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Theorising Institutional  
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of the European  
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of Space Activities in  
Europe

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Nina-Louisa Remuss

# Theorising Institutional Change: The Impact of the European Integration Process on the Development of Space Activities in Europe

Doctoral Thesis accepted by  
the University of Potsdam, Potsdam, Germany

 Springer

*Author*

Dr. Nina-Louisa Remuss  
Berlin, Germany

*Supervisors*

Prof. Kai-Uwe Schrogl  
University of Tübingen  
Tübingen, Germany

Prof. Falk Daviter  
University of Potsdam  
Potsdam, Germany

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# Supervisor's Foreword

The Ph.D. thesis of Mrs. Nina-Louisa Remuss deals with the governance of European space activities, which has been in transition for some time, thereby generating a growing political and academic discourse. It is a topic of growing practical, academic and political importance on the European level. Central to this, is the question about the future role of the European Space Agency (ESA), which was founded in 1975 as a multilateral European organisation outside the European Communities/European Union. Today ESA carries out space activities for currently 22 Member States. ESA's role will depend on the EU's capacity to extend its competences to space policy, which is currently politically enforced.

This thesis thus deals with a current topic with great practical relevance, since space policy is of decisive importance for industrial policy and has numerous applications for the EU's policy areas. The existence of two European Organisations—the supranational EU and the multilateral ESA—is a growing political challenge, which is highlighted by the intensified dispute and institutional competition. Against this background, the topic of this dissertation is not only of great political relevance but also an exceptional subject for a political science analysis.

Institutional change can be observed in diverse ways, but the case at hand offers a great opportunity to analyse institutional change of two international organisations, working in the same policy field and being of different status (supranational and multilateral). Mrs. Remuss has chosen and worked on a particularly interesting topic, which is extraordinarily suitable to deliver interesting insights from a political science point of view.

Central to this work is the analyses of both the change in the development of space policy in Europe as well as the institutional change in both EU and ESA. This dissertation follows four objectives:

1. To provide an updated overview of the development of space policy in Europe
2. To advance the debate about the impact of the European integration process on existing institutional actors

3. To make a theoretical contribution to our understanding of when supranational actors are able to advance their own agenda
4. To make a theoretical contribution to our understanding of institutional change.

It is proposed to rely on a model of five stages of institutional development based on Levy, Young, & Zürn (1995) and Florensa (2004). Additionally, in order to be able to compare cases of institutional change, it is proposed to rely on five facets of institutional change. Both, the stages of institutional development and the facets of institutional change, are then applied to the development of space activities in Europe from 1959 to 2014.

The empirical content of this work is characterised by Mrs. Remuss' extraordinary expertise. Prior to working for the German Aerospace Center (DLR), Mrs. Remuss gained substantial insights while working for the European think tank European Space Policy Institute (ESPI). Her publications from this period guaranteed the concise presentation of the development of space activities in Europe, which goes beyond the existing literature. It offers new empirical findings for the presentation of the development of space activities in Europe and its institutions.

On this solid basis, this is a profound work, which claims to make a theoretical contribution to understanding institutional change. Particularly, the analysis of the impact of the European integration process on existing institutional actors and the case of the relations between EU and ESA are illustrated to an unprecedented extent.

Tübingen, Germany  
June 2018

Prof. Dr. Kai-Uwe Schrogl

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# Abstract

While European Space collaboration was initially developed outside the competences of the European Union (EU) with space programmes being carried out almost exclusively under the framework of European Space Agency (ESA) and national agencies, the EU has gained “shared competences” (Art. 2, TFEU) in space policy following the adoption of the Lisbon Treaty. Currently, the EU and ESA work together under a Framework Agreement. In 2016, the EU Commission has published a Communication entitled “European Space Policy” (ESP). Even though ESA’s Member States have agreed to keep ESA as an intergovernmental organisation during the ESA Ministerial Council of 2014, the discussion about ESA becoming part of the EU framework continues. The EU’s ambitions for leadership in European space policy raise question concerning the future of ESA. The study of institutions lies at the heart of political sciences. Strikingly, the theoretic framework qualifying institutional change and making it comparable leaves room for more concrete and testable dimensions of institutional change. This dissertation thus seeks to advance the debate on institutional change by proposing a more structured approach to institutional change, consisting of stages of institutional development and facets of institutional change. Thereby, the evolving institutional arrangements between EU and ESA are considered a case study. Special attention is paid to the impact of the European integration process on existing institutional actors.



