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Europeanization of Higher Education in Norway

A case study of NTNU

Master's thesis in European Studies
Supervisor: Jan-Henrik Meyer
Trondheim, May 2016

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Abbreviations

EEA Agreement	European Economic Area Agreement
ERA	European Research Area
ERC	European Research Council
EU	European Union
FP7	The 7 th Framework Programme
NTNU	Norwegian University of Science and Technology
R&D	Research and Development

1.0 Introduction

Since the end of the Second World War international institutions for decision-making on many fields have been created, in addition to increased cooperation across the borders. This is also the case as we can see with an increased European integration. Evolving from the earlier European Communities that date back to the 1950s, the European Union was established 01.01.94, and the Union has since that gained more juridical and political power. Since those early years institutions in Norway have increased their cooperation and connectedness with the EU on many fields, even though Norway is not a member of the Union. Through the EEA Agreement Norway basically is incorporated in EU's legislative process regarding the internal market. (Egeberg & Trondal 1996)

One type of institution that has been exposed by the European Union's increasingly scope of influence are the universities. Through the last decades a common research policy has gradually developed at the EU-level. In this thesis I want to focus exclusively on research cooperation in the EU. This is because I want to see how Norway and the chosen university in particular has been Europeanized, or influenced, in this field. Also by focusing on the EU I will hopefully get more specific results, which is more suitable within the scope of this text.

What I am interested in in this thesis is on which level and how the Norwegian University of Science and Technology has responded to EU's research policy. Has it been an Europeanization of the university? In this case Europeanization means that EU policy on research influences NTNU and that the European dimension increases. One way of researching this interesting topic could be to compare Norwegian and foreign universities since we can expect different responses and outcomes from different institutions from different countries. Instead I have chosen to focus only on one institution, NTNU, for a more in depth analysis. Rather than doing an external comparison, I will undertake an internal comparison, focusing on variations within the same institution. I am going to compare two different faculties at the University, which are located on different campuses and have different research fields. Here we can possibly find differences in how Europeanization influences the Faculty of Humanities and Faculty of Engineering Science and Technology, respectively.

The research question of this thesis will be:

“How do different parts of NTNU respond to EU’s research policy? And then also look into why NTNU respond as they do to EU’s research policy.”

I want to look into developments and changes of the research-policy at the EU-level, the national level and the institutional level that is NTNU, and also the differences in what EU cooperation has to offer for the two faculties. In order to answer the two main questions a set of sub-questions needs to be addressed: what are the interests of the two faculties and NTNU as a whole? Is it them who pull, or are they being pushed? If yes, by whom?

My assumption is that the substantial funds available through the programmes, especially since Horizon 2020, is the main motivating factor. We can also assume that participation is voluntary for the Norwegian universities and that they act out of what could benefit them.

1.1 Literature review:

The literature covering how EU’s research policy has influenced Norwegian universities is relative vast, however certainly not when it comes to the question of how and why NTNU has responded to it. When it comes to the literature that exist it gives a broad overview of how Norwegian education and research policy has changed due to EU influence.

There can be found relative large amounts of reports and evaluations regarding Norwegian participation in the Framework Programmes. Most of these focuses on one or two of the Framework Programmes or other indicators for participation. Various government papers also exist concerning Norway’s participation and reasons and initiatives for the participation. NTNU have also published various reports on their participation and strategies for the various programmes and initiatives. And for example through Godø, Langfeldt, Kaloudis et al. (2009) the Nordic institute for studies on innovation, research and education has a comprehensive evaluation of the Norwegian participation in the sixth and the first part of the seventh Framework Programme.

Gornitzka and Langfeldt (2008) also has a chapter that goes into depth about internationalisation of national knowledge policies in Norway. Here they elaborate on how Norway has adapted to EU policy and which instruments, rationales and priorities that can be detected.

All of these reports and evaluations concerns how Norway has participated and responded to EU's research policy, but Olsen (1998) is an in depth report on how the University of Oslo has responded to the development of EU's research and education policy. The report is based upon organizational theory, a different university and dates back to 1998. This report also do not do a comparison in response between faculties as I aim to do in this thesis.

By this point it is clear that previous research on the subject is sorely lacking in perspectives, and in depth analysis of the university level and the faculties. In addition to what I have mentioned previously most of these reports and evaluations are based on EU's earlier research policy and programmes, and not much can be found since the introduction of Horizon 2020.

1.2 Justification of the study:

Few studies, if any, analyses NTNU's responses to EU's research policy. There are also few studies that describes and analyses the dynamics and responses to Europeanization from three levels- the EU level, the national level and the institutional level, NTNU in this case. Due to these levels and the limiting availability of earlier research there is a need to answer the research question with the help of a theoretical concept to understand the importance of changes in the EU and how they influence national policies and institutions and subsequently their responses.

To cast the light on a possible Europeanization of NTNU I feel the need to illustrate both the changes in research policy at the level of the EU, features of the national level of research and features of NTNU itself. Features, incentives and the like on all levels can all play their part in how and why NTNU respond as they do. Due to the research question I want to identify some indicators that contributes to see how the university respond to EU's research policy. But I am also going to take a look at why they respond as they do- What EU cooperation has to offer, and what are the interests of NTNU. By looking into features and changes at the aforementioned three levels this can hopefully give us an adequate view and help me to see the responses more clearly.

I have chosen to conduct a case study since they often have the capacity to go more into depth and "not only help to explore or describe the data in real-life environment, but also help to explain the complexities of real-life situations which may not be captured through experimental or survey

research” (Zainal 2007). Since I am doing an analysis of changes at an institution “a holistic, in-depth investigation is required” (Zainal 2007).

1.3 Thesis outline:

The next chapter provides an assessment of the concept of Europeanization. Here I will explain what Europeanization is and how it works as a process of change. I will also briefly write about Europeanization of universities and research policy here in Norway, to give us a brief look into how the concept changes the political emphasis in Norway. I will also operationalize the concept and develop indicators which I can use later on in my thesis. By doing this I can turn the concept into something manageable and concrete.

Chapter three describes the methods I am using, namely a wide variety of written sources in addition to conducting interviews. I will also write about how I analyse the results and the possible limitations with the methods and sources that I have used.

Chapter four to six is about the three different levels that the thesis looks into, the European, the national and the institutional level. The European level will be about the development of a research policy in the EU. I will look into which competence the EU has on this policy area, and what possibilities of participating the Norwegian universities has and which resources they are offered. The national level will analyse how Norway’s political body and the research council has responded to EU’s research policy and how the Norwegian participation has developed as well. I also want to address if they have facilitated increased participation, and if they have put any pressure on the universities to participate in the programs. Lastly the institutional level will analyse the features of NTNU- by this which structure they have and what their research policy is. How they organize its research policy and departments can influence their response to new policies from its surroundings, both from the national and the EU level.

Chapter seven is named NTNU’s response and will focus on their response to EU’s research policy. Here I will try to grasp both attitudes, actions, actors and actual participation at the university. Do they do anything concrete to facilitate increased participation in EU’s programmes? At which level do the different faculties participate? Are the changes that can be seen at NTNU minimal or substantial? Can we see differences between the two chosen faculties at the university? These

questions are all interesting to address within the scope of the chosen research question, and to witness if an Europeanization has happened- and what kind of Europeanization took place. By that if research policy on the EU-level has influenced NTNU and if the European dimension is increasing.

Chapter eight will summarize the findings, notably the extent and reasons for Europeanization at NTNU in a comparative perspective between the two faculties. I am also going to consider which conclusions we can draw from this thesis. What does it tell about how NTNU has adapted to changes in European and national surroundings? And how can this thesis contribute in the field of studying European integration, and how does it contribute to the debate about Europeanization and research policy.

2.0 Theory and concept:

2.1 Europeanization:

At its most basic level, Europeanization is about a relationship between a cause located at the level of EU and changes at the domestic level. This can be national, regional or even at the level of territorial policy systems; for example, territorially based sectors like the wine industry. (Radaelli 2012, page 3)

In simple terms, we have three typical definitions of Europeanization: bottom-up (uploading), top-down (downloading) and circular Europeanization. Up until the end of the 1990s the research on Europeanization focused mainly on analysing national positions and interdependencies between domestic and European actors to explain how European policies and institutional patterns evolved at the EU level. This was later labelled the “uploading” perspective of Europeanization. Research on how policy-making on the EU-level influenced the domestic realm began in the mid-1990s. (Saurugger 2014, page 124)

Here Robert Ladrech (1994) also gives us a definition on this perspective of Europeanization:

“An incremental process reorienting the direction and shape of politics to the degree that EC political and economic dynamics become part of the organizational logic of national politics and policy-making.”

Europeanization is in this case interpreted as a casual factor, slowly transforming national public policies. Integration on the European level becomes the factor to explain the changes we can observe in the functioning of national public policies. (Saurugger 2014, page 124-125)

But Radaelli (2000) has also argued that Europeanization cannot be thought about without keeping in mind the processes that led to the establishment of those rules at the European level to begin with. He thus argues that Europeanization must be viewed as a process of construction, diffusion and institutionalization of formal and informal rules, procedures, policy paradigms, styles, and shared beliefs and norms which are first defined and united into making EU public policy and politics and then put into use in the logic of domestic debate, identities, political structures and public policies.

This definition with different factors helps us to grasp the different levels, actors and instruments of change. It can be clearly seen that Europeanization is not only a straight forward process but a circular one, which takes into account European integration and the influence of this process at the national level, which, in turn, influences European integration anew. We can then view and analyse the process that led to the making of a specific norm or rule at the European level, study the communication and power games among the actors involved and then look at how this rule is put into use in the domestic political context. (Saurugger 2014, page 125)

By focusing on institutional change, we follow the lead of Europeanization research which has often argued that policy change in response to demands from the EU is not really surprising for member states and those gunning for memberships which have to comply with EU rules and regulations anyway. But this pull to comply is at work even in many neighbouring countries that are required to adopt parts of the “Acquis Communautaire” if they want to do business and trade with the EU. What is interesting to find out is under which conditions the adoption of EU policies results in domestic institutional change and to which level EU institutions directly persuades and induce these changes. There are two different mechanisms that can explain spreading or diffusion that further leads to institutional change. First of ideas, policies, and institutions that might diffuse through mechanisms of direct influence. An agent of diffusion, the EU for example, might actively promote various policies or institutional models in her communication with a receiving actor. Secondly, diffusion also occurs through indirect mechanisms, namely imitation. Here, it starts off at the receiving end. Actors need something or to solve a problem and look around for best practices and institutional solutions that serve the needs they have. The actors might also choose to simply “download” an institutional model, because this is the way things are done in a community they want to belong to or cooperate with. (Börzel and Risse 2011, page 3-6)

One mechanism within direct influence is to provide negative and positive incentives. Here the promoters of institutional models can persuade other actors to adopt their ideas by trying to change their utility functions. They can offer rewards such as financial and technical assistance, or sanctioning through empowering only those domestic actors who push for the adoption of the institutional solution that they are offering. In an attempt to persuade other actors in its neighbourhood to accept and implement its institutions, the EU and the member states rely on both external incentives on the one hand, and technical and financial assistance on the other. (Börzel and

Risse 2011, page 6-8)

But none of these mechanisms assumes that the actors at the receiving end of diffusion are just passive recipients of policies and institutions from the EU. The fact is that the adoption and changes that occur due to EU norms, rules, and institutional models into the domestic structures mostly involve active processes of incorporation of new norms and rules into institutions that are already there, interpretation, and also resistance to some of the rules and regulations that they are bestowed. These imitations only require agents looking for institutional designs outside their own realm to fix various problems or to imitate the behaviour of their peers. Within this there are different methods to imitate the institutional models. For example competition involves unilateral adjustments of their behaviour towards a focus on “best practices”. Here the actors compete with each other over meeting certain criteria for performance. This can for example be done by the spreading of causal beliefs by learning from best practice on how to reach these standards in the best manner. The actors borrow or copy ideas and methods in order to improve their performance levels in comparison to others. (Börzel and Risse 2011, page 7-9)

A typical way to study Europeanization is to examine the transposition of EU law into national legislation, compliance with EU rules and implementation in general. Since no perfect implementation is possible, this line of thinking does not argue that Europeanization is going to make the national and EU level systems more alike. The expectation is more of various outcomes depending on which country and policy it is addressing. A major reason for this is that responses to European integration depend on implementation capacity and bureaucratic cultures with the recipient, both of which are going to vary. (Radaelli and Exadaktylos 2010, page 191-193)

Existing structures at the domestic or institutional level set boundaries for change. Changes often reflect a structure’s pre-existing roots, the origins and paths by which they have transformed into what they are nowadays. Structures arise and change as a result of processes of contact, mutual learning, imitation and diffusion. Contact results in some sort of modification. Even still, whether the result is contradiction or copying depends on processes of interpretation which reflects an institution’s identity, history and dynamics. (Olsen 1996, page 249)

Ladrech (1994) also emphasizes with his notion of Europeanization as an incremental process

which changes the direction and shape of politics to the degree that EU and political dynamics becomes a part of the organizational logic and structure of national politics and policy-making.

Radaelli (2003) further elaborates on Ladrech's notion by saying that Europeanization consists of processes, rather than outcomes. More specifically, processes of construction, diffusion and institutionalization of formal and informal rules, policy paradigms, procedure, styles and ways of doing things. Europeanization can also consist of shared beliefs and norms that are first defined and strengthened in the EU policy process and then incorporated in the logic of national and subnational discourse, identities, political structures, and public policies. Because of this argument, Europeanization is seen as an interactive process, instead of a simple process of unidirectional reaction to "Europe".

