was easier to recruit people and there were a lot of possibilities to grow the hotel. The initial financial support was vital in the beginning, but not sufficient – the enthusiasts worked for 5 years without salaries. Only after the business attracted the interest of international media in 2006 and the financial performance improved in 2008, the attitude of the local people started to change. Moreover, he remarked that because of the heritage of Kirkenes being a company town for an extended period of time and a strong mining identity among the local community not only the snow hotel, but all other companies or start-ups were seen as odd: “In Kirkenes everything that can be rusty is popular – it has to be a machine with noise and smell and oil and explosions before you are a man” (Kåre Tannvik, personal communication, June 17, 2020).

The mining identity, which now was driven by the memory of the past, was still very strong. It was hurtful for people to see that the industry that once created the value for the country and to which they devoted their lives suddenly became irrelevant. Thus, the wish to restore the past was strong, yet it produced an *institutional/ cognitive lock in* that prevented the development of the new paths: “And deep down, we probably hoped that there would be operations at AS Sydvaranger for many years to come – and it was like a hovering spirit over everything we did” (Teistevoll, 2004). Furthermore, Svein Sundquist (personal communication, June 15, 2020) noted that because of social security schemes and help offered by the banks, which temporarily (for 1 or 2 years) released people from paying mortgages and permitted just interest payments, “people did not feel that much impact on personal economies” and “many did not go to find new jobs, just waited for the mine to reopen”. Thus, a strong mining identity conditioned the reemergence of *maintenance agency* – repeated attempts to reopen the mine. Further strengthened by a lack of new economic activities and favourable economic outlook for the mining industry the *maintenance agency* materialized in the decision of the municipality to sell the mine in 2006 and the support for the reopening of the mine. This coincided with the launch of the High North strategy in 2006, which, however, was directed towards a much broader area: “It is not an East Finnmark investment, West Finnmark investment, Finnmark investment or a Finnmark, Troms and Nordland investment. It is northern Norway, northern Europe, up to what is the Arctic” (Norum & Berg, 2008, para. 2). Nevertheless, in Kirkenes it activated both the **change** and the *maintenance agency*. This is well exemplified by the external investor’s Kristian

Nordberg's vision for Kirkenes, which was not limited to the mine, but also included petroleum activities, tourism and a completely new city:

Perhaps a quarter of the remaining oil and gas reserves are in the High North. The Middle East is ravaged by strife and conflict. The sailing time with tankers from Kirkenes to the USA is eight days, from the Persian Gulf it takes 30 days. In the north, there will be a violent activity, and Kirkenes will be a center. ... Today, tourists come by Hurtigruten to Kirkenes and take a taxi to the airport to travel home to the USA, Japan and European countries. Hopeless. Imagine being able to experience the plateau, the Sami culture, nature, sea fishing, river rafting – imagine sitting in a sauna in a beautiful hotel and looking out at the northern lights. The opportunities in the north are enormous. Today, Russians account for 30 percent of all trade in Kirkenes. There will be more. One day, the railway will be extended from Nikel to Kirkenes. This opens up several thousand kilometers of railway lines to the east and south. All this is not a dream, it is a reality in a few years, as both the Prime Minister and the Minister of Foreign Affairs say. (Tonstad, 2006)

The improving economy in Russia together with the oil & gas extraction activity in Northwest Russia and the Norwegian Barents Sea increased the prospects for **innovative entrepreneurship** – renewed cooperation with Russia and the establishment of the oil & gas service sector in Kirkenes. Industrial and cross-border knowledge and experience as well as infrastructure (the deep ice-free port and the airport) provided favourable regional preconditions for the realization of the new opportunities.

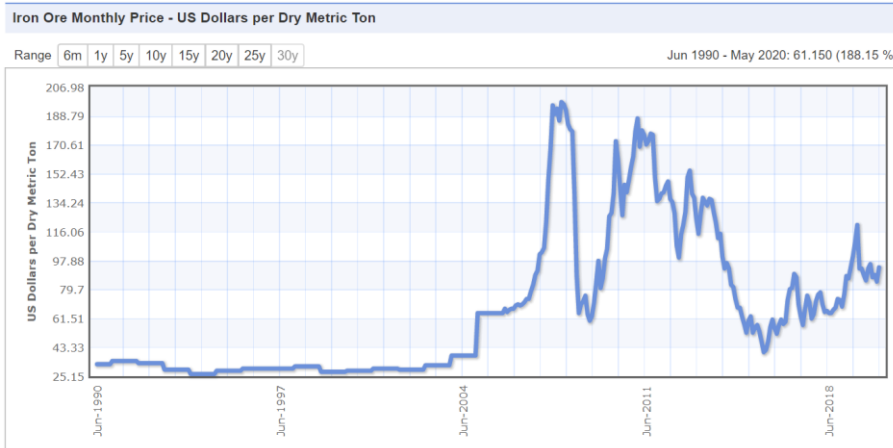
Main phase 5: 2006-2015.

Optimism

During this phase the region experienced exceptional growth and was a positive outlier during the period 2007-2010. *Maintenance agency* – preparations for and the reopening of the mine mainly account for this growth. During 2007-2008 the iron ore prices were record high (see Figure 10), the money for reopening the mine had been raised and despite the world economic crisis in 2008 the preparations for and rebuilding of the mine in Kirkenes were ongoing almost as planned.

Figure 10

Iron ore prices 1990-2020



Note. From indexmundi.com

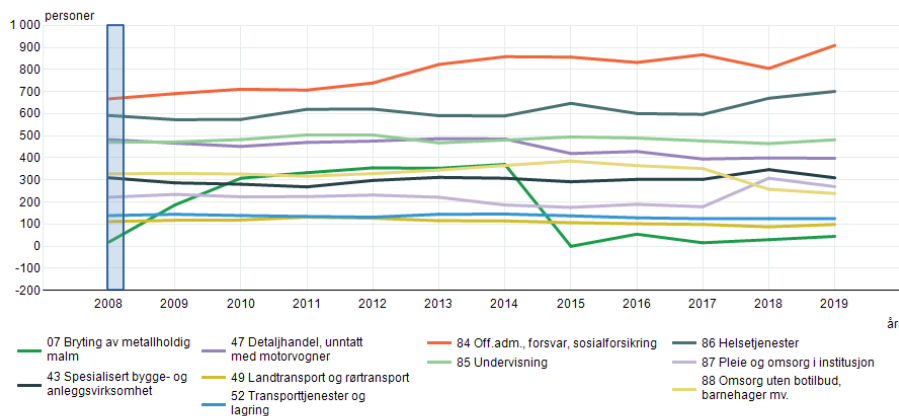
Felix H. Tschudi recalls that Australian investors allocated a very generous amount – the project was eight times oversubscribed before it was listed on the Australian stock exchange (personal communication, July 1, 2020). The global economic crisis prevented the company from getting loans and caused Felix H. Tschudi's ownership of the mine to decline, but it did not impact the reopening process. Since the mining company, aiming to create growth in the region, hired as many local sub contractors as possible, the region basically did not feel the impacts of the global economic crisis: "that's a big factor in the growth that we experienced and the rest of the world didn't" (Svein Sundquist, personal communication, June 15, 2020).

During the period of 2007-2010 employment in the mining industry rose sharply while in the other 9 top employing sectors it remained flat (see Figure 11). The employment in the accommodation sector in Sør-Varanger only started to increase towards 2011 (see Figure 12) and no growth in overnight stays in Finnmark could be observed (see Figure 13).

Figure 11

Top 10 employers in Sør-Varanger 2008-2019. Employed persons per 4th quarter, by industry and year.

08536: Sysselsatte per 4. kvartal, etter næring (SN2007) og år. Sør-Varanger, Sysselsatte personer etter arbeidssted.



