School of Management and Governance, University of Twente, Enschede, the Netherlands
Institute of Political Science, Westfälische Wilhelms-University, Münster, Germany

The Influence of the Welfare State Type and Autonomy on the Local Network Activities of European Mayors

Bachelor Thesis submitted by Ingrun Belzer (s1857673)
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1st supervisor: Dr. Pieter-Jan Klok
2nd supervisor: Dr. Martin Rosema
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Abstract

Little is known about the connection between welfare state types and local mayoral networks. The topic of municipal networks recently gained attention with the publication of Benjamin Barber's book *If mayors ruled the world*, as the assertion was made that especially municipalities provide the governance networks needed to face global challenges.
This bachelor thesis assesses the potential relationship between different welfare state regimes and local networks within a comparative country study. The quantitative data used for this research were provided by the POLLEADER II survey conducted from 2014 till 2016, an Europewide questionnaire for mayors of municipalities with at least 10.000 inhabitants.
The main research interest of this study is to examine the differences in levels of *local network activity* between welfare state regimes. A special focus is set on how the level of local autonomy (financial and decision-making autonomy) influences this relationship. It will also be assessed, if the level of *local network activity* varies between different policy issues.

The main empirical research question of this study is:

How does the respective welfare state type shape financial and decision-making autonomy of municipalities and to what extent does this autonomy influence the network activity of mayors regarding certain issues?

The results of this thesis indicate that the influence of the respective welfare state type on *local network activity* is limited. The data implied that the welfare state type is not a good indicator for local autonomy, as also national factors shape the level of local autonomy. A regression between *local financial autonomy* and *local decision-making autonomy* as independent variables and *local network activity* as dependent one was not statistically significant. Regressions split among welfare state types was only statistically significant in one case and indicated a negative relation.

Keywords: European mayors, Welfare State Regimes, Local Autonomy, Country Comparison, Local Financial Autonomy, Local Decision-making Autonomy

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1. Introduction

Networks are analysed in the social sciences with great interest. They are, for example, used to explain group dynamics, power relations or specific decision-making outcomes (Bressers H. & O'Toole L. 1998, Bejan A. & Merkx G. 2007, Menache I. & Ozdaglar A. 2011). Engaging in networks is perceived as something favourable. In his network approach O'Toole emphasised the possibility of network partners to share resources (Frederickson, H. G. 2016).

In recent times, networks on the local level enjoy increased scientific interest. Benjamin Barber stimulated this scientific interest with his famous book If mayor ruled the world – Dysfunctional Nations, rising cities. In his book, Barber named cities and municipalities "democracy's best hope" (Barber 2014, p.3) in modern days. He referred to the increasing interdependent challenges of globalization like climate change, war, terrorism, and the threat of multinational corporations. Overcoming these challenges is only possible by globalizing decision making and governance as well. To preserve democracy during this process, a connection between the local character of participation and the centralised character of power must be established. Benjamin Barber presented local networks as the solution for this problem (Barber 2014).

He referred to cities as "the most networked and interconnected of our political associations" (Barber 2014, p.4), while he criticised nation-states for failing in establishing global networks due to competition for influence and power. Barber described already existing forms of municipal networks in the fields of culture, communication, and environmental protection. He emphasized the potential of these currently informal networks for global governance and focuses on the appeal "let mayors rule the world" (Barber 2014, p.4), another strong indication for the importance of the local level for the future challenges of globalisation (Barber 2014).

However, the local level is oftentimes restricted by higher tiers of government like the federal or national level. These higher levels determine the decision-making scope of local authorities, as well as their self-administering powers. Local political networks are mostly managed by municipal authorities on the local level. Considering this, it might be interesting to examine to what extent local autonomy influences the extent of local network activities of mayors. If there is a relationship between local autonomy and local networks, it would be also interesting to see if the level of network activities varies between different policy issues. To compare the level of municipal autonomy in a meaningful way, it is appropriate to group countries according their shared characteristics.

Gøsta Esping-Andersen introduced three types of welfare state regimes in his famous book The Three Worlds of Welfare Capitalism (2013). Since then these welfare state types were adapted, adjusted, and extended by various other researchers (e.g. Lidström 2003, Bennett 1993, Hesse and Sharpe 1991). Recently the inclusion of the Eastern and Southern European countries led to discussions not only about policy issues, but also about the expediency of the differentiation in

welfare state regimes. Some researchers see another crisis of the welfare states due to the introduction of New Public Management (concept defined i.a. by Budäus & 1998, Kickert 2001), global competition, and the political pressure to reduce public spending (Josifidis, Hall, Supic, and Pucar 2015).

Jefferey Sellers and Anders Lidström (2007) compared the distribution of power on the local level depending on welfare state regimes. They put a special focus on the Scandinavian social-democratic type and examined local capacities and administrative supervision. However, they did not include the Eastern European countries in their research (Sellers and Lidström 2007).

So, although the relationship between local autonomy and different welfare state regimes was already assessed in various Western European countries, most Eastern and Southern European countries were missed. A connection between the welfare state regime and *local network activity* is not established yet.

This thesis aims to contributes to the efforts of closing these theoretical gaps. This thesis should provide a first examination of a connection between the welfare state regime and *local network activity*. The data used in this thesis also offer the possibility to test the findings of Sellers and Lidström with a more recent data set and to expand their results by the Eastern European countries. In conclusion, this thesis will contribute to a first holistic analysis of most European countries on this topic.

This study will divide the 28 assessed countries in five welfare state regimes. The influence of the welfare state regime will be described through the level of local autonomy. Local autonomy will be split in *local decision-making autonomy* and *local financial autonomy*.

2. Research Question

From this research interest arises the following empirical research question:

„How does the respective welfare state type shape financial and decision-making autonomy of municipalities and to what extent does this autonomy influence the network activity of European mayors over certain issues?"

This explanatory research question defines the network activity of mayors as the dependent variable. The independent variable is the welfare state type, financial and decision-making autonomy of municipalities serve as intervening variables.

The main research question will be broken down in the following sub questions:

1. Does the welfare state type have an influence on municipal autonomy in European countries?
2. To what extent do these autonomies influence local network activities of mayors?

3. Does this influence differ between policy issues?

The research design is explanatory, as it attempts to test hypotheses derived from theory in a quantitative country study.
The following causal diagram results from the research question:

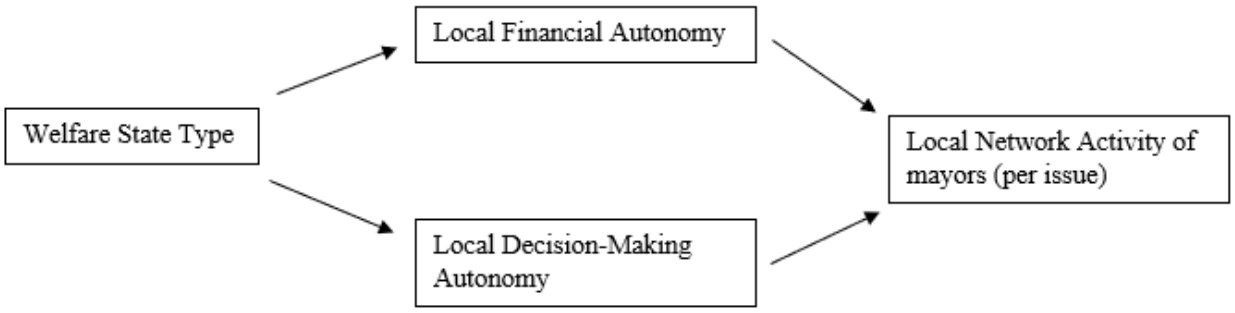

Figure 1: Causal diagram

The necessary data were provided by the POLLEADER data set, based on a quantitative survey conducted from 2015 to 2016 (Heinelt, Magnier, Cabria & Reynaert 2018).

3. Theoretical Concepts

Before the theoretical foundation will be introduced, the basic concepts of this thesis should be examined.

3.1. Local governance networks

For this study local networking activity was conceptualized as the mayor's active participation in certain activities that should stimulate cooperation and discussion between local actors. Activities queried in the survey were the extent to which mayors organize platforms, act as mediators, use their formal power to impose decisions and link relevant actors with one another as well as the municipality with networks on other tiers of government. All these actions were measured in regard to the most important issue as identified by the mayor.
O'Toole suggested in his network approach that actors tend to form networks, if they share similar values, beliefs, and goals. Engaging in networks enables these actors to share resources and knowledge about the respective issue and achieve their shared goals therefore more efficiently (Frederickson 2016).
However, network activity might also bear costs that make networking unprofitable. As "network management is time consuming, objectives can be blurred, and outcomes can be indefinite" (Rhodes 2006, p.433). Therefore, actors always have to weigh the advantages of the network

against the arising costs.
According to the resource dependency approach networks arise from dependent organizations. They are dependent on the resources the actors are willing to invest. There might be actors that have more extensive resources than others. In this case actors can use their resources to influence the outcome of the cooperation in their favour (Rhodes 2006, p.431).
This might apply also, if powerful actors do not participate in the network itself. If the local government, for example, is heavily dependent on resources from a centralized national government, the national government does not have to actively participate in the network to influence outcomes or to restrict network activity, as one of the actors within the network (local government) is dependent on this powerful external actor.
Researchers, however, discovered a general tendency of decentralizing national power and shifting responsibilities for local needs on the local level (Rethmeyer and Hatmaker 2008). This trend might be interpretable as a shift towards more local autonomy, as transferring power to the local level simultaneously increases the local independency from higher political levels.
The definition of local autonomy, as the absence of dependency on higher levels, relatable to the concept used by Denters, Steyvers, Klok, and Cermac (2018). In this article the researchers examined interdependencies between different local actors on the horizontal level. They found a generally high level of network activity on the local level and a moderately high level of dependency on other (mostly political) actors.
There is also a connection between *local network activity* and local *vertical* autonomy. It is conceivable, that relatively strict requirements about the form of local governing might restrict the need of individually emerging networks on the local level. On the other hand, a relatively independency on the local level (the absence of vertical autonomy) might stimulate the development of local solution approaches that are tailored to individual local needs.

3.2 Local autonomy

To assess a possible connection between *local network activity* and local autonomy, it is necessary to first have a look at the concept of local autonomy.
In this study, the concept of local autonomy is divided in *local financial autonomy* and *local decision-making autonomy*. This division, however, was not taken into account when formulating the hypotheses, as local autonomy is still considered as a general concept in this research. The subdivision in financial autonomy and decision-making autonomy had been made to simplify the operationalization of the autonomy concept (see: operationalization).
When conceptualizing local autonomy, it is important to differentiate between autonomy from other local actors (horizontal autonomy) and autonomy from other political actors on higher level of government (vertical autonomy).

3.2.1 Local financial autonomy

In this thesis, *local financial autonomy* is mainly defined as independence from financial support through the national government. Most variables used to determine the *local financial autonomy* measure the amount of support provided by other governmental agencies mostly from higher tiers of government (see operationalization). Of course, municipalities can also be dependent on private investments by other local actors, for example investments of local enterprises to generate jobs. In this study due to the data available only vertical financial autonomy is taken into account[1]. Furthermore, a unilateral focus on the income side may distort reality, as a high level of tax autonomy not necessarily means collected taxes are for free disposal. For example, they could be bound to specific issues or projects determined by the national government. Therefore, fiscal autonomy means income as well as expenditure autonomy. When using this concept for research, it is necessary to remember that income and expenditure autonomy are quite likely correlated.

3.2.2 Local decision-making autonomy

In case of *local decision-making autonomy*, the concept can be interpreted as autonomy from other local actors or actors from higher levels of government. Potential influence on local decision-making is mostly determined through the political system. Most variables used to measure *local decision-making autonomy* are variables describing the political system of a country. It can be assumed that most decisions about the political system of a country were made on the national level. Therefore, also the decision-making power of local actors (horizontal decision-making autonomy) granted through the political system of a country, is determined through the vertical power relation between the local and the national level. Thus, in this study *local decision-making autonomy* is defined as vertical decision-making autonomy. Ladner, Keuffer, and Baldersheim (2016) found a general increase in local autonomy over the last 24 years, but also remarkable differences between countries. These differences slightly resemble different welfare state types (Ladner et al. 2016). This might indicate a link between local autonomy and different welfare state regimes.

It might be assumed that a high level of local autonomy leads to a low level of network activity[2]. A high level of local autonomy means capacity to act independently from other, also local, actors. Mayors in such municipalities should be quite powerful and could most likely take their preferred decisions independently. Consequently, there would be no need for a network in the eyes of the mayor, as there is no need for cooperation to achieve a goal. Therefore, the costs of managing a network would exceed the benefit of achieving a common goal, as first the mayors can achieve

[1] There was no data on horizontal financial autonomy available as well as only perceptions of mayors on general dependencies from different types of actors. The role of these dependencies on local actors is already studied by Denters et. al. (2018)

[2] Denters et. al. (2018) found indications that a low level of local horizontal autonomy coexists with a high level of local horizontal network activity. This thesis used the reversed assumption.

their optimal goals on his own, second a network would offer the chance for other actors to influence the decision-making process in their favour and possibly shift away the outcome from the mayor's optimal goal and third, a network might increase the influence of other actors on the mayor and might even establish some sort of control instrument. Following the power dependency approach, while taking the costs of network management into account, this first hypothesis can be formulated:

H1a: The higher the level of local autonomy in a European country in 2014 – 2016 was, the lower the level of local network activity in this country.

However, it is also conceivable that a high level of local autonomy has the opposite effect than expected in the above-named hypothesis.
In this case a high level of local autonomy leads to a high level of *local network activity*. Local autonomy in this case, means the opportunity to take advantage of the possibilities to cooperate on the local level. A high vertical dependency might inhibit those possibilities.
According to O'Toole's network approach, cooperation emerges where actors share similar values and goals to save resources. Therefore, a network can still be beneficial, if the resources saved by the cooperation exceed the management costs of the network. Resources, in this case, are not just money, but also, time and effort otherwise invested by the local government for achieving the goal. The resource dependency approach might also be applicable in this view, as an increased independence might offer the chance to form local networks according to local needs without national interference. Following this interpretation of the power dependency approach as well as O'Toole's network approach, a second opposing hypothesis can be formulated:

H1b: The high level of local autonomy in a European country in 2014 – 2016 was, the higher the level of local network activity.

As this thesis examines local autonomy on a vertical level, the analysis for this comparison will be done on the country level, as most variables in the data set about vertical power relations are country variables. Horizontal power relations were also already studied by Denters et. al. (2018).

3.3 Issue dependency

If there is the assumed connection between the local autonomy and *local network activity*, the question arises, if the level of this network activity changes between different policy issues. According to the already mentioned network approach of O'Toole, actors engage in networks, if they share similar values and beliefs. Therefore, it is possible to assume changing levels of networking in different policy field, as, for example, other actors are involved in the decision-making process. These actors might have different possibilities to influence decision-making. For example, it might be assumed that local enterprises try to engage in the decision-making process about economic growth, while the church and other NGOs might try to influence social policy

decision-making.
Furthermore, networking offer the possibility to capture benefits as already described in the preceding section. These benefits and the costs of networking might also differ between policy issues. Therefore, a relation between local autonomy and *local network activity* is assumed.
No specific literature was found on that would enable to formulate expectations on how the relation between local autonomy and *local network activity* would differ per policy issue.
This study, therefore, explores the levels of *local network activity* in differing policy issues without formulating hypotheses in advance.

3.4 Welfare state typologies

Some researchers tried to establish a link between the welfare state regime and local autonomy. Sellers and Lidström developed the first systematic index of decentralization on the local level, relying on different welfare state typologies to group the countries (Sellers & Lidström, 2007). They concluded a "close relation between decentralization to local government and the character of the welfare state itself" (Sellers & Lidström 2007, p.610).
This study takes up the idea of a connection between local autonomy and the respective welfare state regime of a country.
In 1990 Esping-Andersen developed the first categorization of welfare state regimes according to three criteria.
First, decommodification, the likelihood to reach a socially acceptable standard of living in case of non-participation in the labor market. Second, social stratification, the level of state action aiming to reduce or maintain monetary inequalities within the society. And third, public-private mix, the institutional system providing public services. Using these criteria, Esping-Andersen defined three welfare state typologies:

-*the liberal (Anglo-Saxon) type* where most services are provided via the free market,

-*the social-democratic type* in Scandinavia aiming for an egalitarian und universal provision of services through the state

-and *the conservative (continental) type* where only certain members of society benefit from welfare services and civil institutions like family and church have a major role (Esping-Andersen 1990).

Although widely accepted by academia, Esping-Andersen's typology was also criticized, for example, of shortcoming of typology, the range of countries (only western societies) and the methodology used. Since then other researchers tried to adapt the Esping-Andersen typology or developed new approaches to group welfare states (e.g. Hesse & Sharpe 1991, Goldsmith 1992,

Bennett 1993, Huber & Stephens 2001, Lidström 2003). However, many of these typologies root rather in cultural traditions than in institutional systematics.
Ferrera's typology is considered as one of the most accurate, as it measures not only the quantity of welfare services provided, but also the quality. He oriented towards Esping-Andersen considering a three-part structure but extended this approach by adding a Southern and Eastern type. According to Ferrera, the Southern European countries are characterized by fragmented welfare benefits, a market-oriented public-private mix, generosity in certain welfare aspects and some level of corruption. The Eastern type is defined by marketization and decentralization following the fall of the Soviet Union (Ferrera 1996).
This study will use the welfare state typology of Ferrera, as he set a Pan-European focus also including Eastern and Southern European countries.

3.4.1 The Scandinavian Type

Lijhard introduced a 5-point scale to describe federalism and decentralization in different welfare state regimes which also took the local government partly into account. In case of the Northern countries, which are congruent with the Scandinavian type of Ferrera, Lijhard subsumed a lack of federalism (Lijphart 1999). Esping-Andersen also indicated in The Three World of Welfare Capitalism that the Scandinavian type is characterized through a high level of centralization to guarantee an egalitarian and universal provision of public services (Esping-Andersen 1990). This might indicate that the Scandinavian type offers a low level of autonomy to the local level.

3.4.2 The Anglo-Saxon Type

Lijhard found a similar lack of local autonomy in the Anglo-Saxon countries as in the Scandinavian countries. He also determined a low level of federalism in these countries. Therefore, a similar assumption as in case of the Scandinavian countries might be established.
On the other hand, however, these liberal countries are characterized by a provision of social services through the market (Esping-Andersen 1990). Therefore, it is also feasible to suspect a high level of local autonomy to enable municipalities to deal with individual local needs and develop own approaches, for example in the form of local networks like public-private-partnerships, to use resources more efficiently. Hence, a contradicting assumption is also conceivable: The Anglo-Saxon type is characterized through a high level of local autonomy.

3.4.3 The Bismarckian Type

A similar approach is conceivable for the Bismarckian type. On the one hand, Esping-Andersen defined this type as providing different types of welfare benefits to only certain members of society (Esping-Andersen 1990). Therefore, a common framework about the service provision should be needed and, hence, a high level of centralization in the provision of public services is possible.
On the other hand, countries as Germany and Belgium (both part of the Bismarckian type) are

especially characterized through their strong federalism and high level of decentralization. Lijhard also subsumed a high level of federalism on these countries. Therefore, it is also possible to argue that this form of selective provision of services does not necessarily require a strong centralization.

3.4.4 The Southern Type

According to Ferrera the Southern type also relies on a public-private mix and the provision of public services through the market and therefore, resembles the Anglo-Saxon type. Lijhard also found a lack of federalism and a low level of decentralization in these countries. Hence, similar hypothesis as for the Anglo-Saxon type are feasible.

