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Strategic Semiconductors:
An analysis of advocacy coalition influence on the Dutch government's role in EU policy regarding the semiconductor industry.

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Abstract

Semiconductors have become increasingly interwoven with all aspects of modern life. The technology is a crucial part of every modern electronic device. The knowledge and capabilities necessary to make microelectronics have become more and more complex. The Netherlands plays an essential role in the semiconductor industry regarding technology, research, and business. The Dutch multinational ASML is particularly relevant as it has effectively become the only producer of the lithography machines that manufacture advanced semiconductors. The global production of the most advanced semiconductors fully relies on ASML and their machines. This study aimed to gain insight into what factors shape the Dutch government's policy regarding the semiconductor industry in the European and international context, given the leading role certain Dutch corporations hold in the global semiconductor ecosystem. Two cases of EU policy were analysed through application of Advocacy Coalition Framework (ACF) to uncover whether and how coalition efforts shaped the Dutch government's policy position regarding two cases of recent EU policy on the advancement of the European semiconductor industry: the European Chips Act (ECA) and the IPCEI ME/CT. Results show that the Dutch government's policy position in both cases strongly aligns with the interest of corporations, but that there is only a clear causal link between corporate influence and participation in policy in the case of the IPCEI ME/CT.

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Introduction

Semiconductors have become an indispensable part of modern life by being crucial components of nearly every device we use. The highly advanced technology, information and capabilities needed to make semiconductor have gradually gained geopolitical salience. While semiconductors are essential for more day to day items such as phones, laptops and cars, the technology is also relevant for more government specific purposes like the development of and use in military applications (Palmer, 2023). The Netherlands fulfils a unique role in this international ecosystem with corporations and research institutes developing advanced machines that build semiconductors, known as (photo)lithography machines (Tarasov, 2022). Recently, the European Union (EU) has sought to strengthen its own position within the global semiconductor industry after decades of declining relevance and growing dependencies in this ecosystem, mainly to Asia. The Dutch government has expressed support for Europe's new trajectory and accompanying policies to reinvigorate European relevance in the sector. The focus of this study is to examine what factors have influenced the Dutch government position towards EU policy aimed at strengthening the European semiconductor industry, and how actors in the Dutch semiconductor ecosystem played a role. This chapter will start by providing background information on the international semiconductor industry and the Dutch involvement in this, followed by an overview of the study's research aims, objectives and questions centred around assessing the influence of the Dutch semiconductor industry on government policy. The academic and societal relevance will highlight the theory of Advocacy Coalition Framework (ACF) and the societal impact of deep ties between government and corporations. Finally, an outline will detail how this study will proceed in the next chapters.

Background

The semiconductor industry is a deeply linked international ecosystem of corporations and other organisations who have specialised in various stages of the production process. Actors such as China, Japan, South Korea and Taiwan have strategically set out to specialise in large scale production capacity for semiconductors, which has significantly contributed to the fact that Asia is by far the biggest semiconductor market, with 80% of the global semiconductor production share (Gelsinger, 2021; KPMG, 2020; Tweede Kamer, 2021). Around 10% of global semiconductor production currently occurs within Europe, which has seen a significant decline from roughly 44% in 1990 (Gelsinger, 2021). Important European industries such as the automotive industry have since developed dependencies on semiconductor production

elsewhere in the world (Tweede Kamer, 2021). However, what Europe lacks in production capacity it regains in other specialisations, which has made Europe and especially the Netherlands a vital link in the global semiconductor industry.

The Netherlands is home to several corporations and research institutes that have specialised in advanced semiconductor technology and capabilities, specifically lithography technology and the manufacturing of lithography machines which are used to produce semiconductors (KPMG, 2020). ASML, a Dutch multinational, serves as the flagship of Europe's contribution to the ecosystem. The Dutch conglomerate, founded in 1984, has become a global leader in the production of (photo)lithography machines, and has a monopoly in the production of the most advanced lithography machines, known as EUV (extreme ultraviolet) systems (Palmer, 2023; Tarasov, 2022). Industry leading semiconductor manufacturers such as the Taiwan Semiconductor Manufacturing Company (TSMC) and Intel run their operations on ASML machines, and are fully dependent on the company when it comes to their ability to produce the most advanced and smallest chips (Tarasov, 2022). Thus, while industry has already relied on ASML for past growth, to achieve growth in the future the machines produced by ASML are indispensable.

The significance of the Dutch semiconductor industry has placed the Dutch government in a unique position. While it holds dear to its domestic semiconductor ecosystem, the government is increasingly faced with geopolitical challenges due the advanced knowledge and capabilities present in the Netherlands regarding semiconductor technology. These technologies are of interest to other governmental actors, including actor's that could pose threats to the Netherlands or its allies. As such, the Dutch government has recently taken some precautionary measures. Most notably, the Netherlands has sided with U.S. efforts to curtail China's technological advancement vis-à-vis the West and its allies, specifically by issuing export-restrictions on ASML's EUV systems to China (Palmer, 2023). Against the backdrop of these geopolitical developments between the U.S. and China, but also involving Western allies such as South Korea, Japan and Taiwan, the European Union and its Member States have sought to strengthen their own position through new policy aimed at the advancement of the European semiconductor industry (Park, 2023; RVO, 2021b)

Dutch involvement in EU semiconductor policy

The Netherlands has participated in several EU policy programs centred around supporting innovation and developing businesses in the semiconductor industry. This study will specifically examine two recent EU policy cases the Netherlands has been involved in and delve

into the factors that shaped the Dutch government's decision to partake in these policies. These cases are the Important Project of Common European Interest Microelectronics and Communication Technology (IPCEI ME/CT), and the European Chips Act (ECA).