Kilde: Statistisk sentralbyrå

Note. From Statistisk sentralbyrå (n. d.c)

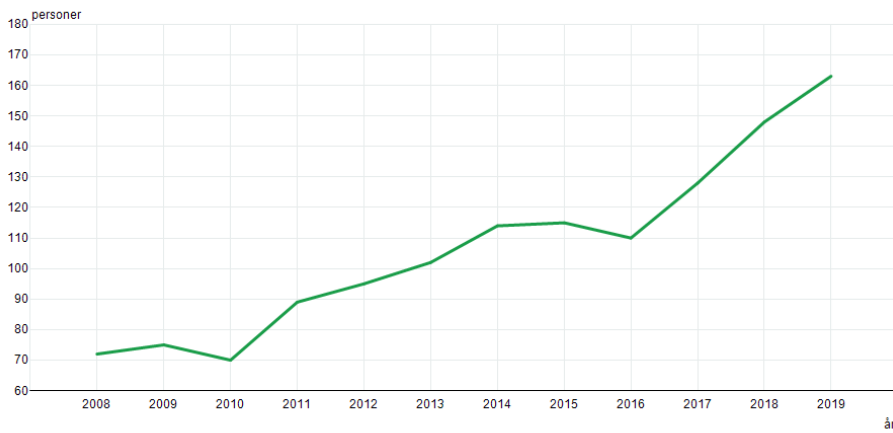
Figure 12

People employed in accommodation sector in Sør-Varanger 2008-2019



Note. Statistisk sentralbyrå (n. d.c)

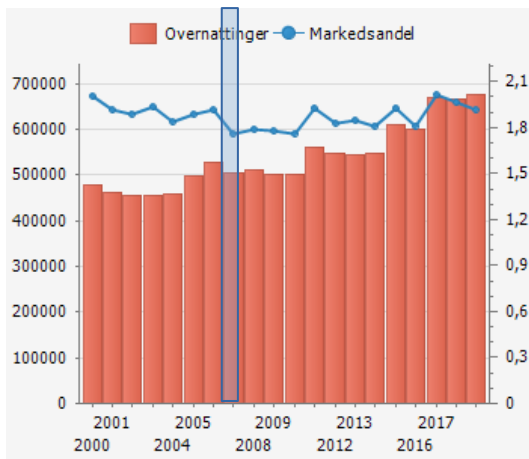
08536: Sysselsatte per 4. kvartal, etter år. Sør-Varanger (-2019), Overnattingsvirksomhet, Sysselsatte personer etter arbeidssted.



Kilde: Statistisk sentralbyrå

Figure 13

Overnight stays and market share in Finnmark 2000-2019



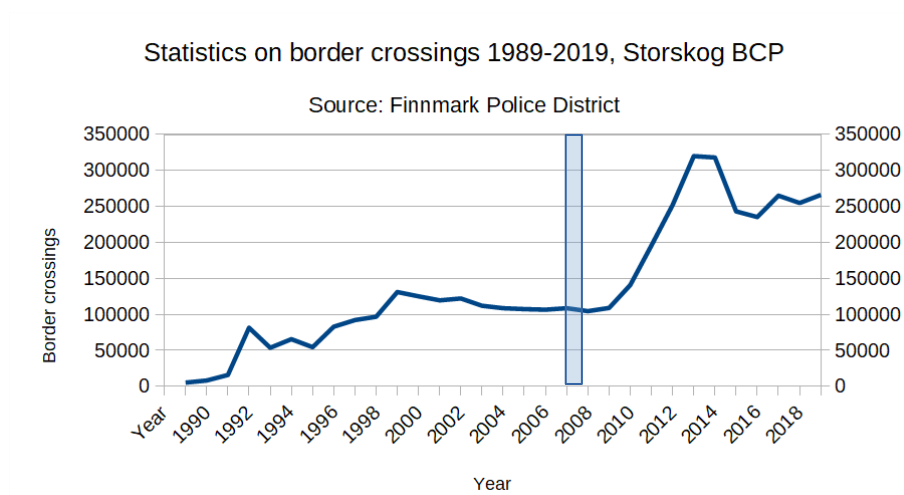
Note. From Statistikknett Reiseliv (n. d.b)

While the number of border crossings only started to grow in 2010 (see Figure 14), the retail purchasing power sharply increased – the turnover of retail sales per capita during the period 2008-2009 grew by almost 10% (see Figure 15), which could be explained by increased

income (see figure 16). It can be argued that the increase of income was largely influenced by the higher salaries paid by the mining company.

Figure 14

Statistics on border crossings 1989-2019, Storskog BCP

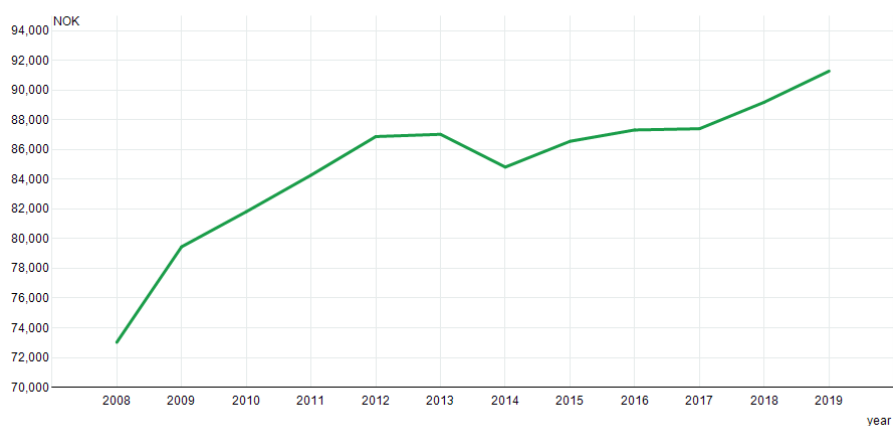


Note. From Finnmark Police District, 2020

Figure 15

Retail sales, turnover per capita (NOK), by year. Sør-Varanger.

04776: Turnover per capita retail sales (NOK), by year. Sør-Varanger (-2019), Turnover.

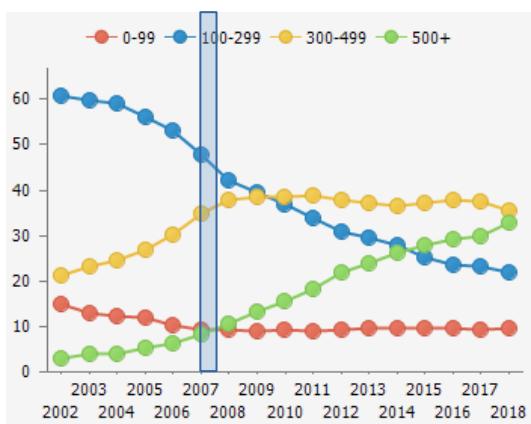


Source: Statistics Norway

Note. Statistisk sentralbyrå (n. d.d)

Figure 16

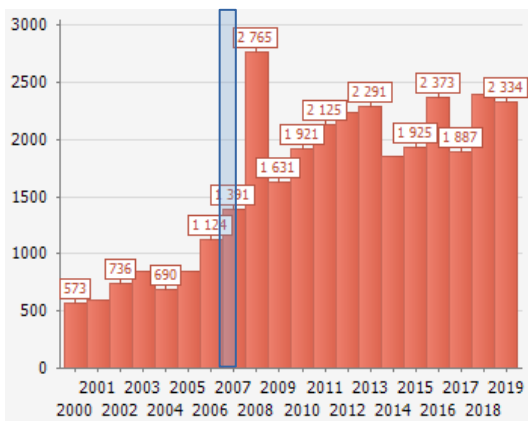
Proportion of persons by income interval, percent. In Sør-Varanger 2002-2019



Note. From KommuneProfilen (n. d.e)

Figure 17

Sold residential properties. Number, total value and average house price, Sør-Varanger 2005-2019

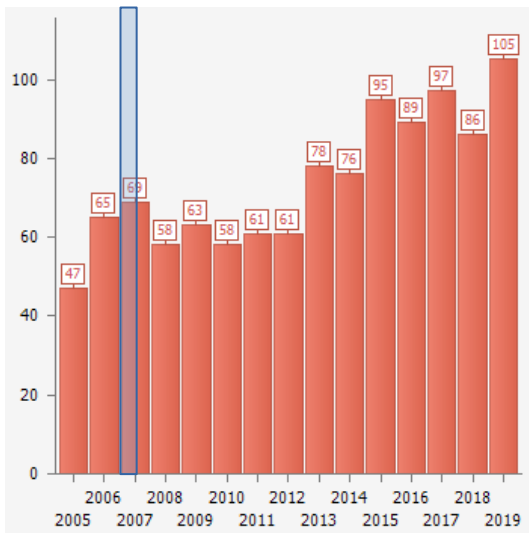


Note. From KommuneProfilen (n. d.e)

While several local entrepreneurs reported that they could not observe any particular changes in their business performance during this particular period (Svein Sundquist, personal communication, June 15, 2020; Arve Henriksen, personal communication, July 13, 2020), Unni Sildnes (personal communication, June 16, 2020) noted that during 2007-2010 there was a lot of optimism concerning the border, tourism and mining. Karl Eirik Schjøtt-Pedersen (personal communication, June 25, 2020) maintained that even though the stimulus came from outside (the global change in the relationships between the East and West and the opening of the border, national focus on the High North and oil & gas activities in the Barents Sea), which created an impression of new opportunities, it was embraced by the local community in a way that led to an *institutional change* – from seeing itself as an area of problems to seeing itself as an area of opportunities, from deep depression to optimism, from hopelessness after the closure of the mine to positivism. Thus, the growth during the positive outlier period 2007-2010 has been to a great extent driven by the mindset and psychological factors – the perception of opportunities – rather than the actual results/ change in reality. This optimism could be exemplified by the rising housing prices, which peaked in 2008 (see Figure 17), yet the number of newly established companies during the period did not rise (see Figure 18) and most of the new start-ups were micro enterprises (see Figure 19).