3.4.5 The Eastern Type

In case of the Eastern type, Ferrera examined a high level of decentralization and federalism and some sort of distrust in centralized policy structures. Therefore, the following hypothesis is conceivable to assume a very high level of local autonomy.

These assumptions can be summarized in two different hypotheses.

H2a: The Eastern type offers the highest level of local autonomy, followed by the Bismarckian type as second, the Anglo-Saxon and Southern type on the third place and the Scandinavian type as the type with the lowest local autonomy.

As described above also a higher level of local autonomy in case of the Anglo-Saxon type is feasible and lower level for the Bismarckian type. In this case, the Bismarckian type and the Anglo-Saxon type could exchange their positions.

H2b: The Eastern type still offers the highest level of local autonomy, this time followed by the Anglo-Saxon and Southern type as second, the Bismarckian type on the third place and the Scandinavian type still as the type with the lowest local autonomy.

4. Methodology

4.1 Research Design

The design of this study is a country comparison using quantitative data collected via a survey. Therefore, the research design is cross-sectional, meaning the data for both dependent as well as independent variable are measured at the same time and none of the variables is manipulated for a sub-set of units.

As no own data were collected for this research, ethical approval is not necessary.

4.1.1 Internal Validity

Cross-sectional research design is sometimes criticized for its weak internal validity, but nevertheless remained an important form of research, as some variables cannot be measured otherwise (Bryman 2012, p.60).

There are three conditions of causality needed to be fulfilled for testing causal relationships. First, if there is a correlation between the dependent and the independent variable. If the cause (the independent variables) is absent, the consequence (the dependent variables) is absent as well or less likely to happen. More generally spoken, there must be a correlation between cause and consequence. This aspect is also part of the statistical conclusion validity that assesses if the data are handled correctly and if the right tests are used to draw conclusions (Bryman 2012). To prove a correlation between the independent and dependent variable a statistical country comparison will be conducted.

The second aspect is the correct time order. As the cause causes the consequence, the cause must precede the consequence in time. As in cross-sectional research all data are conducted at the same moment of time, the possibility of the relationship being reversed cannot be excluded (Bryman 2012). Nevertheless, theoretical explanations can help to justify the assumed time order. For example, it can be assumed that the welfare state system precedes and influences local autonomy, as the level of autonomy is still slightly changing, while welfare state systems do not change over time. A similar explanation is possible for the relation between local autonomy and the level of network activity. Network approaches are fairly new in administration and currently increasing over a short period of time, while the local autonomy is mainly determined by system factors and only changes slightly.

The third aspect is a possible spuriousness through third variables not included in the causal model. There is always the possibility of other factors producing or at least influencing the correlation between independent and dependent variable. As long as possible third variables are not excluded, a researcher can only assume a correlation between the variables not a causal relationship (Bryman 2012). As the data were collected at one moment in time, third variables cannot be ruled out, but it is possible to control for third variables, for example by collecting data on possible third variables and checking for correlation. However, an extensive check for third variables exceeds the possibilities of this research, as a result the influence of third variables cannot be excluded.

4.1.2 External Validity

External validity describes to what extent the results of a study can be generalized and converted into theory (Bryman 2012).

Due to the high number of cases in the data set, the individual countries used for this comparison are generally represented sufficiently. This study examines a large variety of European countries, equally distributed among Europe. These countries, furthermore, adequately represent the different welfare state regimes, although some welfare state groups are larger than others (e.g. the anglo-

saxion type includes only Ireland and England, while the Eastern type includes a total of eleven countries). Such an uneven distribution of welfare state types cannot be controlled by the researcher, but, nevertheless, has to be taken into account when comparing different welfare state groups.

A limitation in the chosen approach is the variation in response rate between the different countries, ranging from 83,3% in Iceland to 3,9% in Romania (Heinelt, Magnier, Cabria & Reynaert 2018). The survey also only considered municipalities with at least 10.000 inhabitants. Therefore, generalization of the findings to smaller municipalities is not possible.

However, this study still covers most of the European countries, represented sufficiently through the high number of cases. Therefore, a generalization of the results at least for European countries belonging to the chosen welfare state regimes should be possible.

4.2 Case selection and sampling

This thesis relies on the data set of the POLLEADER II survey, a successor of the POLLEADER I survey conducted from 2003 till 2004 on mayors in 17 European countries in municipalities with at least 10.000 inhabitants. The POLLEADER II survey increased the number of countries[3] to 30 and was especially interested in mayor's personal background, their party involvement, their perceptions and agendas, their interactions with other actors and their opinions on recent institutional reforms (Heinelt et al. 2018). The design of the survey is cross-sectional, and the data was collected through national researcher teams.

The data set consists of questionnaires from around 2700 mayors and local political leaders. As in the previous POLLEADER I survey not only politicians officially labeled as mayors were included in the data set, but also other people in "political/administrative top positions" (Bäck et al. 2006, p.12).

The POLLEADER II data set is an appropriate source of data, as it includes an extensive set of cases and was recently conducted (2014 – 2016). Accordingly, the data allow a recent and extensive country comparison. Due to the high number of cases, the single countries are represented sufficiently. The 28 countries included in this research, furthermore, present a wide range of different European countries as well as welfare state regimes. Another advantage is the direct view on the topic through the eyes of the mayors. As the questionnaire askes about their

3 Albania, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, England, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, and Turkey

opinions and perceptions, the data represent information at first hand.

4.3 Operationalization

4.3.1 Independent variable

The welfare state typology of Ferrera formed the foundation for the operationalization of the independent variable *Welfare State Type*.

***Table 1**: welfare state typology by Ferrera*

Welfare state regime	*countries*
Scandinavian (social-democratic)	Sweden, Denmark
Anglo-Saxon (liberal)	United Kingdom, Ireland
Bismarckian	Austria, Belgium, France, Germany, Luxemburg, The Netherlands
Southern	Greece, Italy, Portugal, Spain
Eastern	Czech Republic, Hungary, Poland, Slovakia, Slovenia

Ferrera, M.. (1996)

Except for Luxemburg and the United Kingdom, all countries of the Ferrera typology, are included in the POLLEADER data set.
Furthermore, most of the remaining countries in the set could be assigned in this typology.

***Table 2**: other countries included in the POLLEADER II survey assigned in the Ferrera typology*

Welfare state regime	*countries*
Scandinavian (social-democratic)	Norway, Iceland, Finland
Anglo-Saxon (liberal)	England
Bismarckian	Switzerland
Southern	Cyprus
Eastern	Latvia, Lithuania, Serbia, Croatia, Romania, Albania

4.3.1.1 The Scandinavian Type

Norway and Finland, for example, are by most researchers included into the Scandinavian or Social-democratic type (Bennett 1993, Huber & Stephens 2001, Lidström 2003). The Icelandic welfare system resembles the other Nordic countries regarding the generous and egalitarian

distribution of welfare benefits and can, therefore, also be counted to the Scandinavian type (Jonsson 2001).

4.3.1.2 The Anglo-Saxon Type

England is part of the United Kingdom; thus, England can replace the United Kingdom in this study.

4.3.1.3 The Bismarckian Type

The classification of Switzerland was more difficult. Most of the researchers group Switzerland as Christian-Democratic (Huber & Stephens 2001) or Napoleonic (Bennett 1993), which resembles Ferrera's classification as Bismarckian. In Lidström typology of 2003, where the continental European countries were subdivided in Napoleonic and Middle European, Switzerland was grouped with Austria and Germany into the Middle European type. Esping-Andersen, on the other hand, assigned Switzerland in the Residual type alongside Canada, Australia, and the US and therefore into a more liberal type, while Hesse and Sharpe (1991) classify Switzerland into the Northern European group with the Scandinavian countries and Germany, a more egalitarian group. In this study, Switzerland is counted to the Bismarckian type following the majority of former classifications and in compliance with the system resemblance with Germany, as Switzerland is in all typologies in the same group as Germany.

4.3.1.4 The Southern Type

Cyprus was not classified in former typologies, therefore, a referral to other researchers is not possible. Nevertheless, Cyprus shows parallels with the Southern type as characterized by Ferrera. The Cypriot system was restructured after the economic crisis in 2008. The system changes from a universal approach towards a targeted one with generous welfare benefits only in certain aspects. This development is also a result of a certain level of mistrust in the state (Christou, Ioannou & Shekeris 2016). All these characteristics resemble the Southern type in the Ferrera typology.

4.3.1.5 The Eastern Type

For the Eastern type, Ferrera described marketisation (because of the sudden fall of the Soviet Union and the associated economic opening) and decentralization (as a result of the lack of trust in the national government) as characteristics. All state assigned by Ferrera in the Eastern type are also members of the European Union. Latvia, Lithuania, Croatia, and Romania resemble this development. They are former Eastern bloc states and joint the European Union. Therefore, these four countries were included in the Eastern type. Albania applied for EU membership in 2009 and obtained candidate status in 2014, Serbia did in 2012 (European Commission n.d.). These efforts

indicate that Serbia and Albania follow the same development as the other countries of the Eastern type and were therefore also included in this study.

With the exception of Israel and Turkey all countries of the POLLEADER survey could be assigned to one of Ferrera's welfare state types. Accordingly, this study includes 28 countries grouped in five welfare state regimes.

***Table 3**: countries used in this study assigned in the Ferrera typology*

Welfare state regime	*countries*
Scandinavian (social-democratic)	Sweden, Denmark, Norway, Iceland
Anglo-Saxon (liberal)	England, Ireland
Bismarckian	Austria, Belgium, Germany, France, The Netherlands, Switzerland
Southern	Greece, Italy, Portugal, Spain, Cyprus
Eastern	Czech Republic, Hungary, Poland, Slovakia, Slovenia, Latvia, Lithuania, Serbia, Albania, Croatia, Romania

4.3.2 Intervening variable

To operationalize local autonomy, the concept was split in two subgroups of local autonomy, *local financial autonomy*, and *local decision-making autonomy* (figure 2). Eight indices of the POLLEADER survey refer to the concept of local autonomy and were divided in the respective subgroups. As described in the theory section, these indices only refer to vertical autonomy (see: Appendix 8.1).

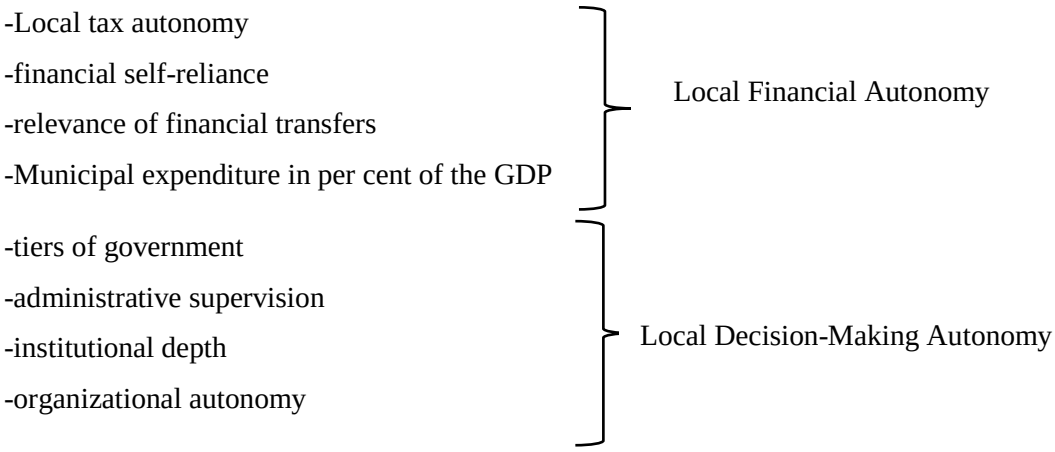

Figure 2: Operationalisation of the concept of Local Autonomy

These indices are obtained on country level. Therefore, they do not differ between mayor of the same country. These indices are not directly measured through the questionnaire, but through national data, provided by the participating research teams.

4.3.2.1 Local financial autonomy

In case of *local financial autonomy* all indices available in the data set were included. As explained in the theoretical concept, the income as well as the expenditure side has to be taken into account.

The indices *Local tax autonomy* and *financial self-reliance* cover the income autonomy of a municipality.

Local tax autonomy refers to the possibility of a municipality to independently tax its population. It is measure in by "own tax sources in percent of the total municipal revenues" (Heinelt et al 2018, p.67). Only taxes that are directly influenced by local decision-makers and not shared with other tiers of government are considered in this index. Other revenues like fees or charges are excluded. The data of this index is provided by national or OECD sources.

Financial self-reliance covers the income side without the specific focus on local taxes. The index indicates to what extent municipal revenues derive from local taxes, as does the index of *local tax autonomy*, but it also includes fees and charges. The value range between 0 (=own sources yield less than 10% of total revenues), over 1 (=own sources yield 10% - 25%) and 2(=own sources yield 25% - 50%) up to 3 (= own sources yield more than 50%).

It is important to keep in mind that both indices most probably highly correlate with one another, but nevertheless both indices are included in this study to display the income side as precise as possible. Including the index of *local tax autonomy* as well as the index of *financial self-reliance* enables the researcher to consider local taxation apart from fees and charges. This is especially important, as both sides of income differ from one another. Taxes should cover cost of public services and local welfare benefits in general, while fees and charges are collected to finance only particular and oftentimes far-reaching public services.

The indices *Relevance of financial transfers* and *Municipal expenditure in per cent of GDP* cover the expenditure autonomy of a municipality.

The index *Relevance of financial transfers* describes the share of unconditional financial transfers of the total local revenues. The value ranges between 0 (= 0% - 40%), over 1 (= 40% - 60%) and 2 (= 60% - 80%) up to 3 (=80% - 100%). This index was included as it represents apart from taxes and fees and charges a third form of local income, but also displays the share of local revenue that is at least for free disposal.

Although the index *Municipal expenditure in per cent of GDP* might not be a sufficient tool to point out the local expenditure autonomy, as it does not directly show, if the money spent was for free disposal, it was nevertheless included in this study, as it indicates the political importance of the local level in a country. If the percentage of this variable is high, it suggests a lot of spending takes place on the local level and accordingly that a lot of responsibility may rely on the local level.

The scale for *local financial autonomy* was constructed by taking the mean value of the items. One missing item per case and group is allowed. In order to calculate the mean of the different indices, some variables had to be redefined. For a more detailed excurse on the scale construction, see Appendix 8.2.
As the French case misses two items, *local tax autonomy* as well as *municipal expenditure in percent of the GDP*, it has been considered to excluded France from the analysis. Two analyses were conducted, one including the French case, one excluding it, and the results were compared. As this comparison showed, the inclusion of the French case does influence the level of significance of the regression, therefore it was excluded from the analysis.

4.3.2.2 Local decision-making autonomy

In case of the decision-making autonomy five indices of the POLLEADER survey were included in this study. As in case of financial autonomy, these indices are country variables. They are also not measured directly through the questionnaire but obtained through national data.

Tiers of government is the most general of these variables, as it describes the distribution of decision-making power within a country without a specific focus on the local level or the mayor.

Tiers of government counts the amount of governmental levels within a country, for example the local level, the national level, and the regional level. The values ranging from 2 (= two levels of government), over 3 (= three levels of government) up to 4 (= four levels of government). The variable was included as it gives a general overview over the systemic complexity of a country. If there are more tiers of government, it might indicate that the responsibilities have to be distributed between more levels of decision-making. There might be also more supervision for the local level, as there are more higher tiers of government to control municipalities.

The index *Administrative supervision* examines this indicated level of control, as it measures municipal control through higher tiers of government. The value ranges from 0 (=supervision reviews legality as well as expediency of municipal decisions), over 1 (=supervision covers details of accounts and spending priorities) and 2 (=supervision only aims at ensuring legality of municipal decisions) up to 3 (=there is very limited administrative supervision).

Apart from supervision and possible control through other levels of government, *local decision-*

making autonomy can also be described through the development of local competencies. The indices *Institutional depth* and *Organizational autonomy* focus on this side of decision-making autonomy.

The index *Institutional depth* examines to what extent local governments can autonomously choose own tasks and priorities. The values range from 0 (=local autorities can only perform mandate tasks), 1 (=local authorities can choose from a very narrow predefined scope of tasks) and 2 (=local authorities are explicitly autonomous and can choose from a wide defined scope of tasks) up to 3 (= local authorities are free to take on any new task not assigned to another level of government). This index mainly represents *local decision-making autonomy* about political content and policy decisions.

The index *Organizational autonomy* covers the decision-making autonomy regarding the local political structure. The variable is a cumulative value. A country gains points for specific systematic expressivities. These points are added up to determine the overall value for the *organizational autonomy* of a country. The possible maximum value is 4,5, the minimum one is 0[4]. The index displays to what extent municipalities can decide about their organizational structure and electoral system.

As already explained above, the scale was constructed by taking the mean value of the variables. Again, one missing item per case is allowed.

4.3.3 Dependent variable

The variable *network activity of mayors* was measured mainly through two questions of the questionnaire, one concerning the engagement of mayors in different networking activities (question 6) and one concerning the most important issue as perceived by the mayor (question 4).

To measure the level of network activity, mayors should indicate to what extent they participate in activities that should stimulate cooperation between different local actors and offering

[4] 0 = local executives are appointed by higher-level authorities and local authorities cannot determine core elements of their political systems
1 = executives are elected by the municipal council or directly by citizens
2 = executives are elected by the citizens or the council and the municipality may consider some elements of the electoral system
0,5 = municipalities can hire their own staff; 0= cannot hire their own staff; 0,5 = municipalities can fix the salary of their employees
0,5 = municipalities can choose their organizational structure, 0= cannot choose their organizational structure]
0,5 = municipalities can establish legal entities and municipal enterprises]
0 = cannot establish legal entertys and municipal enterprises

possibilities for discussion. The questionnaire asked about five activities[5], the possible answers given range from 1 (= not at all) up to 5 (= very much).

The constructed scale for using the information provided by Question 6 treats the value from 1 to 5 as continuous scores. The value is calculated by taking the mean value of the items. In case some answers are missing, one missing item per case is allowed.

Question 4 asks about the most important issue. In Question 4 mayors should indicate which policy issues is perceived as the most important one during the current term of office. The question asks about nine different issues concerning the *attractiveness of the municipality*, social policies, *protection of the environmen*t, *public safety*, *politico-administrative issues*, *preservation of local identity*, *stimulating economic growth, improving communal infrastructure*, and *integrating ethical, religious, or cultural minorities*. The possible values again range from 1 (= Low priority) up to 5 (= high priority). It should be noticed, that question 6 measures the network activity depending on the issue indicated as the most important one in question 4. Therefore, the network activity is measured only for the most important issues. As a few cases offered answers differing from the possibilities provided by the questionnaire, these cases will be excluded from the comparison.

For comparing the network activity per issue, the cases will be grouped according to the mayor's perceived most important issues within the welfare state groups. It is also important to consider that these variables are no longer country variables, as they can differ between mayors of the same country. For the country comparison the average score in the respective country will be used.

5. Data analysis

The country comparison conducted aimed to answer the following research question:

„How does the respective welfare state type shape financial and decision-making autonomy of municipalities and to what extent does this autonomy influence the network activity of European mayors in certain issues?"

This research interest was broken down in three subquestions. These three questions have to be answered before a final appraisal can be made about the main research question.

[5] -Organizing platforms for local key actors to stimulate cooperation
-acting as mediator for overcoming conflicts and reaching agreements
-using formal power to overcome gridlocks
-linking local actors with other governmental networks
-Linking local networks with networks on higher levels of government

5.1 The influence of the welfare state type on local autonomy

The first subquestion is:

1. *To what extent does the welfare state type influence municipal autonomy in European countries?*

In order to answer this question, the concept of local autonomy is split in *local financial autonomy* and in *local decision-making autonomy*, as defined in the operationalization.