# Acknowledgements

I would like to thank my supervisor **Prof. Dr. Falk Daviter** for his valuable suggestions and criticism, which made this work as strong and precise as it is today.

Special thanks go to **Prof. Dr. Lesley Jane Smith** and **Prof. Dr. Kai-Uwe Schrogl**, whose support was incredibly helpful for my work. Without their insights and support this work would have been impossible.

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I would also like to show my gratitude to my parents, **Marlies and Bodo Remuss**, and my boyfriend, **Frank Bowinkelmann**, who always believed in me and my skills. Without their continuous support this piece would have been impossible.

Finally, my gratitude goes to the city of **Warnemünde**, which provided not only the ideal location to focus but also sufficient motivation during a period of writing.

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# Abbreviations and Acronyms

AFC	Administrative and Finance Committee
ASI	Agencia Espaciale Italiana—Italian Space Agency
CCMI	Consultative Commission for Industrial Change
CEPT	Conférence Européenne des Administrations des Postes et des Télécommunications—European Conference of Postal and Telecommunications Administrations
CERN	European Organisation for Nuclear Research
CETS	European Conference on Satellite Communications
CFSP	Common Foreign and Security Policy
CNES	Centre National d'études Spatiales—French Space Agency
COM	European Commission/Commission of the European Communities
COPERS	European Preparatory Commission for Space Research
COSPAR	Committee of Space Research
CWG	Council Working Group
DG	Director General
DGs	Directorate-Generals
DLR	Deutsches Zentrum für Luft- und Raumfahrt—German Space Agency
DoD	Department of Defense
EC	European Community
EDA	European Defence Agency
EEC	European Economic Community
EESC	European Economic and Social Committee
ELDO	European Launcher Development Organisation
EO	Earth Observation
EP	European Parliament
ESA	European Space Agency
ESC	European Space Conference
ESDAC	European Data Analysis Centre
ESDP	European Security and Defence Policy

ESOC	European Space Operations Centre
ESP	European Space Policy
ESRIN	ESA Centre for Earth Observation
ESRO	European Space Research Organisation
ESS	European Space Strategy
ESTEC	European Space Technology Centre
EU	European Union
EURATOM	European Atomic Energy Community
FA	Framework Agreement
FRA	France
GEERS	Group d'Etudes Européen pour la Collaboration dans le Domaine des Recherches Spatiales or European Space Research Study Group
GER	Germany
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GSA	GNSS Supervisory Authority
IGC	Intergovernmental Conference
IRAC	International Relations Advisory Committee
ISS	International Space Station
JAA	Joint Aviation Authorities
JSSAG	Joint Space Strategy Advisory Group
JTF	Joint Task Force
LAFWG	Legal, Administrative and Financial Working Group
LI	Liberal Intergovernmentalism
LPAC	Launching Programme Advisory Committee
MoU	Memorandum of Understanding
MS	Member States
NATO	North Atlantic Treaty Organization
NEO	New Economics of Organisation
OEEC	Organization for European Economic Cooperation
OSCE	Organisation for Security and Co-operation in Europe
R&D	Research and Development
RB	Roland Berger
SAG	Space Advisory Group
SatCen	European Union Satellite Centre
SCG	Space Coordination Group
SEA	Single European Act
STC	Scientific and Technical Committee
STWG	Scientific and Technical Working Group
TCE	Treaty establishing a Constitution for Europe
TEC	Treaty establishing the European Community
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UK	United Kingdom
U.S.	United States

USSR	Union of Soviet Socialist Republics
WEAG	Western European Armaments Group
WEAO	Western European Armaments Organisation
WEU	Western European Union
WG	Working Group



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# Chapter 1

## Introduction



While European space collaboration was initially developed outside the competences of the European Union (EU) with space programmes being carried out almost exclusively under the framework of the European Space Agency (ESA) and national agencies, the EU has gained “shared competences” (Art. 2, TFEU) in space policy following the adoption of the Lisbon Treaty. The EU and ESA have already been working together under a Framework Agreement (FA) since 2003. Even though ESA’s Member States have agreed to keep ESA as an intergovernmental organisation during the ESA Ministerial Council of 2014, the discussion about ESA becoming part of the EU framework continues. The EU’s ambitions for leadership in European space policy raise questions concerning the governance of space in Europe and the inter-institutional relationship of the EU and ESA. While the institutional problem of setting-up a structure for a coherent European space policy has already been recognised in the early 90s (cf. Schrogl, 1993), the question of the institutional arrangement is still not solved today even though it has been the subject of much academic and political debate in recent years (cf. Hörber, 2016a; Gaubert, 2006).