Figure 18

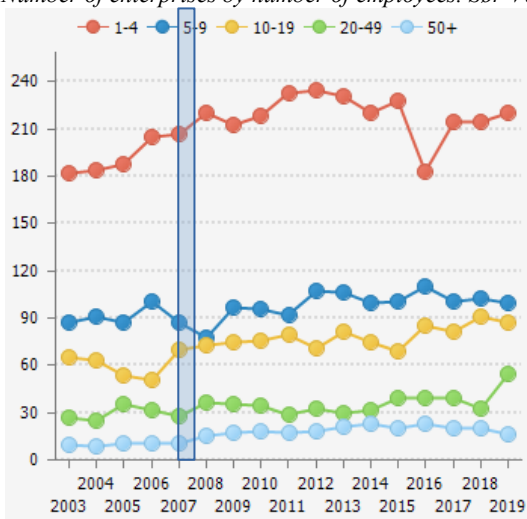
Total number of newly established enterprises in Sør-Varanger during 2005-2019



Note. From KommuneProfilen (n. d.g)

Figure 19

Number of enterprises by number of employees. Sør-Varanger, 2003-2019



Note. From

Not many instances of **change agency** could be observed during this phase. The success of Barel AS in expanding into the aircraft light production market through a profitable contract with Airbus and thus strengthening the electronics sector in Kirkenes can be perceived as an example of **innovative entrepreneurship**. The establishment of Norway King Crab AS is another illustration of **innovative entrepreneurship**. In response to the market needs where chefs had their own preferences to the mode of cooking and processing king crabs, the company changed the concept of a product and started selling alive crabs to the world market. Market knowledge, Norwegian and Russian aquaculture expertise, developed in the previous phase, and a focus on research facilitated the growth of the company. Another example of **innovative entrepreneurship** is the establishment of Kirkenes Trading AS in 2005 when a local entrepreneur Brede Sæther, encouraged by the politicians and authorities to invest in Russia during a student exchange at the Pomor University in Arkhangelsk, established an enterprise, which became one of the biggest exporters of fish to the Russian market and together with its subsidiaries in Russia in 2013 had a turnover of more than NOK 180 million (Olsen, 2014; Rautio et al., 2013). Even though initiated by the external entrepreneur Felix H. Tschudi, the establishment of the Centre for High North Logistics could be considered an example of **institutional entrepreneurship** since it laid a foundation for cooperation with Nord University in Bodø, business and public actors in order to achieve the goal of Kirkenes becoming a sustainable logistics hub. A more planned destination development process aimed at creating a tourism strategy was initiated in 2012 by the mayor Cecilie Hansen and could be considered an example of **place-based leadership**. Many stakeholders (Kirkenes business park, the municipality, the hotels, Avinor, Sør-Varanger museum, SørVaranger Utvikling AS, and tourism actors) were involved and as a result of collaborative work the feasibility study with situation analysis and a “Master plan for Sør-Varanger towards 2025” were prepared (Sør-Varanger kommune, 2019).

In addition to reactivated *maintenance agency* several other factors influenced rather than **change agency** during this phase. First, becoming a service hub for the oil & gas industry was one of the new economic directions for Kirkenes. However, due to a strong buyer power business environment for new business development in this industry was not favourable and regional efforts largely focused on improving infrastructural preconditions in order to attract external companies and investors rather than new business development. Likewise, strong power of suppliers in the tourism sector meant that local enterprises were very vulnerable to

external influences, which was further exacerbated by higher salary expectations. Kåre Tannvik (personal communication, June 17, 2020) remarked that “a lot of people left their jobs in other companies and went to work for the mine” and that “a lot of other companies had problems recruiting”. Second, despite a boom of networking events, which have increased the region’s exposure to a wider competition and improved the potential for collaborative initiatives (**institutional entrepreneurship**), they do not seem to have significantly contributed to the development of new paths. This is well illustrated by Brede Sæther:

During my 22 years in Murmansk, I had one visit from Finnmark County in my offices. Sør-Varanger municipality has never shown interest in what we do and what we do in Murmansk despite the fact that they have constantly been to trade fairs and trips in Russia where they have discussed business cooperation and visited their fellow municipality. When I started my work in Russia, Norwegian companies from Finnmark and Troms were represented in Murmansk. There are not many left, and I dare say that we are now one of the largest – if not the largest from this region. (Olsen, 2014).

Third, even though efforts have been put to increase the educational level in the region (**institutional entrepreneurship**), a closer cooperation with the University of Tromsø did not develop and the educational offer got oriented at local needs rather than new path creation. Similarly, Unni Sildnes was sceptical about the value of the establishment of the Barents Institute in Kirkenes: “Researchers are often not active drivers of the developments in the society. Research is lacking practical application and has not brought many useful benefits for the region” (personal communication, June 16, 2020). Fourth, due to central government’s lack of response to the local needs – improved road network, expansion of the airport, expansion of port capacity, normalization of the border area between Norway and Russia, which were seen as essential in order to establish Kirkenes as a logistics hub in relation to Shtokman field and other trade with the East, disillusionment with the High North strategy was rising, which negatively affected the capacity for **place-based leadership** as well as **innovative entrepreneurship**. Carl Kristian Johansen (2008) upon returning from the Barents Spektakel festival in Kirkenes wrote:

Samoverteatret stood for a more concrete critical perspective on the High North policy. The Samovar’s performance ended with the Stoltenberg II government’s High

North strategy being thrown into the air and declared dead. The performance described the history of people in the Barents region for several centuries, and emphasized how the pure natural man has been taxed, punished, locked inside borders and exposed to other people's battle and exploitation of raw materials over the centuries. ... One question that can be interpreted from this performance is: Will the population in the region benefit from the petroleum resources in the Barents Sea, or will value creation end up elsewhere as so many times before?

Fifth, it can be argued that the policy of the redistribution of tax revenues also hampered local sovereignty and contributed to the diminishing of **place-based leadership**. Finally, Rune Ulvang (personal communication, June 16, 2020) reported that community suffered from a lack of positive attitude towards new initiatives, which prevented the development of entrepreneurial mindset:

A bigger challenge is what happens around the dining table at home, because in Kirkenes quite many people do not wish their neighbour good. If somebody does something then they speak: oh, this will not go and then this will be a problem. Young people grow up with these negative thoughts (even at home) that they will not have the support. People are jealous or I don't know. ... I think that this attitude, present in many homes, is killing the will and this good feeling when you think – this I will do. Instead of everybody around you supporting you. Of course it's not sure if it will work, but at least you wish to try and you are willing to take this risk.

It is also important to note that because the mine did not live up to somewhat romanticized expectations of the community and the politicians, the *maintenance agency* weakened during this phase. During the interview the former mayor Linda Beate Randal remarked: "The reopening of the mine was not good for Kirkenes and the Kirkenes spirit – the mine became the focus and people relaxed and were less concerned with building other industries. It might have been better if it never reopened" (personal communication, March 30, 2020).

Main phase 6: 2015 onwards.

Downturn

As a result of the dissatisfaction with the management and the closure of the mine the *maintenance agency* and the *cognitive/ institutional lock-in* weakened. There were less people

who believed in long-term benefits of the mine for the region. The frustration over short-lived mining operations diminished the strength of the mining identity: “The society was tired. Oh, my God, didn’t they make it and do we have to start up again... A lot of spirit was dead” (Kåre Tannvik, personal communication, June 17, 2020). Furthermore, the mining community was aging.