An IPCEI is a European project which is comprised of several national projects by corporations and research institutes that set out to contribute to strategic European goals (RVO, 2021a). The IPCEI ME/CT is aimed at strengthening and securing Europe's position in the global market through investments in innovation for the microelectronics sector to safeguard strategic autonomy, technological sovereignty and competitiveness (RVO, 2021b). The European Chips Act is a Regulation by the European Union aimed to bolster Europe's competitiveness and resilience in semiconductor technologies and applications, and help achieve both the digital and green transition (European Commission, n.d.-a)..

Research aims, objectives and questions.

The aim of this study is to gain insight into what factors shape the Dutch government's policy regarding the semiconductor industry in the European and international context, given the leading role certain Dutch corporations hold in the global semiconductor ecosystem. To this end the study sets out to analyse statements made by the Dutch government and other actors in the parliamentary processes leading up the Dutch government's participation in IPCEI ME/CT and the vote in favour of the European Chips Act. The objective is to discern and group categories of arguments made by various actors into coalitions, and determine how and to what degree different arguments made by coalitions shaped the Dutch government's policy position. To achieve this goal, this study will apply Advocacy Coalition Framework (ACF), originally developed by Paul Sabatier and Hank Jenkins-Smith in the 1980s (Henry et al., 2022). ACF is an extensively applied theoretical framework that has been used to understand and explain the dynamics of the policy process by focusing on actor's beliefs and policy preferences, and grouping these actors into coalitions based on shared views (Henry et al., 2022). The research aims, objectives and surrounding context regarding the global semiconductor ecosystem culminate into the following research question:

How did advocacy coalition efforts influence the Dutch government's role in the policy processes of the European Chips Act and IPCEI ME/CT?

Academic and societal relevance

ACF is typically applied in policy areas characterised by salience of scientific and technical information (Henry et al., 2022). The framework partly originated from a desire to provide theoretical insight into the role of scientific and technical information in the policy process, which was allegedly lacking from policy research in the 1980s (Jenkins-Smith et al., 2018). This study aims to contribute to the academic literature by applying the ACF to the policy area of advanced semiconductor development and production, and shed light on how scientific and technical information in this field informs and shapes policy. Additionally, the study aims to observe and illustrate how the ACF operates in a situation where the case involves the national administrative layer *and* the dual intergovernmental-supranational layer of the European Union.

Regarding societal relevance this study aims to offer transparency and insight into how various actors influence policy through advocacy or lobbying. For observers of Dutch politics, the notion that corporate interests can have considerable influence on policy is illustrated by turmoil around plans to repeal dividend tax in 2018. The Dutch government intended to abolish tax on dividends from shares, which would have created a gap in government tax income of €1.9 billion, in what was essentially an offering to Shell and Unilever which opposed the dividend tax and would relocate their headquarters elsewhere if nothing was to change (Brandsma, 2018; Schreinemachers & Pauw, 2021). Events like these can raise questions and even concerns over transparency regarding ties between government and corporations. This study deals with similarly influential (Dutch) multinationals and intends to contribute to transparency in its disclosure of corporate interests and how they influence the Dutch government's policy.

Data collection and methods of analysis

To answer the research question this study will analyse Dutch parliamentary documents related to semiconductor policy and the policy processes of the European Chips Act and the IPCEI ME/CT in the period 2014-2024. These documents are sourced from two publicly available databases: tweedekamer.nl, and officielebekendmakingen.nl. Relevant documents will subsequently be analysed through content analysis based on a coding scheme derived from ACF theory. This will ultimately create a reconstruction across two cases consisting of coalitions and policy preferences that will be compared with the Dutch government's view on policy.

Outline

This study will proceed by providing a literature review on themes such as advocacy, coalitions, EU dynamics and empirical cases of ACF application. The theory chapter will then proceed to a theoretical framework based on ACF. Next, the research design and methods will be discussed including the operationalisation of the theoretical framework. This is followed by the findings chapter which will describe results indicating substantial overlap in policy views between the Dutch government and corporations from the cases of the European Chips Act and IPCEI ME/CT. Subsequently, in the analysis chapter these results will be examined to highlight themes and patterns related to coalitions and shared policy views. The study concludes by summarising and reflecting on the study, and by providing an answer to the research question.

Theory

Literature review

This thesis aims to answer the question: *How did advocacy coalition efforts influence the Dutch government's role in the policy processes of the European Chips Act and IPCEI ME/CT?* This literature review will explore and synthesise scholars' work on several themes embedded in this research question. First, a general overview of what advocacy or lobbying by interest groups entails and why it occurs will serve as the foundation. This will be followed by an examination of coalitions, how they operate, under what conditions they form, and what determines their lifespan. Then the chapter discusses dynamics of lobbying that are specific to the institutional structure of the European Union. Finally, with the theory of Advocacy Coalition Framework this literature review will explore empirical findings on the relation between coalitions and policy change. The literature review will then be followed by the theoretical framework based on ACF.

Advocacy by interest groups and actors.