5.1.1 Local financial autonomy

There are significant differences between the welfare state types, the mean values ranging from 2,31 to 0,72 (figure 3). As indicated during the operationalization, the values are calculated by taking the mean value of the countries grouped within a specific welfare state type. The Scandinavian Type offers by far the most financial autonomy for the local level with a mean value of 2,31 and it has a 0,86 higher value than the next highest value.

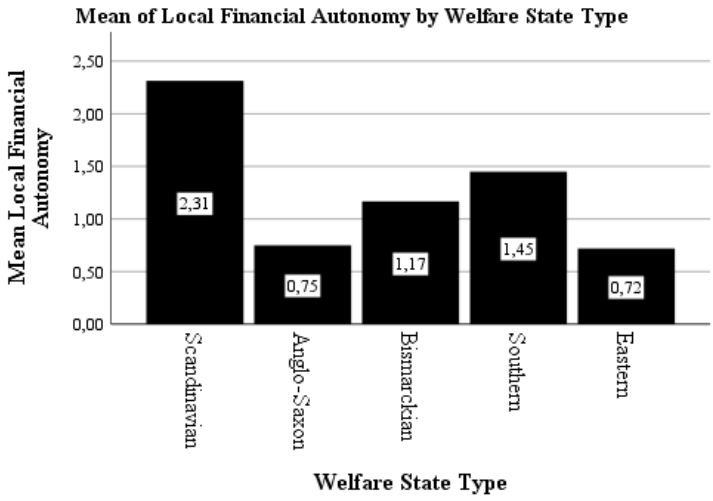

figure 3: mean of Local Financial Autonomy by Welfare state Type

The Anglo-Saxon Type offers the second lowest local autonomy with a value of 0,75, only 0,03 ahead of the Eastern Type. The Bismarckian type has a mean value of 1,17, although there is huge range between values (see table 4). The Dutch cases were assigned with a 0,25, an even lower value than the Anglo-Saxon and Eastern mean value, and the Swiss cases were assigned with a 1,75, a higher value than all Southern cases.

The Southern Type offers a medium level of *local financial autonomy* with a mean value of 1,45, close to the Bismarckian Type. This level of autonomy might also be surprising, as in the theory part the Anglo-Saxon and the Southern Type were perceived as quite equal types and a similar level of local autonomy was expected.

The Eastern Type also offers the lowest level of autonomy with a mean value of 0,72. This might be surprising, as the welfare state type itself is characterized by decentralization and mistrust in national governments. Like the Bismarckian Type, there is some variation between the single countries with scores ranging from 0,00 (Slovenia) up to 1,50 (Poland) (see table 4).

To take a more detailed look, the concept of *local financial autonomy* could be split in local income autonomy and local expenditure autonomy. As described in the Operationalization always two variables could be used to cover either the income side or the expenditure side. The combined mean of these variables could be used for a scale, although it has to be taken into account that in case of a missing variable this scale only consists of one item and is therefore only of limited value

Table 4: *mean values of Local Financial Autonomy per welfare state type and country*

Welfare state type	*country*	*Mean value*	*Values*
			0,50 1,00 1,50 2,00 2,50
Scandinavian Type		**2,31**	
	Iceland	2,25	
	Denmark	2,25	
	Norway	2,25	
	Sweden	2,50	
Anglo-Saxon Type		**0,75**	
	Ireland	0,75	
	England	0,75	
Bismarckian Type		**1,17**	
	The Netherlands	0,25	
	Belgium	1,25	
	Germany	1,25	
	Austria	1,33	
	Switzerland	1,75	
Southern Type		**1,47**	
	Greece	1,00	
	Cyprus	1,25	
	Portugal	1,50	
	Italy	1,75	
	Spain	1,75	
Eastern Type		**0,72**	
	Slovenia	0,00	
	Hungary	0,25	
	Lithuania	0,50	
	Slovakia	0,50	
	Romania	0,67	
	Latvia	0,75	
	Czech Republic	0,75	
	Albania	0,75	
	Croatia	1,00	
	Serbia	1,25	
	Poland	1,50	

5.1.1.1 Local income autonomy

A look on the income side offers similar results as for *local financial autonomy*.

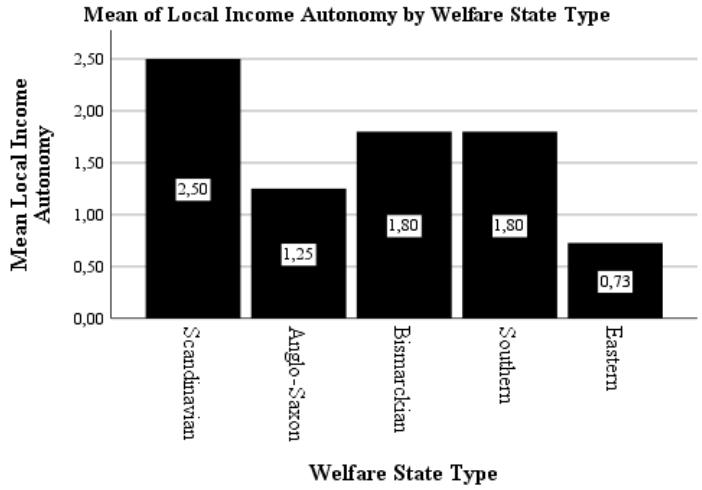

figure 4: mean of Local Income Autonomy by Welfare State Type

The Scandinavian got a 2,50, an even higher value than for the combined concept of *local financial autonomy*.

The Anglo-Saxon Type's value increases on a 1,25, the Bismarckian value on a 1,80.

The Southern type got assigned a 1,80 and the Eastern Type still got a 0,73.

It is interesting to see, except for the Eastern Type, an increase in autonomy (figure 4). This may indicate that many municipalities in Europe enjoy more Income Autonomy than Expenditure Autonomy. Noticeable are again the Bismarckian and Eastern cases that are characterized again through a large range. In case of the Bismarckian Type from 0,25 (the Netherlands) to 3,00 (Switzerland). The Eastern Type offers a range from 0,00 (Slovenia, Latvia) to 1,50 (Poland).

5.1.1.2 Local expenditure autonomy

Similar results as for *local financial autonomy* in general could be found for the expenditure side, although the values itself are oftentimes lower than for *local financial autonomy*.

The Scandinavian Type again enjoys the highest level of autonomy (2,13) clearly ahead of the Southern Type with a mean value of 1,10. That is an even greater gap than for *local financial autonomy* in general (1,03). The Anglo-Saxon Type enjoys less Local Expenditure Autonomy (0,25) than Local Income Autonomy.

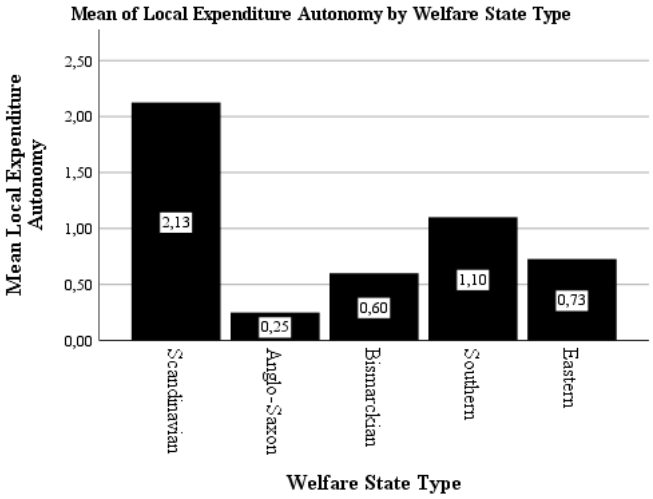

figure 5: mean of Local Expenditure Autonomy by Welfare State Type

Again, in these countries municipalities are offered the lowest level of autonomy.

The Bismarckian Type shows a value of 0,60. The values of the countries are again ranging from 0,00 (the Netherlands) up to 1,00 (Germany, Austria).

The Eastern Type also showed a surprising stable autonomy level with a value of 0,73. Nearly identical to the values from the other both categories (figure 5).

5.1.1.3 Conclusion

Applied to the hypotheses formulated in the theoretical part,

H2a: The Eastern type offers the highest level of local autonomy, followed by the Bismarckian type as second, the Anglo-Saxon and Southern type on the third place and the Scandinavian type as the type with the lowest local autonomy.

H2b: The Eastern type still offers the highest level of local autonomy, this time followed by the Anglo-Saxon and Southern type as second, the Bismarckian type on the third place and the Scandinavian type still as the type with the lowest local autonomy.

significant differences can be observed. Both hypothesis seem to be rejected, as the Eastern type, that was suspected to have the highest level of local autonomy in general has the lowest or second to lowest level of financial autonomy and the Scandinavian Type, expected to have the lowest level has the highest one. It is also remarkable that there are significant differences between the Southern Type and the Anglo-Saxon Type, which were perceived to have similar values due to system resemblances. However, the Anglo-Saxon Type has a remarkable lower level of *local financial autonomy*, nearly in all categories always scoring last place or second to last place, while the Southern Type always enjoys a medium to high level of *local financial autonomy* between the Bismarckian and the Scandinavian Type.
Also remarkable are the ranges in some welfare state categories, namely the Bismarckian and the Eastern Type. This might result from the fact that these two groups are the largest welfare state types by countries, but it also indicates that the welfare state type alone does not explain the level of local autonomy (Table 5).

5.1.2 Local decision-making autonomy

Similar results as for the *local financial autonomy* can be also found for the *local decision-making autonomy*.

The Scandinavian Type again enjoys the highest level of autonomy with a score of 2,31, followed by the Eastern Type with a 1,82. It is remarkable that the Eastern Type appears to only have a low level of *local financial autonomy*, but a high level of *local decision-making autonomy*. The Bismarckian Type and the Southern Type both scored similar values of 1,80 (Bismarckian Type) and 1,60 (Southern Type). For these two types as well as the Eastern Type a wide range of values was observed, ranging from 1,00 up to 2,25 without remarkable gaps (see table 5). The Anglo-Saxon Type again scored the lowest value with a 0,88 (figure 6).

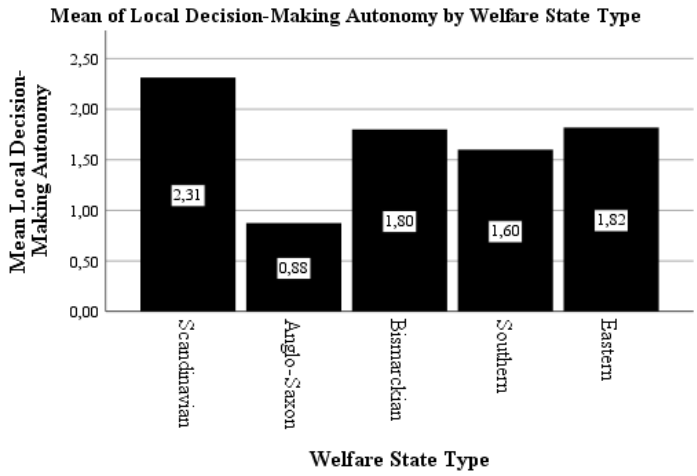

figure 6: mean of Local Decision-Making Autonomy by Welfare State Type

Local decision-making autonomy can also be divided in two sub-scales as indicted in the operationalization. These scales are about the control of the local level through higher ties of government and about the autonomy of municipalities when defining own competencies.

As for *local financial autonomy*, both scales only consist of two indices, but there are no missing values as in case of the financial autonomy sub-scales.

Table 5: *mean values of Local Decision-Making Autonomy per welfare state type and countries*

Welfare state type	*country*	*Mean value*	*Values*
			0,50 1,00 1,50 2,00 2,50
Scandinavian Type		**2,31**	
	Sweden	2,00	
	Norway	2,25	
	Iceland	2,50	
	Denmark	2,50	
Anglo-Saxon Type		**0,88**	
	England	0,75	
	Ireland	1,00	
Bismarckian Type		**1,80**	
	Belgium	1,25	
	Austria	1,75	
	Germany	1,75	
	The Netherlands	2,00	
	Switzerland	2,25	
Southern Type		**1,60**	
	Spain	1,00	
	Cyprus	1,25	
	Greece	1,50	
	Portugal	2,00	
	Italy	2,25	
Eastern Type		**1,82**	
	Albania	1,00	
	Romania	1,50	
	Croatia	1,75	
	Serbia	1,75	
	Hungary	1,75	
	Poland	1,75	
	Slovakia	1,75	
	Latvia	2,00	
	Czech Republic	2,25	
	Lithuania	2,25	
	Slovenia	2,25	

5.1.2.1 Local control through other levels of government

In case of local control, the differences between welfare state types decrease. The Scandinavian Type still scores the highest value with a 1,75 and therefore the highest level of control through other levels of government, followed by the Eastern Type with a 1,45 and the Southern Type with a 1,40, indicating a medium to low level of control, while the Bismarckian Type and the Anglo-Saxon Type scored a 1,10 and 1,00 and seem relatively independent (figure 7).

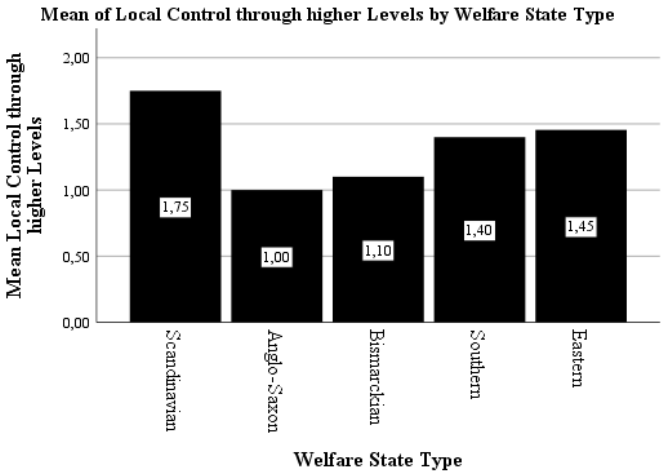

figure 7: mean of Local Control through higher levels by Welfare State Type

However, as the scale is only constructed through the indices *Tier of government* and *Administrative control*, the explanatory power of these results is quite limited. For the Southern Type there is again a remarkable range from 0,00 (Spain) up to 2,00 (Italy). The ranges for the Bismarckian and the Eastern Type are less wide, 0,00 (Belgium) up to 1,50 (Switzerland, Austria, the Netherlands) and 1,00 (Albania, Hungary, Poland, Romania) up to 2,00 (Slovenia, Latvia, Lithuania).

5.1.2.2 Local competency autonomy

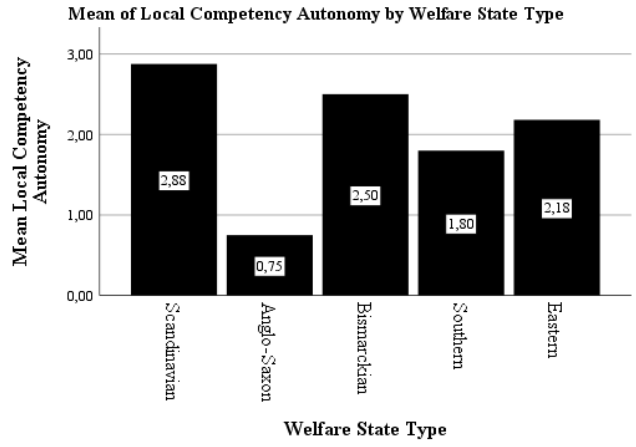

figure 8: mean of Local Competency Autonomy by Welfare State Type

In case of Local Competency Autonomy, the Scandinavian Type again scored the highest value with a 2,88, followed by the Bismarckian type with a 2,50 and the Eastern Type with a 2,18. The Southern Type scored a 1,80. The Anglo-Saxon Type municipalities got again the lowest level of autonomy with only a 0,75 (figure 8).

There are also remarkable ranges between the different scores for the Bismarckian, the Southern and the Eastern Type. In case of the Bismarckian and the Eastern Type the values range from 1,00 up to 3,00, in case of the Southern Type from 1,00 up to 2,50.

5.1.2.3 Conclusion

local decision-making autonomy shows similar patterns to the *local financial autonomy*, as for example the Scandinavian Type is again on top and the Anglo-Saxon Type on the bottom, but also remarkable differences can be observed.
While in case of the Scandinavian Type the level of *local decision-making autonomy* and *local financial autonomy* is the same, all other Types enjoy a slight increase of autonomy on the decision-making side. The Anglo-Saxon score increased from 0,75 to 0,88, but still represents a quite low level of autonomy. The Bismarckian Type's score and the Southern Type's score both increased moderately from 1,17 to 1,80 (Bismarckian Type) and 1,45 to 1,60 (Southern Type). These values indicate a low till moderate level of autonomy. The Eastern Type's score increased remarkably from 0,72, a quite low level for financial autonomy, up to 1,82 and overtakes with this score the second highest place.
The findings from the sub-scales show similar results, always with the Scandinavian Type on the top and the Anglo-Saxon Type on the bottom. For the remaining three types, there is no clear pattern. However, it can be assumed that especially the results from the scale about Local Control are only representative to a very limited extent. The scale for Local Competence Autonomy might be more meaningful, as it included two full indices, while one of the indices for Local Control were only the number of tiers of government. But it is noticeable that the values mostly range between 0,5 and 3,00 for all welfare state types, indicating an overall low to moderate level of autonomy. However, the hypothesis formulated in the theory section:

H2a: The Eastern type offers the highest level of local autonomy, followed by the Bismarckian type as second, the Anglo-Saxon and Southern type on the third place and the Scandinavian type as the type with the lowest local autonomy.

H2b: The Eastern type still offers the highest level of local autonomy, this time followed by the Anglo-Saxon and Southern type as second, the Bismarckian type on the third place and the Scandinavian type still as the type with the lowest local autonomy.

Again have to be rejected, as the Scandinavian Type again scored the highest values and the Anglo-Saxon Type the lowest. Again, significant differences between the values of the Southern Type and the Anglo-Saxon Type could be observed.
But it can also be noted that the general message about the level of local autonomy is similar in both scales. The Scandinavian Type enjoys the highest level of local autonomy, followed by the Bismarckian Type, the Southern Type and the Eastern Type and the Anglo-Saxon Type clearly with the lowest score.

5.1.3 Discussion

The results of the comparison indicated, there are clear differences regarding the level of local autonomy between welfare state types. However, the two hypotheses about the ordering of the welfare state regarding their level of local autonomy had to be rejected. A final order is not possible, as the gaps between the values of different types are quite small. Nevertheless, it was obvious during the examination that the Scandinavian Type offers the highest level of local autonomy to its municipalities, while the Anglo-Saxon type offers the lowest. Both welfare state type claimed in every comparison the first and the last place. The remaining welfare state types changed in positions and values and displayed sometimes only minimal differences.
Also remarkable were the gaps between values within one welfare state type, especially apparent in the Bismarckian and the Eastern Type. This may be connected to the fact that both of these types combine the largest number of countries, but it also indicates that the welfare state type alone is not a good indicator for local autonomy.
The welfare state type does influence local autonomy, as indicated by the clear differences between types, but other factors do so as well. Therefore, the comparison with regards to the relation between local autonomy and *local network activity* will be focussed mainly on the country level rather than the welfare state level. This takes into account the real level of autonomy for some countries rather than the artificial mean level of local autonomy for the welfare state type. This analysis has the additional advantage of using a larger number of cases (countries rather than welfare state types).