But at the same time due to unrealized oil & gas operations in the Barents Sea and unfavourable political and economic environment for cross-border cooperation the hopes to become a service hub for the oil & gas industry (**innovative entrepreneurship**) and the ongoing and potential cross-border business (**innovative entrepreneurship**) were suspended. A lack of foundations for economic activity led to the revival of *maintenance agency*, which is exemplified by the support of the local community as well as the Confederation of the Trade Unions (LO), Confederation of Norwegian Enterprises (NHO) and the Ministry of Trade and Industry for the plans to reopen the mine (Felix H. Tschudi, personal communication, July 1, 2020). For the same reason the environmental protests over the plans to use Bøkfjord for dumping the mining waste were rather weak, in contrast to the protests that gathered around 3500 people in Kvalsund in West Finnmark where Nussir ASA was preparing for copper extraction operations (Hykkerud, 2019). Moreover, the past and the future value of the mine for the regional economy was appreciated: “It wasn’t and still isn’t a negative thing in the community. Without the restart of the mine we would have managed, but would not have had the boost and the growth that made it possible for us to expand even further” (Svein Sundquist, personal communication, June 15, 2020). It was hoped that in the future the mine could exercise a more holistic approach and the benefits for the society could be maximized (Stålsett et al., 2018). Finally, the acceptance of the mine with inevitable periods of prosperity and downturn as a key pillar of the regional economy and development of other businesses to endure the setbacks rather than alternative paths strengthened *maintenance agency*.

Yet, the need to respond more effectively to the turbulence in the business environment led to a change of attitudes in the business community that were beneficial for **innovative entrepreneurship**. First, both mining and Russia were increasingly seen as extra goods: “It’s so nice if we get them. ... But they can’t be the only thing we trust. We have to have other things as well” (Unni Sildnes, personal communication, June 16, 2020). Second, there was more focus on competitiveness: “There’s a lot of more focus on trying to go out and bring in

money and also be competitive in the whole markets. A lot more companies now have a broader geographic working area than they used to have” (Svein Sundquist, personal communication, June 15, 2020).

Tourism was one of the few industries left to support the regional economy. Because the tourism sector is made up of many small enterprises, the change agency in this industry is less visible. It is an accumulation of small start-ups like Kirkenes Outdoor AS, established in 2019 and aimed at developing an experience based tourism product (fixed and tailor-made packages) of the highest quality in cooperation with other similar companies in Norway (**innovative entrepreneurship**), that can have a significant effect on the regional growth and transformation of the industrial path. The efforts to develop a tourism strategy, focus on sustainability as well as establishment of a marketing organization Visit Kirkenes AS, uniting 17 key tourism players are examples of **institutional entrepreneurship** that give a direction and support for the tourism industry. Establishment of direct contact with the Chinese tourism market and securing collaboration through the cooperation agreement with Harbin town can also be interpreted as an example of **institutional entrepreneurship**. While the entrepreneurial exit of Kåre Tannvik may result in entrepreneurial recycling – reinvestment of financial wealth and learning into other entrepreneurial activities in the region and thus encourage others to invest (**innovative entrepreneurship**), Wennberg & Mason (2018) argue that in order to have a transformative impact the amount of finance available for recycling should be considerable. Moreover, they suggest that while the acquisition may result in the growth of the acquired company, the medium-term regional impacts of post-acquisition are often negative resulting in closures, truncations and transfers of intellectual property and staff. It is not clear whether the regional benefits of the sales of Kirkenes snow hotel to foreign investors as well as the establishment of Hurtigruten Barents AS (**innovative entrepreneurship**) partially with foreign capital will exceed the costs that are often associated with foreign direct investments in tourism, such as increased leakages from tourists’ expenditures, crowding out domestic investment and firms, loss of equity and control of tourism industries as well as inappropriate form and scale of development (Xu, 2017).

Further growth of Barel AS through the contract with Aker BP, which offers further growth possibilities and which the CEO Geir Torbjørnsen (Innovasjon Norge, 2020) calls “a door opener for many exciting projects for Barel in the future” is an example of **innovative entrepreneurship**. Furthermore, Barel AS became an initiator of **institutional**

entrepreneurship through its collaboration with other local technology start-ups and its aim to establish a technology network in the region.

While few instances of **innovative entrepreneurship** could be observed during this phase, a number of initiatives aimed at improving entrepreneurial environment (**institutional entrepreneurship**) were established by both the public and private actors and synergies between the two emerged. The interviewees were generally positive about the establishment of Sør-Varanger Utvikling AS and the incubator Tivoli North AS as facilitators of business development (Felix H. Tschudi, personal communication, July 1, 2020; Arve Henriksen, personal communication, July 13, 2020; Rune Ulvang, personal communication, June 16, 2020; Unni Sildnes, personal communication, June 16, 2020), yet there were several criticisms. First, people were critical about the initiatives being rather theoretical and lacking practical approach, acting more like a meeting place than being focused on concrete outputs (Arve Henriksen, personal communication, July 13, 2020; Rune Ulvang, personal communication, June 16, 2020). Second, the foundations of the restructuring work were seen as based on wishful thinking rather than existing strengths:

The idea is good, the results will be disappointing. Because the idea is not founded on the conclusion, the idea is founded on a wish that there will come some possibilities that will miraculously establish a new business arena. Like it did in my case in 1992. Being the in the right place at the right time and taking the opportunity that you get – you have to have the talent. Define what is your talent and develop from that. (Arve Henriksen, personal communication, July 13, 2020)

Third, a lack of funding for the implementation of projects beyond the initial stage was seen as a limitation for business development that resulted in many good ideas being discontinued (Unni Sildnes, personal communication, June 16, 2020). Fourth, the initiatives were seen as having a limited effect on the growth of established businesses – while one-person businesses got established, scaling and growing bigger enterprises was difficult (Unni Sildnes, personal communication, June 16, 2020). Fifth, a lack of focus on long term sustainable development goals and involvement of a wider group of stakeholders was considered as limiting the success of restructuring work: “Overnight you cannot restructure anything without connecting everything together – it won’t succeed unless you have that kind of thinking from the politicians” (Arve Henriksen, personal communication, July 13, 2020). Moreover, the small size of the municipality was considered as limiting the capacity to develop new businesses

and to grow innovate existing businesses. Out of approximately 2500 people working in the private sector only 10-15 companies were seen as in a position to develop new things, which meant that there was not enough volume of innovations to make a significant change:

Not so many have spare capacity to actually do innovations – you are busy making money to pay every day bills. You just need to survive day by day. To take the time from business managers, business leaders to go away from their every-day work to actually get involved in the development work – that’s hard. (Svein Sundquist, personal communication, June 15, 2020)

Furthermore, a small size of the community limited the capacity for the creation of new knowledge – as a result the same knowledge was being recycled and new competencies not developed (Linda Beate Randal, personal communication, March 30, 2020). Also, a large public sector was seen as “not conducive to creating new activities and entrepreneurship” (Felix H. Tschudi, personal communication, July 1, 2020). Yet integration of Kirkenes into wider regional networks, including amalgamation of Troms and Finnmark counties in 2020 and the merger of Kirkenes Business Park with Origo Knowledge Park in Alta (**institutional entrepreneurship**) were perceived as positive not only providing access to better qualified teams, but also decreasing a personal approach in decision making (Arve Henriksen, personal communication, July 13, 2020; Rune Ulvang, personal communication, June 16, 2020). The cooperation between the private and public sector especially by the local entrepreneurs was considered as poor (Arve Henriksen, personal communication, July 13, 2020; Rune Ulvang, personal communication, June 16, 2020; Rune Rautio, personal communication, June 22, 2020; Geir Torbjørnsen, personal communication, April 1, 2020):

The relationship between the local businesses and the local municipality is not good. ... We do not speak the same language, cannot understand what one party is trying to say to the other party. ... The mining company was so strong – employed approximately 10% of the population, almost half of all the population has been directly involved in the mine. It becomes a problem as soon as the municipality becomes so focused on that kind of expertise. They do not know any more how to interact with businesses working on other kind of projects in tourism, shipping, etc. They are supposed to do stuff that keeps us growing, not keeps us down. I think that they are afraid that businessmen like me and Greger Mannsverk and Felix H. Tschudi will take over and be the ones who actually decide, but none of us want to do this – we

want to have a secure plan and to know when I wake up that some madman in the municipality has not changed his mind overnight, which costs me a million bucks left and right. It's really hard to get them to understand that we are not the enemy. ... There is the scepticism and distrust between those who are politicians and municipality workers and those who are businessmen because they think that we are just in it for the greed and the money. This is a misconception ... and distrust against me as a businessman is my biggest regret. I wish they could be inside my brain and see how much I worry about my employees, how much I worry about the community, how much I worry about my company. It saddens me when people are talking about the business people like we are the enemy of the society. Every meeting begins with: ah, you are an alien, I shouldn't say no to this because it will only make you richer. What they do not realize is that 97% of the money we have taken out of the company has been pushed into other projects. And on top of that we pay taxes. I wish that the local municipality had more confidence in people, would have given the people the confidence of developing Kirkenes in a different way. (Arve Henriksen, personal communication, July 13, 2020)