In general terms, advocacy or lobbying consists of efforts by interest groups or individual actors aimed at influencing public policy in such a way to align more with the interests these actors seek to protect. Interest groups serve a political mission, which is to defend the interests or policy views of their constituency as well as possible (Beyers & De Bruycker, 2018). As such they are deemed successful when the groups realise benefits for their members and constituents (Beyers & Kerremans, 2007). Engaging in advocacy for certain interests is not limited to dedicated interest groups but can be employed by individual actors such as businesses as well (Bouwen, 2004). Information is a key part of advocacy strategies. The ability for interest groups or other actors to manage and control the policy process can be increased by being informed on substantive and tactical issues in the policy field (Carpenter et al., 2003). Hence, information is a key part of advocacy strategies. Information possessed by actors seeking to influence policy is valuable in the sense that it has relevance for the content of policy. However, these actors also use (technical) information and expertise as a resource and bargaining tool to exchange for access to influential venues and relevant public officials in the policy process (Bouwen, 2004; Bunea et al., 2022; Nelson & Yackee, 2012).

Managing relationships with policymakers but also the wider public and the interest groups' own constituency is a key part of ultimately having substantive influence on policy.

This means that actors that engage in advocacy must put effort in establishing strategic relationships in addition to maintaining valuable and relevant information for the policy field in question. Berkhout (2013) identifies several key activities interest groups engage in. First, interest groups can offer policymakers the compliance of their constituents. However, this depends on how much control or legitimacy the organisation has within its constituency, ranging from formal powers to informal persuasion of members (Berkhout, 2013). Fundamentally, these organisations can always offer policymakers some degree of information on their constituents' attitudes towards a policy. Second, interest groups can also engage in producing and publicising policy-relevant material such as policy statements and reports. This goes hand in hand with strategies to shape popular rhetoric through use of news media by providing outlets with relevant information and arguments that support the organisation's interests (Berkhout, 2013). Third, interest groups allocate resources to maintain the formal and informal pathways through which access has already been achieved in order to preserve favourable policies (Berkhout, 2013). The author emphasises that access forms the first step towards any substantive influence on policy. Lastly, another key aspect is maintaining a positive reputation of the interests represented by the organisation. To this effect, interest groups engage in monitoring policies and assessing upcoming legislation, either to transform this information for the news media or relay it to its constituency (Berkhout, 2013).

Advocacy coalitions

The motives for actors to engage in advocacy coalitions tend to be built on assessments on the costs and benefits of allocating resources to a coalition and the potential impact of what a collective stance on certain policy aspects could signal to policymakers. According to Nelson & Yackee (2012) lobbying in coalitions is any coordinated effort by several actors to lobby government with the aim of advancing a shared advocacy agenda. While a definition of coalition lobbying appears fairly straightforward, understanding the various motives behind forming coalitions is more complex. Hojnacki (1997) finds that whether actors choose to work individually or together with other organised interests is based on their assessment of which alternative is most likely to increase their chances of success. The author poses that the costs of joining an alliance likely outweigh the benefits when an actor has a narrow interest in an issue, and when the potential allies signal that they have little to add to a collective advocacy campaign. However, the benefits of forming an alliance can be substantial in under certain conditions. Namely, (i) when actors that are perceived as influential and pivotal to success are members of the alliance, (ii) when groups represent strong symbolic interests or social causes,

or (iii) when there is a strong organised opposition to the interests of the actor(s) (Hojnacki, 1997). Mahoney (2007) distils that coalitions can be beneficial to interest groups in a political fight through two ways: (a) the coalition can signal to policymakers that a policy position has the support of a large and diverse group of interests; and (b) the coalition can provide a framework for more efficient use or coordination of resources. While not exhaustive, for the purposes of understanding why actors would consider forming or joining a coalition, the literature does ultimately point to actors weighing costs and benefits against each other. Coalition membership is intentional and serves the individual interests of the actor while simultaneously aiding the coalitions collective agenda, which might consist of broader and less specific policy positions.

Once a coalition has been formed, internal power dynamics can influence the overall policy direction of the collective and determine the processes for giving other prospective members access to the coalition. Nelson & Yackee (2012) suggest the notion of 'core lobbyists' as insiders to government, professionally attached to the policy in question, and frequent and knowledgeable participants within the policy process. The authors pose that these core lobbyists are the likely leaders of coalition activity. For each policy related to their interests core lobbyists will decide whether they desire to lobby together and determine if they want to keep their coalition small or expand its size (Nelson & Yackee, 2012). According to the authors, core lobbyists might keep coalitions small when they are lobbying for a non-policy related reason such as reputational gains, or when they wish to not share the potential policy gains across numerous parties. These reasons would predominantly arise when policy gains or losses are deemed to be marginal (Nelson & Yackee, 2012). Conversely, the authors claim core lobbyists would strategically choose to form larger coalitions when policy gains or a threat outweigh the costs of forming expanded coalitions. Again, as mentioned above, the authors emphasise the potential policy influence of a signal to policymakers that a larger coalition could provide. In order to attract or recruit a new ally, the alliance has to demonstrate that the coalition stands a greater chance at success than the potential ally would acting alone (Hojnacki, 1997). Mahoney & Baumgartner (2004) argue that the threat of impending policy changes that would harm the interests of an organisation might make it easier to recruit actors to join a coalition that aims to protect the status quo. This highlights that it is also key to recognise that the result of a successful lobbying campaign does not always mean a change in policy, it could very well mean maintaining the status quo if that is how the interests of the coalition align.