5.2 The influence of the level of local autonomy on the network activity of mayors

After the comparison of the local autonomy levels among the different welfare state types, the relationship between local autonomy and *local network activity* should be examined. The second sub-question is:

2. *To what extent do these autonomies influence local network activities of mayors?*

In line with the original focus of the research we will first look at the relationship between local autonomy and *local network activity* for different welfare state types.
When comparing the mayoral network activities of the different welfare state systems, no significant differences could be observed. The values range from 3,84 (Eastern Type, Southern Type) to 3,51 (Anglo-Saxon Type). The maximum score possible is 5,00, therefore the municipalities tend to a medium to high level of network activity (figure 9). Similar findings were also described by Denters et. all (2018) for the horizontal level. When splitting up the welfare state types, similar ranges as for *local network activity* can be observed. For example, Latvia that

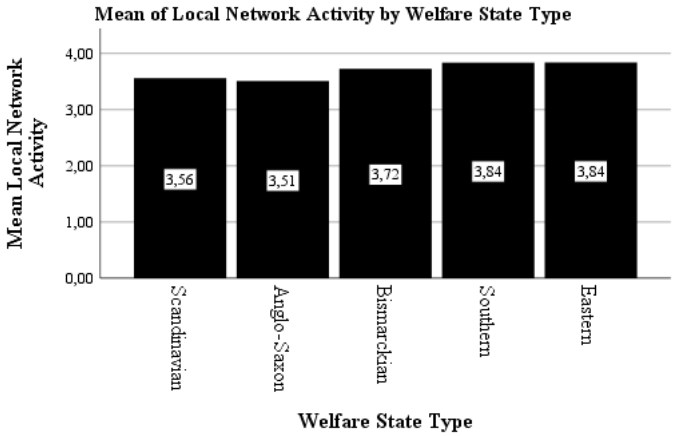

figure 9: mean of Local Network Activity by Welfare State Type

belongs in the Eastern group is the country with the lowest network activity, while Lithuania, the country with the highest score belongs in the same group (figure 10). This observation supports the decision to split up the welfare state concept when continuing the thesis. As France was excluded from the analysis, the French case has no value assigned. In Denmark the questionnaire was modified and did not include the question used to measure *local network activity*. Therefore, Denmark also did not get a value assigned.

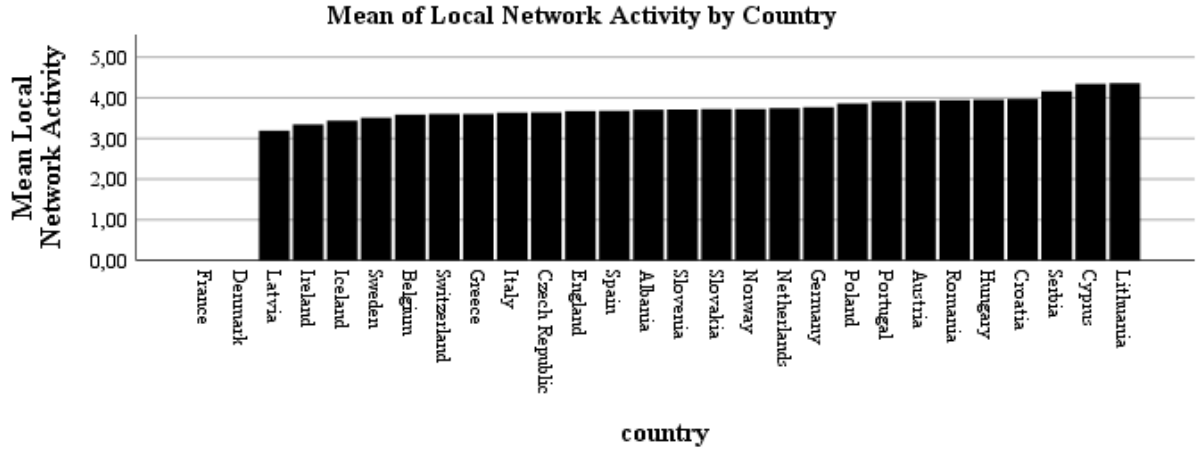

figure 10: mean of Local Network Activity by Country

A multiple regression was run to display the relationship between both forms of Local Autonomy and *local network activity*. The regression used the countries as cases (N = 26), *local network activity* as the dependent variable and *local financial autonomy* as well as *local decision-making autonomy* as independent variables.
The regression should test the hypotheses formulated in the theoretical section:

H1a: The higher the level of local autonomy in a European country in 2014 – 2016 was, the lower the level of local network activity in this country was.

H1b: The high level of local autonomy in a European country in 2014 – 2016 was, the higher the level of local network activity was.

Before we discuss results, some attention has to be given to assumptions for linear regression. Linearity as assessed by examining partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2,093. Homoscedasticity was assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot, a P-P Plot, and a histogram. More detailed information about the assessment of the linear regression assumptions, can be found in the appendix (see: Appendix 8.3)

Table 6: *Model Summary*[b]

Model	*R*	*R Square*	*Adjusted R Square*	*Sig.*
1	0,187[a]	,035	-,049	,596

a: Predictors: (Constant), Local Financial Autonomy, Local Decision-Making Autonomy
b: Dependent variable: Local Network Activity

The R of 0,187 indicates a low level of linear association between the variables. The R Square is equal to ,035, meaning that the two independent variables *local financial autonomy* and *local decision-making autonomy* explain 3,5% of the variability of the dependent variables (= *local network activity*). The R Square Adjusted for the overall model is -4,9%, a very low size effect (see table 6).

The statistically significance of the model is 0,664, indicate a not statistically significant result. Therefore, *local financial autonomy* and *local decision-making autonomy* do not statistically significant predict the level of local network autonomy.

Table 7: *coefficients*

Model		*Unstandardized coefficients*		*Standardized coefficients Beta*	*t*	*Sig.*
1		B	Std. Error			
	(Constant)	3,830	,219		17,494	,000
	Local Financial Autonomy	,010	,087	-,190	-,908	,374
	Local Decision-Making Autonomy	-,079	,119	0,18	,088	,913

Dependent variable: local network autonomy

The slope coefficients are also not statistically significant, as both values exceed 0,05 (see table 7). The Scatterplot of the model does also not show a linear relationship (figure 11). But, the two Partial Regression Plot might also be of interest, as the Partial Plot for *local financial autonomy* (figure 12) as the independent variable indicate a clear negative correlation with *local network activity*.

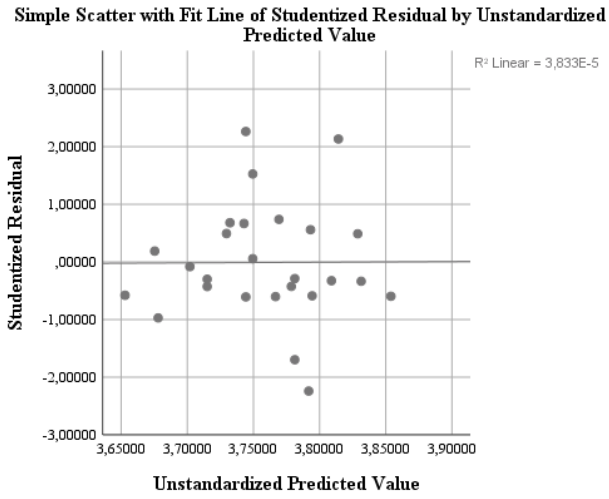

figure 11: regression plot between local autonomy and local network activity

This might indicate that although, there is no linear relationship between Local Autonomy and *local network activity* in general, there might be a negative relationship when the concept of Local Autonomy is split. As the Partial Plot depicts, there seems to be a negative correlation between *local financial autonomy* and *local network activity*, meaning that a higher level of financial autonomy might decrease the level of *local network activity*.

This relationship, however, seems to be dissolved when *local decision-making autonomy* is also taken into account (figure 13).

Therefore, both hypotheses must be rejected at this moment, as there is no relation at all, as the results are not statistically significant. In the following section the relationship between local autonomy and *local network activity* will be tested for different policy issues.

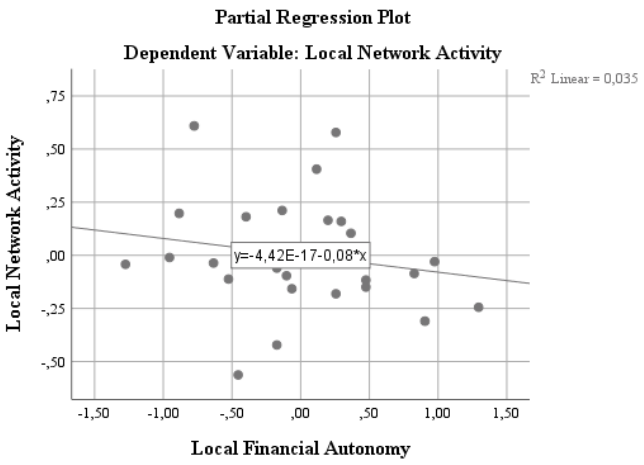

figure 12: partial regression plot between local financial autonomy and local network activity

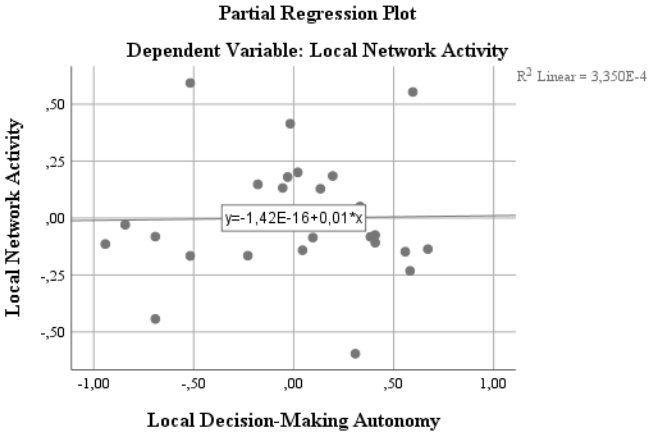

figure 13: partial regression plot between local decision-making autonomy and local network activity

5.3 The influence of the policy issue on the level of network activity

The third sub-question was:

3. *To what extent does this influence differ between policy issues?*

In the following regressions, the relationship between Local Autonomy and *local network activity* for multiple policy issues should be assessed. As for the regression above, the countries are used as cases (N=26). The independent variables to display the concept of Local Autonomy are *local financial autonomy* and *local decision-making autonomy*. The dependent variables *local network activity* is defined for these regressions as the level of Network Activity spend on this certain issue. As for the regression above the linear regressions assumptions were assessed for every issue. More detailed information about these assumptions can be found in the appendix (see: Appendix 8.4). First, bivariate regressions per issue were conducted to examine the influence of the divided concepts of local autonomy (see table 8).

Table 8: *bivariate regressions per issue*

Issue		*Local Network Activity per issue*	*Significance*
Attractiveness of the municipality	*Local Financial Autonomy*	-,093	,650
	Local Decision-Making Autonomy	-,009	,965
Social Policies	*Local Financial Autonomy*	-,278	,188
	Local Decision-Making Autonomy	,142	,509
Natural Environment	*Local Financial Autonomy*	,338	,281
	Local Decision-Making Autonomy	-,613	,015
Public Safety	*Local Financial Autonomy*	-,507	,054
	Local Decision-Making Autonomy	-,243	,383
Politico-Administrative Issues	*Local Financial Autonomy*	-,340	,255
	Local Decision-Making Autonomy	-,097	,751
Local Identity	*Local Financial Autonomy*	,287	,421
	Local Decision-Making Autonomy	,469	,171
Economic Growth	*Local Financial Autonomy*	-,100	,641
	Local Decision-Making Autonomy	,136	,528
Communal Infrastructure	*Local Financial Autonomy*	,104	,681
	Local Decision-Making Autonomy	-,360	,142
Integration of minorities	*Local Financial Autonomy*	-,092	,844
	Local Decision-Making Autonomy	,073	,877

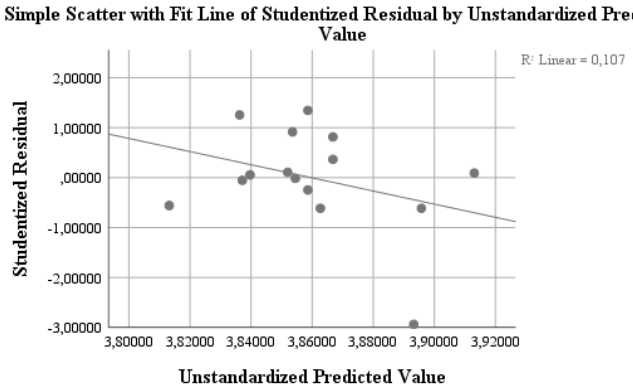

figure 14: bivariate regression plot for Local Decision-Making Autonomy for the issue "Protection of natural environment"

Only the issue about the protection of the natural environment shows a regression with a statistically significant value[6]. A negative correlation between *local decision-making autonomy* as the independent variable and *local network activity* as the dependent one can be observed. This indicates that a higher level of *local decision-making autonomy* leads to a decrease in *local network activity*.

As the number of cases for these regressions is quite low, it is reasonable to raise the significance level from ,05 to ,10. Otherwise there would be a high possibility to reject hypotheses even if they are correct. If we use a significance level of ,10 one more bivariate regressions is statistically significant, the Partial regression with *local financial autonomy* as the independent variable for the issue Public safety issue.

In case of the Public Safety issue the negative correlation value of -,507 indicates a negative relationship with the dependent variable. An increase of *local financial autonomy* in this issue leads also to a decrease of *local network activity*.

Table 9: *regression results per issues*

		Significance of		*Unstandardized coefficients*	
Issue	*The model*[a]	*The slope coefficients*		*B (LFA)*[b]	*B (LDMA)*[b]
		LFA[b]	**LDMA**[b]		
Attractiveness of municipality	,903	,657	,960	-,046	,007
Social Policies	,253	,132	,310	-,189	,175
Natural Environment	,013	,085	,008	,526	-1,353
Public Safety	,160	,094	,755	-,353	-,092
Politico-Administrative Issues	,540	,298	,961	-,289	-,015
Local Identity	,199	,239	,117	,525	,862
Economic Growth	,710	,591	,496	-,084	,147
Communal Infrastructure	,281	,508	,130	,111	-,377
Integration of minorities	,973	,863	,891	-,026	,043

a: dependent variable: Local Network Activity
b: Local Financial Autonomy, Local Decision-Making Autonomy

[6] Significance level below 0,5

After the bivariate regressions, also multivariate regressions were conducted to examine the influence of the joint concept of local autonomy (see table 9)

Only the regression for the issue about protection of the natural environment is statistically significant, if the significance level of ,10 is used. The regression plot shows a slight negative relationship between the independent variables and the dependent one (figure 15). Therefore, for this issue a higher level of local autonomy leads to a decrease of the level of *local network activity*. The R for this regression is ,719 indicating a moderate to high level of association. The R Square is ,517. This means that the regression model explains 51,7% of the variance of the dependent variable, *local network activity*. The Adjusted R Square shows a value of ,437, a moderate value. The coefficient for *local financial autonomy* is ,526, meaning that an increase of the level of *local financial autonomy* of one unit (= increase of 1,00) leads to an increase of the *local network activity* of ,526.

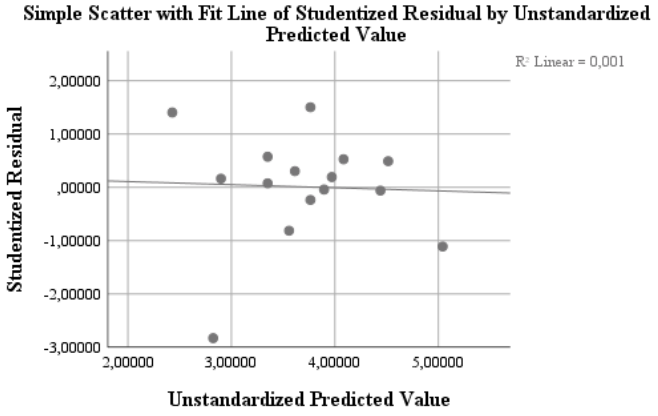

figure 15: regression plot between local autonomy and local network activity for the issue "Protection of natural environment

The coefficient for *local decision-making autonomy* is -1,353, meaning that an increase of the level of *local decision-making autonomy* of 1,00 leads to a decrease of the *local network activity* of 1,353.

None of the other regressions are statistically significant, meaning that the addition of the independent variables for this thesis do not lead to a model that is statistically significantly more appropriate at predicting the dependent variable than the mean model or is statistically significantly better fit to the data than the mean model. Therefore, no relation can be concluded.

When evaluating the hypotheses:

H1a: The higher the level of local autonomy in a European country in 2014 – 2016 was, the lower the level of local network activity in this country was.

H1b: The high level of local autonomy in a European country in 2014 – 2016 was, the higher the level of local network activity was.

it is difficult to formulate a final position, as most of the models are not statistically significant. For the natural environment issue, however, a slight negative relationship was observed, indicating a slight higher likelihood of hypothesis H1a. This assessment is supported by the findings of the Slope Coefficient *local decision-making autonomy* for the Natural Environment issue and the Slope

Coefficient *local financial autonomy* for the issue Public Safety that also both show a negative relationship. The Slope Coefficient *local financial autonomy* for the Natural Environment issue, however, shows a positive relationship. When the B values of the models that are not statistically significant are also taken into account, six negative values can be found for the Slope Coefficient *local financial autonomy* and four negative B values for *local decision-making autonomy* out of nine issues. These findings also rather speak for H1a. Similar findings as indicated in Hypothesis 1a are also found by Denters et. al. (2018) for the horizontal level.
Although no final statement can be made about when evaluating the hypothesis, as most models are not statistically significant, it can be said that most findings of this thesis rather lean towards a negative relationship, meaning that an increased level of Local Autonomy leads to a decrease of *local network activity*.

6. Conclusion

To finally answer the research question

„How does the respective welfare state type shape financial and decision-making autonomy of municipalities and to what extent does this autonomy influence the network activity of European mayors in certain issues?"

It can be said that the influence of the respective welfare state type on the *local network activity* of European Mayors is fairly limited.
It was established in the data analysis that the welfare state type is not a good indicator for local autonomy for some welfare state types. Although in case of the Scandinavian Type and the Anglo-Saxon Type appeared quite coherent with only limited differences between countries, gaps between countries within the remaining welfare state types questioned the explanatory power of welfare state typologies when examining local autonomy. Especially within the group of Bismarckian and Eastern countries huge ranges between the values indicated that the welfare state type does not form a uniform picture of the level of local autonomy within a group of countries, as apparently apart from the welfare state system mostly national factors shape the level of local autonomy. As the welfare state types with the largest gaps among its countries were also the largest welfare state groups with regards to the number of countries included, it can be assumed that an increased number of countries within a group encourages the development of differences between countries. This might indicate that, if the Scandinavian group and the Anglo-Saxon group would have been larger, similar gaps might have occurred within these groups as well.
Both hypotheses formulated in the theory section about the level of local autonomy in the different welfare state types had to be rejected:

H2a: The Eastern type offers the highest level of local autonomy, followed by the Bismarckian type as second, the Anglo-Saxon and Southern type on the third place and the Scandinavian type as the type with the lowest local autonomy.

H2b: The Eastern type still offers the highest level of local autonomy, this time followed by the Anglo-Saxon and Southern type as second, the Bismarckian type on the third place and the Scandinavian type still as the type with the lowest local autonomy.

However, a clear hierarchy among the welfare state types is hardly possible.
The Scandinavian Type always scored the highest value, indicating that countries within this welfare state type offer the most autonomy to their municipalities.
The Anglo-Saxon Type always scored the lowest score or second to lowest score, indicating a generally quite low level of autonomy for municipalities within Anglo-Saxon countries.
The remaining welfare state types do not show such obvious patterns. The Eastern Type, for example, scored low values for *local financial autonomy*, but moderate to high values for *local decision-making autonomy*. In case of the Southern Type opposite results can be observed with a higher level of *local financial autonomy* compared to a lower level of *local decision-making autonomy*. The Bismarckian Type showed no patterns at all. Therefore, no revising hierarchy can be presented.
As the huge gaps between welfare state types seemed to limit the explanatory power of the welfare state concept, the comparison was continued on the country level.
A regression between *local financial autonomy* and *local decision-making autonomy* as independent variables and *local network activity* as dependent one was not statistically significant. Therefore, no relation between the variables could be found.