In this line of thought, the existence of a clearly defined European policy is neither a sufficient nor a necessary condition for Europeanization to take place. If a clearly defined EU policy exists, the system of interaction at the domestic level may or may not be influenced. It more depends on whether the EU policy template is incorporated in the organizational logic of the domestic groupings of actors or not. Without policy instructions from the EU level, the domestic actors can still be influenced by the ideas, discussions, policy templates, and so on which is discussed and suggested in the EU arena. What is necessary for Europeanization to happen, even though not adequate, is the presence at the EU level of a forum of discussion, an arena for negotiation, or a structure for interaction and discourse. (Radaelli and Exadaktylos 2010, page 193-194)

This goes hand in hand with Lenschow's (2005) thoughts about Europe as pressure and Europe as usage. In one of these cases, European integration can put pressure on the member states, so that change will occur as a response to pressure. Likewise for domestic actors the EU is, apart from pressure, also an institutional repository of discourse, opportunities and levers that can suit the purposes of those who are handling reforms at home soil. These actors can use the new policy instruments discussed in Brussels, or white papers and communications from the Commission to gain an upper hand on domestic reforms. The two levels, EU and domestic, are therefore connected both by pressure and usage.

Europeanization is a process, and key questions are who or what that are affected by this process.

The EU can influence the domestic political systems in various ways, such as through opportunity structure, as discourse and as forum. To begin with opportunity structure is meant as a collection of rules that enables or constrains the political behaviour of actors. Secondly, the EU also has an impact through discourse. This notion goes into the impact of ideas that are generated in Brussels. We also have to take into account that EU discourses are bent, edited and interpreted at home by domestic actors in what can be quite different ways. Thirdly, the notion of a forum points to the domains where the EU does not legislate, but provides a framework for the discussion of policy goals, defining common targets, the diffusion of innovations and the stimulation of learning processes. And it is also important to keep in mind that Europeanization is not confined only to “EU-ization”. The targets of Europeanization are not only the member states, even though the EU is a unique political actor and has a profound impact, and therefore the EU has an external dimension that affects countries that trade with the member states. This can be countries that have no intention of joining the EU, but are being Europeanized through agreements with the EU, trade and the incorporation in their legislation of single market regulations, as Norway is an example of. (Radaelli and Exadaktylos 2010, page 194-197)

2.2 Europeanization of universities:

An important element of internationalisation is the growing networks of communication, transactions, and organisations crossing national borders. Within the scope of this thesis the term internationalisation refers to the activities of knowledge production, the act of spreading it and its use which takes place across state borders. We can observe that the processes of knowledge production and dissemination, research organisations, and the public policies regarding the research sectors are increasingly set in an international context. We can pinpoint some factors that drive internationalisation like for example economic change and political-institutional change. Within economic change the increasing cross-border connections in research are linked to the economic revolution from the industrial to the post-industrial economy. Knowledge is nowadays seen as a tradable object in the international markets that are no longer restricted by a loyalty to the national institutions. Political change also drives internationalisation. A political dynamic of internationalisation comes in handy if the governments encourage internationalisation and “debordering” of national knowledge systems. The emergence of supranational and international actors can also provide international funding opportunities, standards and rules affecting cross-bordering of skills, and so forth. (Gornitzka 2008, page 1-7)

The number of international arenas that Norway's research policy is connected to is highly compared to other policy areas. What is special about Norway is of course also that they have avoided formal membership of the EU, but not integration as such through the European Economic Agreement, EEA. EEA has been greatly important as it includes the right to participation in the research programmes of the EU. Within the field of research there are several motivations for promoting Norwegian interests and viewpoints at international arenas. There is also an increasing emphasis on domestic policies and efforts to direct and increase the internationalisation of research. EU's Framework Programme for research and technology is the largest and most comprehensive international research cooperation in which Norway participates. EU's R&D policy also has structural incentives for policy adaptation. Here they make participants invest in large programmes without any guarantee for a return on their investments. This facilitates powerful incentives for the countries to change and improve domestic policy to better ensure that their research communities are able to profit from the investments. (Gornitzka and Langfeldt 2008, page 145-150)

The impact reforms has depends on how they match with and are absorbed by existing cultures, institutional identities and practices. In regards to this universities emerge as major actors in systemic governance. The universities connect with both national and European levels testing their own remit and their room to manoeuvre. At the same time research groups display strategic agency and pursue their own interests not necessarily aligning to European and national policy goals. When looking at the impact of European policies and instruments within Norwegian universities in the construction of the ERA, we can witness that this has historically been fragmented by voluntary participation and framed by path dependency at national, university and disciplinary levels. But since ERA has become part of the European agenda some sort of integration can be seen. In the last years some supranational institution building has taken place as well, the European Research Council, ERC, and the European Institute of Innovation and Technology, EIT, being two examples. And finally structural adaptation within the universities can be witnessed as to trying to cope with European funding instruments: Units to support the handling of applications, management of European projects as well as incentives to successful applicants. EU policies and instruments like the ERC contribute to the diffusion of new values and norms within universities. The competitive rationale is penetrating the shop floor and challenging the principle of equality in the Norwegian society. (Fumasoli 2013)

This development of a clearer marked-oriented rationale can be identified in the political emphasis even in the Nordic countries, a region with traditions of focusing on the cultural and social motives

of higher education expressed through wordings such as equity and welfare. (Stensaker, Frølich, Gornitzka & Maassen 2009, page 2-3)

The Europeanization process can be observed with respect to the harmonisation and uniformity of policies, the development of joint programmes and agreements to foster cooperation at EU level, and the changes in the fields of services and human resources which affects institutional settings and organisation. Europeanization and internationalisation can be used as interchangeable concepts and the former can be considered as one aspect of the internationalisation process.

(Primeri and Reale 2012, page 104)

In Norwegian policy documents, the most important argument for internationalisation of research is linked to the fact that collaboration is expected to improve scientific quality. In the EU, on the other hand, arguments for Europeanization and internationalisation of R&D have a stronger focus on economic-political objectives. The European Research Area objective, and the Framework Programme as part of it, is linked to economic growth and a need to increase the competitiveness of the European industry in the knowledge-based economy of today (Gornitzka and Langfeldt 2008, page 156). Part of this thesis is finding out to what extent such EU rationales influence Norwegian R&D policy. Do Norway, and by then also NTNU, move away from academic and cultural rationales in their R&D policy and towards more economic rationales because of the EU?

2.3 Indicators for Europeanization:

To find out how and why NTNU respond to EU's research policy I am using the concept of Europeanization, as I have written about above. To use the concept of Europeanization properly I want to operationalize it, to turn the concept into something measurable and concrete. By operationalization I mean that the main concept of Europeanization is translated and broken down into items that we can actually measure.

By this, the operations are the procedures or steps we must go through in order to observe the concept being defined, in our case Europeanization. After having defined the concept, we can then identify variables or indicators that are corresponding to the concept. Here it probably will be several possible operational indicators that can be used, but the researcher needs to make a choice of which ones that are most suitable for his research question. Since most indicators usually do not

include precisely what is of interest, several indicators are usually needed to encompass the concept in an adequate way. Having more than one indicator, or operational definition, increases the likeliness that at least one of them will be useful. (Lee Sargent Weaver 2008)

In my research I want to find out what NTNU's motivations and incentives are for being part of this Europeanization. Do they respond only to economical possibilities and of increasing their reputation, or do they draw lessons from the interaction with the European dimension as well?

To do this I want to look into which indicators we can find at the different levels and in the interviews which points us to a process of Europeanization is taking place. Here I want to especially look into what kind of funding opportunities are available to NTNU by partaking in EU's research policy. By partaking in a research project there are often many participants involved, and chances of research collaboration and network building taking place are also interesting to look into. Does being involved in a European research project increase the probability of partaking in future projects as well, in addition to an increase in competence and valuable networks? If these processes are taking place it can also lead to some path dependency since if you have some contacts or collaborators at the European level it will most likely be easier to establish even more contacts later, and by this also attain more research opportunities and collaborations.

Path dependency can be defined as the following, through Eijmberts (n.d.):

“Path dependency is a conceptual framework through which one analyses how current actions or decisions are constrained by choices made in the past and by expected returns in the future”.

It is sensible to assume that actors, such as NTNU or a single researcher, respond rationally to funding opportunities from EU. They realize that EU cooperation have something extra to offer them in terms of funding, collaboration, network building, competence increase or spreading of information.

Such assumptions are based on rational choice theory, according to which people are expected to act as to maximize their expected utility, subject to constraints. By this people with fixed preferences over possible states of the world think about the expected utility of alternative choices they can make, and choose the action that is likely to maximize their utility. (Pollack 2006, page 4)

Theory on rational choice focuses on strategic interactions and actions in which people participate on the basis of their identities and interests and try to reach their goals and preferences through strategic behaviour. The goal of acting or doing something is to optimize one's own interests and preferences. Their choices are guided by the outcome of their actions. (Risse 2000, page 3)

When conducting my interviews I had to keep these indicators for Europeanization in mind. The indicators I especially want to measure, such as funding opportunities, research participation, networks and the probability for future collaborations, are thus reflected in the questions raised in the interview, set out in the questionnaires. Since I am interviewing the administrative staff at the faculties, in addition to some national actors, the research strategies and the work being done towards EU's research policy were highly interesting to gather answers about. Many of my questions are also about changes and priorities. This is important since we can then try to grasp how and why they have responded to EU's research policy, both in comparison to how the faculties used to handle their own research policy and how much the EU is of an priority and in focus now, compared to for example national funding.

2.4 Summary:

Through this chapter we have delved into the concept of Europeanization. Europeanization is a gradual process of construction and diffusion of procedures and shared norms, to name a few, which are at first made into EU policy and then adopted into domestic structures and policies. This could be due to the fact that the domestic actors have something to gain by adopting these procedures and norms.

In our case Norwegian convergence can often be traced back to two different dynamics: A consequence-oriented EU convergence, and an idea-based convergence. The former concerns the opportunities for output and the belief that small research communities would be disadvantaged without being R&D partners and subsequently building networks. The latter case concerns the fact that it is much Norwegian attention towards EU R&D policy and therefore also massive exposure to its ideas, norms and causal beliefs. (Gornitzka & Langfeldt 2008)

In this thesis I want to find out how and why NTNU is affected by this and consequently respond.

Europeanization can lead to new incentives, opportunities and forums for discussion and lesson-drawing.

I interpret Europeanization as a gradual process where EU political and economic dynamics becomes part of an institution and by this shapes the politics and ways of doing things.

We have also looked into changes to how universities has become more internationalised, much because of a “debordering” when it comes to knowledge, where the goal nowadays is that knowledge and ideas shall spread across borders. Networks of communication are growing and the research sector is more and more set in an international context, which I will touch upon later as well.

Since Europeanization is a somewhat elusive concept I have aimed to operationalize the concept. By doing this it becomes much easier to measure if the concept has taken place and I can turn it into something concrete. As mentioned the indicators I have especially chosen to measure Europeanization are funding opportunities, research participation, networks and the probability for future collaborations.

As I mentioned earlier funding opportunities can be a huge incentive itself to apply and participate in EU’s research projects. There is the consequence-oriented view that they can be missing out, and since Norway are investing huge amounts in the research projects they need to get something in return. Actual research participation gives us an indicator how the participation has increased or decreased between the programmes and also how NTNU and the two faculties has responded based on how the programmes are structured and which opportunities suits their pre-existing research fields the most. Increased network building is an indicator which we can assume leads to the spreading of ideas, norms and beliefs which can affect to which degree NTNU focuses on EU projects and how their researchers conduct their research and also are up to date on their fields of research by communicating with other partners. I have also chosen to focus on future collaborations since having established partners and networks in Europe might lead to more research opportunities arising and it is often easier to collaborate with someone within the same structure with the same norms and beliefs.

How and why NTNU respond to EU's research policy are the main questions in this thesis. But to really understand this we need to look at changes in NTNU's surroundings as well. Features of EU's research policy, how national actors respond to EU's policy and features of the university will all have implications for how and why NTNU actors respond as they do to EU's research policy. Therefore their response will be influenced both by features at the European, the national and the institutional level.

In the next chapter I will give an overview of the methods and sources I have used to find the answers I need for this thesis. After the chapter about methods I will start to look into EU's research policy, the main features of it and the changes that have been made. I will also look into what possibilities Norwegian institutions have to participate in the programmes. We have to keep in mind that EU's research policy is a large field so it is not within the scope of this text to go into detail or go into all aspects of the policy area. Keeping this in mind the central question will still be which of the features at the European level that will implicate how NTNU respond.

3.0 Methods:

3.1 Introduction:

In this chapter I first want to explain what kind of research method I have chosen to answer my research question. I will specify which ethical guidelines I had to take into account in my research before I explain what kind of informants I wanted for finding answers for my research.

I also want to elaborate how I collected my information by telling how the interviews went and evaluate the quality of the decisions I made. At the end I will give a summary of what I learned from this process. The results from the interviews and the rest of my sources will follow in the coming chapters.

This thesis will be a case study of NTNU. Within the university I also want to compare two of their faculties, namely the Faculty of Humanities and the Faculty of Engineering Science and Technology. Apart from having very different studies and fields of research these two faculties are also located at different campuses, Dragvoll and Gløshaugen.

When it comes to EU's research policy it is a lot that could be said and incorporated in to this thesis. But because of the scope of this master thesis I am mainly going to stick to the Framework Programmes and the European Research Area.

The response of the University is the dependent variable in this thesis, and it will be measured through using different written and oral sources from different institutions, and by looking through statistics on the actual participation by the two faculties.