Lastly, there is a difference between longstanding strategic coalitions on one hand and shorter single-purpose built *ad-hoc* coalitions on the other. Rozbicka (2013) explains that the

purpose of these ad-hoc coalitions is to work on a single issue and dissolve when the issue is resolved or when coalition partners see no more use in continuing efforts. While longstanding coalitions are strategic and focus on long-term goals, ad-hoc coalitions are tactical and purpose built around a short term topic (Rozbicka, 2013; Szarka, 2010). Ad-hoc coalitions are deemed more flexible, offer less loss of autonomy for members, have shorter lines of communication and more informal decision-making processes (Pijnenburg, 1998). Additionally temporary ad-hoc coalitions might be more approporiate for broad issues that cut across previously established policy boundaries (Mahoney & Baumgartner, 2004). The authors deem longstanding coalitions as more fitting with instances where there are regular participants in a well-defined issue-niche, with consensus on goals among the coalition's members. At the same time, ad-hoc coalitions do have downsides compared to longstanding coalitions. Flexibility and less formalisation could also result in more instability and fragility, meaning that there is less of a threshold preventing members from opting-out after joining initially (Pijnenburg, 1998). Another issue identified by Pijnenburg (1998) is that access may be limited, since the short-term nature of ad-hoc coalition inhibits the ability to develop a network of firm and close relationships with policymakers over time to gain 'insider' status. Thus this section has highlighted while long standing coalitions has benefits regarding stability and deepening relationships, ad-hoc coalitions bring benefits related to flexibility and faster internal processes.

Lobbying strategies in the multi-level nature of the EU

Some specific characteristics of the European Union play a role in how interest groups engage with policymakers and how this differs from other coalition lobbying activities across the world. These differences regarding coalition lobbying are mainly a product of the institutional composition of the EU. Mahoney (2007) finds that EU interest groups or advocates form coalitions at a rate far lower than their counterparts in the United States (U.S.). She also concludes that EU policymakers are less susceptible to lobbying tactics signalling the support of large parts of the electorate, which also makes putting resources into building coalitions less attractive. According to the author, democratic accountability and how it differs between the EU and U.S. plays a role in coalition formation and other variance in coalition lobbying across these two systems. Additionally, she discusses that while hard to prove categorically, a considerable amount of evidence suggests that policymakers are responsive to wealthy interests that can aid in funding re-election campaigns. However, because direct elections and thus funding of policymakers is largely absent in the EU context (apart from the direct elections of the European Parliament) the EU is free of this biasing force (Mahoney, 2007).

As is the case with interest groups in general, the resource exchange between access and information remains a key part of lobbying in the EU. Bouwen (2004) coins the term 'access goods' and explains that in return for access to the EU agenda-setting and decision-making process, EU institutions demand certain resources from interest groups for the proper functioning of these institutions. These institutions need information from the domestic level such as technical advice, information about political support, possible compliance problems etc. (Beyers & Kerremans, 2007). Bouwen (2004) identifies three kinds of information in the context of the EU: Expert Knowledge (EK); Information about the European Encompassing Interest (IEEI); and Information about the Domestic Encompassing Interest (IDEI). EK refers to expertise and technical know-how required from the private sector to: (i) understand the market, (ii) and effectively form EU legislation in a particular policy area. IEEI and IDEI both concern information that relates to the aggregated needs and interests of a sector, the former regarding the EU internal market and the latter the domestic market (Beyers & Kerremans, 2007).

Discussions and findings on how domestic contexts influence EU policy offer varied perspectives. A pattern that arises is that domestic actors primarily rely on ties with domestic public officials and supplement this with relations with EU policymakers. However, findings show that there is so much variety in practice regarding domestic pre-negotiations of EU policy (Schneider et al., 2007). Domestic political players at the EU, ministers and other public officials in the Council of Ministers, want to stay in touch with domestic actors (Beyers & Kerremans, 2007). In fact, Beyers & Kerremans (2007) explain that by being active on European issues these actors strengthen their domestic position as it enables them to provide crucial information (on EU-wide matters) to domestic public officials. With respect to businesses Bouwen (2004) discusses 'national champions' as large firms who have a considerable domestic market share with the ability to provide information on the domestic encompassing interest. However, strategies of large firms can also be regional, European or global (Bouwen, 2004). The author explains that a close working relationship between private interests and state administrative elites domestically might undermine or negate incentives of private interests to act directly at the European level. This ties into how EU Member States in the Council of Ministers primarily have a strong demand for information about the domestic encompassing interest to decide on the state's priorities for negotiations in this intergovernmental institution involved in the EU legislative procedure (Bouwen, 2004). Since influence on legislation moves through the national governments as Member States, there appears to be less of a need to lobby at the level of certain EU institutions directly. This makes

lobbying in the EU different to lobbying at the national level, leading actors seeking influence in policy to search for the avenues that are most effective. Coen (2007) describes the EU's intergovernmental institutions, where the Member States decide, as the unquestionable locus of power in the EU legislative process. However, the author goes on to explain that there is only limited direct lobbying activity at the EU level via the Council Secretariat, the Committee of Permanent Representatives (COREPER) or Permanent Representations. Regarding pre-negotiations (Schneider et al., 2007) find that states play the largest role on the substantive elements of EU policy. In an attempt to understand why there would only be limited influence by interest groups at the EU level Grossman (2004) argues that interest groups tend to strengthen ties with national governments when faced with uncertainty and limited knowledge on how to defend interests at the EU level. Thus it appears that while different strategies are possible for advocacy within the EU multi-level structure, actors tend to rely on their direct relations with the Member State, typically due to unfamiliarity or uncertainty regarding how to conduct lobbying at the EU level.

Lastly, it must be noted that we have primarily discussed findings on influence on EU policy through intergovernmental institutions because this thesis focuses on the role of Member States. This might have created an image that lobbying in the EU overall is limited, this is not the case as EU policy officials in the European Commission and European Parliament meet with thousands of lobbyists each day with varying degrees of efficacy and influence on policy (Coen, 2007). However, for the sake of a succinct discussion on the relevant matters this falls beyond the scope of this section.