Although the process of European economic integration has enjoyed success since the 1950s, cooperation in the field of space policy has lagged behind and was late to develop. This is striking, given that it “fitted perfectly with Jean Monnet’s definition of an ideal area for the advancement of European integration” (Hörber, 2009b, p. 405), being too big for individual nation States but also offering a new field of politics comparable with nuclear research under EURATOM (Ibid.; Hörber, 2016a). In fact, in Europe space activities were originally conducted by individual States (Aliberti & Krasner, 2016), until in 1959 the model of the European Organisation for Nuclear Research (CERN) gave an impetus for the establishment of a European cooperative effort in space policy. This led to the foundation of the European Launcher Development Organisation (ELDO) and the European Space Research Organisation (ESRO), until finally in 1975, ESA was created. Since then, ESA has been responsible for coordinating European space activities. The Single European Act (SEA) of 1986 is usually taken as a starting point marking the EC’s/EU’s development as a space actor, since it added research and development to the Community’s competences (Reuter,

2007, p. 12; Marchisio, 2006). However, the Commission's interest in space policy goes back as far as 1970, when it participated in the European Space Conference (ESC) (Hobe, Kunzmann, & Reuter, 2006, p. 64; Madders & Thiebaut, 1992). This was the dominant forum for Europe's space community from 1967 to 1975 (Madders, 1997, p. 149) with the objective to harmonise space policies in Europe (Sheehan, 2007, p. 78). Since then, the EU has gradually increased its interest in space activities culminating in the inclusion of space as a shared competence between the EU and the Member States through Article 189 in the Lisbon Treaty of 2009. This created a legal basis for the EU's action in the space field. Since 2003, the EU and ESA worked together on the basis of the FA, which introduced the "Space Council", comprising both the EU Council of Ministers in form of the Competitiveness Council and the ESA Council, as a common decision-making body.

The introduction of the EU's flagship programmes Galileo, the European navigation programme, and Copernicus, the Global Monitoring for Environment and Security programme, underline the EU's commitment to the space area. Today's European space landscape is thus divided into three distinct levels:

- (1) the EU;
- (2) the intergovernmental organisations ESA and EUMETSAT; and
- (3) the national space agencies.

With EU and ESA both acting in the field of European space activities with differing<sup>1</sup> but substantially "dual memberships" and partially overlapping competencies, questions regarding coherence, closer cooperation and the adaptability particularly with regard to the institutional arrangement gave rise to an academic and political debate about the future institutional set-up and division of labour between the EU and ESA. In this context four scenarios for an institutional set-up or a division of labour between EU and ESA have been debated:

- (1) the cooperation model; i.e. improved cooperation between the two institutions
- (2) the implementing versus political actor model; i.e. differentiation between ESA as the implementing and EU as the political actor
- (3) the integration model; i.e. integration of the EU Commission in ESA's institutional structure and
- (4) the accession model, i.e. the accession of ESA as an agency in the EU's institutional framework (cf. Rüttgers, 1989; Madders & Thiebaut, 1992; Reuter, 2007; Hobe et al., 2006; Kries, 2003; Hobe, Heinrich, Kerner, & Froehlich, 2009; Hörber, 2009a).

The European Commission itself has tasked the independent consultancy Robert Berger in 2013 to analyse the evolution of the EU-ESA relations, providing a cost-benefit assessment, with the objective to propose several future options. Similar to the options already proposed by several experts, Berger summarised the following four options:

---

<sup>1</sup>ESA embraces non-EU States such as Switzerland and Norway and extra-European States such as Canada.

- (1) Option 1: Baseline scenario—No action is taken.
- (2) Option 2: Improved cooperation under the “status quo”—ESA remains an independent intergovernmental organisation and there is a revision of the existing 2004 EU/ESA FA.
- (3) Option 3: ESA remains an independent intergovernmental organisation within which new structures are created to deal with EU programmes in accordance with the EU financial regulation and laws; these structures within ESA would be accountable to the EU; an EU-Chamber is foreseen staffed by the EU Commission.
- (4) Option 4: Transforming ESA into a EU agency while preserving ESA’s successful intergovernmental features (European Commission, 2012, p. 4).

The EU’s ambitions to incorporate space policy into community policies raise questions concerning the role of ESA being no longer the only European space actor. With the study of institutions lying at the heart of political sciences, the inter-institutional relationship between the EU and ESA seems to be a particularly interesting case.