The same regression split among different policy issues gave some better indications. Although most models are still not statistically significant[7], the issue *Protection of the Natural Environment* showed a significance level of ,013. The relationship for this regression was negative. Also, both Slope Coefficients showed statistically significant results, indicating either a positive relationship (*local financial autonomy*) or a negative one (*local decision-making autonomy*).
The only other statistically significant result was the Slope Coefficient for *local financial autonomy* for the Issue of Public Safety. The negative B value also indicated a negative relationship with the dependent variable.
Most of the B values for the models that are not statistically significant are also negative. These findings indicate a higher likelihood for hypothesis H1a:

[7] A significance level of ,10 was used due to the low number of cases

H1a: The higher the level of local autonomy in a European country in 2014 – 2016 was, the lower the level of local network activity in this country was.

Similar results were found by Denters at al (2018) for the horizontal level.
Nevertheless, no final statement on this hypothesis can be made, as most models showed no statistical significance. These findings indicate, however, that the level of autonomy is an important factor when examining the field of network activity. The findings suggest that an increased level of autonomy and, therefore, also independency lowers the likelihood of mayors organizing and participating in network activities. This corresponds with the assumptions of O'Toole's network approach. Shared goals and beliefs between different actors might favour the rise of a local network, but only in case when the benefits of the network exceed the costs caused by this cooperative approach, namely time and resources invested. If mayors already enjoy a high level of autonomy, they might not rely on these networks to achieve their policy goals. They can even save time and resources when not engaging in local networks and prevent other local actors from influencing the policy process, as indicated by the resource dependency approach.
If networks occur, on the other hand, occur in municipalities with a low level of local autonomy, these networks might be an indicator that local government try to gather additional power through the support of local actors. In these cases, local networks might be some sort of counterbalance to strong centralized governments.
As also indicated in the theory section, many researchers discovered an increase of local autonomy (Rethmeyer & Hatmaker 2008, Ladner, Keuffer & Baldersheim 2016). This development might indicate a decrease in *local network activity*, as mayors would no longer rely on their local networking partners. On the other hand, mayors often emphasized the benefits of local cooperation (e.g. in Barber 2014). Further examination on the issue level might therefore be of interest. As indicated through the correlations (table 8) and the B values (table 9) it could be observed that there might be a positive connection between local autonomy and *local network activity*. It could be of interest in what issues a higher level of local autonomy might favour an increased level of *local network activity*.

Further research on the topic of the relationship between local autonomy and *local network activity* is needed.

7. Biblography

Barber, B. R. (2014). *If mayors ruled the world: Dysfunctional nations, rising cities*. New Haven: Yale University Press.

Bejan, A., & Merk, G. W. (2011). *Constructal theory of social dynamics*. New York: Springer.
Bennett, R. J. (1993). "European Local Government Systems." In: Local Government in the New Europe, ed. Robert J. Bennett. London and New York: Bellhaven Press.

Bennett, R. J. (1993). *European Local Government Systems*. In: Local Government in the New Europe, ed. Robert J. Bennett. London and New York: Bellhaven Press.

Bressers, H. T., & Otoole, J. L. (1998). *The Selection of Policy Instruments: A Network-based Perspective.* Journal of Public Policy, 18(3), 213-239. doi:10.1017/s0143814x98000117

Bryman, A. (2012). *Social research methods*. Oxford: Oxford University Press

Budäus, D. (1998). *Public Management: Konzepte und Verfahren zur Modernisierung öffentlicher Verwaltungen*. Berlin: Ed. Sigma.

Christou, O., Ioannou, C., & Shekeris, A. (2016). *The Cypriot Welfare State at a Time of Crisis. Challenges to European Welfare Systems*, 79-104. doi:10.1007/978-3-319-07680-5_5

Denters, B., Steyvers K., Klok, P.-J. & Cermak D. (2018). *Political Leadership in Issue Networks: How Mayors rule their world?* In: Political Leaders and Changing Local Democracy: : The european mayor. Cham, Switzerland: Palgrave Macmillan

Esping-Andersen, G. (2013). The three worlds of welfare capitalism. Cambridge: Polity Press.

European Commission (n.d.) *Candidate countries and potential candidates,* http://ec.europa.eu/environment/enlarg/candidates.htm (retrieved on 21.05.2018)

Ferrera, Maurizio. (1996). "The 'Southern Model' of Welfare in Social Europe?" Journal of European Social Policy 6 (1): 17–37.

Frederickson, H. G. (2016). *The public administration theory primer*. Boulder: Westview Press

Goldsmith, M. (1992) *Local Government.* Urban Studies 29 (3/4): 393–410

Heinelt, H., Magnier, A., Cabria, M., & Reynaert, H. (2018). *Political Leaders and Changing Local Democracy The European Mayor*. Cham: Springer International Publishing

Hesse, J., and Sharpe L. J. (1991). "*Conclusions*." In Local Government and Urban Affairs in International Perspective, ed. Jens-Joachim Hesse. Baden-Baden, Germany: Nomos.

Huber, E. & Stephens J. (2001) *Development and Crisis of the Welfare State*. Chicago: University of Chicago Press.

Jonsson, G. (2001). *The Icelandic Welfare State in the Twentieth Century*. Scandinavian Journal of History, 26(3), 249-267. doi:10.1080/034687501750303873

Josifidis, K., Hall, J. B., Supic, N., & Pucar, E. B. (2015). *The European welfare state regimes: Questioning the typology during the crisis*. Technological and Economic Development of Economy, 21(4), 577-595

Kickert, W. J. (2001). *Public management and administrative reform in Western Europe*. Cheltenham, UK: Edward Elgar.

Ladner, A., Keuffer, N., & Baldersheim, H. (2016). *Measuring Local Autonomy in 39 Countries* (1990–2014). Regional & Federal Studies, 26(3), 321-357.

Lijphart, A. (1999). *Patterns of Democracy*. New Haven, CT: Yale University Press.

Lidström, A. (2003). *Kommunsystem i Europa* [Local government systems in Europe]. Malmö: Liber.

Menache, I., & Ozdaglar, A. E. (2011). *Network games theory, models, and dynamics*. San Rafael, CA: Morgan & Claypool.

Rethemeyer, R. K., & Hatmaker, D. M. (2008). *Network management reconsidered: An inquiry into management of network structures in public sector service provision*. Journal of Public Administration Research and Theory, 18, 617-646.

Rhodes, R.A.W. (2006). *Policy Network Analysis* in The Oxford handbook of public policy. New York: Oxford University Press.

Sellers, J. M., & Lidström, A. (2007). *Decentralization, Local Government, and the Welfare State*. Governance, 20(4), 609-632.

Span, K. C., Luijkx, K. G., Schols, J. M., & Schalk, R. (2011). *The Relationship Between Governance Roles and Performance in Local Public Interorganizational Networks*. The American Review of Public Administration, 42(2), 186-201.

8. Appendix

8.1 variable construction

All variables used for this thesis derive from the POLLEADER II survey from 2016. The variables used to measure the level of local autonomy are all country level variables added by the POLLEADER researchers, while to variables for *local network activity* derive from questions of the questionnaire.

Table 10: *country level variables used to measure local autonomy*

variable	*description*	*Name in the dataset*	*values*
Local tax autonomy	*own tax sources in percent of the total municipal revenues*	iv1	In percent
financial self-reliance	*municipal revenues derive from local taxes, fees, and charges*	iv2	0 (=own sources yield less than 10% of total revenues) 1 (=own sources yield 10% - 25%) 2(=own sources yield 25% - 50%) 3 (= own sources yield more than 50%)
relevance of financial transfers	*the share of unconditional financial transfers of the total local revenues in percent*	iv3	0 (= financial transfers cover 0% - 40% of local revenues) 1 (=financial transfers cover 40% - 60% of local revenues) 2 (=financial transfers cover 60% - 80% of local revenues) 3 (=financial transfers cover 80% - 100% of local revenues)
Municipal expenditure in per cent of the GDP	*The share of the GDP spent on the local level*	iii4	In percent
tiers of government	*the amount of governmental levels within a country*	iii1	2 (= two levels of government), 3 (= three levels of government) 4 (= four levels of government)
administrative supervision	*municipal control through higher tiers of government*	iii7	0 (=supervision reviews legality as well as expediency of municipal decisions), 1 (=supervision covers details of accounts and spending priorities) 2 (=supervision only aims at ensuring legality of municipal decisions) 3 (=there is very limited administrative supervision)

institutional depth	*the extent to which local governments can autonomously choose own tasks and priorities*	iii5	0 (=local autorities can only perform mandate tasks) 1 (=local authorities can choose from a very narrow predefined scope of tasks) 2 (=local authorities are explicitly autonomous and can choose from a wide defined scope of tasks) 3 (= local authorities are free to take on any new task not assigned to another level of government)
organizational autonomy	*the decision-making autonomy regarding the local political structure*	iii6	a cumulative value 0 = local executives are appointed by higher-level authorities and local authorities cannot determine core elements of their political systems 1 = executives are elected by the municipal council or directly by citizens 2 = executives are elected by the citizens or the council and the municipality may consider some elements of the electoral system 0,5 = municipalities can hire their own staff; 0= cannot hire their own staff; 0,5 = municipalities can fix the salary of their employees 0,5 = municipalities can choose their organizational structure, 0= cannot choose their organizational structure] 0,5 = municipalities can establish legal entities and municipal enterprises] 0 = cannot establish legal entertys and municipal enterprises

Tabel 11: *survey questions used to measure local network activity*

variable	*description*	*Items*	*value*
Priority issue (A4)	*What would you consider as the single most important challenge on the list above?*	A: To increase the attractiveness of the municipality B: To develop social policies C: To protect the natural environment D: To secure public safety E: To address politico-administrative issues F: To preserve the local identity G: To stimulate economic growth and employment H: To improve communal infrastructure I: To improve the integration of ethnic, religious, or cultural minorities	Choose one of the items
Level of network activity (A5)	*To what extent do you actively engage in the activities below to bring together different actors and to stimulate their cooperation in addressing this problem?*	1.Organized a platform 2.Acted as a mediator or facilitator 3.Use of formal power 4.By linking societal stakeholder 5.By linking local networks with inter-municipal, regional or (inter)national networks	1 = not at all 2 3 4 5 = very much

8.2. Scale construction

Table 11: *variables transformed for scale use*

Name of variables	*Variable in data set*	*values*	*Name of new variable*	*Minimal and Maximal value found in the dataset (only for percentage or cumulative variables)*	*New values*
Local tax autonomy	iv1	percent	iv1_scale	Min. Value: 0,00% Max. Value: 72,10%	0 (= 0% - 18,25%) 1 (=18,25% – 36,50%) 2 (=36,51% - 54,75%) 3 (=54,76% - 72,10%)
financial self-reliance	iv2	0 (=own sources yield less than 10% of total revenues) 1 (=own sources yield 10% - 25%) 2(=own sources yield 25% - 50%) 3 (= own sources yield more than 50%)	iv2_scale	-	0 (=0 - 0.49 1 (=0.5 - 1.49) 2 (=1.5 - 2.49) 3 (=2.5 - 3)
relevance of financial transfers	iv3	0 (= financial transfers cover 0% - 40% of local revenues) 1 (=financial transfers cover 40% - 60% of local revenues) 2 (=financial transfers cover 60% - 80% of local revenues) 3 (=financial transfers cover 80% - 100% of local revenues)	iv3_scale	-	0 (=0 - 0.49 1 (=0.5 - 1.49) 2 (=1.5 - 2.49) 3 (=2.5 - 3)
Municipal expenditure in per cent of the GDP	iii4	percent	iii4_scale	Min. Value: 0,00% Max. Value: 35,10%	0 (= 0% - 9,00%) 1 (=9,01% - 18,00%) 2 (= 18,01% - 27,00%) 3 (= 27,01% - 36,00%)
tiers of government	iii1	2 (= two levels of government), 3 (= three levels of government) 4 (= four levels of government)	iii1_scale	-	0 (= 4 tiers) 1 (= 3 tiers) 2 (= 2 tiers) 3 (= 1 tier)

administrative supervision	iii7	0 (=supervision reviews legality as well as expediency of municipal decisions), 1 (=supervision covers details of accounts and spending priorities) 2 (=supervision only aims at ensuring legality of municipal decisions) 3 (=there is very limited administrative supervision)	iii7_scale	-	0 (=0 - 0.49 1 (=0.5 - 1.49) 2 (=1.5 - 2.49) 3 (=2.5 - 3)
institutional depth	iii5	0 (=local autorities can only perform mandate tasks) 1 (=local authorities can choose from a very narrow predefined scope of tasks) 2 (=local authorities are explicitly autonomous and can choose from a wide defined scope of tasks) 3 (= local authorities are free to take on any new task not assigned to another level of government)	iii5_scale	-	No transformation necessary
organizational autonomy	iii6	a cumulative value 0 = local executives are appointed by higher-level authorities and local authorities cannot determine core elements of their political systems 1 = executives are elected by the municipal council or directly by citizens 2 = executives are elected by the citizens or the council and the municipality may consider some elements of the electoral system 0,5 = municipalities can hire their own staff; 0= cannot hire their own staff; 0,5 = municipalities can fix the salary of their employees 0,5 = municipalities can choose their organizational structure, 0= cannot choose their organizational structure] 0,5 = municipalities can establish legal entities and municipal enterprises] 0 = cannot establish legal entertys and municipal enterprises	iii6_scale	Min. Value: 1 Max. Value: 4	0 (=1 - 1.49 1 (=1.5 - 2.49) 2 (=2.5 - 3.49) 3 (=3.5 – 4)

8.3. Linear regression assumptions for sub question 2

8.3.1 Independence of observations

The independence of observation is oftentimes assessed by testing the independence of residuals by a Durbin-Watson Test. The Durbin-Watson statistic for this analysis is 2,093, therefore the independence of residuals is confirmed.

Table 12: *Model Summary*

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	,187	,035	-,049	,27719	2,093

8.3.2 Testing for linearity

One assumption of multiple regression is that the independent variables collectively and individual are linearly related to the dependent variables.

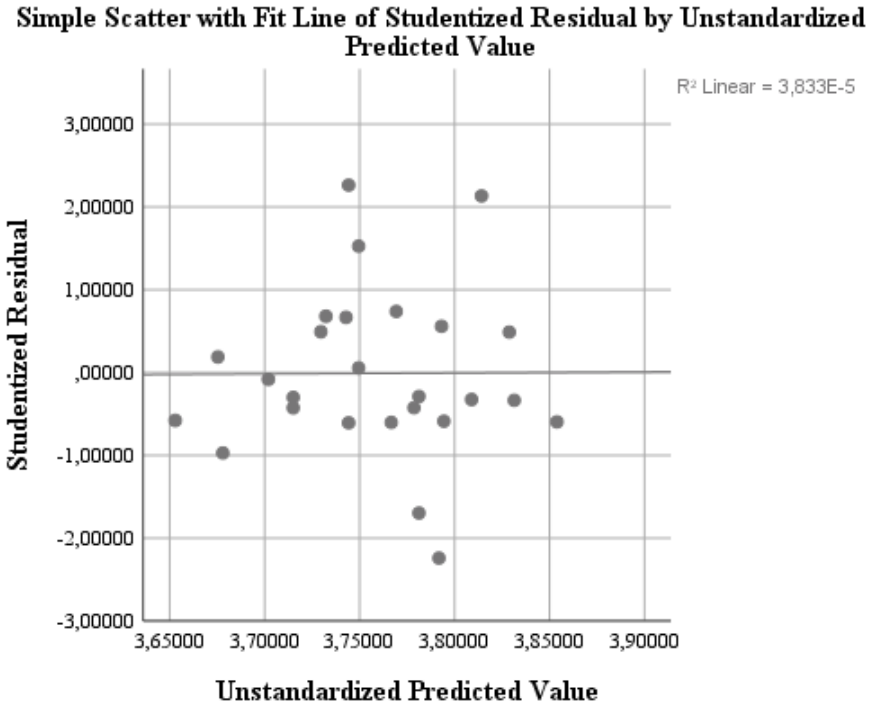

figure 16: regression plot between local autonomy and local network activity

The results from the scatterplot seem to show no linear relationship. Furthermore, partial regression plots for the individual independent variable can be used to find further indications for a linear relationship.

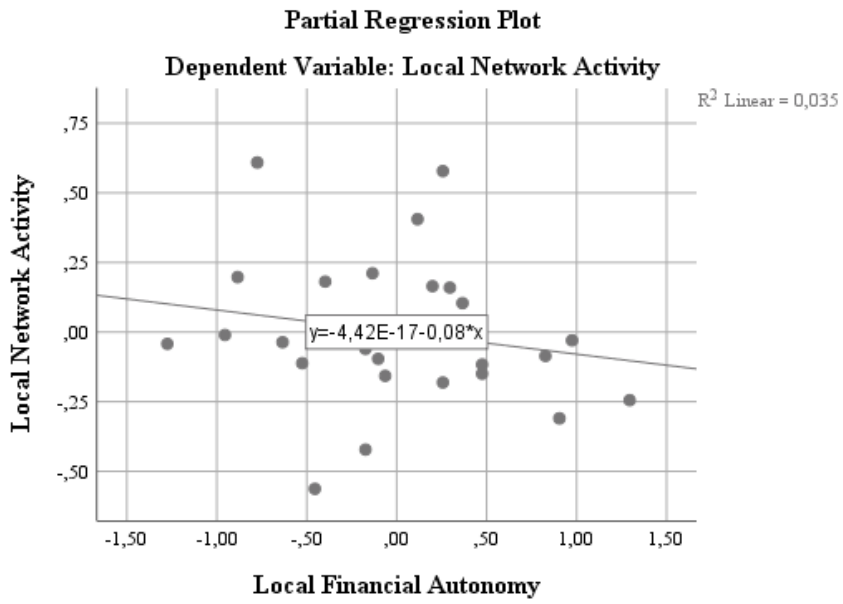

figure 17: partial regression plot between local financial autonomy and local network

The partial regression plot for *local financial autonomy* and the *local network activity* seems to indicate a negative relationship with the dependent variable.

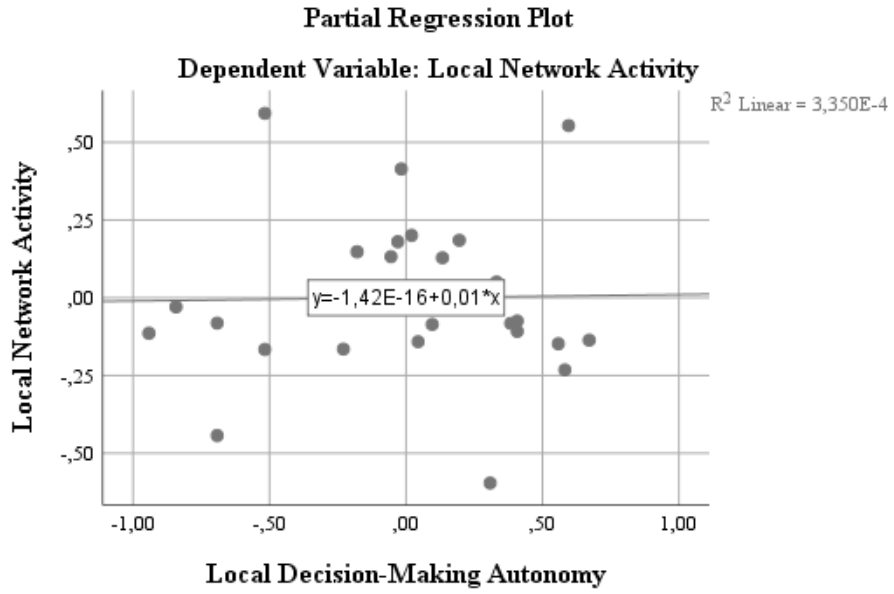

figure 18: partial regression plot between local decision-making autonomy and local network activity

The partial regression plot for *local financial autonomy* also seems to indicate no relationship with the dependent variable.