Advocacy coalitions and Policy Change

The sections so far have discussed various elements necessary to understand advocacy and coalitions in the context of this thesis. This section will proceed by connecting advocacy coalitions with policy change and discuss empirical applications of Advocacy Coalition Framework (ACF) in various policy contexts that shed light on this relationship.

In their investigation of coalition formation regarding climate policy in news media in the United States Kukkonen et al. (2017) employ the ACF, which they describe as "one of the most prominent theoretical frameworks for examining the features of policy processes and change" (p. 713). The ACF proclaims that actors group into several advocacy coalitions based on the shared beliefs regarding policy and that these coalitions have a crucial role in influencing policy outcomes (Kukkonen et al., 2017). The authors use ACF to identify advocacy coalitions and find that beliefs on the reality of climate change, the importance of ecology over economy

and desirability of governmental regulation divide actors into three advocacy coalitions: the economy, ecology and science coalitions. Another finding is that preferences for certain policy instruments can both unite and divide opposing coalitions. In this case the policy preference for cap and trade was a shared belief amongst all coalitions (Kukkonen et al., 2017). Although these authors primarily focused on coalitions, other scholars have used ACF with more emphasis on policy outcomes. Szarka's (2010) finds evidence for patterns of coalitions and stability in the composition of allies and opponents over a period of at least a decade in his analysis of the EU's wind power industry. In this study one of the coalitions' policy preferences for predetermined pricing for energy generation and transferrable green certificates as new policy instruments, eventually resulted in policymakers adopting these policy instruments within the field of renewable energy (Rozbicka, 2013; Szarka, 2010).

While ACF can be applied to focus on policy outcomes it also allows for examining a policy decision making process over time as demonstrated by Lantis (2019) in an analysis of how advocacy coalitions shaped United States' policy towards the Joint Comprehensive Plan of Action (JCPOA) to curtail Iran's nuclear program in return for sanctions relief. The author analyses two time periods as separate cases, a period of increased engagement and diplomacy (2011-17), and one of increased challenges to the JCPOA (2017-19). Lantis (2019) finds that there is a dominant and a minority coalition in each case, and that a pro-diplomacy as the dominant coalition remained in place despite President Trump's view on the deal in the second time period, which placed the president in the opposing minority coalition while most of government remained in the pro-diplomacy dominant coalition. Ultimately the JCPOA policy persisted during the Trump-administration despite challenges from the minority coalition aiming to dismantle the agreement (Lantis, 2019). The time period examined through ACF can be considerably broader, as demonstrated by Li & Wong (2020) in their application of the framework on China's birth control policy between 1980 and 2015. The study finds that policy remained stable from 1980 to 2013 despite internal and external changes or perturbations to what ACF describes as the policy subsystem (Li & Wong, 2020). The author attribute this stability to the dominant coalitions mobilisation of resources to defend its core beliefs regarding policy. The study goes on to explain that policy changes between 2013 and 2015 were a result of internal and external changes and the dominant coalitions repositioning its policy view through policy-oriented learning as a result of advocacy by two expert-led minority coalitions.

The discussed studies show an array of relations between advocacy coalitions and how they manifest themselves in various policy cases. There appears to be no clear consensus in how influential or effective advocacy coalitions are in achieving their desired policy outcomes

over time. It appears to vary on the policy area and case at hand. Nonetheless, the ACF presents itself in these studies a versatile framework and tool to identify coalitions and assess their influence on policy change. Based on these prerequisites and demonstrated successful application, this study will also employ ACF in the theoretical framework.

Theoretical Framework: Advocacy Coalition Framework

This section will lay out and detail the theoretical framework of this thesis. First, the fundamentals of Advocacy Coalition Framework (ACF) will be explained, followed by an explanation of its key components, finally concluded with theoretical expectations based on theory discussed so far.

The ACF was first developed by Sabatier and Jenkins-Smith in the 1980's (Henry et al., 2022) According to Sabatier (1998) the ACF emerged out of: (a) a search for an alternative perspective to theories that used concepts of policy stages within the policy process, (b) a desire to incorporate the best features of 'top-down' and 'bottom-up' approaches to policy implementation, and (c) a commitment to feature the role of technical information more prominently in theories on the policy process. ACF's objective was to provide a coherent understanding of the major factors and processes affecting the policy process – including problem definition, policy formulation, implementation and revision in a specific policy domain – over periods of a decade or more (Sabatier, 1998)

ACF is based on five premises, which have been derived from literature on policy implementation and the role of technical information in public policy (Sabatier, 1998). First, according to the author theories on policy processes need to address the role that technical information plays regarding the scale and facets of the problem, its causes, and the probable (distributive) impacts. Second, Sabatier (1998) asserts that in order to understand the process of policy change and to get a reasonable assessment of policy impacts a time perspective of at least a decade is required. Third, the most useful unit of analysis for understanding the overall policy process is not any specific governmental organisation or program but rather a policy subsystem or domain (Sabatier & Weible, 2007). Fourth, in practically all domains policy subsystems will involve actors from several levels of government within a country and, increasingly, from international organisations and other countries (Sabatier, 1998). Fifth, Public policies/programs contain implicit theories about how to achieve their objectives and these theories are conceptually similar to belief systems (Sabatier, 1998). These implicit theories and belief systems involve value priorities, perceptions of important causal relationships, perceptions of world states (including the magnitude of the problem), and perceptions/assumptions concerning the efficacy of various policy instruments (Sabatier, 1998, p. 99). The author proclaim that the ACF should apply well to the complex sets of relationships within the European Union, as European institutions have increasingly displaced national

institutions as the principal centres of policy change. However, national institutions remain important both as a source of policy ideas incorporated in EU policy and for the implementation of these policies (Sabatier, 1998).