3.2 Quantitative or qualitative method:

The first choice I had to make regarding methods was to choose which kind of method that would serve me best to give me helpful answers for my research question. Here the most common options are to choose between quantitative and qualitative method, or to combine them in a suitable manner. In the quantitative method we are most interested in finding out how usual different phenomena are, how often they occur, how they spread out and how they relate to other phenomena. Quantitative research therefore builds upon information from many respondents. In addition to this results from

quantitative research often have their origin in analysing statistics and different sources gathered. Within qualitative research observation, open communication and interviews are often used. When we use this method we are more interested in understanding people's experiences of and opinions about different phenomena and situations. Here we want information that tells us something about various phenomena's outlines and functions, in other words their qualities. Often we will gather a lot of information from relative few sources or informants where we want a total understanding of the interview subject's own experiences and opinions. (Pettersen 2008)

In this thesis I have chosen to use the qualitative method because I want direct contact with the informants when I gather the data and information I need. In light of my research question I want the chosen informant's own reflections, experiences and opinions about the changes that have happened and attitudes and responses to EU's research policy.

The analysis is enunciated as a qualitative case study. According to Dalland (2012) the qualitative method wants to investigate meaning and experiences that cannot be put in numbers or measured through a chosen amount of people. Yin (2003) further elaborates that case studies are a good method when the researcher wants to find answers to how and why questions and when a phenomena is researched on which the researcher do not have a total understanding of.

3.3 Selected sources:

The thesis is based on a wide range of written and oral sources. One of the strengths of doing a case study is the fact that we can use a wide variety of sources. By doing this I can also do a triangulation of data. Triangulation is done by using a variety of sources in a research and by doing this one can cast light on the research question from several perspectives. The advantage with doing a triangulation of data is that the analysis and the result becomes more solid if several sources points in the same direction and draws the same conclusions (Yin 2003, page 98-99). In addition to confirm sources triangulation can be used to deepen the understanding to different aspects related to the same case, and by this making the research more comprehensive (Ryen 2002, page 195).

3.4 Written sources:

The written sources consist of government papers, public statements, reports and the institution's own strategies and plans. The advantages of using written sources are that they are public and

contains big amounts of information. The disadvantage of using written sources is that I influence the selection and the interpretation of the texts. This can add bias to the selection of sources and distort the representation of the problems at hand. To counteract this from happening I have chosen a wide variety of sources. The information I get from this is critical to gain insight into strategies and justifications for the informant's actions. In addition to these I am also using secondary sources which provide us with second hand accounts of the topic at hand. These secondary sources also offer different perspectives and analyses which helps to get a better understanding of Europeanization of research policy in Norway. Secondary sources are data which have been gathered previously by researchers or institutions. By using not only papers distributed by NTNU, but also those from independent actors who have measured changes in the universities research policy, I will hopefully get a much more accurate answer to my research question. (Andersen 1990)

3.5 Oral sources:

The analysis is built on four in depth interviews with informants from the Research Council of Norway, the Ministry of Education and Research, the Faculty of Engineering Science and Technology and the Faculty of Humanities. These interviews have been a fruitful method to gain insight in how the institutions responds to EU's research policy and what kind of experiences and reflections the informants has.

I chose a semi structured approach to the interviews. The topics and questions I addressed were sent to the interviewees beforehand, but I also did some additional questions along if I saw them fit and they were of particular interest for the thesis. This gave room for new aspects and experiences to surface which I haven't planned beforehand. This kind of flexibility is also important for adjusting the interviews along to the informant's experiences and insights.

The information I gathered from the written sources in advance was used to construct the questionnaires. Since this thesis compares two different faculties at NTNU the questionnaires I used to interview them are similar. And the questionnaires to the Research Council of Norway and the Ministry of Education and Research are pretty similar as well, even though my follow-up questions and the two interviews in general varied. By doing this it will make me more able to compare the two faculties and the different actors' answers. It will for example make it easier to compare how prestigious they perceive the EU research projects. All the questionnaires are enclosed.

3.6 Ethical guidelines:

Before starting the interviews it is necessary to think through which ethical guidelines the research process has to respect. In order to protect our informants, researchers need to consider if what we want to find an answer to contains sensitive information, or may harm the privacy or careers of the interviewees. This could occur if the interviewees had opinions that went strongly against the strategies or policy of their faculty for example. The research I am doing does not make it necessary for the informants to give out sensitive information and the recordings will be deleted after I have used them to answer my thesis. When we are contacting and gathering informants it is important to behave professionally. Those who are asked to participate must get the possibility to decide if they want to participate or not. The informant must also be informed properly and a mutual consent should be sent. And they also have to be informed that they have the option to back out of the process whenever they see fit without experiencing any discomfort by doing so. (Christoffersen and Johannessen 2012)

I have done this through a document I have attached, see appendix 1. In this document I ask about permission to interview each interview subject. I have also briefly informed about the theme of my thesis and also attached the interview guide I was going to use for the interview. I sent the interview guide to the informants beforehand because this was a request they had. I also gave the informants the option to choose what degree of confidentiality they wanted in terms of their participation. To give the informants a feeling of additional safety and comfort the interviews were conducted at their respective offices. The interviews with the Research Council of Norway and the Ministry of Education and Research were also conducted while they were at their respective offices, but through Skype.

3.7 Selected informants:

To stick to the research question and to find answers to it I want to interview people working with research policy both at the national level and at NTNU to throw light on the research question from different angles and levels. Because of this I contacted the Research Council of Norway, the Ministry of Education and Research in Norway, and both of the faculties in question. I was lucky enough to get in contact with people who are working on this topic within the various institutions

already mentioned, and I experienced that all of them had a glowing interest regarding the topic at hand. I refer to the interview by numbering them and by this keeping their anonymity. All of them also had long experience working with research policy and therefore added important perspectives to the thesis.

I chose the Research Council of Norway because they “work to add value to the research system by facilitating research that actors in the system could not successfully achieve working on their own”. (Forskningsrådet 2015 a)

By interviewing one informant from the Research Council I get valuable information and perspectives regarding which priorities they set and what involvement they have with the universities. I also chose the Ministry of Education and Research because they are responsible for developing the research sector in Norway. By adding an informant from the ministry I get valuable insights into the Norwegian government’s approach to EU’s research policy, what kind of guidelines they give to the institutions and in what directions they want them to take. Since this is a case study of NTNU where I also compare two different faculties I saw it fit to interview EU advisers and those administrating research at the faculties. By doing this I also get information and views from two different levels which I will write more about later, the national and the institutional level.

Table 1: Overview of participating informants

Institution	Reference
The Research Council of Norway	Informant 1
Ministry of Education and Research	Informant 2
EU adviser at the Faculty of Engineering Science and Technology	Informant 3
EU advisers at the Faculty of Humanities	Informant 4

3.8 Execution and analysing the results:

The interviews were conducted in March and April 2016. During the interviews I used a tape recorder mobile app to save the information. The informants were also informed on this before we

started the interviews. By using a recorder I could have total focus on the conversation and think about follow-up questions along. I also have to add the unfortunate fact that the tape recorder let me down during the interview with the Research Council of Norway and because of this I had to write down some parts of that interview out of memory straight after the interview was done.

In my analysis I use different topics and indicators for Europeanization to analyse the information the informants gave me and to analyse the response the faculties has had to EU's research policy. I chose the topics and indicators which stood out in my sources. As earlier mentioned the indicators I especially want to measure are funding opportunities, research participation, networks and the probability for future collaborations. These are reflected in the questions raised in the interview, set out in the questionnaires. After I identified the central topics and indicators I used these to compare and analyse the information. This is done further down in the text, where we can find excerpts from the interviews in both the parts about the national level and the institutional level.

3.9 Possible limitations with the method and sources used:

Since the phenomenon I am working with, Europeanization, is not that easy to measure and that the response in question cannot be put simply in numbers, it can be somewhat difficult to conclude that a definitive response has taken place. And those changes and responses happening will often not be visible immediately either, since institutional changes often happens gradually. But in spite of these limitations we can still trace some of the main tendencies, for example if the faculties in question at NTNU has responded because of the emergence of EU's research policy and the possibilities that this gives them, and if their professional fields are engaging as well.

We also have to keep in mind that the official documents from NTNU, among others, often communicates only the public attitudes at the university, or sets out objectives to how things should be. NTNU's response will because of this often be the response of those in management positions. I have tried to counter this by interviewing some of the administrative staff at the respective faculties and by this hopefully grasping their attitudes and views of the topic at hand. An additional way I could have done this is by interviewing more staff members, and especially interviewing researchers. In the former case it would have been difficult because of the time frame of this thesis and the limitations in terms of scope. In the latter case I tried to get some interviews with researchers, but I was unsuccessful in getting interviews with researchers at both faculties in the period of March and April. Because of this the responses will be mostly the responses of the

administrative staff at the faculties, and not to mention the national actors I have had contact with. The administrative staff are also those responsible working with EU policy at the faculties and those responsible of mediating it through to the professional fields and researchers.

To grasp how the management or board have responded I will look into concrete actions that have been conducted in relation to EU's research policy. Their response will therefore be actions taken to increase participation in EU research projects to mention one example. The response of the professional fields and researchers can be witnessed through applications to and actual participation in the programmes. All in all these observations will give us an adequate view of how NTNU respond to EU's research policy and if an Europeanization has taken place at the institutional level. Even though this research has visible limitations, the sources and the interviews will give us a chance to answer the research question.

4.0 The European Level

4.1 Introduction:

The continuous development of a research-policy by the EU facilitates the response of NTNU, or the scope of possibility. When considering how NTNU respond it is of the highest importance which competence the EU offers on the area, which resources they offer, which types of research-programmes they have, if Norwegian institutions has the right to participate, and if the programmes fits nicely into or clash with national politics or the foundations of NTNU.

In this chapter I am going to explain EU's research-policy, from the first framework programme and all the way up to today's Horizon 2020 and the European Research Area, and thereafter touch upon Norway's possibilities to participate in EU's research-programmes and initiatives.

4.2 EU's research-policy:

European research, and to be more exact the creation of a European Research Area, is now a high priority on the policy agenda in Europe. Organizing European research policies and implementing European research programmes is at its roots a legal and political obligation resulting from the Amsterdam Treaty. The Amsterdam Treaty actually included a whole chapter on research and technological development, RTD, to emphasize the importance of RTD in the functioning of industrialised countries. But Europe also have to play an active role in RTD because of a number of developments existing to the RTD sector itself such as:

- ⤴ Research at high level is increasingly complex and interdisciplinary.
- ⤴ Research at high level is increasingly costly.
- ⤴ Research at high level requests a constantly increasing "critical mass".

Facilitating cooperation at different levels, co-coordinating national or European policies, networking teams and increasing the mobility of researchers and ideas is therefore a requirement resulting from the development of modern research in the increasingly connected world.

(European Commission 2015)

4.3 Framework Programmes:

In 1984 the former European Economic Community, EEC, formed their first framework program. With this program, stretching from 1984 to 1987, the activities within research and technological development got coordinated and streamlined for the first time. The Framework Programmes gives an overview of the plans for research and development for the next four to five years and are further divided into several sub programmes. To secure continuity for the research projects the sub programmes are also overlapping each other on some levels. (Olsen 98, page 32)

The main emphasis in the first framework programme (1984-1987) was on energy, but information technology and biotechnology to name a few got their selected place. Because of good experiences with the programme, cooperation in research got its own chapter in the Single European Act, effective from 1987. Gradually more elements got incorporated into the framework programmes and the budgets increased gradually as well. (Olsen 98, page 32-33)

The Single European Act also laid the foundation for the single market and thereby also the increasing economic integration that was to follow. The goals in the framework programmes also gradually shifted emphasis from technology and more towards economy, (Remøe 2013, page 15-16)

With the Fourth Framework Programme research policy also started to cover all facets within research and technological development that happened in the EU. A reason for why the Fourth Framework Programme got more expansive than the earlier versions is because the legal basis for research policy in the EU expanded. The legal basis was now the paragraphs 130F-130P in the treaty for the European Union. This happened in the meeting in Maastricht in December 1991. (Olsen 1998, page 34)

Skoie (1994) says that the Treaty gave the basis that the European Community should have as a goal to strengthen the scientific and technological foundation for the industry in the Community and to stimulate the development of its international competitiveness, and to put forward all the research that are seen as necessary in comparison to other chapters in the Treaty.

The goal of coordination of research policy between the member states also got further underlined in the Maastricht Treaty. The community and the member states should now coordinate their research and technological development activities so as to secure that the politics between them became more consistent. (Olsen 1998, page 35)

The Maastricht Treaty was more like a paradigm shift. It had a big influence on the Framework Programmes through the 90s, and in the 5th Framework Programme we could sense a development towards the emphasis on big societal challenges that we can see nowadays in the Horizon 2020. And we could also see the traces of a program that was to strengthen many goals and interests. (Remøe 2013, page 16)

The Framework Programmes can be witnessed as policy instruments that foster the Europeanization of academic research through organisational, cultural, and cognitive changes. The Programmes represent soft law tools, which act according to clearly defined aims, such as the mentioned European Research Area, although they can also produce unpredictable effects in academic institutions. (Primeri and Reale 2012, page 105)

4.4 The 7th Framework Programme:

The European Commission (2007) writes that The 7th Framework Programme for research and Technological Development, FP7, was the programme lasting from 2007 to 2013. This programme also had a total budget of 50 billion Euros. This budget represented a significant increase compared with the 6th Framework Programme, 41 % at 2004 prices. This is clearly a reflection of how research became a higher priority in Europe. FP7 was a major contributor to Europe's needs in terms of jobs and competitiveness, and to still be a leading actor in the global knowledge economy.