8.3.3 Testing for homoscedasticity

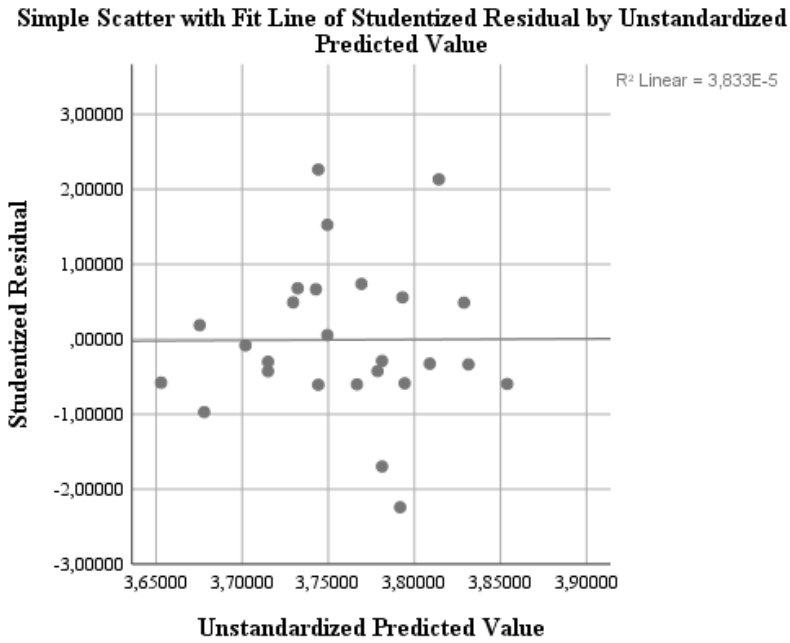

figure 16: regression plot between local autonomy and local network activity

The data seems to be randomly scattered. Therefore, the assumption on homoscedasticity is fulfilled.

8.3.4 Checking for multicollinearity

Table 13: *Correlations*

Pearsons Correlation		*Local Network Activity*	*Local Financial Autonomy*	*Local Decision-Making Autonomy*	*Tolerance*	*VIF*
	Local Network Activity	1,000	-,186	-,021	-	-
	Local Financial Autonomy	-,186	1,000	,206	,958	1,044
	Local Decision-Making Autonomy	-,021	,206	1,000	,958	1,044

None of the correlations is higher than 0,7, the Tolerance is above 0,1 and VIF is less than 10.

Therefore, it can be assumed that there is no multicollinearity.

8.3.5 Checking for unusual points

8.3.5.1 Detecting outliers

Over the casewise diagnostics function in SPSS no outliers (standardized residuals are larger than +3 standard deviation) were detected.

8.3.5.2 Checking for leverage points

When checking for leverage points, the leverage value was inspected. A general rule of thumb is that values below 0,2 are safe, between 0,2 and 0,5 are risky and above 0,5 are dangerous. In this thesis only one case scored a value above 0,2. France scores a 0,32. Nevertheless the French case will not be filtered out, as the value is only slightly above the limit value 0,2 and just in the "risky"-category.

8.3.5.3 Checking for influential points

To check for influential points, the values for Cook's distance were examined. Values above 1 should be assessed. There are no values above 1 and therefore no influential points were detected.

8.3.5.4 General remark on unusual points for this study

As this study takes place on the country level and the country values are aggregated from perceptions of individual mayors, no cases (countries) will be excluded from this thesis. Exceptional high or low values are a result of the perception of the majority of mayors within a country, therefore it may be expected that this exceptional value is neither a typing mistake nor a false declaration. An exception might be countries with only a few mayoral responds, so that the single mayor got a greater weight when aggregating the countries (e.g. Romania, Iceland, Ireland, etc.) or countries where values are missing on the country level (e.g. Austria, France). It is important to keep these countries in mind.

8.3.6 Checking for normality

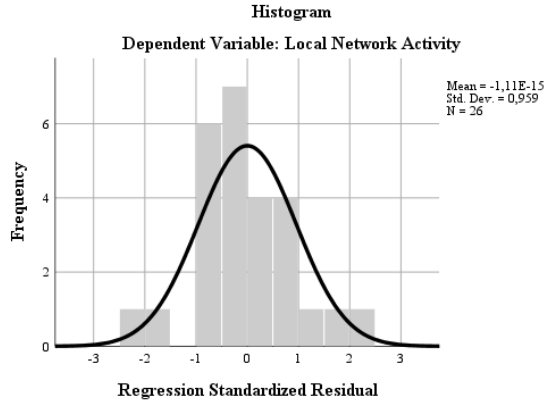

figure 19: normal histogram of the case distribution for the dependent variable

To determine statistically significance, the residuals need to be normally distributed.
Apparently, the residuals are approximately normally distributed.
To confirm these findings the P-P Plot and the Q-Q Plot will also be examined.

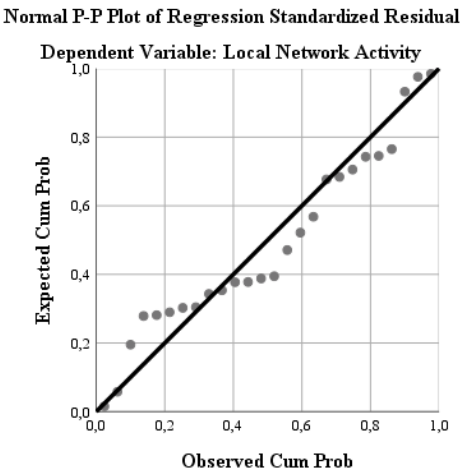

figure 20: P-P Plot of the dependent variable

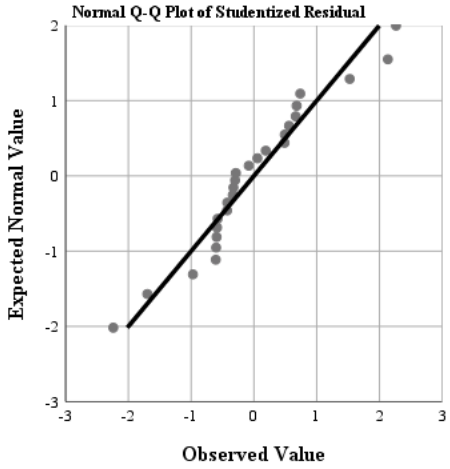

figure 21: Q-Q Plot of the dependent variable

In case the residuals are normally distributed, the points of the P-P Plot and the Q-Q Plot will align with the diagonal line.
Although the points do not align perfectly, they are close enough to indicate a normal distribution of residuals.

8.4. Linear Regression assumptions for sub question 3

8.4.1 Independence of observations

Table 14: *Durbin-Watson per issue*

Issue	*Durbin-Watson*	*Valid/ Invalid*
Increase attractiveness	1,734	Valid
Social policies	2,532	Valid
Natural Environment	1,981	Valid
Public Safety	1,184	Invalid
Politico-Administrative Issues	2,083	Valid
Local Identity	2,260	Valid
Economic Grwoth	1,469	Valid
Communal Infrastructure	1,675	Valid
Integration of minorities	1,800	Valid

8.4.2 Testing for linearity

8.4.2.1: Increase the attractiveness of the municipality

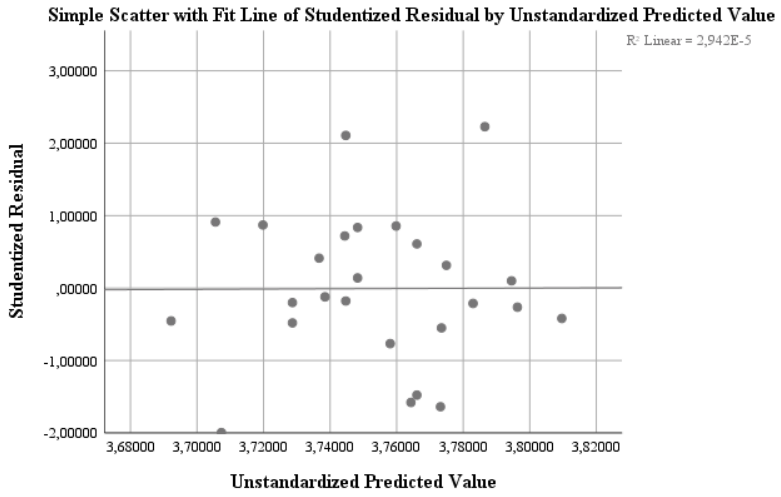

figure 22: regression Plot for issue A

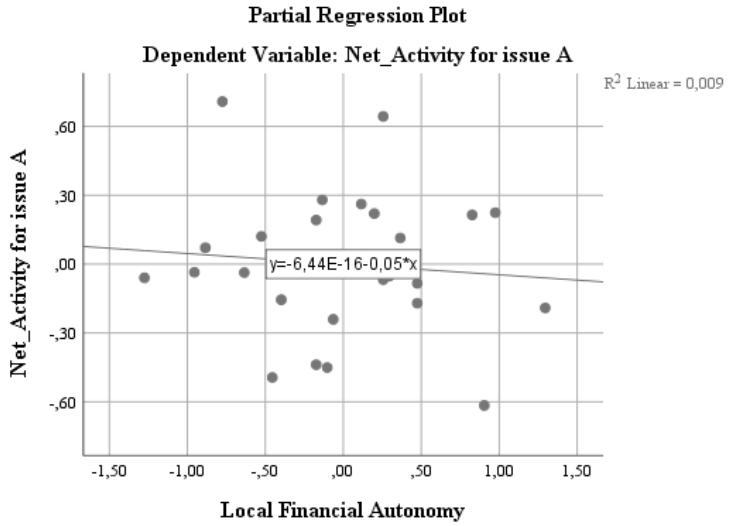

figure 23: partial regression plot for local financial autonomy for issue A

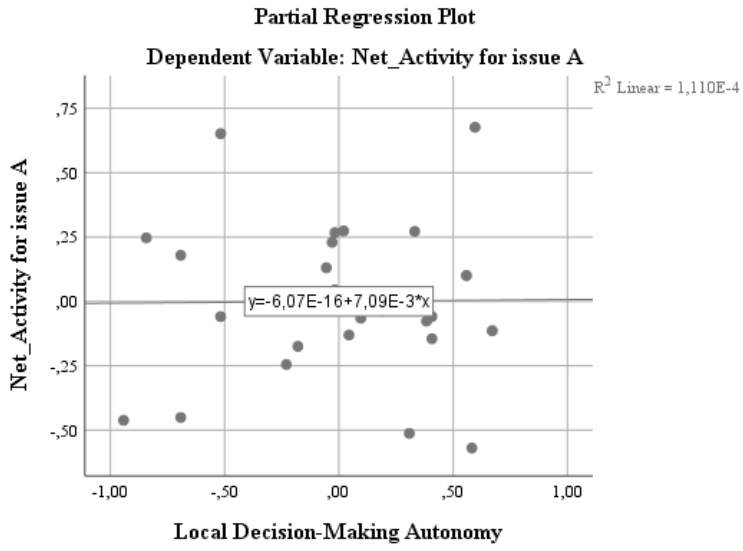

figure 24: partial regression plot for local decision-making autonomy for issue A

8.4.2.2.: To develop social policies

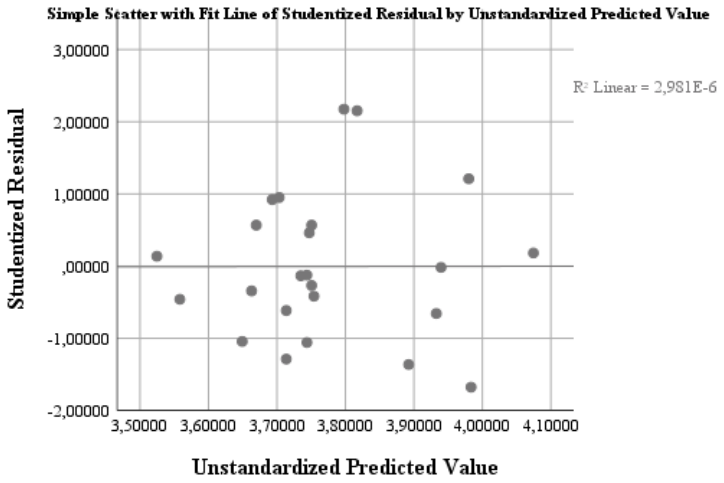

figure 25: partial regression plot for issue B

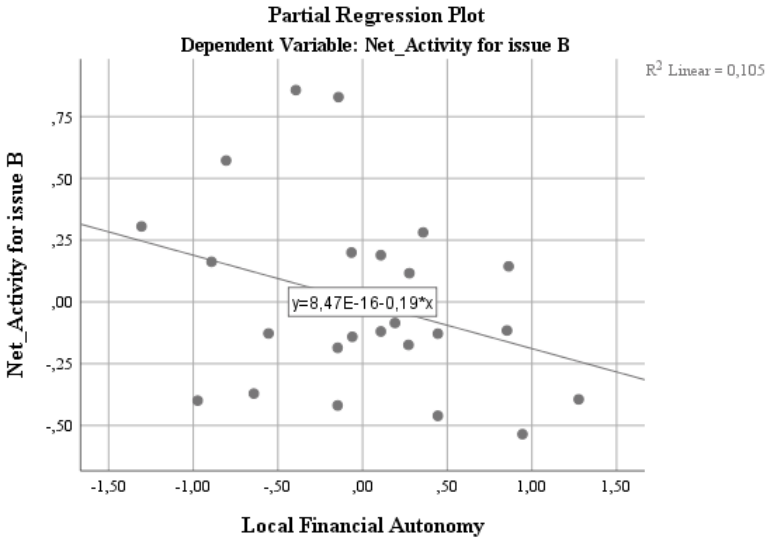

figure 26: partial regression plot for local financial autonomy for issue B

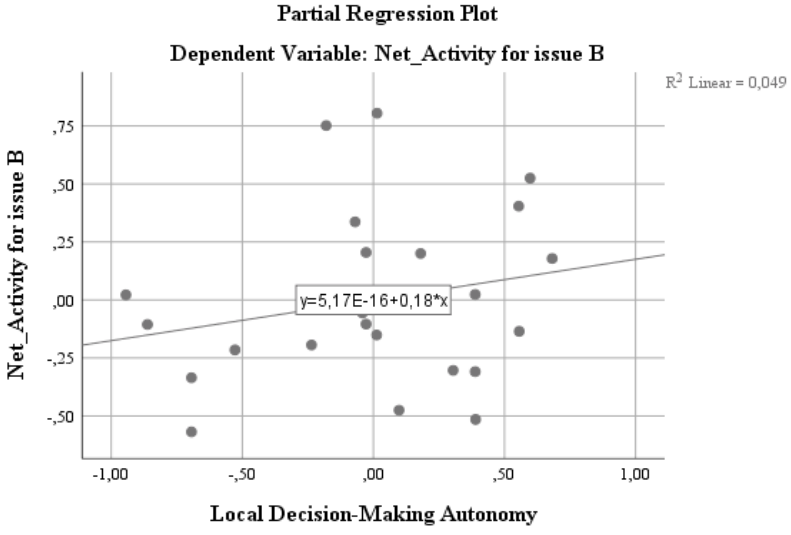

figure 27: partial regression plot for local decision-making autonomy for issue B

8.4.2.3: To protect the natural environment

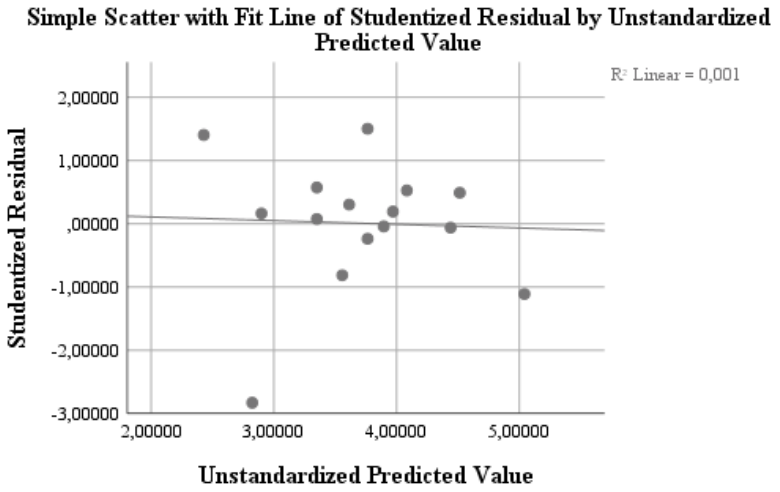

figure 28: regression plot for issue C

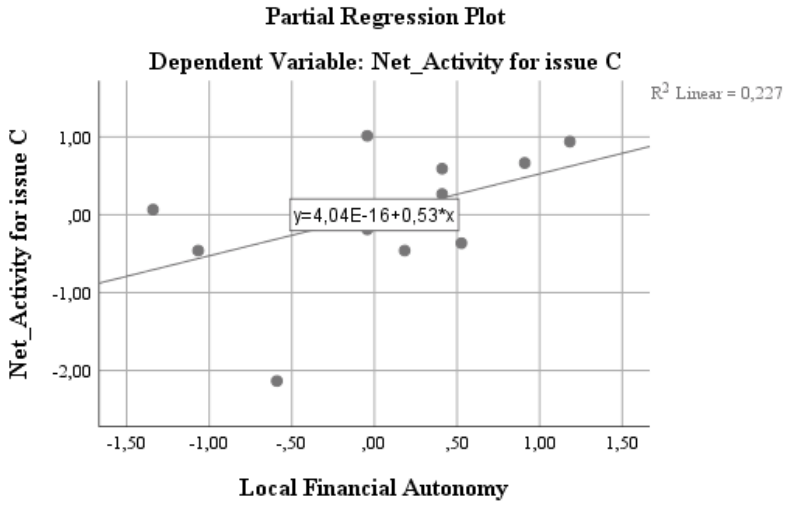

figure 29: partial regression plot for local financial autonomy for issue C

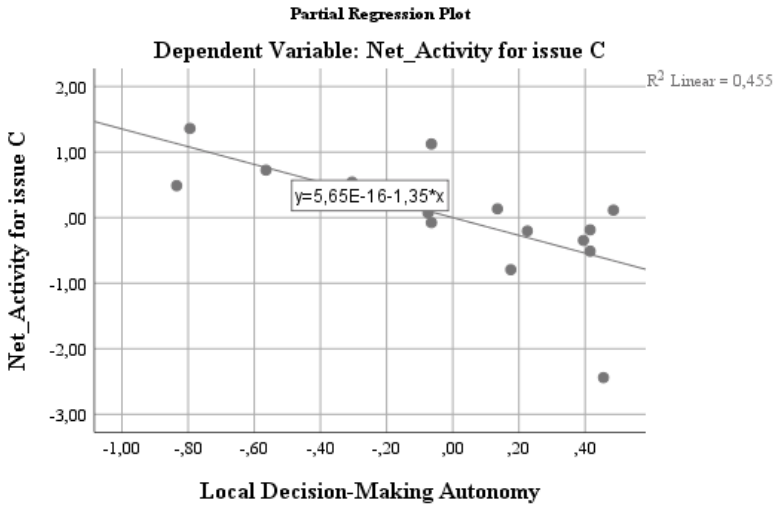

figure 30: partial regression plot for local decision-making autonomy for issue C