The ACF is deemed applicable in this thesis for two main reasons: (a) technical information plays a significant role in the semiconductor industry, and (b) this framework is equipped to capture relevant information on various actors in both the national and European setting. The following sections will elaborate further on the ACF's key concepts such as policy subsystems and belief systems introduced here briefly, constraints and resources of subsystem actors, and policy-oriented learning and policy change.

Policy subsystems: Actors and coalitions

The concept of a subsystem within the ACF focuses on a group of people and/or organisations interacting regularly over time periods of a decade or more to influence policy formulation and implementation within a specific policy area (Sabatier & Weible, 2007). Key is here that the ACF focuses on mature subsystems that have existed for a decade or more, and not nascent subsystems, which are still in the process of forming (Jenkins-Smith et al., 2018). Sabatier (1998, pp. 112-114) provides us with the necessary and sufficient criteria for a mature policy subsystem: (i) participants view themselves as a semi-autonomous community who share a domain of expertise; (ii) they seek to influence public policy within the domain over a fairly long period, i.e. seven to ten years; (iii) There are specialised subunits within agencies at all relevant levels of government to deal with the topic; and (iv) there are interest groups, or specialised subunits within interest groups which regard the policy subsystem as a major policy topic. Within these subsystems, the ACF assumes that actors can be aggregated into a number (usually one to four) of 'advocacy coalitions', each composed of actors from various governmental and private organisations who both (a) share a set of normative and causal beliefs and (b) engage in a non-trivial degree of co-ordinated activity over time (Sabatier, 1998, p. 103). These coalitions do not only include interest group leaders but also public officials from agencies, legislators from various levels of government, applied researchers, and possibly journalists (Sabatier, 1998).

The author notes that for policy domains that are intergovernmental in scope, issues arise as to whether the various actors at different levels are part of the same policy subsystem or separate subsystems differentiated by territorial level. Sabatier (1998) argues that the choice should primarily be based on empirical considerations regarding (a) the degree of legal autonomy of each level and (b) actor interactions among levels. The partial focus of this study,

the European Union, is specifically mentioned by the author in the context of cases where one would envisage multiple nested subsystems representing different territorial units. Nevertheless, since this study primarily focuses on interactions within advocacy coalitions at the domestic level of the Netherlands as an EU Member State, the actors will likely fall within the same subsystem.

Policy subsystems: Belief systems

According to the ACF each coalition has a shared belief system which is organised into a hierarchical, tripartite structure, these are: (i) the deep core, (ii) policy core beliefs, and (iii) secondary aspects (Henry et al., 2022). The *deep core beliefs* comprise the highest/broadest level and include fundamental normative beliefs (Henry et al., 2022). Sabatier & Weible (2007) describe these as fundamental beliefs that are not only related to the policy at hand but instead operate across all policy domains, examples include beliefs such as the valuation of individual freedom over social equality or the political and economic left/right scale. *Policy core beliefs* are normative and empirical beliefs that are bound by the scope and topic of the policy subsystem (Jenkins-Smith et al., 2018). According to Sabatier (1998) these include: (i) fundamental value priorities within the case at hand, (ii) basic perceptions concerning the severity of the problem and its primary causes, and (iii) strategies for realising core values within the subsystem, such as the level of government most appropriate to deal with the problem, and the basic policy instruments to be used. A key assumption embedded in ACF is that policy core beliefs are the fundamental 'glue' of coalitions, or put differently this category of beliefs is the most crucial one and closely associated with co-ordinated behaviour (Henry et al., 2022). Policy core beliefs have three main characteristics: (a) they are subsystem-wide in scope, (b) are highly salient, and (c) have been the source of long-term disagreement (Sabatier & Weible, 2007). Lastly, *secondary aspects* comprise a larger set of narrower beliefs concerning the seriousness of the problem or the relative importance of various causal factors in specific locales, policy preferences regarding desirable regulations or budgetary allocations, the design of specific institutions, and the evaluations of various actors' performance (Sabatier, 1998, p. 104). Overall, these three levels of beliefs allow for a structured approach to categorising actors' policy views and preferences

Constraints and resources of subsystem actors

Within the ACF here are two sets of exogenous variables that affect the constraints and opportunities of actors in the policy subsystem: (i) a set of stable variables known as *Relatively Stable Parameters*, and (ii) a set of more dynamic variables named *External System Events* (Jenkins-Smith et al., 2018). The relatively stable parameters consist of four variables: (i) Basic attributes of the problem area and distribution of natural resources, (ii) fundamental sociocultural values and social structure, and (iv) the basic constitutional structure (Jenkins-Smith et al., 2018, p. 143). Key for this set of variables is that they are extremely difficult to change and thus seldom the subject of coalition strategies. However, these variables do affect actors' behaviour in the sense that they guide what strategies coalitions will explore depending on these fundamental parameters. For example, strategies in systems where state powers are separated and enacted laws are difficult to overturn will be different to Westminster-style systems where the majority can change any law whenever they want (Sabatier, 1998)

The external system events set of variables is more likely to change over the course of around a decade and the ACF argues that these variables are a critical prerequisite to major policy change (Jenkins-Smith et al., 2018). These variables are: (1) major socio-economic changes, such as economic dislocations or the rise of social movements; (2) changes in public opinion, particularly regarding governmental spending priorities and the relative seriousness of various problems; (3) changes in the systemic governing coalition, including 'critical' and/or 'realigning elections'; and (4) policy decisions and impacts from other subsystems (Sabatier & Weible, 2007, p. 191).