The money would usually be spent on grants to researchers and research institutions all over Europe and beyond, in order to co-finance research, technological development and demonstration projects. Grants were given on the basis of calls for proposals and a peer review process which were highly competitive. The Framework Programmes for Research has two main strategic objectives. The first one is to strengthen the scientific and technological base of European industry. And secondly the Programmes want to facilitate its international competitiveness, while also promoting research that supports EU policies. The EU policies of developing research for the global knowledge-based

economy focus increasingly on research collaboration, both within the EU and with external research partners. Coordinating national or European teams, setting up research networks, and increasing researcher's mobility are at the forefront of such policies. Putting together research teams from different countries is also a way of countering the divided nature of the European research landscape. (European Commission 2007, page 6-8)

The FP7 was structured into specific programmes which constitutes the five major building blocks of FP7. Those were cooperation, ideas, people, capacities and nuclear research. The cooperation programme represented two thirds of the total budget of the FP7. It facilitated collaborative research across Europe and other partner countries through projects by transnational consortiums of industry and academia. The Ideas programme supported "frontier research" just on the basis of scientific excellence. Research could be carried out in any area of science or technology, including engineering and the humanities. The People programme aided support for researcher mobility and career development, both for those inside the EU and internationally. The programme was implemented through a set of Marie Curie actions, providing fellowships and other measures to help researchers strengthen their skills and competences throughout their careers. The capacities programme strengthened the research capacities that Europe would need if it were to become a thriving economy based on knowledge. The FP7 had various funding schemes to contribute to help out with different projects. The basic principle of funding in FP7 was co-financing. That meant that the Commission did not buy research services by placing contracts and paying a set price for it. Instead, they gave grants to projects, and by this contributed a certain percentage to the overall costs. (European Commission 2007, page 14-22)

4.5 Horizon 2020:

The Horizon 2020, The 8th Framework Programme, is the largest EU Research and Innovation programme ever with almost 80 billion Euros of funding available over 7 years, spanning from 2014 to 2020. This also comes in addition to the private investment that this funding will attract. It promises more research and innovative breakthroughs, discoveries and world-firsts by taking great ideas straight from the lab to the market. Horizon 2020 is seen as a great chance to drive economic growth and create jobs. The goal of Horizon 2020 is to ensure Europe produces world-class science, break down the barriers to innovation and makes it simpler for the public and private sectors to work together in delivering innovation. The programme will be added by further measures to further develop the European Research Area. These measures aim is to break down barriers to

create a genuine single market for research, knowledge and innovation. (European Commission n.d.)

The structure of the Horizon 2020 is built on three main pillars which are Excellent Science, Industrial Leadership and Societal Challenges. The pillar of Excellent Science aims to strengthen the quality of the European research system and have a focus on strategic research, future and emerging technologies, mobility and research infrastructure. Industrial Leadership puts its emphasis on technological development and innovation, on small- and medium-sized businesses and on new methods to strengthen the financial foundation for innovation. Societal Challenges is the last main pillar of the program, and it focuses on research aimed towards seven clearly defined pan-European and international challenges, not that different from the thematic priorities of the earlier Framework Programmes. (Remøe 2013, page 14)

Horizon 2020 came into effect in the aftermath of the Financial Crisis, which started in 2008, and is continuing to wreak havoc in Europe. Horizon 2020 is influenced by this situation and the need for economical rebuilding and innovation which goes under the tag Europe 2020. (Remøe 2013, page 14-15)

4.6 European Research Area:

The European Commission (2013) communicates that The European Research Area, ERA, is a connected research area open to the world based on the internal market. Here researchers, scientific knowledge and technology can circulate and move about freely. Through ERA, the EU work to strengthen their scientific and technological foundation, their competitiveness and their capacity to collectively address grand challenges. The aim is that Europe must increase the efficiency and effectiveness of its public research system. This is going to require more cooperation so that the bright minds of Europe work together to make greater impact on the large challenges that affect Europe, and to steer away from unnecessary duplication of infrastructure and research investment at the national level. All this will also require more competition to make sure that the best researchers and research teams receive the funding they need, and by this support those able to compete in the increasingly connected and competitive research landscape. With the clearly stated objective of connecting EU research systems, the ERA reform agenda focuses on five key areas which is more effective national research systems, optimal transnational cooperation and competition, an open labour market for researchers, gender equality and gender main-streaming in research and optimal

circulation and transfer of scientific knowledge.

The ERA became legally binding through the Lisbon Treaty and the EU is therefore obligated to fulfil the vision of the ERA. As of now this happens through volunteered, national reforms. ERA aims to better the coordination so the European countries can see their own research policy in a larger picture together with the other countries and with the EU's own research policy, and by this solve common challenges. All in all the goal is to create a "fifth freedom" for Europe. Within this Norway is participating in the development of all 10 joint programmes. (Regjeringen 2014 a, page 25)

Through the Ljubliana-process in 2008 the Council came to an agreement that within year 2020 all actors should experience full benefits of the fifth freedom in the European Research Area and with this a free flow of researchers, knowledge and technology. ERA facilitates attractive environments and effective leadership of research and investments in R&D-intensive sectors in Europe. This creates additional benefits because of healthy European competition within research. In addition it fosters cooperation and communication. (Forskningsrådet 2014)

The ERA fosters new rules for academic institutions, new methods of doing research, and new plans for cooperation, and also weakening the influence of national models on the organisation of universities. Based on the goals of the ERA, the Framework Programmes has also changed nature by creating a critical mass of researchers and fostering a European space for research through competitive networks, better international and mobility agreements, public-private cooperation has been strengthened, and funding of research across fields. (Primeri and Reale 2012, page 105)

4.7 Purpose and actions today:

Research and innovation policy in the EU as we can witness today was essentially launched in 2000 with the Lisbon Strategy. Innovation was to be one of the pillars of Europe's rise from the ashes, and research as the road towards achieving superior levels of prosperity and growth. To advance this the Barcelona European Council in 2002 set a target for EU R&D investment to be 3 % of GDP. Because of this target the Commission put together an action plan to increase R&D expenditure in Europe and all member states followed suit by setting national R&D investment targets linked to the overall 3 % objective. (Granieri and Renda 2012, Page 77-78)

The European Commission (2000) states that this target came in the backdrop of a worrying situation for research in Europe. Europe's research effort was back then only at 1, 8 % of the GDP, against 2, 8 % in the United States and 2, 9 % in Japan. Also in terms of employment, researchers account for only 2, 5 in every thousands of the industrial workforce, way below the United States and Japan.

The purpose of the Europe 2020 strategy is to turn the EU into a smart, sustainable and connected economy, which can deliver a high degree of employment, productivity and social cohesion. To make this happen the Commission has proposed some goals where one of them is that 3 % of the EU's GDP should be invested in R&D. (ERA Portal Austria)

Through the EEA Agreement Norway could start to compete freely for research funds from the EU. The agreement marked the start for long term and ordered arrangements between Norway and EU's research programmes. The participation of Norwegian researchers has also increased substantially since the EEA Agreement came into effect. The difference could be seen already when comparing participation in the 4th Framework Programme, which started in 1994, to the participation in Framework Programmes 2 and 3 where Norwegian researchers participated on other terms than the ones from within the member states. (Chou & Gornitzka 2011)

The EEA Agreement secured Norwegian research predictability and equal conditions for participation in trans-national research projects. The framework programmes has also become a link and an arena where experiences and information can be exchanged. Because of the EEA Agreement research cooperation with actors in Europe can first and foremost be viewed as integration via incentive programs. (Chou & Gornitzka 2011)

EU research policy is an area where there are specifically shared ambitions to create an area of a free flow of knowledge. The creation of this area is pursued by incentive programmes and soft modes of governance and therefore it is an area that can accommodate the participation of non-member states like Norway as well. (Fumasoli, Gornitzka & Leruth 2015)

4.8 Expected implications for the response of NTNU:

We have learned that the Maastricht Treaty gave the basis for a more coordinated European research policy. The purpose of the research policy and programmes are to strengthen Europe in today's knowledge-based economy and to create a fifth freedom in Europe. The measures EU has taken aims to break down barriers and create a single market where research, knowledge and innovation flows freely. By doing this they can strengthen Europe's economy, the European dimension and to sharpen their competitiveness towards USA and Japan.

We could also see that the Framework Programmes has changed in scope and emphasis. They have gradually developed to becoming more thematically open and many more thematic areas are now a part of it than how it were in the former programmes. Because of this the programmes nowadays are probably more of an interest for all the faculties at NTNU than it used to be. Because of the economic integration, the added legal basis and the EEA agreement for example the programmes became more expansive and able to interest more thematic areas and research fields.

Through the programmes and the European Research Area the EU tries to make it tempting for institutions like NTNU to participate. There are calls for research funding and with the goal of a free flow of research, knowledge and innovation network building and communication become added benefits as well. These funds and the possible prestige of participating can make it even more attractive for NTNU and the various professional fields at the faculties to participate.

However signals from EU alone will not be the only crucial factor for NTNU's response. How the university responds to EU's research policy will also depend on how national actors respond to EU on this policy area. In the following chapter I will look into which attitudes and responses we can see on the national level in Norway and what have been done in relation to the programmes.

5.0 The National Level

5.1 Introduction:

In the last chapter we looked into the changes at the European level, the arrival of Horizon 2020 and the ERA, and expected implications for the response of NTNU. But the European level is not the only level that is important to how NTNU and the two faculties in question respond to EU's research policy. How national actors such as the Norwegian Research Council and the Ministry of Education and Research responds to EU's research policy can also play an important part. I will briefly write about the attitudes to Norwegian participation and how the participation has developed through the years. I will also jump into how the national institutions choose to act, or to not act, which are factors that suggests how NTNU choose to respond as well. Have they facilitated participation and have they put pressure on the Norwegian universities to participate in the programs?

5.2 Attitudes to Norwegian participation:

Knowledge gives possibilities. Those are the first words in Meld. St. 18 (2012-2013) regarding research for the future of Norway. The government says that they have high ambitions regarding both the quality and the quantity of Norwegian research, and will aim to increase the longevity and the predictability in Norwegian research policy.

Participation in EU's research programmes was an area that in a very small degree got politicized in the lead up to the Norwegian referendum on EU membership 28.11.1994. The main reason for this was the mutual understanding that participation in EU's research programmes was a positive for Norway. (Olsen 1998, page 49)

This is also further emphasized in St.meld. Nr. 30 (2008-2009) which states that internationalisation of research is important in order to increase quality and strengthen relevance of the research done in Norway, and in order to provide us with access to research done outside of Norway. In this regard, EU research and EU Framework Programmes is the largest formalized arena for cooperation between researchers in Norway and those abroad.

5.3 Political leadership:

Skoie (1996) writes that the Norwegian government views EU's research cooperation as something Norway had to be positive to, dating all the way back to the Single European Act of 1986. This cooperation was seen as an important part of the political and economic integration process in Europe. In Norway the government viewed this as a fitting way to develop and maintain the close relations with the EU. In many ways the EU's increasing research cooperation was seen as something really attractive- a dynamic area which Norway could not afford standing on the outside of.

The research system in Norway can be split into three levels which are the political level, the strategic level and the executive level. On the political level the government sets the main goals and priorities for the research policy. Research in Norway is organised after the so called sectoral principle. This means that the different departments are responsible to finance research within their own sector. The Ministry of Education and Research have the responsibility of coordinating the research policy and are themselves responsible for about half of the public research funding in Norway. On the strategic level the Research Council is a central institution. Norway only has one research council with responsibility for all areas within both general research and innovative research. About 30 % of public R&D funds are channelled through the Research Council. The Research Council have three main roles to play in the Norwegian research system. First of they are the governments central adviser within research policy. Secondly they are the main actor in making sure that the government's targets are realised. And thirdly they function as a meeting ground where society and its actors are involved in shaping and executing the research policy. On the executive level we find actors such as businesses that do research, research institutes, universities and university colleges, hospitals and so on. The universities are both strategic and executive institutions. About 60 % of all public funding to research goes to universities and university colleges. (Regjeringen 2014 b)

In Meld. St. 18 (2012-2013) the emphasis on EU is further advised by stating that the government will work on a strategy for research cooperation with Europe to secure clear goals and priorities. Participation in EU's framework Programmes for research and technological development are the most important instruments the government has to internationalize Norwegian research, both to strengthen Norwegian competitiveness and to provide access to a large base of international

knowledge. The Norwegian participation in the 6th Framework Programme and the first part of the 7th has also been evaluated. The evaluation confirms the importance of the Framework Programmes as a central arena for internationalization of Norwegian research and the evaluation also recommended further participation.