A low rotation of staff in the administration of the municipality (some people reported as sitting in their positions for 30-40 years) who have considerable decision power over the choice of projects and relationships to be developed (Linda Beate Randal, personal communication, March 30, 2020; Arve Henriksen, personal communication, July 13, 2020; Rune Ulvang, personal communication, June 16, 2020) were also mentioned as setbacks of entrepreneurship. Moreover, a lack of strategic vision and appropriate business planning structure were signs of inadequate **place-based leadership**:

The mine was so powerful that it took care of everything in this society. Even if there was public administration, they did not have much to do. This formed a culture, which turned out to be quite negative. Even if there are processes going on, one of the challenges here is that the municipal administration is not the one that is leading us. Very often we and the business community feel that we are not totally in line. One example is that even though this is a rather large community/ municipality with diversified business activities, they did not have at all until now a commercial department in the administration, which is for me unbelievable. (Rune Rautio, personal communication, June 22, 2020)

The failure of the new port project in Kirkenes also serves as an example of a lack of **place-based leadership**. In the anticipation of increased oil & gas related activity in the Barents Sea the need to build a new port in Kirkenes became apparent. The activity in Kirkenes harbour was expected to increase and existing facilities, developed mainly to serve the mine, were not suitable for maritime industrial activity. The next port with proper port areas in Hammerfest was too far away and uneconomic for icebreakers with cargo from Russia to sail to, thus Kirkenes had a great opportunity to become the first Western port next to Russia. The municipality prepared comprehensive plans for the location of the new port, but nobody acted to pursue them (Jacob B. Stolt-Nielsen, personal communication, 2020, June 4). Many discussions and government preparations followed. Nevertheless, the municipality was indecisive regarding the location for building the new port and transferred the decision-making power to the state in the expectation of the state funding (Trellevik, 2016b). The Ministry of Transportation wanted to explore a completely new area, which, however, was poorly suited for boat navigation, and the project eventually failed (Jacob B. Stolt-Nielsen, personal communication, 2020, June 4). The state decided not to fund the building of the port, only the roads, and the cost of the investment was too high for the municipality to bear (Trellevik, 2017). The project is now back in the hands of the municipality and open for investment.

A lack of **place-based leadership** could also be seen in the region's relationship with higher education institutions. The current mayor Rune Rafaelsen (personal communication, June 22, 2020) was critical of the University of Tromsø as lacking a proactive attitude: "The University of Tromsø has done a very bad job regarding the eastern part of Finnmark. ... University promised that they would start permanent higher education in Kirkenes, but they haven't done that. I criticize the University of Tromsø very hard – they don't take responsibility". On one hand people believe that the University of Tromsø regards Kirkenes as competing with the campuses in Tromsø or Alta and therefore has few incentives to develop a Kirkenes offer (Svein Sundquist, personal communication, June 15, 2020), but on the other hand University of Tromsø has a very good economy, and money is not considered as an obstacle. Yet the region's role in driving the cooperation is not well articulated:

It's a hen and an egg problem. We don't have enough students, but we do not have enough to offer the students: either the students have to organize themselves to ask for something or the university has to come here and offer something that's good for each

part. None of that has happened. The university has not had the stamina to stay in Kirkenes and try to develop it – it has been a left hand work for a long time – they haven't made a commitment to do something. They just did something and no one showed up so they left. Maybe we should have someone else as a partner. (Svein Sundquist, personal communication, June 15, 2020)

On the other hand Unni Sildnes (personal communication, June 16, 2020) noted that there was a lack of culture supporting higher education in the society – the strong industrial identity caused people to see themselves as doers. The industrial society is rather skeptical about the university's presence in the region and tends to perceive competence as a surplus “when you have enough money, enough time, enough wish to do it”. Cooperation with Nord University in Bodø was seen as providing positive results in the field of research and offering more cooperation opportunities in the future (Svein Sundquist, personal communication, June 15, 2020).

Several interviewees noted the positive changes in the administrative apparatus of the municipality, where a new position of a leader for businesses development was established recently (**institutional entrepreneurship**) and a new leader of the planning department is being appointed (Rune Rautio, personal communication, June 22, 2020). Moreover, the development of the strategic business plan (**institutional entrepreneurship**) is on an agenda (Rune Rautio, personal communication, June 22, 2020).

The opportunities for the development of the region were still largely seen in the endowments: the iron ore, physical location on the border with Russia as well as favourable maritime conditions – ice-free coastal area with a low wave height and temperate weather. Despite the unfavourable technological, political and economic environment for oil & gas activities in the Barents Sea and cooperation with Russia the region continued to see opportunities in responding to the potential oil & gas discoveries, increasing volumes of oil & gas production in Northwest Russia and becoming a logistics hub. Since the region does not have financial resources to develop the endowments themselves, it relies on external investors and efforts to secure the investments, such as participation in direct negotiations and visits to China and active promotion of the railway from Kirkenes to Rovaniemi that resulted in greater political support and a more positive attitude of the Labour Party leader Jonas Gahr Støre as well as plans to include a more in-depth feasibility study into the National Transport

Plan (Rune Rautio, personal communication, June 22, 2020), could be considered as examples of **place-based leadership**.

On the other hand not all view mining and maritime logistics as a viable alternative for Kirkenes due to a lack of control of the opportunities, political instability in Russia, geopolitical risk as well as environmental concerns: “If you build the society on trust, education, culture, environment, you have a better future than digging a larger and larger hole in the ground” (Arve Henriksen, personal communication, July 13, 2020). Arve Henriksen, who is involved in building a recycling plant for ocean plastic (**innovative entrepreneurship**), is optimistic: “If this becomes big enough combined with tourism and renewable energy – I think we can forget the mine” (personal communication, July 13, 2020).

Despite crushing the tourism industry in Kirkenes, the Corona crisis might stimulate the development of **place-based leadership** for a more coordinated action aimed at the development of new regional growth paths. The current initiatives summoning the creative power of the region for a common goal to secure the future (**place-based leadership**) reinforce the collective support for each other that already exists in the business community: “The best quality of the society in Kirkenes is a good will – no other company will make you collapse, go bankrupt ... The solidarity and network makes people feel safe” (Kåre Tannvik, personal communication, June 17, 2020).

5. 3. Discussion

Since the goal of the ReGrow project is to explain the variation in the growth of 12 different regions, it is expected that by drawing upon the outcomes from the case studies of three other northern regions: Mo i Rana (Norway), Kiruna (Sweden) and Eastern Lapland (Finland), the discussion will generate added value to the interpretation of the findings in Kirkenes. A comparative approach will be applied in order to highlight and explain similarities and differences between agentic processes in four regions.

5. 3. 1. The role of the state agency

Regional development trajectories in Kirkenes and the other case study regions have been largely shaped by the state agency, which was enacted through fully or partially owned industrial plants that became economic engines of the regions. It is therefore important to

understand what underpinned the state agency and particularly its shift of course, which is exemplified by reduced support for the old industrial bases in the regions:

- the closure of the state owned Sydvaranger mine in Kirkenes;
- the closure and the sale of different units of the state owned Norsk Jernverk plant to private actors in Mo i Rana in Norway;
- a refusal to respond to the protests following the closure of the partially state owned Stora Enso pulp mill in Kemijärvi in Finland;
- the change of mineral law and removal of state ownership of mineral extraction industry in Sweden in order to encourage the influx of private companies, notwithstanding that high entry costs prevented these processes in Kiruna.