While political science is often considered to be the study of institutions (cf. Steinmo, Thelen, & Longstreth, 1992, p. 3), the study of institutions is rather diverse, touching upon several academic disciplines, such as International Relations, International Law, International Political Economy, International History and European Studies (Rittberger & Zangl, 2006). Therein, the study of the EU seems to be a special case, proceeding in waves, with initial approaches such as Neofunctionalism and Intergovernmentalism focusing on explaining the path of integration (Koremenos, Lipson, & Snidal, 2001, p. 766) and more recent approaches analysing policy-making with (supranational) institutions and examining the process of institutional change (Caporaso, 1998, p. 2; Meunier & McNamara, 2007, p. 3). Since the mid-1980s institutions became central to the analysis when New Institutionalism was born, a diverse research programme, which can be summarised into three sub-approaches: Rational Choice Institutionalism, Historical institutionalism and Sociological Institutionalism.<sup>2</sup> Arguably, it is “more a perspective on politics than a fully developed theory” (Peterson & Shackleton, 2006, p. 5) and there is considerable confusion on how it differs from other approaches (Hall & Taylor, 1996b, p. 5). Its basic lesson is “institutions matter” (Rosamond, 2000, p. 113) and they are more than merely black boxes. Against this background it is more than striking that the definitions on “institutions” still vary (Rhodes, Binder, & Rockman, 2006, p. 7; Mearsheimer, 1994, p. 7) from “organisations”, “social norms” (Héritier, 2007, p. 5) and “shared beliefs” to broader understandings such as “the foundation of social life” (Campbell, 2004, p. 1). The term is not only broadly defined (cf. Mearsheimer, 1994, p. 7) but also often used interchangeably with terms such as “organisations” and “regimes”. Various schools use different definitions and even within one school different definitions are used (Boin, 2008, p. 89). Given that scholars do not agree on the definition of institutions, they also do not agree on how best to explain or understand the source of or the

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<sup>2</sup>The best overview of the defining features, as well as the characteristic strengths and weaknesses of each can be found in Hall and Taylor (1996a, pp. 936–57) and Rhodes et al. (2006, p. xiii).

effects of international institutions and institutional change (Goldstein & Steinberg, 2010, p. xxiii). The European integration process and the institutions of the EU pose additional challenges on this already diverse existing theoretical framework.

## 1.1 Preview of the Argument

Among the disciplines mentioned above the question about the impact of the European integration process on existing institutional actors seems to be a case, which has so not been covered substantially so far. While, several authors tried to conceptualise the relationship between the EU and other intergovernmental organisations (in particular NATO, Council of Europe, OSCE) no structured debate can be identified.

At the same time the literature on institutional change seems to lack a structured approach, regarding the qualification and analysis of institutional change. Additionally, a theoretic framework making different cases of institutional change comparable, seems to be missing. Instead the existing literature on institutions has dealt with more general questions such as why States rely on international institutions as vehicles of cooperation, what attributes account for their use and how these characteristics set formal institutions apart from regimes and organisations. Additionally, scholars have recently begun considering concepts from the New Economics of Organisation (NEO), problems of delegation (cf. Bendor, Glazer, & Hammond, 2000), principal-agent aspects (cf. Edelman, Milde, & Weimerskirch, 1998) as well as questions such as whether member governments are dominant and to what degree they exercise control over supranational agents (Doleys, 2000, p. 534).

This dissertation thus seeks to advance the debate on institutional change by proposing a more structure approach to the analysis of institutional change. In order to do so, existing theories are being analysed in terms of what they offer to the analysis of institutional change. Thereby, the evolving institutional arrangement between EU and ESA is considered a case study. Special attention is paid to the impact of the European integration process on existing institutional actors. Most scholars agree that no single theory can account adequately for everything (Egeberg, 2004, p. 199), as they offer only “a selective grasp on reality” (Héritier, 2007, p. 39) but are valuable “because they structure all observations” (Rosamond, 2000, p. 4). Thus, different theories are understood as complementary rather than competing, answering complementary aspects of the same puzzle. Such an approach is in line with the second movement in institutional analysis of the 1990s (Campbell, 2004, p. 4).

Following Keohane and Nye (2001, p. 50) it is analysed, which factors are most important in describing institutional change. It is argued that only the combination of these aspects forms a complete picture of institutional change. A process perspective is adopted, looking at the factors driving institutional change, the underlying causal processes and their outcomes, trying to theorise them (Héritier, 2007, pp. 7–8). The resulting aspects are presented as “facets of institutional change”, which are proposed to structure the analysis of institutional change. They are applied to the observations of the development of space activities in Europe as a first test. This is in line with

Richardson's observation that the complexity of the EU policy process requires multiple models and the utilisation of "concepts from a range of models in order to at least describe the policy process accurately" (Richardson, 1996, p. 48).