8.4.2.4: To secure public safety

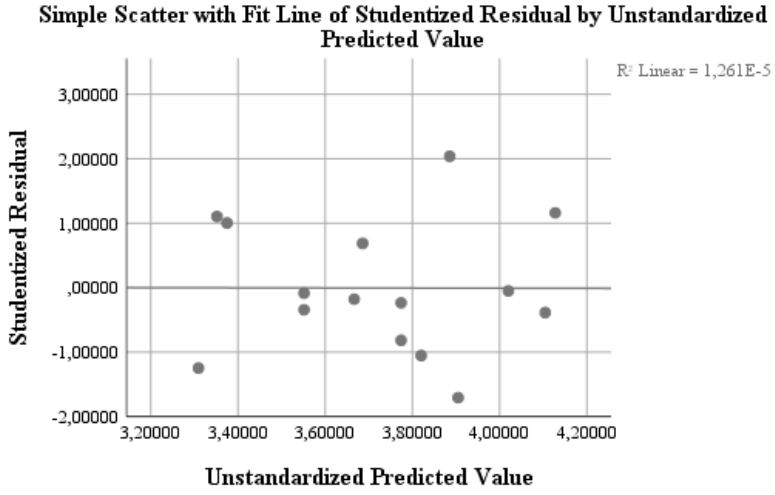

figure 31: regression plot for issue D

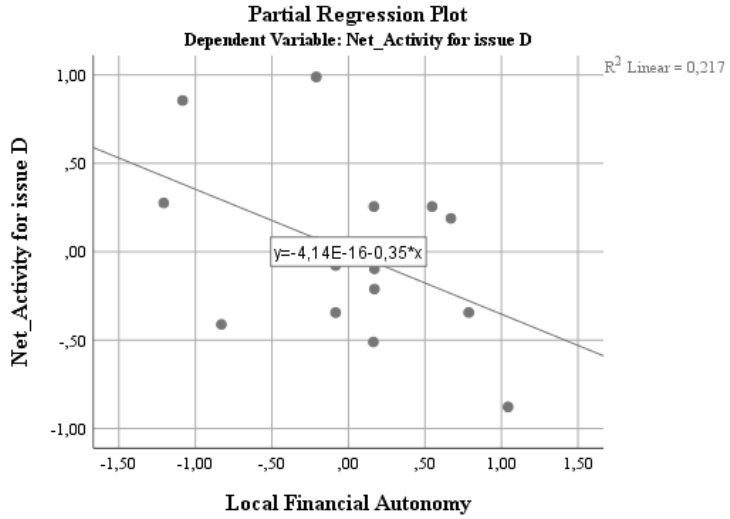

figure 32: partial regression plot for local financial autonomy for issue D

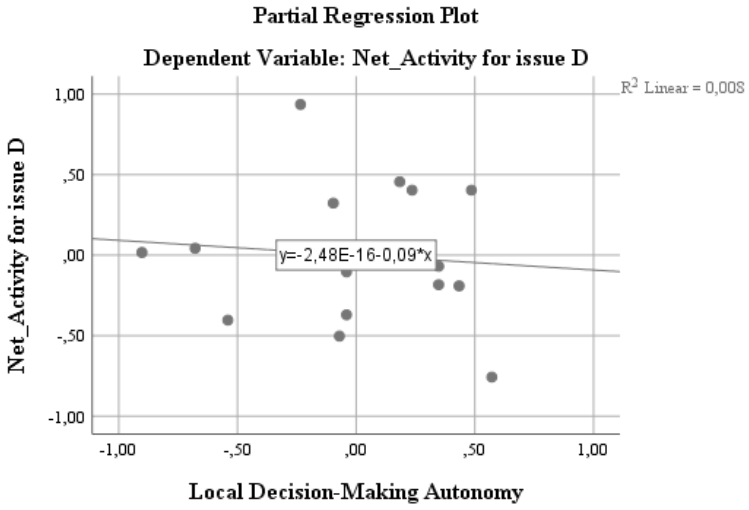

figure 33: partial regression plot for local decision-making autonomy for issue D

8.4.2.5: To address politico-administrative issues

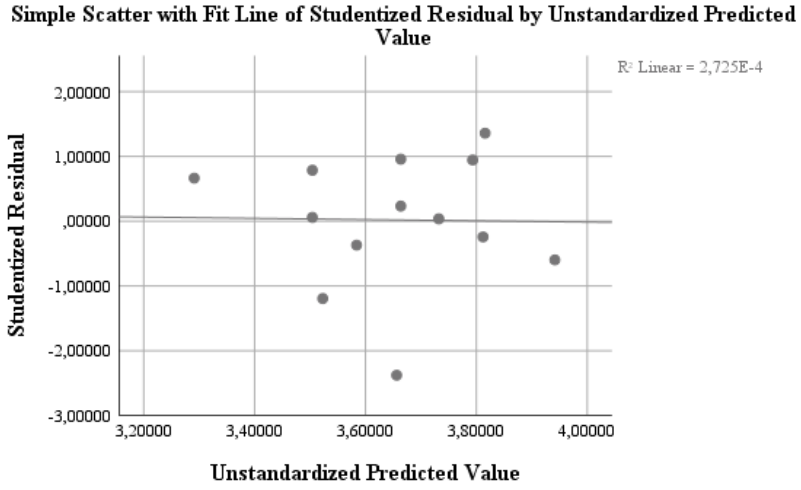

figure 34: regression plot for issue E

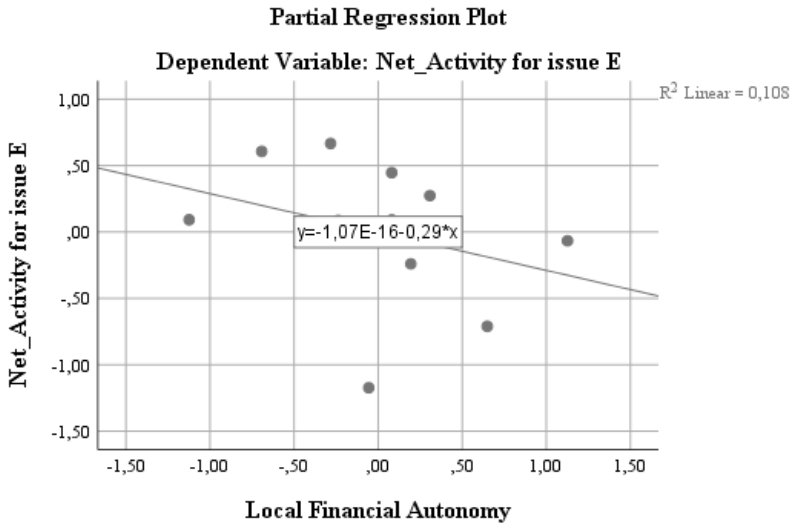

figure 35: partial regression plot for local financial autonomy for issue E

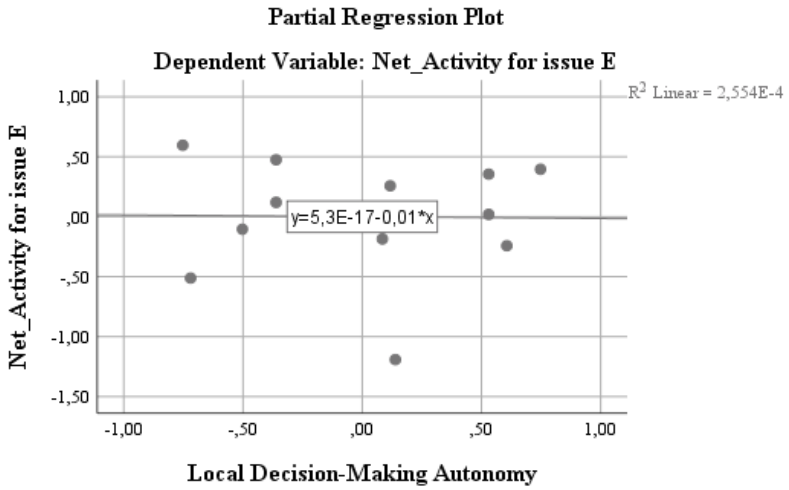

figure 36: partial regression plot for local decision-making autonomy for issue E

8.4.2.6: To preserve the local identity

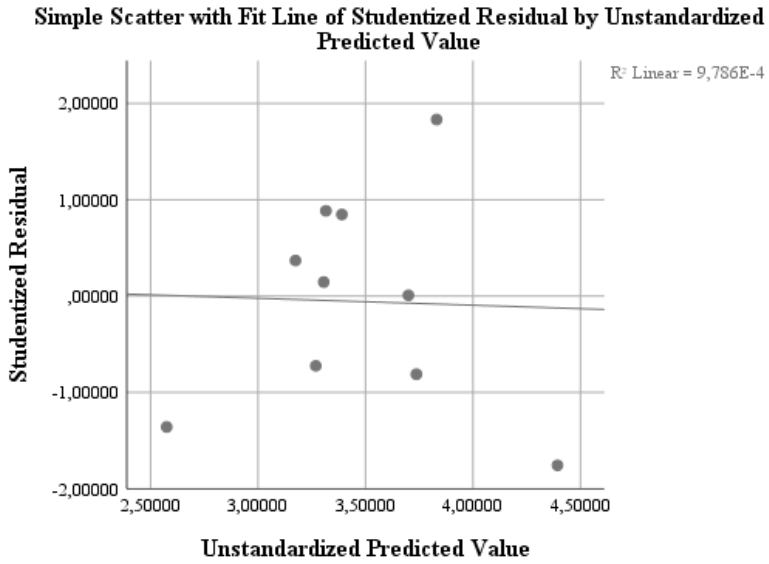

figure 37: regression plot for issue F

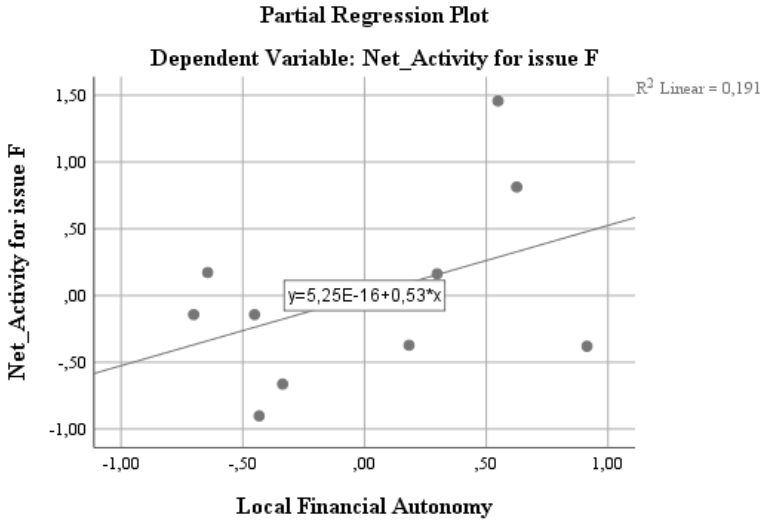

figure 38: partial regression plot for local financial autonomy for issue F

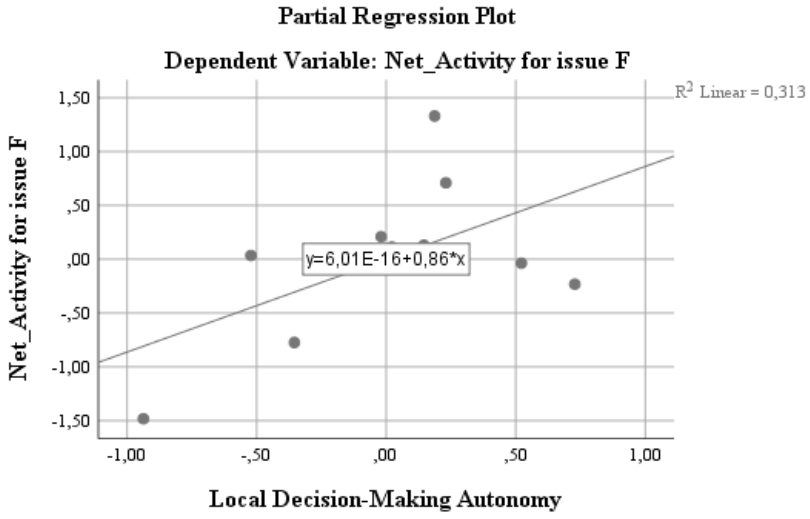

figure 39: partial regression plot for local decision-making autonomy for issue F

8.4.2.7: To stimulate economic growth and employment

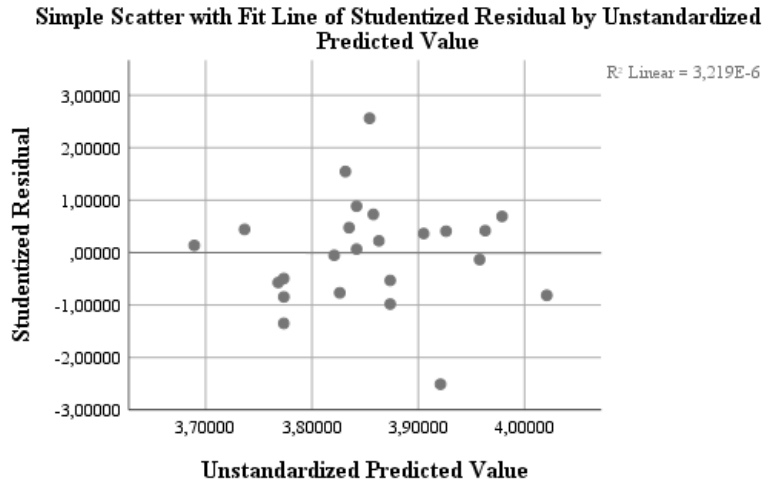

figure 40: regression plot for issue G

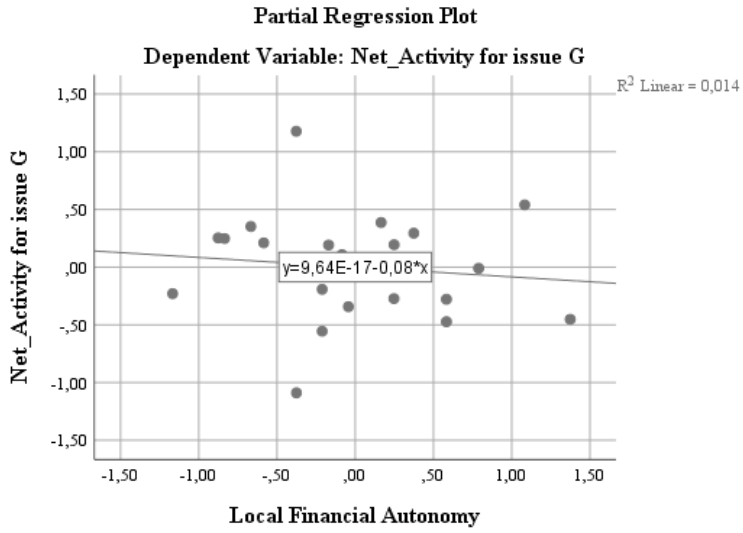

figure 41: partial regression plot for local financial autonomy for issue G

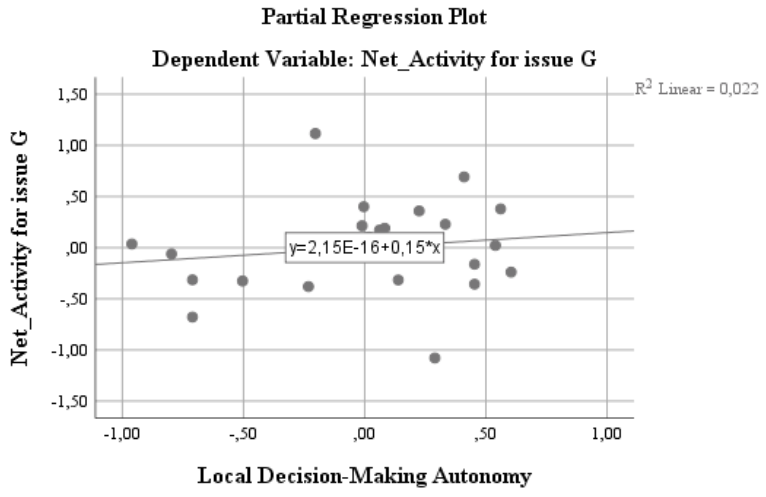

figure 42: partial regression plot for local decision-making autonomy for issue G

8.4.2.8: To improve communal infrastructure

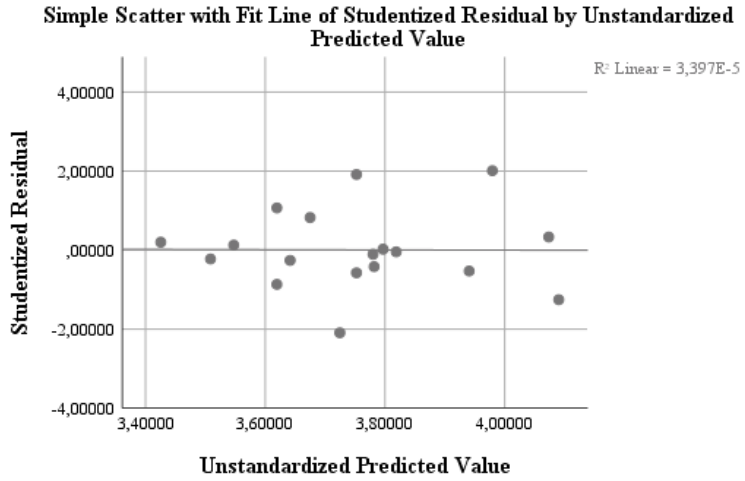

figure 43: regression plot for issue H

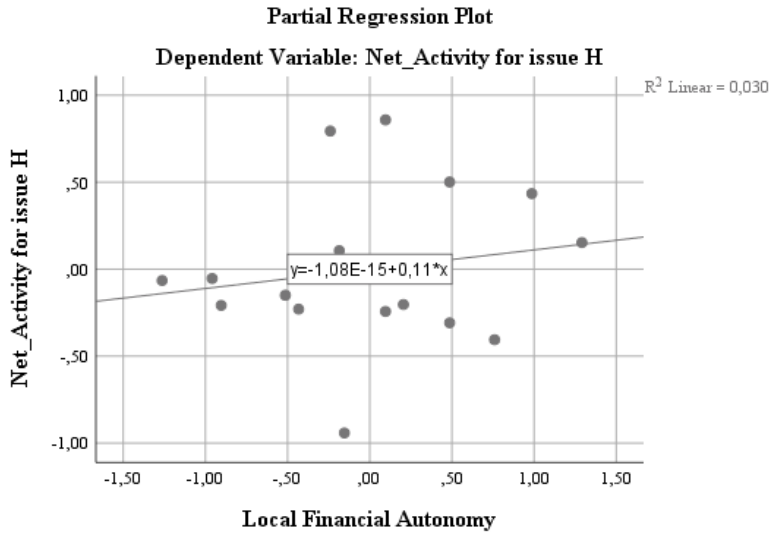

figure 44: partial regression plot for local financial autonomy for issue H

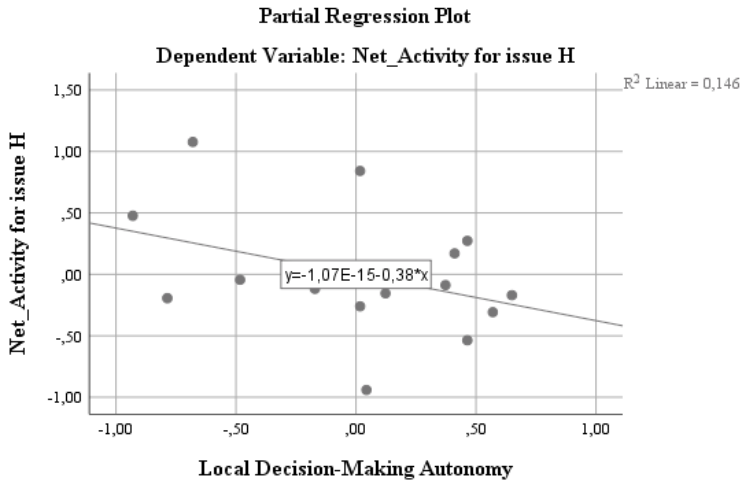

figure 45: partial regression plot for local decision-making autonomy for issue H