Norwegian researcher's participation was high especially within the fields of energy, environment and space research. Network building and entry with regards to future research and innovation were highlighted as some of the positive benefits of participating. The evaluation also highlighted the side benefits the cooperation has since Norwegian researchers got direct access to projects that were worth more than Norway's total yearly expenses on research. But although the correlation between the content of the Framework Programme and Norwegian research priorities, the synergy with Norwegian research programmes and innovation strategies were seen as not adequately taken advantage of. The Framework Programme was seen as administrative demanding, and they recommended working towards solutions that were less financially demanding, give incentives for participating, and a better transparency and communication of information. Since the Framework Programmes concerns many sectors, it was also noted the need to strengthen their place in the research policies of the different departments and to also strengthen the coordination nationally. Through the Framework Programmes Norwegian researchers cooperated with researchers from over 120 countries in 2012. This shows the world wide network European research collaboration can give Norway access to. As of 2012 half of all Norwegian scientific papers are produced together with researchers from other countries, and this number has increased substantially the last 20 years. Cooperation with countries within the EU has increased a lot since Norway became a participant in EU's Framework Programmes back in 1994. This confirms the Framework Programmes importance for the internationalisation of Norwegian research. (Meld. St. 18, 2012-2013)

The Norwegian government aims to increase their contribution to R&D to 1 percent of GDP. They aim to meet this goal in the period of 2019-2020. As one part of this goal the government will strengthen some of the factors with the system of research and higher education. One of these will be to increase the contributions to the schemes that stimulate Norwegian participation in EU's Framework Programme for Research and Innovation, Horizon 2020, with 400 million NOK. (Regjeringen 2014 c)

Through Meld. St. 7 (2014-2015) we learn that The Norwegian Government's goal is that

Norwegian research actors, such as the universities, should gain or win 2 percent of all the funding available in Horizon 2020. They want to do this by stimulating the different schemes to the aforementioned sum of 400 million NOK by 2018. The universities are more in need of information and support to positioning activities, to write applications and to establish and manage projects.

The goals and the priorities that the government put forward in their long term plan for R&D are in line with the three pillars of the Horizon 2020, as mentioned earlier: Industrial leadership, excellent science, and societal challenges. The government expects that the goals and the priorities in the long term plan slowly will lead to a change in the use of resources to be more in tune with the priorities. The universities and university colleges shall within the national goal structure and the government's expectations and priorities determine their own institutional goals that are adapted to the specific profile and structure of the institution and also develop their own strategies and plans to reach the targets. The department expects that the institutions develop a profile in line with their strengths and uniqueness and that capable institutions foster research environments that can become world class. (Meld. St. 7, 2014-2015)

5.4 The Research Council of Norway:

The Norwegian Research Council is a national research strategic and financial body. It is also the main research political adviser to the government, the departments and other central institutions who has an association to R&D. The Research Council identifies needs for research and recommends priorities. An important task for the council is to function as a meeting ground between those financing research, the actors and the users of Norwegian research, and to contribute to the internationalisation of Norwegian research. (Forskningsrådet 2011)

Forskningsrådet (2015 b) elaborates that one of the ambitions is for Norway to have more world leading research in the future. The challenges are to identify the research with the most innovative ideas and with most potential for radical impact and use for the society. Because of this more solid selections criteria needs to be developed, in addition to instruments for support. The Research Council's tasks get expanded when the national R&D system becomes more integrated with the EU and the rest of the world. Strong research institutions needs to be developed by concentrating the resources, and that the funds are used more effectively through competition, cooperation and sharing the work and responsibility. The development of a European research area puts demands on the national contribution increasingly has to be coordinated with the European. Targeted incentives

needs to contribute so the European cooperation becomes more integrated with the national research system, and by doing so the ambitions in the national EU strategy can be realized.

St.meld. Nr. 30 (2008-2009) says that the foundation for international cooperation is in an increasingly degree put in agreements between countries and institutions, and often with cooperative measures that needs substantial resources and long term commitments. Participation in international cooperation demands decisions on both the governmental and institutional level.

Forskningsrådet (2011) also put lights on the fact that the universities still are not participating as much in EU's Framework Programmes as they wish. Many have tight economical reins compared to similar institutions in other countries. And for many of them international cooperation is seen as complicated and resource-draining. The council therefore want to facilitate more equal competition for the Norwegian institutions in comparison with institutions from other countries. They also aim to choose projects that are more internationally positioned if they have to choose between those and other projects which do not have the same international dimension. One method is also to grant additional funds to internationalisation measures in projects that are already chosen on the basis of scientific quality.

5.5 Norwegian participation:

The total financial contribution from the Norwegian government to FP7 aimed to be about three times larger than the contribution to FP6. We have to keep in mind that FP7 covered seven years while FP6 only four years which explains some of the numbers, but the annual contribution increased significantly through the years. (Godø, Langfeldt, Kaloudis et al. 2009, page 64-65)

As of 2009, there were identified 558 participations from Norway distributed to 389 projects within the FP7. The success rate for FP7 applications with Norwegian participations is a bit lower than comparable figures for Denmark and Sweden, but still higher than the total success rate for all involved countries. The Norwegian success rate was 22 per cent, while the total success rate was only 16 per cent. (Godø, Langfeldt, Kaloudis et al. 2009, page 65-66)

In Godø, Langfeldt, Kaloudis et al. (2009) we can find quite extensive surveys of Norwegian participation in FP projects. Here they have surveyed the Norwegian participant's aims,

involvement and priorities in the projects, along with the assessment of the participants regarding the qualities of the EU projects compared to their other R&D projects. They have also noted the participation costs and the effects the projects has had on collaboration and network building. The surveys stick to Norwegian participation in FP6, although they gathered some data from the early parts of FP7 as well. Here they found out that the majority of participants viewed their projects as successful, where 77 per cent of them characterised the projects as very successful. Also according to the surveys they conducted, access to research networks, expertise, scientific excellence and funding were the most important motivations for Norwegian participation in the Framework Programme. Interestingly they also found out that figures for the FP7 participants were mostly the same, although access to economic resources was regarded as even more important in FP7 as in FP6, which might tell something about the increasingly economical funds available in the Framework Programmes. Application costs were also high. Several of the respondents reported that they spent one month on the application process, and the average cost amounted to 50 000 NOK. Some obstacles that were also reported was difficulties in finding administrative support from the researchers own organisations, as well as support in coordinating and managing the proposal phase and coping with proposal formalities. Researchers also noted that they had little experience in preparing the administrative, dissemination and impact part of proposals, which could often lead to difficulties.

Most FP6 projects included a substantial number of partners and a high potential for building networks. This opportunity was also viewed as clearly successful by the researchers. The collaborations also led to long-term cooperation with different universities in Europe. It was also noted that participation in the FP's contributed to a change in the way they organised and planned R&D. Many described this as a radical shift in terms of academic culture. In sum, the participant's R&D activities became more collaborative, international and organised in larger projects, much because of the Framework Programmes. (Godø, Langfeldt, Kaloudis et al. 2009, page 104-113)

According to informants in the surveys conducted as seen in Godø, Langfeldt, Kaloudis et al. (2009) EU projects were very demanding in terms of administration. The EU system is seen as highly bureaucratic and inefficient by many of the respondents. Many felt that the FP7 was more challenging and demanding compared to its predecessors in terms of their rate of success for proposals and so on. It was also noted that to become more successful in the Framework Programmes a system of learning and skills development should be established so there could be more transfers of knowledge and skills from those who had been successful to others. This aspect

could be very useful for example in finding partners, how to write applications, allocation of resources and so on.

This is in line with the views of informant 1 and 2. The application process is seen as demanding both time- and energy-wise and revision and following up can also be an obstacle for becoming more successful in the Framework Programmes. Informant 2 also emphasized the importance of gathering forces to “the heavy process of applying”. They have also been focusing on the need to simplify the process, even though this has gotten better in the Horizon 2020 programme. They also want the calls to be more open so they become more attractive for all fields of research.

5.6 Expected implications for the response of NTNU:

Participation in EU’s research programmes has for the most part been uncontroversial in Norway. One of the reasons for this is that participation in the research programmes is voluntary. Another reason is that Norwegian policy in the field of research is more and more aligned with EU’s research-policy. Because of this the national level facilitates cooperation and participation in the Framework Programmes and participation has a high priority.

When it comes to cooperation with EU in the field of research, informant 1 and 2 both describe the cooperation as important to be involved in. The informants also underline that these opportunities ensures higher quality in Norwegian research and opens new arenas for competition in research, which adds additional funds to the highest quality research at the universities. It is also noted that being part of the European Research Area ensures better cooperation and it is a forum for drawing lessons from each other. The Ministry of Education and Research grants funds to The Research Council of Norway who then facilitates participation in EU’s research projects through advising and instruments to stimulate increased participation.

Informant 1 and 2 told that they do not put direct pressure on the universities to participate, but they still strongly encourage them to do so. Researchers can still apply for national funding, and the most important financing tool for research in Norway is the direct grants to the universities. Here almost half of the grants to the universities go to research and Norway are at the top of the class here because of the amount of these funds. After this the funds through The Research Council is the primary source.

To sum up this part we can see that participation has not been controversial and that it has a high priority for Norway. Informant 2 tells that participation is regarded as positive because it opens new arenas for competition which Norway could not have established inside a country of our size, and these arenas are an added benefit to finance research and to the highest quality research and the universities. The internationalisation dimension is also important, because of the benefits that collaboration and network building in Europe gives, and increased competition is considered all in all beneficial. The national actors try to facilitate increased participation, and they point to weak international networks at some universities as being an obstacle. To have enough support for the application process and following up in this process is also viewed as something that needs to be strengthened by the universities.

Informant 1 adds that the opportunities and research collaborations EU research projects opens are substantial. They have witnessed an increase in competence, added competition which again sharpens the researcher's skills and work, and an arena that gives added benefits in the form of increased reputation and networks. The informant also noted the need for universities to become better to send the researchers out to Europe to take better use of these opportunities.

We can see that on the national level it is an increasing focus on participation and cooperation in research and that it is strongly encouraged. Informant 1 emphasizes that Norway's goal is to get as much input as output. This means that they grant about 2 billion NOK to EU's research programmes every year and they want a return on their investment of 2 % of the total funds available in the Horizon 2020 programme. This is an audacious goal, but their investment needs to make sense and the Norwegian research environments needs to benefit from the cooperation. All in all the cooperation and participation needs to be worth the money.

Here we can address that part of this goal setting can be viewed from a perspective of a rational calculation with an understanding of setting these audacious targets are more like "rule following". A broad exposure to EU R&D policy seems to have ingrained the view that the target is the most suitable policy aim regardless if it is feasible or not. This may increase the chances of ideational convergence between Norway's R&D policy and that of the EU, conforming to what is viewed as appropriate as the European level. Another aspect of this rational choice and convergence to EU R&D is the Norwegian and shared European fear of lagging behind the rest of the world if not

investing more in R&D. (Gornitzka and Langfeldt 2008, page 157-158)

Informant 1 notes that it is probable for the universities to receive funding for their projects from the EU. It could be harder for the university colleges or the newer universities to succeed because they do not have the same demands for research, and less competence and structure around the field. All in all they have less culture for research and applying with their research projects than what is the case at the old universities which NTNU is one of.

We can see that participation in the programmes has not been controversial in Norway and that the goal going forward is to increase the participation and build further networks and collaborations to ensure Norwegian researchers competence and the will to apply for EU grants. The national actors do their best to facilitate participation and internationalize Norwegian research institutions.

Since the signals and pressure from the EU and the national level is of relative limiting force and might hit different parts of NTNU unequally, we can expect that various features of NTNU as an institution would matter to how and why the two faculties of NTNU respond to EU's research policy.

In the next chapter I will look into different parts of NTNU, namely the Faculty of Engineering Science and Technology and the Faculty of Humanities, and which features of the university and these faculties than can influence how NTNU respond to signals from the European and the National level.

6.0 The Institutional Level

6.1 Introduction:

Up until now we have looked into changes in NTNU's surroundings. I have touched upon EU's research policy and how national actors in Norway respond to this. How NTNU respond to EU's research policy not only depend on the European and the national level though. The institutional settings, resources, structures and values of NTNU also influence NTNU's capability and will to respond and that will be the focus of this chapter. NTNU's features can also increase or decrease the university's probability to change, and if the response is mutual or different at the faculties in focus.

A university is dependent on resources from their surroundings, and therefore in some aspects has to adjust to demands from the surroundings as well. The faculties can take substantial initiatives on their own, in cooperation with the leadership at the university, or without the leadership having total overview of their initiatives. It will also matter if the faculties or the university as a whole has a common ideology and goal for their research policy.