While in Kirkenes the development path has been to a great extent influenced by geopolitics, regional policies are another pillar that could explain the transformation of the state agency not only in Kirkenes, but also in the other case study regions. An outline of regional development policies in the Nordic Region offered by Gro Marit Grimsrud provides such clarification. Grimsrud (2019) bases her analysis on research from Norway, but considers topical issues relevant to all the Nordic countries. She proposes that rural and regional development policies until recently have relied on the logics of spatial expansion (including a strategic presence along the Russian border in Norway) and the need or wish to utilize all economic and cultural resources in the country. Her analysis suggests that the first regional development policy in Norway emerged after the WWII when top-down development policies and strategies were designed to counteract the modernization processes and subsequent urbanization and centralization. They were based on the concerns that the exodus of people from rural areas might lead to the underutilization of natural economic resources, which led to the establishment of new or relocation of old manufacturing plants, building of physical infrastructure as well as creating jobs and providing welfare to all municipalities in order to drive economic growth. However, the 1980s mark a shift in the approaches to regional development not only in the Nordic countries, but across Europe. First, top-down exogenous strategies were expensive to sustain. Second, there was a growing belief that development should arise bottom-up from close cooperation of local and regional self-governing bodies, local businesses and other local/ regional public and private stakeholders. Third, designing

and implementation of regional strategies was increasingly seen as a local responsibility. However, a limited capacity for development in small and peripheral communities soon became obvious, which resulted in a greater emphasis on the building of non-hierarchical networks across different scales, territories and actors. Since 1992 in accordance with the EU policy the focus shifted from municipalities to robust and integrated regions with strong regional centres. Collaborations are at the core of regional development initiatives today and are expected to bring a number of benefits to the small communities through increased economic and service efficiency (e. g. higher quality of development initiatives through pooled resources). Nevertheless, Grimsrud (2019) maintains that due to increased culture of collaboration small municipalities felt obliged to participate in many regional networks, which further depleted their already scarce development capacity. Moreover, peripheral areas had to compete with urbanized areas for development instruments, financial allocations for regional development were reduced, and the scale of operations and subsequently the benefits for small peripheral communities decreased. On the other hand Stein (2019) after analyzing the effects of regional policies on regional development concluded that despite heavily funded policies aimed at regional development in Northern Norway, there is “no cause to claim that Northern Norway has followed a unique path of development compared to Northern Sweden neither in general nor in smaller and more rural communities” (p. 79) and that the demographic development similarities in Arctic Scandinavia over the last 60 years are striking. While Grimsrud (2019) describes the 1960s as the golden age of regional development, which coincides with the golden age in Kirkenes and the other case study regions, Stein (2019) considers that the regional development policy that had the greatest impact in the north was the establishment of regional universities and university colleges. The positive effects of collaboration with the higher education institutions in Mo i Rana will be discussed below. It can be argued that the period that followed the establishment or relocation of large industrial actors in the regions cannot be considered the golden age of regional development because: 1) the industrial actors created an economic growth, which was largely unsustainable long-term, but provided an illusion of stability and 2) the dominance of the large industrial actors formed a dependent relationship, which was perhaps the strongest exogenous factor that prevented the formation of all three forms of regional change agency. The shift of attitudes towards regional development triggered state change agency, which encouraged the emergence of new regional paths arising from true regional change agency or as an implementation of state change agency. However, the process of industry diversification

has been difficult, few new path changing companies were established and a great deal of regional development initiatives today in all four regions are geared towards path extension. The limited success could be explained by a lack of seeds and favourable conditions for organic growth of new businesses and because the growth was imposed rather than arising naturally. Nevertheless, several aspects of the regional change agency that has been identified will be considered.

5. 3. 2. Innovative entrepreneurship

As a result of attempts to diversify the industry base and decrease dependency on a dominating single firm or industry few growth oriented new companies were established in Kirkenes and the other case study regions, and it would be tempting to perceive innovative entrepreneurship as weak. Yet it can be argued that it is the most developed form of change agency in Kirkenes. Although historically entrepreneurial activities were largely oriented at serving the local market, a number of examples outlined above cause us to believe that the entrepreneurial capability to engage in innovative entrepreneurship in the region exists. Several interviewees considered that there were many talented and entrepreneurial individuals in the region possessing entrepreneurial spirit and ability to generate new ideas. People, who showed ability to endure hardships throughout the history were believed to possess a particularly useful trait for the practice of entrepreneurship (Arve Henriksen, personal communication, July 13, 2020). Moreover, local business performance was appreciated by the current mayor as a worthwhile and impressive contribution to keeping the population in the region stable and preventing out-migration after the last closure of the mine (Rune Rafaelsen, personal communication, June 22, 2020).

Interestingly, after analyzing entrepreneurship in Wales' community, which has seen a similar decline of traditional industries including mining and steel-making, Huggins & Thompson (2015) conclude that while collective action driven by the desire for equality negatively affects entrepreneurial activity, social cohesion produces a high trust society and not only increases confidence in the ability to succeed in the new ventures, but also increases actual entrepreneurial activity. Thus, despite the visible negative effects of collective activity, such as hostility towards rewards achieved by entrepreneurs well exemplified in Kirkenes and the other case study regions, both collective action and social cohesion could represent a strength, which in the scarcity of financial, physical and human capital could pool community

resources, improve the perception of entrepreneurial feasibility and actual involvement in entrepreneurial activity.

Furthermore, Bill Aulet, a managing director of the Martin Trust Center for MIT Entrepreneurship at MIT and Professor of the Practice at the MIT Sloan School of Management, remarks that the fabric of potential entrepreneurs is not homogeneous and consists not only of “ready to go” individuals (who want to get things going right now), but also “curious entrepreneurs” (who do not know whether they want to be an entrepreneur, but find the concept attractive and offering a better future than working for a big company), “ready to go -1” individuals (who want to start, but not right now – who might consider working for a start-up first), “corporate entrepreneurs” (who are the only ones who have the money, but are very risk averse and unable to come up with break through ideas) as well as “entrepreneurship amplifiers” (who build ecosystems in government, academia or the private sector and are likely to recruit corporate entrepreneurs to start a new venture within their organization and have to work with “ready to go entrepreneurs” outside of their company in order to engage in open innovation) (Cphbusiness, 2017). Therefore, even though the dominance of the state-owned industrial company as well as a large public sector in Kirkenes and the other case study regions limit the entrepreneurial activity, a great deal of entrepreneurial capacity exists both in the corporate and the public sector. Innovation that occurred within national public organizations in Mo i Rana, serve as an interesting example: organizations such as Skatteetaten, National library, NRK licentiate office as well as NAV Service centre due to proactive place-based leadership and innovative entrepreneurship (a strong will to develop new services building on competences from the digital department of Norsk Jernverk as well as industrial culture of working shifts), grew from 10-15 employees to become the first ones to offer digitalized services at a national level and provide new services responding to calls after office hours. As a result, around 400 new jobs were created and the belief in the value of education and training strengthened.

5. 3. 3. Institutional entrepreneurship

Institutional entrepreneurship is the weakest element of change agency in Kirkenes and also rare in the other case study regions. Due to cognitive structures that formed during a 100-year long mining history, the community and institutions in Kirkenes got locked-in to the old industrial path and because they are characterized by inertia and resistance towards change and innovations, it can take a long time for the path dependence to alter. Arve Henriksen

considers that in order to confront the dominating view a real opportunity or a real alternative needs to be established: “it is very hard for any kind of people in Kirkenes to strongly go out and say that it’s time to move on now, let’s keep this hole in the ground closed and move to other better opportunities” (personal communication, July 13, 2020). Current initiatives targeted at improving entrepreneurial environment and regional networking can be perceived as a positive trend. Two observations from the other case study regions could be useful for further growth of institutional entrepreneurship. First, external actors played an important role in creating institutional change: in Eastern Lapland once the need for institutional entrepreneurship was identified, it was sought from universities and networks outside the region and in Kiruna a professor from KTH Royal Institute of Technology in Stockholm led the process of re-organizing conflicting relationships between the local municipality and the county board, which became a benchmark model for other regions. Second, in Mo i Rana in order to increase future possibilities for individual entrepreneurship the Helgeland Knowledge Park not only sought to include actors outside Mo i Rana, but also develop cross-sectoral interactions by connecting different branches of industry in Rana.

While in the case study regions many institutional entrepreneurship actions seek to improve entrepreneurial climate, the perception of what entrepreneurial culture entails is significant. The beliefs of Bill Aulet, who challenges the traditional study of management view are particularly relevant. He dismantles the concept of entrepreneurship into three parts: 1) a mindset or spirit and the willingness to redefine the rules, 2) an execution skill set which can to a great degree be learned, and 3) an operating model that can be applied in any community-based setting. Furthermore, he believes that the best way to encourage and teach entrepreneurship is not by creating entrepreneurs or growing start-ups, but by creating antifragile humans and teams – systems that go beyond robustness and resilience and ability to survive the storms and maintain the course, systems in which people and teams can grow stronger when faced with adversity and uncertainty. It can be argued that promotion of such antifragile entrepreneurial mindsets would be very beneficial for communities that have undergone huge shocks and are currently coping with the destructive effects of Corona crisis.