### *1.1.1 Research Questions*

Against this background, the "hot potato" currently under debate among experts in the space community is: "What will happen to ESA?" Can the provision of space policy only be conducted by one institution in Europe, i.e. is it a "zero-sum game" where (1) either the stronger institution grows and the more tasks the EU assumes, the more the role of ESA will diminish or (2) where the mere existence of ESA hampers the existence of an effective European space policy due to tensions arising out of duplication of structures, objectives and capabilities or (3) is the provision of space policy rather a win-win situation, where the EU and ESA will work together building up a coherent institutional set-up providing for a coherent European space policy avoiding unnecessary duplications? Since academics are no prognosticators, this dissertation cannot anticipate future developments. Alternatively, this dissertation conducts a historic analysis of the development of the inter-institutional relationship between the EU and ESA, guided by the question: **To what extent has ESA changed institutionally so far?**

At the same time the case of the inter-institutional relationship between the EU and ESA gives interesting insights into the following question: **"What is the impact of the European integration process on existing institutional actors?"**. Additionally, in line with Doleys (2000), the question arises in **what situations governments can be expected to dominate policy-making**, and under **what conditions supranational actors can be expected to affect change independently** of and even in the face of opposition from governments (Doleys, 2000, p. 546). A starting point to the analysis of when, where, and how supranational institutions are able to implement their own agenda has been provided by Tallberg (2000, 2003). Accordingly, the initial delegated functions both condition the control mechanisms the principal may employ and shape the strategies agents may utilise, when pursuing their agenda (Tallberg, 2000, p. 846). It is thus focussed on the EU's Commission, when considering the case study.

According to Sandholtz & Stone Sweet (1998) institutions are in constant evolution, rarely emerge at once or "change as a single unit" (p. 16). What we perceive as institutional change can be the "normal" process of an institutional evolution. In line with this the question arises: **"Which stages of institutional development can be identified?"**.

Considering the existing literature on institutional change, **which facets of institutional change can be identified with the objective to making different cases comparable? How can different cases of institutional change best be compared?** In line with Shepsle (1989), the selection, survival, adaptation and evolution of institutional practices are analysed (Shepsle, 1989, p. 133). H eritier (2007) has posed

a similar question by asking: Which are the major rational institutionalist theories accounting for institutional change? What are the underlying arguments accounting for change and under which particular conditions are they particularly apt to explain a particular type of institutional change? (Héritier, 2007, p. 9). Following the objective to advance the debate on institutional change by proposing a more structured approach to the analysis of institutional change, I opt for a set of different questions, complementary to the ones identified before:

- What are the sources for institutional change?
- Which factors are most important in describing institutional change?
- Which outcomes of institutional change are possible?

The answers to these questions will provide building stones towards a structured approach to the analysis of institutional change, making different cases of institutional change comparable.

In this analysis institutions are thus understood to be both, the independent and dependent variables as they influence actors in their choices on the one hand, and are shaped by actors on the other hand.

### ***1.1.2 Objectives***

First, given the recurring academic and political debate concerning the future of ESA, an analysis of the historic development of space policy is needed. While several authors have already looked at this topic, there is still a need for a concise up-to-date analysis of the development of space collaboration in Europe from a political science perspective. Besides this, space as a policy domain has not been studied extensively yet.

Secondly, while theories of institutional change analyse catalysts for change of institutions, they do not seem to cover the impact of one institution on another one, but focus on States' influence instead. While the impact on existing institutional actors such as NATO has been the central to some academic discussion (cf. Kagan, 2004), there is still a need for an all-encompassing theoretic framework for the impact of the European integration process on existing institutional actors. This study seeks to provide a building block of such a theory by considering ESA as a case study, analysing when the Commission is able to advance its own agenda. Comparable cases would be the WEU (Bailes, 2011) and the Joint Aviation Authorities (JAA). In order to drive forward the debate about when supranational actors are able to advance their own agenda, this dissertation focuses on the role of the EU's Commission with its right of initiative, when analysing the case of ESA. Bearing in mind that the Commission is not a monolithic actor but composed of different Directorate-Generals (DGs), dealing with space policy, this dissertation analyses the Commission's documents