To conclude on the role of these sets of variables external to the policy subsystem, (Sabatier, 1998) hypothesises that significant changes external to the subsystem are a necessary, but not sufficient, cause of change in the policy core attributes of a governmental program (p. 118). These significant changes provide an opportunity for major policy change, but it is up to actors, specifically those not in the dominant coalition, to seize this opportunity in a skilful manner to realise these major changes to policy (Sabatier, 1998).

Policy-oriented learning and policy change

The ACF identifies four conceptual pathways to policy change: (i) external shocks, (ii) internal shocks, (iii) policy-oriented learning, and (iv) negotiated agreement (Jenkins-Smith et al., 2018). *External shocks* include events that occur outside of the control of actors that operate within the subsystem and involve change in socioeconomic conditions, regime change, outputs from other subsystems and extreme events such as crises and disasters (Jenkins-Smith et al.,

2018). According to the authors, these external events increase the chance of major policy change occurring but need one or more additional enabling factors to bring about policy change. Mobilisation by minority coalitions to exploit the event is such a key factor (Jenkins-Smith et al., 2018). *Internal shocks* or events pertain to: (i) events that occur inside territorial boundaries and/or the topical area of a policy subsystem, and (ii) are more likely to affected by subsystem actors (Jenkins-Smith et al., 2018). *Policy-oriented learning* refers to enduring changes in thought or intended behaviour resulting from experience and/or new information, leading to the attainment or revision of policy objectives (Sabatier, 1998). The fourth and final pathway to policy change is negotiated agreement, which refers to a situation in which previously warring parties agree to come to a joint agreement to further policy in a manner beneficial to both (Jenkins-Smith et al., 2018; Sabatier & Weible, 2007)

Determining the magnitude of policy change is a crucial element also covered by the ACF. The framework distinguishes between minor and major policy change. Minor policy change relates to alterations in the secondary aspects of a governmental program, whereas major policy change relates to alterations in the policy core aspects (Sabatier, 1998). Changes in the policy core of governmental programs do not happen frequently, changes mostly occur within the secondary aspects (Sabatier, 1998).

ACF posits that, while policy-oriented learning is an important aspect of policy change and can often alter secondary aspects of a coalition's belief system, to facilitate major policy change the occurrence of external or internal shocks in relation to the subsystem is a necessary condition. Significant changes in the relevant socio-economic conditions and system-wide governing coalition could constitute such a disturbance. Typically, one of these pathways is expected to precede any instance of policy change, and these pathways can occur simultaneously and interact with each other (Henry et al., 2022).

Synthesising ACF and literature review

Now that the theoretical framework regarding ACF has been discussed this section will connect this theory with elements discussed in the literature review. This will serve as the basis for the theoretical expectations that will be revisited in the analysis.

ACF focuses on mature subsystems and observes these over a period of at least a decade. Several aspects mentioned in the literature review could be coupled with this. Given the thesis aims, the notions of core lobbyists and national champions appear relevant regarding ACF's conceptual view of how actors seek to gain influence. To be more explicit, in the Dutch semiconductor industry actors such as ASML could be categorised as national champions given

their global industry relevance and prominent position in the policy subsystem. These key corporations and institutes could also serve as core lobbyists to be leaders of a coalition effort within the subsystem. The ACF also mentions dominant and minority coalitions. Given the contextual background of this thesis, and the position of the Dutch semiconductor industry it appears more likely that they belong to a dominant coalition within policy subsystems regarding the semiconductor industry.

Following Bouwen's (2004) discussion of the types of information actors will provide to policymakers in the context of the EU questions can be raised on what actors from the Dutch semiconductor industry will try to offer, and what they would want in return. It appears that the international nature of the operations conducted by Dutch corporations in the industry provide them with expertise and technical know-how as well as information that relates to the aggregated needs and interests of a sector, regarding the EU internal market, domestic market and even globally. What remains is what these corporations want in return. Given the context of the global semiconductor industry and the unique Dutch position of Dutch corporations, economic measures aimed at growth to support the industry seem likely as what the corporations and broader industry would seek to achieve after gaining access through provision of sector-specific information.

Theoretical expectations

Based on the ACF coupled with the synthesis of the literature review, the following theoretical expectations have been formulated with respect to the research question, research aims, and context of the Dutch semiconductor industry.

1. Dutch corporations active in the semiconductor industry are part of the dominant coalition within the policy subsystem.
2. Dutch corporations active in the semiconductor industry as part of the dominant coalitions are the main drivers of policy change.
3. The dominant coalition's beliefs system centre around economic arguments in favour of supporting corporations in the semiconductor industry.

Research design

This chapter details the methodological decisions and research design of this study. This research aims to answer the question: *How did advocacy coalition efforts influence the Dutch government's role in the policy processes of the European Chips Act and IPCEI ME/CT?*

In essence, the process involved three stages: (i) identify the policy beliefs held by the Dutch government and other actors directly involved in the policy process, (ii) determine whether sets of beliefs can be categorised into different coalitions, along with corresponding actors, (iii) examine the policy process and analyse how these sets of beliefs held by coalitions align with the policy outcomes. The following sections firstly discuss and justify the methodological choices made regarding research design, approach, strategy, sampling methods, data collection & analysis, and the time horizon. Subsequently, reliability, validity and limitations of this study will be discussed. Lastly, the theoretical framework of the ACF will be operationalised.