5. 3. 4. Place-based leadership

There have been very few instances of place-based leadership Kirkenes. The reasons for the scarcity of place-based leadership capability go back to the emergence of Kirkenes more than

100 years ago when the local resistance to the sale of land to the mine was subdued for the first time. Centralized pattern of decision-making, dependency relationship with the state-owned mining company and a distorted local governance structure, where municipal responsibilities for a very long time were carried out by the mine, provided little incentives for the growth of local governance. Since the state-owned mine could be perceived as an extension of the state policy, the region also developed a subordinate and dependent relationship with the state. All the above had a detrimental effect on the formation of place-based leadership capability and skills, which can explain why on many occasions regional development opportunities were not recognized or unrealized.

The presence of the University of Tromsø campus in Kirkenes represents one of them. While scarcity of higher education in peripheral regions is common and all the other three case study regions had to seek cooperation with regional universities, the advantageous situation in Kirkenes remained largely unexploited. This stands in stark contrast with Mo i Rana where Helgeland Knowledge Park since its establishment in 2004 very proactively lobbied for the university campus in Rana, which was finally established in 2016 and not only resulted in bachelor, master (technological management) and PhD programmes aimed at increasing local competence level, but also the provision of benefits from research activities to the local industry. While the local collaborations in Kirkenes today mainly encompass public-private sectors, in Mo i Rana such collaborations have been extended to the realm of research-industry. Cognitive structures, influenced by long industrial history and industrial job opportunities led to lower appreciation of education in the community in Kirkenes. Nevertheless, recent years mark a positive trend of a growing number of informal education opportunities targeted at potential entrepreneurs and existing businesses. Also, several interviewees remarked on positive influence of the influx of educated people from Russia on the local perception of the value of education.

The vacuum of place-based leadership was felt not only at the political level, but the entire community: back in 2005 Kåre Tannvik wrote: “This is what I probably miss the most in Sør-Varanger today: that we do not manage to set the agenda for Norway’s foreign policy in the Barents Region, that it is the employees of Barents Secretariat, municipality and Svanhøvd that do the job. They must of course. But where are we (the others)?” (p. 380). A diversity of opinions was highlighted in a number of interviews, which carried both negative and positive connotations: “we are not united, but we are not polarized” (Rune Rautio, personal

communication, June 22, 2020). Yet an inability to reconcile diverse wills and interests, proliferation of the number of political parties, many small agents unwilling to work together, hierarchical municipality driven management approach, changing strategies/ ambitions/ aims especially from the municipality side and a lack of mentality to help each other mark a place-leadership crisis in Kiruna. In this context the work of Robin Hambleton on place-based governance might be particularly relevant. Although his research is based on the urban environment, a multitude of competing interests and values in the cities resembles the challenges in the regions where power is dispersed among many actors. He considers place-based leadership as consisting of five realms: political, public managerial/ professional, community, business, and trade-union leadership and believes that the overlapping areas of the above leadership roles that are often seen as conflict zones could be turned into the zones of innovation through facilitative rather than top-down leadership approach and a culture of listening (Hambleton, 2018).

5. 3. 5. Opportunity spaces

In Kirkenes the opportunities are mainly perceived as arising from the region's endowments (region's physical location, maritime conditions and nature). The perception of opportunities in Eastern Lapland reveals a striking similarity. Following the closure of industrial plants both regions set themselves a goal to restore the lost jobs: the main goal of Sør-Varanger Utvikling AS is to create 300 jobs and Boreal Bioref aims to create 200 direct and 1000 indirect jobs. However, Michael Porter (2014) argues that instead of focusing on job creation the regions would benefit more from raising their level of competitiveness and considers endowments of limited value if they are not further developed. Yet the regions do not possess the financial, human or technical resources to develop them on their own and the implementation of large scale projects that are currently planned (the reopening of the mine in Kirkenes/ projected cost USD 400 million, new port in Kirkenes/ projected cost NOK 12 billion, Boreal Bioref biorefinery in Eastern Lapland/ projected cost EUR 900 million, approximately 500 km railway Kirkenes-Rovaniemi/ projected cost EUR 3 billion) are dependent on external actors, to which regions transfer enormous amount of power to determine their futures. A low rate of success of the previously planned mega-projects in Eastern Lapland together with very long time perspectives of such ambitious projects creates uncertainty, tiredness of waiting as well as scepticism. This was apparent not only in Kirkenes, but also from a very cautious response of local construction companies and potential subcontractors to the potential opportunities

related to the establishment of the Boreal Bioref biorefinery in Eastern Lapland. On the other hand, actions that not only utilized, but also created opportunities from the existing strengths have also been observed in all the case study regions. Examples include the development of the king crab industry and the plans of Barel AS to create a local technology network on the basis of accumulated knowledge in Kirkenes, the development of local competencies that enabled the growth of the national public organizations in Mo i Rana, the establishment of a high quality supply base of LKAB mining company that allowed the local suppliers to diversify into space related activities in Kiruna as well as the establishment of public-private tourism partnership that enabled the growth of new local accommodation providers, the development of ready-made products to meet the requirements of international travel agencies, and raised the interest among investors.

An example of Arve Henriksen, who considered that being in the right place at the right time and utilizing your talent to see and take the opportunity that you get, were key factors that led his business to success, demonstrates that the most favourable conditions to act may be when all three (time-specific, region-specific and agent specific) opportunity spaces are present. Yet at times opportunities may arise as unforeseen and the ability to adjust and act fast despite the absence of ideal conditions is crucial. In such situations capabilities and inner qualities of agents, such as bravery, strong will, responsibility and risk-taking might come foremost. Yet these qualities and capabilities may not be apparent until action is taken. A valuable insight could be drawn from the perceptions of Vytautas Landsbergis (2000), who in 1988 worked as a professor of musicology and seemed the most unlikely figure to lead Lithuania to independence:

Perestroika provides an opportunity which we must not reject, but there must be no illusions ... This drive for openness from Moscow may well get crushed, and if it does, the same fate will overcome Lithuania. Anything is possible at present, but it would be cowardly and irresponsible to remain as mere bystanders at such a time. An opportunity has been offered and we must take it!

Despite 50 years of life under communist ideology, which formed a barrier for the emergence of place-based leadership and entrepreneurship, leaders in Lithuania appeared and businesses grew. It can therefore be argued that capabilities, even if not fully developed, together with inner qualities of the agents (not only place-based leaders, but also institutional entrepreneurs

– leaders who aim disturb the status quo as well as innovative entrepreneurs) can drive the change.

Moreover, while well targeted actions may unlock certain opportunities, reluctance or inability to recognize that a prompt action is possible only during a limited time-frame might lead regional development activities becoming too focused on pursuing opportunities that are shut or unattainable but expected to become available again at some point in the future. Such actions may expend valuable resources that could otherwise be directed at recognizing and pursuing other attainable opportunities.

6. Conclusion

An exceptionally high regional growth in Kirkenes during the outlier period 2007-2010 was caused not by *change*, but *maintenance* agency – preparations for and the reopening of the mine. Yet the interplay of these two forms of agencies in the region has been interesting since the beginning when the *maintenance* agency was protecting the sovereignty of the region. Thus, such interplay could be examined further.

In Kirkenes innovative entrepreneurship was the most prevalent form of change agency. However, despite large financial resources summoned for the establishment of new businesses, few have been established. The business structure today consists of many small enterprises, which find scaling and expanding into wider markets challenging. While the public sector is rather large, it should not be dismissed as not harbouring entrepreneurial capability. Place-based leadership coupled with innovative entrepreneurship allowed to innovations and growth to occur in national public organizations in Mo i Rana.

Institutional entrepreneurship was the weakest form of change agency in Kirkenes, which was largely caused by the cognitive/ institutional lock-in, arising from a long industrial history and dependency relationship with the mine and the state. Similarly, there were few institutional actions in other regions. An example of Kiruna, where external actors successfully resolve conflicting relationships among public institutions is interesting, and regions might benefit from developing such not self-interest seeking collaborations.

Few instances of place-leadership have been observed in Kirkenes. The absence of place-based leadership had been largely influenced by centralized governance and lost fights for sovereignty. Many interviewees did not perceive local government as a strong leader and a

variety of stakeholder interests were recognized as already presenting some challenges. A lack of place-based leadership was strongest in Kiruna, where an external individual the leadership crisis had to be mediated by an external individual.

Therefore, all four regions share a lot of similarities, and change agency can be perceived as rather weak. All of the regions are still pursuing path extension rather than diversification. Yet change agency has been important for a slow transformation of the old paths. Because change agency is exercised by a variety of actors over a rather long time period, it may be challenging to trace causal relationships. Yet, an interplay of various types of change agencies may be more visible when initiatives, such as the establishment of a new generation biorefinery and eco industry park in Eastern Lapland, are concentrated and different agency roles are adopted by the same individuals.