6.2 Structure:

NTNU's vision is "knowledge for a better world". They aim to make use of their main profile within technical- and natural sciences, their various fields of subjects and interdisciplinary competence to meet and solve the large and complex challenges Norway and the world society are having. The uniqueness of NTNU as a university is a strength and they aim to be internationally outstanding. (NTNU 2015, page 8)

NTNU also has the main responsibility for higher education within technology in Norway, but apart from this also offers a broad spectre of studies within for example the humanities. NTNU in Trondheim has approximately 20 000 students, and of these half of them are within technology and science. The University also has over 100 laboratories to conduct research. (Connect Norge 2015)

NTNU has 14 different unities on the faculty level, and participate in 38 Horizon 2020 projects, whereas 2 of them are ERC projects and 10 are coordinated. For the period 2014-2023 they have four thematic priority areas which are in the fields of energy, health, oceans and sustainability and

these will be carried out through interdisciplinary cooperation. (NTNU 2016)

At NTNU the board is the highest organ at the institution. One of the responsibilities of the board is that the professional activities keep a high quality and that the institution is managed effectively. One of the board's tasks is to draw up the strategy for research activities and other professional activities and make plans for the professional development in line with the targets that are set by the senior authorities for the sector. The board shall also set targets and demands for results and have the responsibility for the economic resources of the institution. All this must be in line with the demands set by senior authorities, and by expectations set by awarded grants. (Lovdata 2005)

NTNU's ambition is that internationalisation is to be integrated in all fields, and by this also all research activity. Dissemination and communication shall strengthen NTNU's visibility and reputation internationally. The goal is to strengthen the quality and relevance in NTNU's operations and to increase the international acknowledgement. On the basis of this cooperation in the European research sphere is of utmost priority for NTNU's internationalisation. NTNU's participation in the Horizon 2020 programme aims to have a magnitude that corresponds to 1 billion NOK in income throughout the program period. To accomplish this they aim to, among others things, to prioritize the systematic work of mobilizing participation in Horizon 2020. Their incentive and support schemes for Horizon 2020 will be continued, they will establish their own office in Brussels to support those of NTNU's professional fields who want to apply for European research funding, and they will use their collaboration with strategic partners to increase the participation in Horizon 2020. In addition to this NTNU aims to establish long term and robust collaboration with chosen international professional fields and by this have a special focus on increased co-publishing and a better quality in the various study programmes they have to offer. All unities at NTNU shall identify their most important international partners and develop plans for cooperation with those. Good models for cooperation will also be shared with the other unities at the university. (NTNU 2014 a, page 5-9)

6.3 Research policy:

NTNU's ambitions for EU financed research are to increase the activity level substantially. This will be done both through administrative support and support incentives, and through pronounced alertness from the management at all levels at the university. The EU commitment ought to be a more visible part of the management structure to establish a fundamental and consistent motivation

for and understanding of participation in the European programmes. The university also want to focus on dialogue meetings, leadership training and general meetings. The topic of participation in EU financed research will be central in meetings between the rectorate and the leadership at the faculties and institutes. A strong focus through all levels will contribute to the topic becoming anchored in the faculties and create a stronger interest which is necessary for an increased commitment. They also want to mobilize and motivate the professional fields in a larger degree. This will be done by making tailor made programs for all faculties meetings, which will then make the point of departure for continuing work in each single institute and research groups. There will also be binding follow-ups and concrete actions in the aftermath with mechanisms of feedback from institutes built in. Regarding administrative support there will be no plans to further increase them, but rather aim to consolidate them and work to increase their competence and professionalism. With the starting point in EU forums routines and procedures will be further developed. Since Horizon2020 is a framework programme for research and innovation there is an emphasis on innovation and this fact makes it important with cooperating with businesses and industry. NTNU is in a good position to meet the strong demands for innovation and good processes will be established especially to stimulate collaboration with partners in industry and business within relevant special fields. (NTNU 2013 a)

Looking towards 2015 NTNU had a strong focus on participation in Horizon2020. Mobilizing towards the first round of calls was relatively good with an acceptable volume of applications. The main challenge going into 2015 was the strong competition in Horizon2020 which have resulted in a low success rate and many rejected applications which NTNU was a part of, in spite of a high score on many of them. It is emphasized that one of the challenges will be to maintain the interest and motivation in NTNU's professional fields to continue applying, also because national funding often are easier attained. They had the aim of going through their support systems and incentives for participation in the spring of 2015. (NTNU 2015, page 17-18)

6.4 The Faculty of Engineering Science and Technology:

The faculty are doing long-term research with an emphasis on research areas which contributes to societal development characterised by sustainability and innovation. They have also created different research groups who aims to use the faculty's overall competence in the best possible way. (NTNU n.d. b)

The faculty has also made a research strategy for 2012-2020 where they have highlighted four main goals for their activities within science. Because of this 16 different research areas has been appointed and these will be given extra attention the coming years. Within each of these areas a research plan has been developed, which aims to bring their research, across disciplines, accompanied by industry, towards excellence. The road towards excellence involves a strong focus on building an academic reputation internationally. (Strømmen 2012)

The faculty plans to concentrate their resources within the period 2012-2020 on fewer and bigger research tasks aimed at concrete needs that Norway has. The financing of the research shall in a large degree be gathered through grants from EU. The research should also prioritize areas in which the faculty is or can become internationally outstanding, and they also want to collaborate with other faculties at NTNU, SINTEF and world leading universities and research environments. Because of this all professional fields at the faculty must plan how they can better their research activities and strive to arrive at an internationally outstanding level. The faculty also want to follow the trend of EU by creating larger and longer research programmes. This leads to long-term financing and economies of scale by using laboratories and reporting. Not to mention that a lot of the financial grants are canalized through large programmes. (NTNU 2012, page 4-15)

Informant 3 from the faculty also underlined that they aim to achieve more funding and to make it an integral part of the strategy of the faculty. The strategy has also worked in all of the former programmes as far as the informant knows about, and that they have applied plenty of times to the Horizon 2020. The informant also notes that their faculty is the largest at NTNU, but also has the largest success rate in applications with a score of 13,4 %. But another aspect of the size of this faculty is that there are many nuances and differences within the faculty. The informant gives the example of the groups and research within energy. They get a lot of funding from national calls and have for many years not cared about applying for EU grants since the oil companies here in Norway has paid them for doing research, and by this not deemed it necessary to bother with EU calls. Here again we see how the size of the faculties plays a role to what degree they apply and how coordinated they are because of a lot of variations within the faculty. But to underline the focus on EU is getting larger, since they are all learning how to write better applications and building their networks.

6.5 The Faculty of Humanities:

The Faculty of Humanities aims to play an active role to develop interdisciplinarity. Their subject activities shall have a quality which is recognized at the international communities in their respective subjects. Some of their goals are to establish international research networks and to stimulate their professional fields to become internationally outstanding. Their professional fields shall contribute to interdisciplinary research with perspectives from the humanities, and by this show how knowledge within their fields are necessary to meet the challenges of our time.

(NTNU n.d. c)

They also want to better facilitate international collaboration by increase their support to researchers for staying abroad and participating in conferences. They also want to look towards Horizon 2020 by making and implementing an international action plan, and by using thematic priority areas and increase the mobility of their staff by research grants. (NTNU 2014 b)

Informant 4 from the Faculty of Humanities told me that they have participated since the 5th Framework Programme, which went from 1998 to 2002. Back in those days they have been told that the support staff for the program were much smaller so the researchers had to do most of the work themselves if they wanted to apply and participate. FP7 was a big step in the right direction for their faculty and they have also fostered a more established support staff to help the researchers. As mentioned in the part about the European Level the FP7 became more structured towards key thematic areas and research could be deemed fit in any area. They have also witnessed that it is most popular for their researchers to apply on calls which are thematically open. In this way the researchers can define their projects themselves, and a typical researcher most often like to conduct research which are driven by curiosity and personal interest.

6.6 Expected implications for NTNU's response:

In this chapter I have looked into some of the features of NTNU like structure, resources, goals and values. These will all play a part in how NTNU choose to respond to the European framework conditions in research policy.

We have seen that NTNU has high ambitions for increasing their research culture, both in width and depth. Informant 4 says that they have been told to move the comma when it comes to EU research projects, by this increasing the participation substantially. They told that this concerns all faculties, and the goal is crystal clear. The university aims to do this through administrative support and support incentives, and alertness towards EU funding from the management at all levels at the university. NTNU wants the commitment towards EU to be all-encompassing and an integral part of the management structure.

It is worth to mention that it will probably be limits to how strongly the board and management of NTNU can push EU participation, because of the professional fields and the individual researcher's traditionally autonomous role. Informant 4 tells that it varies how much each researcher cares about applying for EU grants, all depending how much they care about the strategic goals, and how much they want to be where "it happens", by this the informant meant the EU arena. It also matter where the possibilities opens up more and if it fits their interest of research. But the two sets of informants told that they experience a stronger pressure or expectations nowadays that they should work in groups and be active in gathering external funds.

To summarize I have shown that NTNU has implemented several incentives and actions to increase internationalisation and participation in EU projects. They offer more administrative support, they are conducting internal redistribution and grants to those who participate, and they aim to create a culture where EU research is the norm and by this also move the comma in terms of EU funding.

So far we have seen that features at the European, the National and the institutional level can matter to how and why different parts of NTNU respond to EU's research policy. The board of NTNU and the administrative staff are expected to view the possibilities of participation as something positive, and we can expect that the various professional fields have different will, possibilities, benefits and capability to respond to the changes because of EU's research policy and the possibility to participate. In this regard the implication is that the researchers get more support in the application process and receive grants as well if they do want to focus their research towards EU projects.

In the following chapter I will summarize the response of NTNU, both as a whole and the two different faculties. How have they actually responded to European and national changes and

signals? Do the faculties do anything concrete to facilitate increased participation and to what degree do they participate? Are the changes and response of NTNU minimal or substantial and can we see differences between the two faculties, and if so why?

By looking into this we can cast the light on if a process of Europeanization has taken place, and which kind of indicators we can witness.

7.0 NTNU's response

In the last chapters I have been going through changes in EU's research policy, how national actors relate and respond to these changes and the research policy in general, and features of NTNU.

In this chapter I want to look into how and why NTNU has responded to EU's research policy. Here it is interesting to look into how the board and administrative staff of NTNU has responded, what attitudes there are towards the EU programmes and if measures has been taken at the university to increase the participation in the programmes. I am also going to delve into on which degree the two faculties and their respective professional fields have responded to the programmes. It is interesting to see if the programmes are something the whole university is aiming for, or if we can see a clear difference between the two faculties. And by this also if it has happened a process of Europeanization at NTNU. As a reminder the indicators for Europeanization that I am looking for are funding opportunities, research participation, networks and probability for future collaborations.

7.1 Attitudes to EU's research policy:

Participation in the research programmes has generally not been a controversial topic at NTNU. We have already read the views from the board and administration of NTNU with regards to the importance of participation in EU projects and the need to further increase it. The EU programmes are clearly seen as a big opportunity and an area which NTNU aim to substantially increase their participation and income, from the goal of 450 million NOK in FP7 to over 1 billion NOK in Horizon 2020 as earlier mentioned.

Even though there has been an extensive commitment towards EU financed research, there is still a huge potential when working with the Horizon2020 in the years to come. There are still professional fields and leaders within NTNU who have a low awareness towards the European programmes. There are a few professional fields which stood for most of NTNU's participation in FP7, and NTNU also report that there are many relevant research groups that do not apply for EU funding because they already have national funds. The availability of national funds seems so big that some do not consider it interesting to apply for EU funds. The challenges in capacity are also one aspect that the professional fields at NTNU note as a main challenge. The researchers are too bogged down with other tasks that participation in EU projects are deemed impossible. Administrative support does not seem to help since it is the professional capacity that is the

challenge. Challenges can also be seen in the quality of the applications that NTNU participate in. But within this it can be seen that the success rate is higher within the projects where NTNU is the coordinator for consortium's and therefore in the driving seat in enunciating the applications. One last challenge that they note in this paper is lacking presence at the European arena. NTNU struggles to participate in forums and networks where applications are enunciated and consortium's are formed. This is partly because the challenge of capacity as earlier mentioned, and partly because of a lack of understanding the importance of being present in these networks. (NTNU 2013 a)

To grasp the attitudes more in depth it is necessary to get more information and views from the two faculties and their professional fields. Informant 3 tells that the Faculty of Engineering Science and Technology views cooperation with actors across Europe as highly important, because collaboration makes them all better. The view is that participation opens new opportunities. The informant emphasizes that EU is a many-headed monster and it is a lot of things that can be done within the system. If you get your foot into the system you build a network as well and therefore likely to get more opportunities. Reputation and networks are important for further success. Along with this the informant cites that the programmes offers financial benefits, the chance for more impact through research, increasing the researcher's and faculty's competence and better spreading of information because of the forums and networks you get access to. The informant emphasizes the fact that it is important to participate adequately and by this also travel to Brussels and meet partners and by this maintaining your network. The newly established EU office of NTNU in Brussels will also help in this regard. Since the faculty is so large they need to work further on strengthening the transfer of knowledge and experience between them since the EU is a jungle with a lot of information. The applications can be really similar from project to project so this can really help out. This has been a problem up until now since it is too little transfer of knowledge and sharing their experiences with each other. It has often happened at the faculty that many start a new project from scratch instead of drawing lessons from each other and asking others. The informant views the Horizon 2020 almost like a lottery, by the fact that the more tickets you have in the process the larger the possibility of achieving funds. To achieve this they have experienced the need to write a good application by having a whole team to write the project plan, gather all parts and persons early, draw lessons from others and having an idea workshop as well. This is a process that has been strengthened and they have gotten better at the processing of applications and their EU support system is greater as well.

Informant 4 tells that the Faculty of Humanities has participation as a main goal and they work at all times to meet these goals. But they also underline the fact that not all doors are open for their

professional fields. For example many of the internationally recognized researchers at their faculty do not work with EU related research at all. Some of them work with American politics, Asian culture or Norwegian folk music for example. And these subjects also need research and financing, however they do not have EU relevance. They have also sometimes struggled to make calls where some of their researchers can see their place in. But apart from this the strategic work of the faculty has become much more visible and clearly defined nowadays than how it used to be 10 years ago. They have a much better established system and the researchers are more positive to embark on the application process and the research projects because of the added administrative help and strengthened system. By applying and partaking in EU cooperation they underline that it gives possibilities to collaborate with competent people internationally, and to get financing to work better with the research. Their experiences are that contacts and earlier cooperation leads to further collaborations down the road, like a snow ball effect. And by partaking in an EU project you also increase the research resource by getting money that covers your salary and frees you to do more research more, and you can also get research fellows to help you out that increases your capacity. All in all the carrot for many researchers is the ability the opportunity gives to work faster and more intensive with a project.

Informant 3 tells that the EU projects has raised questions among their researchers since the applications are so demanding and takes a lot of time to do. This attitude has its roots in the fact that most researchers often just like to conduct research. But the informant also underline that going forward the plans are that the calls from the national research council and the EU are going to become more coordinated and because of this streamline and familiarize the application process to a greater extent. If the projects are a priority among their researchers varies quite a lot. You can't force them, but many realize that they should participate to climb the ladder. Added is also the fact that those who are driven by their own interests succeed more. But the rumour among many still is that it takes a lot of time to apply and that it is a lot to do and read up on.