8.4.2.9: To improve the integration of ethnic, religious, or cultural minorities

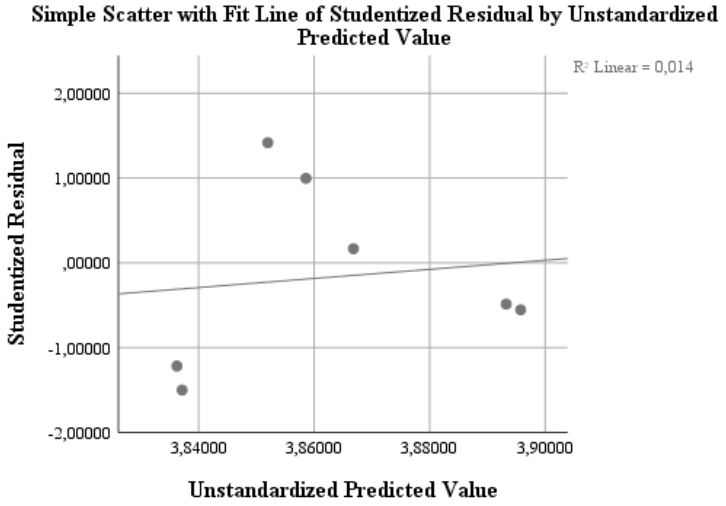

figure 46: regression plot for issue I

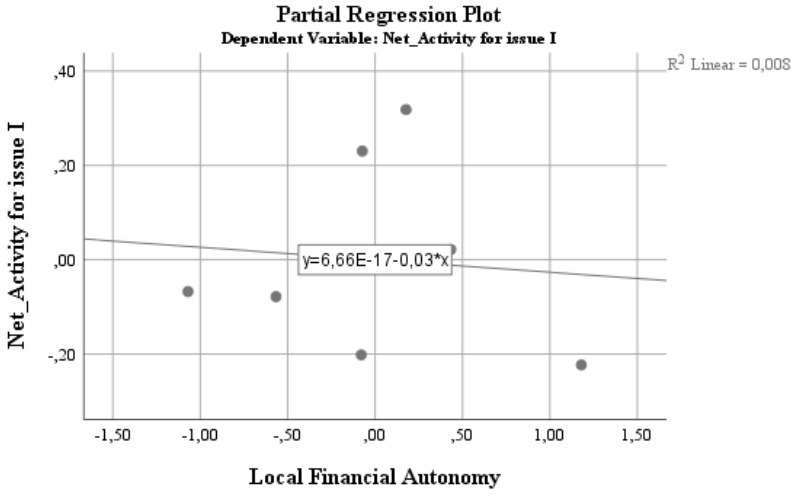

figure 47: partial regression plot for local financial autonomy for issue I

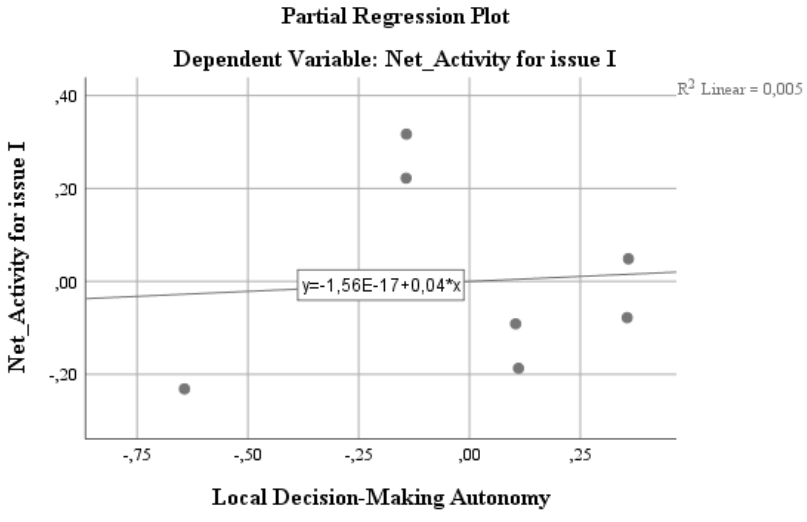

figure 48: partial regression plot for local decision-making autonomy for issue I

8.4.3 Testing for homoscedasticity

Table 15: *homoscedasticity test per issue*

issue	*Spread of residuals*	*violated*
Attractiveness of municipality	Randomly scattered	No
Social Policies	Randomly scattered	No
Natural Environment	Randomly scattered	No
Public Safety	Randomly scattered	No
Politico-Administrative Issues	Randomly scattered	No
Local Identity	Randomly scattered	No
Economic Growth	Randomly scattered	No
Communal Infrastructure	Randomly scattered	No
Integration of minorities	Randomly scattered	Yes

8.4.4 Checking for multicollinearity

Table 16: *multicollinearity test per issue*

issue	*Correlation between variables higher than 0,7*	*Tolerance*	*VIF*	*Multicollinearity*
Attractiveness of municipality	No	,958	1,044	No
Social Policies	No	,945	1,058	No
Natural Environment	No	,996	1,004	No
Public Safety	No	,890	1,124	No
Politico-Administrative Issues	No	,941	1,063	No
Local Identity	No	,962	1,040	No
Economic Growth	No	,986	1,014	No
Communal Infrastructure	No	,977	1,024	No
Integration of minorities	No	1,000	1,000	No

8.4.5 Checking for unusual points

There was no check for unusual points, as the study takes place on the country level. As already explained for sub question 2, exceptional values results from the aggregation of mayoral perceptions per country, therefore typing mistake or a false declaration are unlikely. An exception might still be countries with only a few mayoral responds, so that the single mayor got a greater weight when aggregating the countries (e.g. Romania, Iceland, Ireland, etc.) or countries where values are missing on the country level (e.g. Austria, France). It is important to keep these countries in mind.

8.4.6 Checking for normality

8.4.6.1: To increase the attractiveness of the municipality

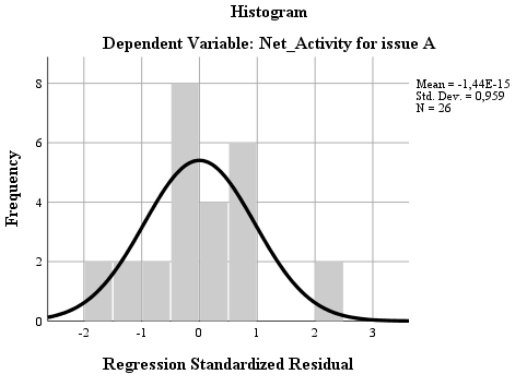

figure 49: histogram of the dependent variable for issue A

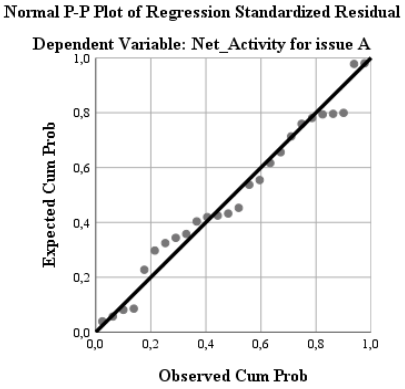

figure 50: P-P Plot of the dependent variable for issue A

8.4.6.2: To develop social policies

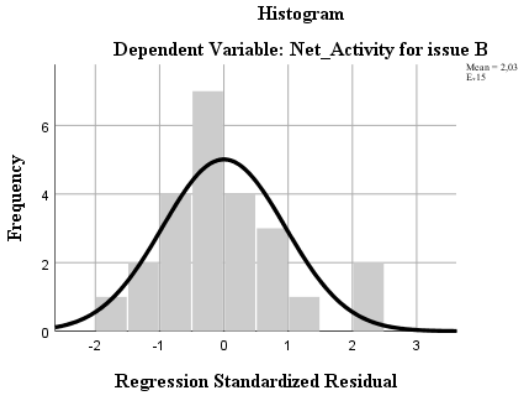

figure 52: histogram of the dependent variable for issue B

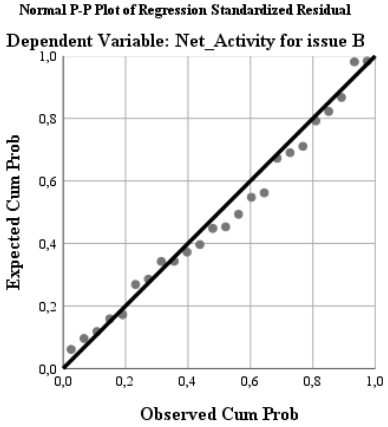

figure 52: P-P Plot of the dependent variable for issue B

8.4.6.3: To protect the natural environment

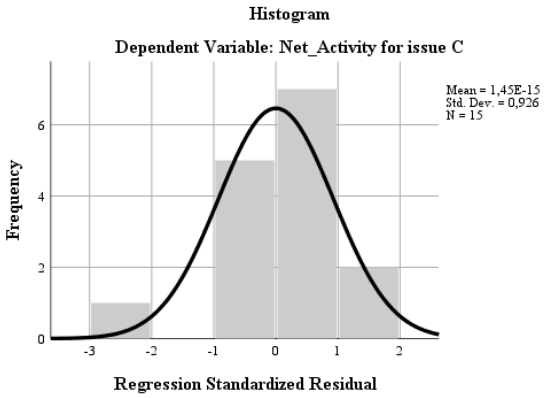

figure 53: histogram of the dependent variable for issue C

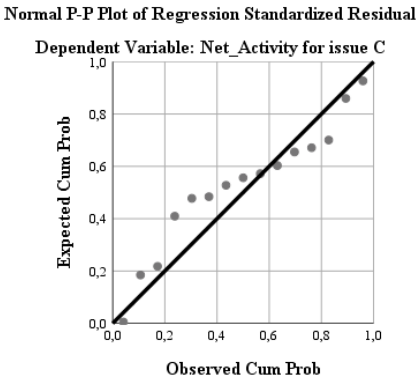

figure 54: P-P Plot of the dependent variable for issue C

8.4.6.4: To secure public safety

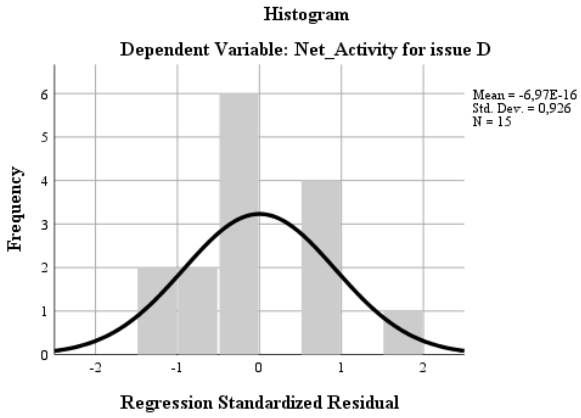

figure 55: histogram of the dependent variable for issue D

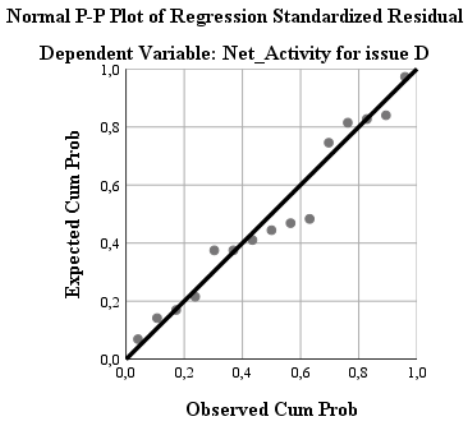

figure 56: P-P Plot of the dependent variable for issue D

8.4.6.5: To address politico-administrative issues

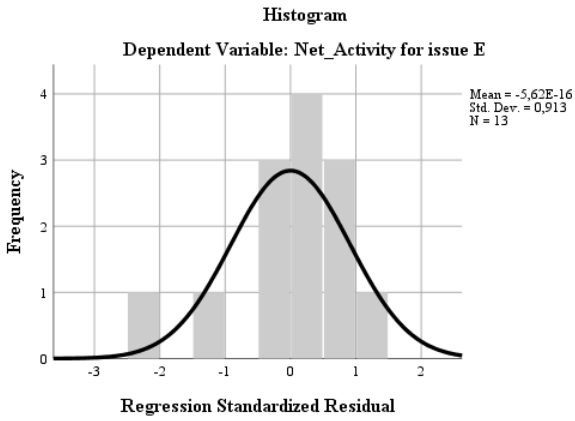

figure 57: histogram of the dependent variable for issue E

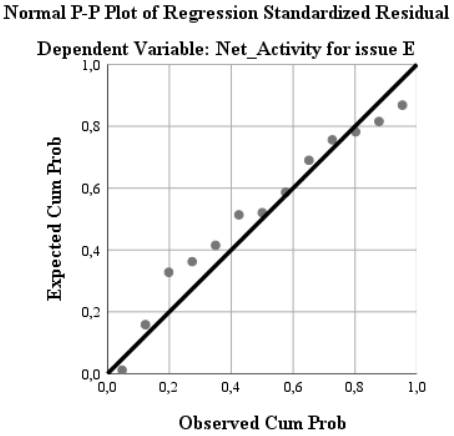

figure 58: P-P Plot of the dependent variable for issue E

8.4.6.6: To preserve the local identity

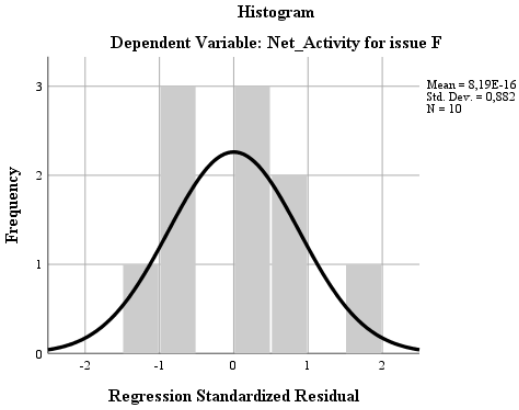

figure 59: histogram of the dependent variable for issue F

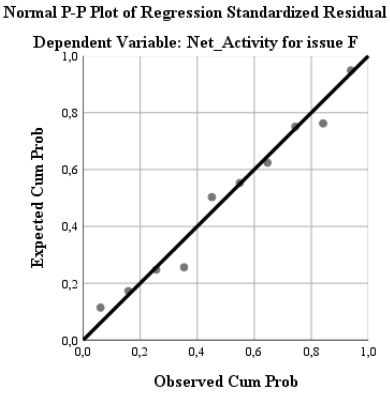

figure 60: P-P Plot of the dependent variable for issue E

8.4.6.7: To stimulate economic growth and employment

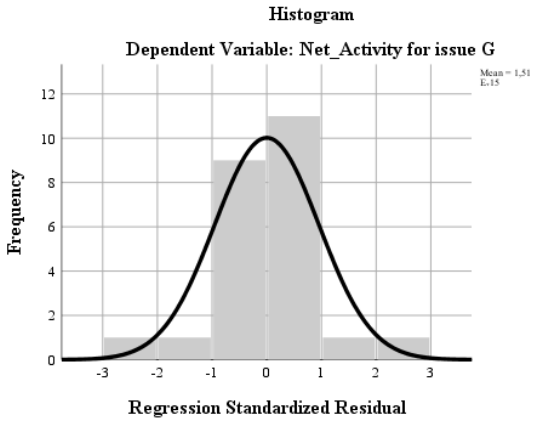

figure 61: histogram of the dependent variable for issue G

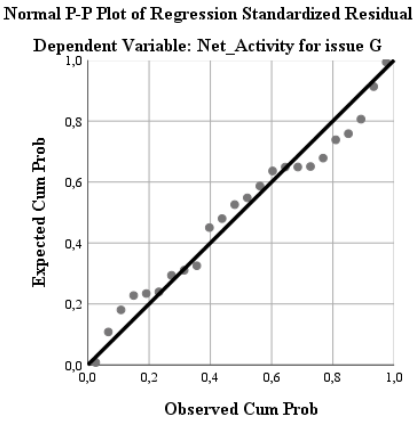

figure 62: P-P Plot of the dependent variable for issue G

8.4.6.8: To improve communal infrastructure

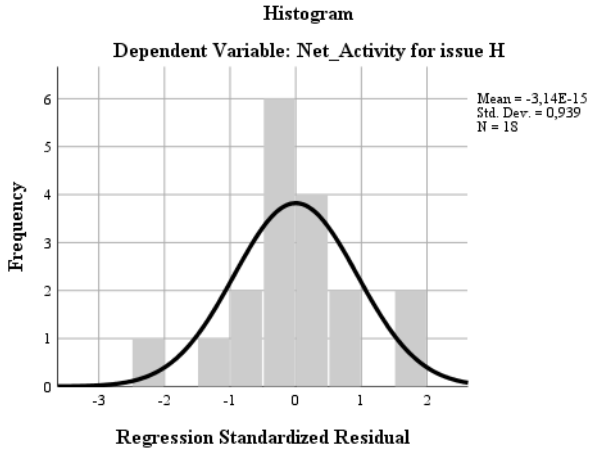

figure 63: histogram of the dependent variable for issue H

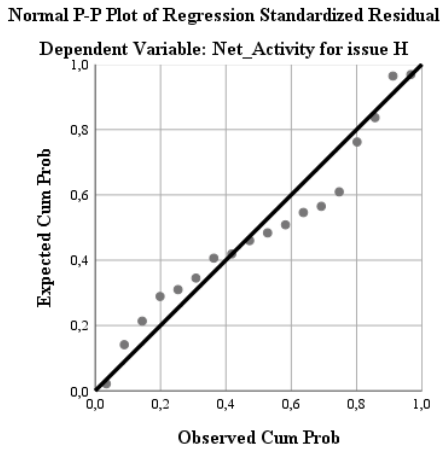

figure 64: P-P Plot of the dependent variable for issue H

8.4.6.9: To improve the integration of ethnic, religious, or cultural minorities

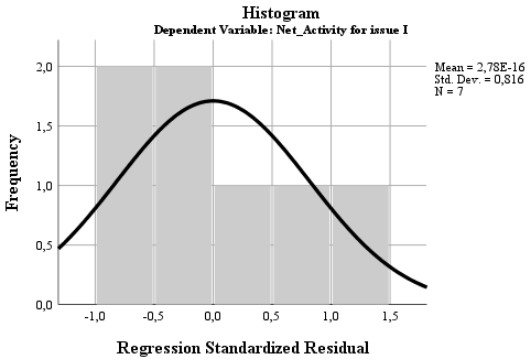

figure 65: histogram of the dependent variable for issue I

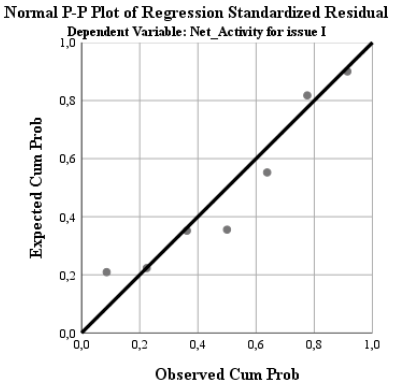

figure 66: P-P Plot of the dependent variable for issue I