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Appendices

APPENDIX I Interview Guide

Initials & Org _____ Rec _____ date _____

ReGrow Interview Guide – Kirkenes

1) Short biography of interviewee

To begin with, could you shortly introduce yourself and discuss your role in the organization/ region?

- Examples of question points:
 - a. Where are you from?
 - b. What is your education and previous work experience?
 - c. What is your current and previous role in the organization/?
 - d. What is your current and previous role in local/regional/national/international networks/ initiatives?

2) Regional development paths

From our statistical analysis, we have identified a strong positive growth pattern from 2007 to 2010 and then a negative growth period after that.

- What events/ important changes do we need to take into consideration to understand the development of Kirkenes region in this period?
- Where these local, national or international of origin?
- How did these events/ changes influence your organization/ region? Examples of possible factors
 - a. New organizational opportunities or closure of organizations?
 - b. Job layoffs or creation of new jobs?
 - c. Key individuals or organizations arriving or leaving?
 - d. Local population decline or increase?

3) Actions/ Initiatives

Following 2) there have been important opportunities and challenges. What have you or other actors done to develop and grasp opportunities or deal with the challenges?

- Example of possible actions:
 - a. New products, processes, markets, new technologies (Schumpeterian innovative entrepreneurship)
 - b. New way of thinking/ New regulations or policy initiatives? (Institutional entrepreneurship)
 - c. New networks/ collaborations? New collective initiatives (Place-based leadership)

We would like to discuss these actions in more detail:

- When and where?
- Who was involved and why?
 - a. Who got the idea(s) and who made the initiative to launch X?
 - b. Who were the most important actors at the time
 - c. Why were they involved – what were their intentions, purpose and meaning?
 - d. What triggered the action – what opportunities did you see in it – what was your expectation?
 - e. Who wanted to be involved and who didn't?
 - f. Were other organizations involved in X and what was the collaboration like?
 - g. What was your role and what motivated you here?

What were the main enablers in X?

- Examples of possible enablers:
 - a. Individual- and organizational competences/ experiences?
 - b. Resources (e.g. knowledge, money, infrastructure)?
 - c. Networks and/ or support organizations (local, regional, national, international)?
 - d. Local willingness towards change (i.e. is the local attitude towards change positive or negative)?
- Who identified the enablers/ opportunities and how were they of use?
- What was your role in this context (i.e. the role of the interviewee)?

What challenges did you face during this process of change and how did you deal with them?

- Examples of possible challenges:
 - a. Disagreement on what path(s) to take?
 - b. Local/regional/national resistance to change?
 - c. What actors/ organizations resisted change (intentionally or unintentionally)?
- How did your organization deal with these obstacles?
- What was your role in this context (i.e. the role of the interviewee)?

What were the intended and/ or unintended outcomes of your action/ initiative?

- Examples of possible outcomes:
 - a. Did it lead to new products/ services or new markets?
 - b. Did it save/ create new jobs? Did it lead to job-cutdowns?
 - c. Did it lead to something new, e.g. new initiative(s) or networks?

Did you have other alternatives or opportunities at the time and why did you not choose those?

4) Wider local/ regional effects

Please discuss if your action/ initiative had any wider influence in your region, e.g. did it influence wider regional development prospects?

- Examples of changes:
 - a. New paths (e.g. policy and regulation)?

- b. Rise of new type of jobs or organizations?
- c. Inflow/ outflow of competences?
- d. Economic growth?

5) Snowball

- Who would you suggest we talk to about these themes?
- Why do you think people recommended we talk to you?

APPENDIX II List of interviewees

No	Name	Organisation	Position	Date of the interview	Why chosen to be interviewed
1	Linda Beate Randal	Innovasjon Norge Arktis	Director	2020 03 30	Currently Director of Innovasjon Norge Arktis, has been a Mayor during 2007-2011.
2	Geir Torbjørnsen	Barel AS	Managing/ Sales Director	2020 04 01	One of the few successful companies established during the restructuring period in 1993 following the closure of the mine.
3	Lars Georg Fordal	The Norwegian Barents Secretariat	Head of Secretariat	2020 04 02	Has a good overview over the cooperation with Russia.
4	Vigdis Nygaard	NORCE (The Norwegian Research Centre) (Alta)	Senior Researcher	2020 04 03	A gatekeeper. Has extensively researched Sør-Varanger for many years and is quite knowledgeable about the changes that have occurred over time.
5	James Karlsen	UiA (University of Agder)	Professor, Head of The Department of Working Life and Innovation	2020 05 19	Professor in the field of regional innovation and regional development, comes from Finnmark, has been a county planner for many years.

6	Jacob B. Stolt-Nielsen	Norterminal AS	CEO	2020 06 04	Represents the enterprise involved in newer development related to the oil & gas industry in Northwest Russia – oil and gas transshipments and the building of a new port.
7	Peter Steiness Larsen	Sydvaranger AS	Chairman of the Board	2020 06 05	Good knowledge of the mine and plans to reopen it. The chairman of Sydvaranger mine since its establishment in 2007.
8	Svein Sundquist	Oscar Sundquist AS	Owner and Chairman of the Board	2020 06 15	Local entrepreneur in construction industry, badly affected by the closure of the mine in 2015, also the chairman of the regional development agency Sør-Varanger Utvikling AS.
		Sør-Varanger Utvikling AS	Chairman of the Board		
9	Rune Ulvang	Ulven Investment AS	Owner	2020 06 16	Represents younger generation of local entrepreneurs, has experience from real estate, tourism, new port development, building

					relations with China.
10	Unni Sildnes	University of Tromsø (UiT) Kirkenes campus)	Senior Adviser (Research Administration and Quality Education Section)	2020 06 16	University of Tromsø representative in Kirkenes.
11	Kåre Tannvik	Kirkenes Snowhotel AS	Founder	2020 06 17	An active community member and the founder of Kirkenes Snowhotel, one of the key tourism actors in the region.
12	Rune Rafaelsen	Sør-Varanger municipality	Mayor	2020 06 22	Previously in charge of the Barents Secretariat. Quite proactive, has a good knowledge of the developments in the region over time and current plans.
13	Rune Rautio	Kirkenes business park (Kirkenes Næringsshage)	Project Manager	2020 06 22	Represents the organisation, working at promoting the interests of local businesses, has a background as a consultant in engineering and business development projects with Russia.

14	Karl Eirik Schjøtt-Pedersen	Menon Economics AS	Associated partner	2020 06 25	A former Norwegian politician (Labour party), for 28 years served as a parliamentary representative for Finnmark, occupied high positions in the Government, has experience from the oil & gas sector and since 2015 – a chairman of the board of SpareBank 1 Nord-Norge. Excellent knowledge of the challenges and opportunities in Kirkenes.
15	Felix H. Tschudi	Tschudi Shipping Company AS/ Tschudi Mining Company AS	Owner	2020 07 01	Involved in commercial activities in Kirkenes since 1990s, has bought the Sydvaranger mine in 2006 and in 2016.
		The Centre for High North Logistics	Chairman		
16	Arve Henriksen	Henriksen Shipping Service AS	CEO	2020 07 13	A successful local entrepreneur providing ship agent operations, focused on serving the Russian market.

APPENDIX III Interview protocol template

ReGrow Interview Protocol

Name of interviewee:
Name of interviewer:
Date of interview:
Duration of interview:
Location: SKYPE

Position of the interviewee / change agents:

- Identify the positions held by the interviewee in the relevant time periods

Perception of Regional Growth Trajectories

- What are the key phases, events, and critical junctures as perceived by the interviewee (firm growth/decline? Establishment of org/networks? Key individuals arriving/leaving? Major innovations? Policy initiatives?)
- What are the key drivers of change in the perception of the interviewee (technological, industrial, institutional)

Kommentert [Markus Gr1]: Interviewee might identify other change agents.

Change Agency

Summarize actions directed at change identified by the interviewee (either conducted by the interviewee or by others). Fill in a row for each identified action.

Action	Who	When	Why	Trigger(s)	Outcome(s)	Enabler(s)	Obstacle(s)
Identify as SIE, IE, or PBL + Short description of the action	Who was involved (with identification of location – M/R/N/I)	Approx. end & start date	What was the intention, purpose, meaning?	What has prompted the action?	What were the effects (intended or unintended)	e.g. power, capabilities, resources, networks (where if relevant M/R/N/I)*	e.g. institutions, infrastructure, vested interests, power, lock-in (where if relevant M/R/N/I)