Informant 4 says that on their faculty some of the researchers probably feel a personal expectation to participate in EU programmes, while others continue to apply for national funds and are happy about that. Some of them also do not care that much about the strategic goals of the university or do not identify themselves with their faculty's goals, although they want to participate where it happens and to achieve the possibilities EU projects gives. They report that there are only a few researchers at the faculty who are active in the EU environment right now. Since it is a better established system nowadays with administrative support the researchers are less dreading to

initiate the applications and projects. But many of them still feels that the process takes up too much of their time- away from time for research and publication.

Both of the sets of informants add that participation is not obligatory. Informant 3 says that they are encouraged to participate, and that if you want to impact research you as a researcher need to participate internationally. Informant 4 tells they experience a stronger pressure or expectation that their people should work in groups and in general be active in gathering external funds.

7.2 Measures to increase participation:

NTNU has implemented several institutional instruments for EU financed research. In FP7 it was for example established an incentive that implied that those researchers who were partners in an EU project got additional financing from NTNU at 15 % from the funding from EU, while those who were coordinating an EU project got 25 %. Those who coordinated or got granted a project through the European Research Council also got a Ph.D. candidate or a post-doctoral scholar from their own faculty. These incentives are an internal redistribution of funds to the advantage for those research groups who participate in EU projects and it is subtracted from the faculty's grants. The administrative support staffs for EU financed research has also been built up through several years and all faculties now have EU advisers. In addition to those there are central administrative resources in the form of people working in the vice-chancellor's staff, six economists in the economy department and one legal expert. The administrative support staff is organized in EU-forums which are led from the vice-chancellor's staff. It is continually being worked with good processes, routines and support incentives with the starting point of EU-forums, and with building competence regarding EU in all support staffs. Through the whole period of FP7 NTNU put a special emphasis on making the European commitment an integral part of the administrative structure at the university. They also focused especially on giving good and correct information to the different professional fields and custom-made programs to each faculty and areas of commitment. (NTNU 2013 a)

As mentioned earlier one move that NTNU have taken to facilitate more internationalisation and support to their research fields is opening their own office in Brussels. NTNU has high ambitions for participation in Horizon 2020 and opening this office is one part of NTNU's commitment to increased participation in the programme. Their office in Brussels can help the professional fields of NTNU to identify and participate in European networks and in long term positioning towards

relevant European organizations, alliances and platforms. The office can also help out in identifying existing possibilities of financing and to build partnerships and consortium's aimed at concrete calls. (NTNU n.d. a)

Waterloo Normannsen (2016), who is a journalist for NTNU's newspaper, writes that NTNU's goal is that their participation in Horizon 2020 shall pass 1 billion NOK. NTNU's leader at the Brussels office, Massimo Busuoli comments that "the big challenge is to establish a mutual will to contribute to attain this target. The goal in itself I think is realistic" (Waterloo Normannsen 2016). Busuoli further advises that "alliances and gathering forces are key words in Horizon2020" and his request to NTNU's professional fields is to "travel, travel, travel. And involve yourself, involve yourself, involve yourself" (Waterloo Normannsen 2016).

The leader at the Brussels office is of the impression that relative good possibilities for financing in Norway so far has put the brakes on Norwegian researcher's interest in involvement in EU's programmes. He emphasizes the importance of direct contact, participation in research groups and building alliances if you want to achieve results. (Waterloo Normannsen 2016).

Busuoli comments that:

It is not okay to say that you are a part of an international research group if you never go and visit your colleagues. It always pays off. Personal contact and physical meetings should never be underestimated (Waterloo Normannsen 2016).

Both of the informants from the faculties tells me that they aim to achieve more funding and make it an integral part of the strategy of the faculty. They also emphasize the importance of participating and applying. The Faculty of Humanities has been involved since the 5th Framework Programme, while the Faculty of Engineering Science and Technology has been involved since the first programmes. They also add that the new Brussels office is a positive factor in the regard that it gives them more inquiries. This office gives an easier communication out to Europe and thus helps in network building.

7.3 Participation in the research programmes:

In 2014 NTNU had a particular focus on strengthening their research culture, both in width and in depth. Of 57 evaluated applications to Horizon2020 as of November 2014 only 6 of them were

granted funding from the programme. This means that the success rate was 10, 5 %, which is about half in comparison to FP7 as a whole. At the end of 2014 NTNU was recorded with participation in 153 applications to Horizon2020. NTNU's share of the Norwegian universities participation in projects were 33 %. This is a higher amount than in FP7, where NTNU were at 26, 1 %. The goal of 450 million NOK in total income from FP7 was met with a good margin. The final result ended up at 510 million NOK. (NTNU 2015, page 12-17)

Income from EU financed projects are one of the variables which makes the foundation for estimating the universities payments from the Ministry of Education and Research regarding the result based component of research. Even though it is a lot of money involved in EU financed research it is the professional profits which are important for NTNU's professional fields. One of the motivations is in the fact that the Framework Programmes and other joint European initiatives lay the foundations for collaboration with the best research environments internationally. The aggregate percent of successful applications are relative low compared to other institutions that NTNU wants to compare themselves to. Their percent in FP7 was 17, 5 % which were 2 % less than the average for the Norwegian universities. And there are also large variations between their faculties. For example the Faculty of Humanities only got a success rate on 3 % while the Faculty of Engineering Science and Technology got 29 %. (NTNU 2013 a)

Table 2: NTNU's success rate in FP7 per faculty

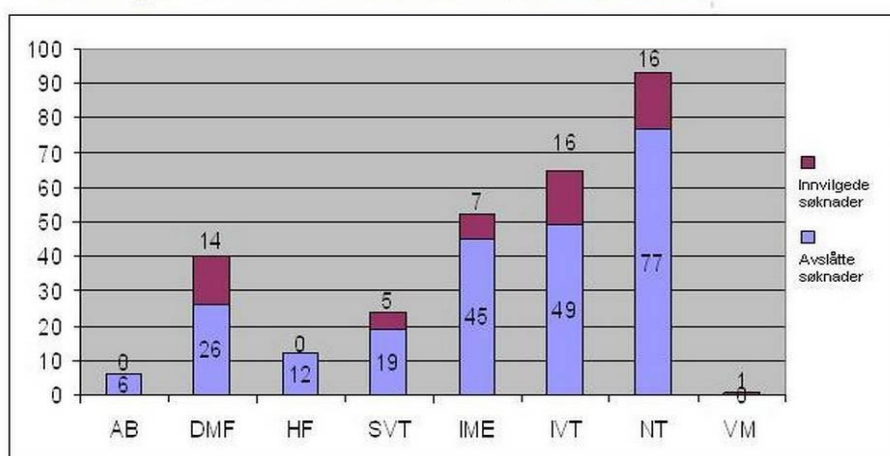
Fakultet	Suksessrate
HF	3 %
DMF	34 %
AB	16 %
IME	12 %
IVT	29 %
NT	16 %
SVT	11 %
VM	67 %

Source: NTNU (2013 b)

Table 2 shows the faculties' participation in FP7. As we can see there are big differences between the faculties when it comes to the success rate. HF stands for the Faculty of Humanities while IVT is the Faculty of Engineering Science and Technology.

We can also see the same story and difference between the two faculties in question when looking at how many applications they have participated in. Table 3 from Waterloo Normanssen (2011) shows that as of 2011 the Faculty of Engineering Science and Technology, IVT in the table, had 16 of their applications granted while 77 were dismissed. Meanwhile all 12 of the Faculty of Humanities applications got dismissed. Senior adviser Nina Sindre comments that “the eye of the needle is narrower for the humanities. There are fewer possibilities to apply and less financing” (Waterloo Normanssen 2011).

Table 3: Participation in number of applications, per faculty at NTNU



Source: Waterloo Normanssen (2011)

Regarding actual participation in EU programmes we see that there is a big difference between the two faculties. Here we have to take into account how long ago they first participated in the framework programmes, where there also was a difference, and the sheer size of the two faculties. But the difference in participation and applications between the two of them may say something about how different faculties and professional fields of the university are “hit” differently by EU’s programmes and by this affecting how they respond. Informant 4 told that FP7 was a big step in the right direction for them. In Horizon 2020 for example the calls are more explicit and it gives a better understanding of which phase of the project they want the research. There is a system of different levels where the lower levels are more fundamental research and all of this makes it easier for the faculty to realize what kind of research is demanded. We also have to take into account that a lot of the topics that the Faculty of Humanities conducts research on are simply not topics which are relevant for EU research. Informant 3 told that if you get into the system you build networks which foster the chances for future collaborations and participation. Within the professional fields and type

of research that the Faculty of Engineering Science and Technology conducts it can be argued that there are a larger degree of path dependency since they have participated since the early programmes, where their kind of topics and research were mainly in focus, and therefore they already had pre-existing networks and collaborations. This view is also something Informant 1 emphasized by saying that new institutions or fields can struggle to get funding because they have less pre-existing competence and structure in applying, all in all less culture for EU funding. The earlier profile of the Framework Programmes made it easier for the fields within the Faculty of Engineering Science and Technology to apply than the case were for the Faculty of Humanities. Informant 2 tells that Horizon 2020 is a step forward as well in the regard that programmes 6 and 7 were often too unilaterally focused on technology. In comparison Horizon 2020 is more focused on societal challenges which can make it easier for new and different research fields to find their place too and the research can also be more interdisciplinary, which most likely will suit NTNU.

7.4 Europeanization of NTNU?

There can be of little doubt that EU's research policy and programmes have gotten substantial attention at NTNU. One of their big goals is to become internationally excellent (NTNU 2011).

And by this NTNU (2014 a) also states that "cooperation within the European areas of education, research and innovation is a main priority for NTNU's international collaboration".

The board of the university and the administration has been positive to participation, and we can see that there have been several incentives and initiatives to facilitate increased participation. There is also the goal of getting 1 billion NOK in funds from the Horizon 2020 as earlier mentioned. This is a substantial increase of their output from FP7, and we can see the importance and focus on attaining EU financing.

It is rather obvious that NTNU's research and focus has had a tilt towards Europe because of the possibilities and benefits that exists. We can also see that NTNU's ambitions has become larger in line with more funding available in Horizon 2020 compared to the earlier programmes, and that Horizon 2020 has more of an interdisciplinary focus. The faculties also realize the importance of participating "where it happens" and by this build up networks and collaborations which can further enhance participation. But we could also witness that the framework programmes don't fit with the Faculty of Humanities in the same way because of their research fields, however my informants

could see a shift since FP7 and now Horizon 2020. This is also underlined in that some of their researchers do not see the same need to apply since they do not see calls as something as fitting to their research interests and some fields also focus only on applying for national funds and are happy about that. The latter case relates to the Faculty of Engineering Science and Technology as well. The availability of national funding, the relatedness between the calls from EU and the researcher's interests will matter towards how many researchers that participate in EU projects and from which faculties. But my research can of course not conclude anything in this regard since I have not interviewed any researchers, and therefore more info from the different professional fields and researchers would be necessary. But the views from my informants can at least give us an indication of how the response has been and why they respond as they do.

To sum up this part we can see that NTNU and both of the faculties are influenced by EU's research policy and have responded by focusing more towards EU's programmes and possibilities by setting ambitious goals, building up administrative support, drawing lessons from each other within the faculties, setting up a Brussels office and fostering and building new networks in Europe. We can, based on the informants and the indicators, witness that there has been a substantial focus and response towards EU's research policy and participating in the programmes. Due to the benefits and positive incentives of participating, the university has been persuaded into a structural adaptation to be better able to handle the European funding instruments. Here EU advisers and lesson-drawing across the faculties helps with the application process and give extra incentives to those who participate. This diffusion of new norms and support systems at the university contribute to the increasing emphasis on the European dimension.

NTNU aims to substantially increase their participation by "moving the comma" and have implemented different measures to increase the participation and focus on EU's programmes. The two faculties aim to meet these goals and standards as well, but the participation has been somewhat different. In the earlier programmes the calls has been much more tailor made for the Faculty of Engineering Science and Technology. But with the more open calls, a chance to do interdisciplinary research, and stronger focus on societal challenges in the last years we will hopefully witness in the coming years that the Faculty of Humanities comes more to the fore as well. With an eye on the aforementioned indicators it can be witnessed that there are substantial funding opportunities through EU's research, especially since Horizon 2020 came to the fore. This has made the Faculty of Humanities more able to find their place as well since the programme is more interdisciplinary and focus to a larger extent on societal challenges. Actual participation is also increasing steadily

and through Regjeringen (2016) the statistics says that NTNU is now the main benefiter among the Norwegian universities with the most projects and the most funds. At the topic of participation the difference between the two faculties can still be seen. If the humanities manage to “catch up” is a topic that could be interesting to research in the future. Both the administrative staff and NTNU as a whole focuses more nowadays on the importance of network building and to be where it happens. One important measure they have done to have an extended arm out to Europe was to establish their Brussels office as of 2016. The informants also noted that future collaborations were easier to attain through pre-existing networks and successful partnerships, although this is more difficult to state clearly without knowing where the research collaborations nowadays will lead to and without interviewing researchers with former experience in this area.

As a side note the informants also note that it can be a problem to get all of their professional fields and researchers interested in applying since the view still is that the application process is challenging and that some of them do not find “their place” in the calls and that they do not fit their interest. The availability of substantial national funding for some groups is also one factor. Informant 2 also told that in Norway we have a larger emphasis on the humanities and social sciences than in other countries, so therefore it can be easier for these fields to get financing from national calls than in the framework programmes. The informant also adds that the habit of applying for EU funding is one element here, and the different faculties should aim to send stronger applications and gather enough forces and support behind each and every one.

In the next chapter I want to summarize my findings and take a look at which implications the thesis has.

8.0 Summary

In this thesis I have on the basis of the concept of Europeanization studied how and why NTNU has responded to EU's research policy with the help of comparing two faculties at the university. In helping me doing this I have examined what possibilities there are in EU's research policy and what they have to offer Norway and NTNU. I have also looked into how national actors respond to EU's research policy and how the participation has been. At last I have delved into features and attitudes at the institutional level of NTNU and how and why they, and by this also the two faculties in question, have responded. All of these levels and their findings have implications for how the response of NTNU has been and why so.

The thesis shows some main tendencies. EU's aim with their research policy is to strengthen Europe in the knowledge-based economy and create a fifth freedom, a free flow of research, knowledge and innovation. The Framework Programmes has gradually developed to become more thematically open and because of this the programmes are more of an interest for all the faculties at NTNU and it can also serve the university well because they are quite interdisciplinary. The creation of a free flow of the aforementioned areas also facilitates network building and communication between researchers across countries. There are more funds available in the new Horizon 2020 as well which can make the programmes even more tempting and prestigious to apply for going forward.

In Norway participation in the programmes has been uncontroversial. Participation has a high priority nowadays, even though it is voluntary for the researchers. Informant 3 also told that they witness that the national research policy and calls are gradually becoming more aligned with that of the EU. The informants noted that participation ensures higher quality and better cooperation and the researchers can draw lessons and ideas from each other. All of this increases the competence of the research environments here in Norway and makes them more able to compete for funding, increases their reputation abroad and to build collaborations that can foster future research cooperation.

NTNU have substantial goals to increase their participation in EU research projects. This goal aims to be all-encompassing at all faculties and research fields. EU calls do not fit the interests of all researchers, in addition to some of them researching fields which are outside of the interest of EU. The motivation to participate and receive funding can also vary between the researchers. NTNU has implemented several incentives and measures to increase participation and focus on EU's research

projects by for example better administrative support, internal redistribution, and all in all build a culture where EU research is the norm.

NTNU's actual response can be witnessed in a hefty goal of attaining 1 billion NOK in funds from the Horizon 2020. From the FP7 and forward the programmes have gotten more fitting with several of the research fields at the university because of the interdisciplinary focus and more thematically open calls. But still some fields at the Faculty of Humanities struggle to find their place and some fields from both of the faculties are satisfied with the availability of national funding. The university as a whole and both faculties are influenced by the development of EU's research and have responded accordingly by setting ambitious goals across the whole university, building up the administrative support and drawing lessons from each other to a higher degree. They have also established an office in Brussels and focused on fostering their networks in Europe. Due to the substantial funds they can apply for there has been a structural adaptation and diffusion of new norms, goals and support systems that makes NTNU better able to respond to the EU calls and a more shift in focus towards Europe.

8.1 Implications:

This thesis has implications in several ways. First of due to changes and opportunities at the European and National level, NTNU has responded by setting ambitious goals, adapted their administrative support and given incentives to increase participation by making the process easier and more attractive.

Through my main indicators for Europeanization that were funding opportunities, research participation, networks and the probability for future collaborations we can see that there is a larger degree of focus on EU projects at NTNU. Since the introduction of Horizon 2020 there have been more possibilities for funding all in all and also more opportunities for both faculties. Regarding actual participation NTNU surpassed their initial goal in FP7. Even though we can only measure the first years of the Horizon 2020 programme NTNU share of the Norwegian universities participation were at 33 %, which is a higher amount than in FP7. Through the new research barometer from Regjeringen (2016) the degree of participation can also be witnessed by the fact that NTNU is now at the forefront of Norwegian universities' participation in the programme, both in the amount of projects and funds achieved.

There is also an increased emphasis on building networks and by this also foster future research collaborations. Researchers are encouraged to travel to meet up with partners and the like and NTNU has established their Brussels office.

In the view of my earlier chapter about Europeanization and the indicators for Europeanization, the European dimension is increasing and affecting how an institution like NTNU in the non-member state Norway respond to EU policy and by this having influence on how they conduct their research. There has been a change at the domestic level, EU's research projects are actively promoted, more positive incentives, both financial and technical assistance, new norms at the institution, lesson-drawing and discourse, more imitation of EU's research policy, a more aligned policy goal towards EU, and common targets to meet this goal. These are all factors that can trace back to that a process of Europeanization has taken place at NTNU.

Secondly the thesis contributes in the field of studying European integration. By not just viewing European integration and Europeanization at the national level but by also utilizing an institutional level we can see different responses to EU policy. By looking into how features, structures and attitudes at an institution like NTNU we can see the process of Europeanization in a different light. And by going down to the level of the two faculties we get a more in depth view of the responses and the processes of change and the nuances of how Europeanization influences different levels and fields. And by this also looking into how Europeanization is not just a process of Europe impacting on Norway, but a process in which the Universities, their leaders and the researchers themselves contribute to its shape and guise, as well as its extent and degree.

8.2 Recommendations for future research:

Since Europeanization is a gradual process and a somewhat elusive concept I will be quick to point out that we can't set in stone that EU's research policy has severely affected that of NTNU and their two faculties. More time to research this topic is needed for something like that, in addition to interviewing researchers. By doing this we could also investigate the actual impact of the incentives NTNU has implemented more in depth. And by this finding out to what degree the researchers respond to them and go through a process of "Europeanizing" themselves. By interviewing the researcher's one could also find out if the internal redistribution and the faculty's grants is a method that is well received by all, even those who are over-looked. Here one might find out that a higher emphasis on EU funding is a distributive consequence in the fact that some researchers outside of

the interest of EU could see this emphasis as unfair. By this one could possibly cast the light on the fact that a higher emphasis on EU research projects could lead to both winners and losers both at the university and nationally. Comparing NTNU to another university here in Norway or abroad would also give us a broader understanding of how and why EU's research policy is affecting the universities and what their subsequent response is.

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Appendix

Appendix 1: Statement with regard to ethical guidelines in research

The intent of this document is to inform the interview subjects of my master thesis on “how different parts of NTNU respond to EU’s research-policy” of the ethical guidelines I will follow.

They are gathered from The Norwegian national research ethics committees found in English here:

<https://www.etikkom.no/globalassets/documents/english-publications/guidelines-for-research-ethics-in-the-social-sciences-law-and-the-humanities-2006.pdf>

The research topic of my master thesis is the “Europeanization of higher education in Norway: A case study of NTNU”. Here I want to specifically find out how different parts of NTNU respond to EU’s research policy. I will look into developments and changes of the research-policy on EU-level, national level and the institutional level that is NTNU, and also the differences in what EU cooperation has to offer for these institutions.

I will be using interviews and document analysis in my thesis to address this research question.

The interviews will be recorded, and the sole use of the material will be to answer my research questions. The recordings will be stored safely, only for my use, and deleted when the evaluation of the thesis is completed.

As interview subjects you may request that identifiable information is removed from the analysis, and you have the possibility to stop the interview at any time.

Consent Form:

I, the undersigned, declare that I am willing to take part in research for this Master thesis as an interviewee.

- I declare that I have been fully informed about the nature of this study and my role in it as an interviewee and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
- I am also aware that my participation in this study may be audio-recorded and *I agree / do not agree* [**mark as appropriate**] to this. However, at any time I can request that the recording equipment be switched off. I am entitled to copies of all recordings made and am fully informed as to what will happen to these recordings once the study is completed.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation at any time without having to explain or give a reason.

I am also entitled to full confidentiality in terms of my participation and personal details. I will have a choice

I want to remain completely anonymous.

I prefer the use of a pseudonyms or descriptions of my position shall be used (please specify.....)

I agree to my name being used, and information being attributed to me. In case I agree on the use of my name in publications. However I can ask the researcher to submit the relevant academic text for clearance in advance of publication.

[Please mark/declare your choice as appropriate.]

I have received a copy of this Consent Form and of the accompanying statement with regard to ethical guidelines in research.

Signature of participant _____ Date _____

Appendix 2: Questionnaire to EU advisers at the faculties

The goal of my Master Thesis is to analyse how and why different parts of NTNU respond to EU's research-policy.

In order to provide the necessary context, I have studied the developments and changes of the research-policy (1) at the EU-level, and (2) at the national level. My empirical study will look at EU cooperation at (3) NTNU, and also the differences in what EU cooperation has to offer for the faculties. My central question is: What are the interests and identities of the participating scholars and administrators at NTNU? What motivates them to participate?

Introduction:

What is your position at the faculty?

How long have you been at the position?

Could you tell about the volume of EU funding achieved in relation to funding from other sources percentage wise?

EU research:

Could you please describe the general EU strategy of your faculty?

What experience does the faculty have with former EU Framework programmes? Could you please explain which funding schemes the faculty participated in? To what extent has it been successful so far?

Is it important for the faculty to participate in EU's research projects?

If so, could you describe whether and to what extent it is a priority?

Why is it considered important?

Who, within the faculty, considers it particularly important?

To what extent and in which areas does the EU research projects open new opportunities and research collaborations for the faculty?

How prestigious do the faculty and researchers perceive the EU research projects- notably compared to national (or private) funding?

Have the faculty's strategy changed because of the EU research opportunities?

How does the faculty and researchers perceive the processing of applications at the university?

Could you describe the experiences from finished projects?

What experience do the faculty have regarding funding opportunities for the EU research projects?

In your view: How probable is it to get funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?

To what extent is participation in the research projects obligatory?

Is the faculty in some way encouraged to participate in the research projects? Who in particular encourages you to do so?

What are the main obstacles for participation?

In your view what does EU cooperation have to offer to your faculty?

How could the EU programmes be more attractive to the faculty?

National funding:

Which national funding sources are available for research at the faculty?

Which experiences do you have from these?

In your view: How probable is it to get national funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?

Appendix 3: Questionnaire to the Ministry of Education and Research:

The goal of my Master Thesis is to analyse how and why different parts of NTNU respond to EU's research-policy.

In order to provide the necessary context, I have studied the developments and changes of the research-policy (1) at the EU-level, and (2) at the national level. My empirical study will look at EU cooperation at (3) NTNU, and also the differences in what EU cooperation has to offer for the faculties. My central question is: What are the interests and identities of the participating scholars and administrators at NTNU? What motivates them to participate?

Introduction:

What is your position at the Ministry of Education and Research?

How long have you been at the position?

Could you tell about the volume of EU funding achieved in relation to funding from other sources percentage wise?

EU research:

Could you please describe the general strategy for international cooperation for the Ministry of Education and Research?

What experiences does the Ministry of Education and Research have with former EU Framework Programmes? To what extent has it been successful so far?

Is it important for the Ministry of Education and Research to facilitate participation in EU's research projects?

If so, could you describe whether and to what extent it is a priority?

Why is it considered important?

To what extent and in which areas does the EU research projects open new opportunities and research collaborations for the universities in Norway?

How prestigious do the Ministry of Education and Research perceive the EU research projects- notably compared to national (or private) funding?

Have the Ministry of Education and Research strategy changed because of the EU research opportunities?

Could you describe the experiences from finished projects?

What experiences do the Ministry of Education and Research have regarding funding opportunities for the EU research projects?

In your view: How probable is it for the universities to get funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?

To what extent is participation in the EU research projects obligatory?

Do the Ministry of Education and Research in any way encourage the universities to participate in the research projects?

What are the main obstacles for participation?

In your view what does EU cooperation have to offer for the universities and Norway as a whole?

How could the EU programmes be more attractive for the Ministry of Education and Research?
And for the universities of Norway?

National funding:

Which national funding sources are available for research at the universities?

What are your views of those?

In your view: How probable is it to get national funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?

Appendix 4: Questionnaire to the Research Council:

The goal of my Master Thesis is to analyse how and why different parts of NTNU respond to EU's research-policy.

In order to provide the necessary context, I have studied the developments and changes of the research-policy (1) at the EU-level, and (2) at the national level. My empirical study will look at EU cooperation at (3) NTNU, and also the differences in what EU cooperation has to offer for the faculties. My central question is: What are the interests and identities of the participating scholars and administrators at NTNU? What motivates them to participate?

Introduction:

What is your position at the Research Council?

How long have you been at the position?

Could you tell about the volume of EU funding achieved in relation to funding from other sources percentage wise?

EU research:

Could you please describe the general strategy for international cooperation for the Research Council?

What experiences does the Research Council have with former EU Framework Programmes? To what extent has it been successful so far?

Is it important for the Research Council to facilitate participation in EU's research projects?

If so, could you describe whether and to what extent it is a priority?

Why is it considered important?

To what extent and in which areas does the EU research projects open new opportunities and research collaborations for the universities in Norway?

How prestigious do the Research Council perceive the EU research projects- notably compared to national (or private) funding?

Have the Research Council's strategy changed because of the EU research opportunities?

Could you describe the experiences from finished projects?

What experiences do the Research Council have regarding funding opportunities for the EU research projects?

In your view: How probable is it for the universities to get funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?

To what extent is participation in the EU research projects obligatory?

Do the Research Council in any way encourage the universities to participate in the research projects?

What are the main obstacles for participation?

In your view what does EU cooperation have to offer for the universities and Norway as a whole?

How could the EU programmes be more attractive for the Research Council? And for the universities of Norway?

National funding:

Which national funding sources are available for research at the universities?

What are your views of those?

In your view: How probable is it to get national funding? What, in your view, enhances this likelihood?

Conversely, why is it so and what makes it particularly difficult?