Approach

This research predominantly employs an interpretivist research philosophy. That is to say that, in accordance with the research aims, this philosophy aims to understand how and why certain actors and institutions operate in the way they do. In this philosophical tradition this is done through first gaining a deeper understanding of the distinctive cultural character of their beliefs, attitudes, practices, and how these have been generated and developed over time (Hammersley, 2012). This is relevant for this study given that it seeks to distill and interpret views held by various actors.

The approach of qualitative research aligns with this philosophy as it is characterised by certain features relevant to this study's aims. These features include that (a) qualitative research uses text as empirical material, (b) it starts from the notion of the social construction of realities under study, and (c) is interested in the perspectives of participants regarding practices and knowledge around the topic the study is examining (Flick, 2018). Interpreting textual and written data lies at the core of this approach as Denzin & Lincoln (2018) note that qualitative research consists of interpretive, material practices that make the world visible. These features align with the research aims as this study aims to interpret written legislation, statements by actors, and other textual data to provide an answer to the research question.

Case study and case selection

Through use of a hybrid within- and cross-case study with case selection following the principle of *most different system design* (MDS) the study aims to explore two cases of EU policy on the advancement of the European semiconductor industry: (i) the European Chips Act (ECA), and (ii) the IPCEI Microelectronics and Communication Technology (ME/CT). Case studies aim to understand and interpret a spatially and temporally bounded set of events and allow for observation of the theory at play (Curini & Franzese, 2020). Specifically, this study engages in a disciplined-configurative case study, as put forward by Eckstein (2009), since interpretations of the case are derived through application of theory, with theory in this study being advocacy coalition framework. Cross-case inference is combined with within-case evidence to (i) improve the validity and reliability of measurement and operationalisation, (ii) complement cross-case patterns with causal mechanisms uncovered using within-case evidence, and (iii) address alternative explanations in the within-case stage when cross-case comparison offers limited explanating power (Toshkov, 2016)

The cases of policy selected in this study are the European Chips Act (ECA) and the IPCEI ME/CT. The European Chips Act is a Regulation by the European Union aimed to bolster Europe's competitiveness and resilience in semiconductor technologies and applications, and help achieve both the digital and green transition (European Commission, n.d.-a). The Regulation will mobilise upwards of €43 billion of public and private investments until 2030 and set up measures to act in case of future supply chain disruptions together with Member States and international partners (European Commission, n.d.-a). The ECA is comprised of three pillars: (i) The Chips for Europe Initiative, which aims to support technological capacity building and innovation by bridging the gap between advanced research and industrial exploitation; (ii) Security of supply and resilience, which aims to attract investment and increase production capacities in manufacturing by incentivizing corporations to set up facilities within the EU; and (iii) Monitoring and crisis response, which establishes a coordination mechanism between Member States and the European Commission to bolster collaboration on monitoring and a crisis responses in relation to the semiconductor industry (European Commission, 2024c, 2024b, 2024a). A key goal of the ECA is to increase Europe's share in global semiconductor production up to at least 20% by 2030 (Ministry of Economic Affairs and Climate, 2022). The Dutch government has expressed overall support for the policy throughout the policy development process and was part of the unanimous vote in favour of the establishment of the European Chips Act in July of 2023 (Council of the EU, 2023; Ministry of Economic Affairs and Climate, 2022)

The Important Projects of Common European Interest (IPCEI) are a collection of policies approved by the European Commission aimed at sustainable economic growth, jobs, competitiveness and resilience for industry and the economy in the Union and strengthen its open strategic autonomy, by enabling breakthrough innovation and infrastructure projects through cross-border cooperation and with positive spill-over effects on the internal market (European Commission, 2021a). To achieve this the European Commission, after their approval of the IPCEI project, permits governments to grant more state aid than is typically allowed by state aid rules within the EU, following an exemption clause in Article 107(3)(b) of the Treaty on the Functioning of the European Union (TFEU) (European Commission, 2021b). The initiative to participate in an IPCEI lies with the Member State, meaning they are free to opt-in or out, which also depends on whether domestic firms want to participate. With the IPCEI ME/CT, which is the specifc focus of this study, the Member States intend to grant aid to undertakings that will participate in developing an innovative and sustainable microelectronics and communication technologies value chain that goes substantially beyond the state-of-the-art by enabling the scaling-up of advanced technologies (European Commission, 2023). In May of 2023 the European Commission approved 68 projects within this IPCEI amounting up to €8.1 billion in state aid across the EU. This included five Dutch projects submitted by ASML, Nearfield Instruments, NXP and Thermo Fisher to which the Dutch government had allocated €230 million in public investments (Ministry of Economic Affairs and Climate, 2023).

The two cases, although operating in the same policy area, have been selected through application of *most different system design* (MDS). MDS operates on the principle that the cases selected are as different as possible on the theoretical variables relevant to the study, but nonetheless share the same outcome (Toshkov, 2016). What results is that there is a variable to be discovered, or main explanatory variable (MEV) which explains why such different cases still have the same outcome (Toshkov, 2016). If we relate this to this study, the shared outcome of the cases is that the Dutch government adopted both these policies and I expect that advocacy coalition efforts serve as the MEV. To elaborate on the differences between the cases, I argue that the cases of the ECA and IPCEI ME/CT differ in two key aspects: (i) difference in legislative nature and procedure, and (ii) difference in scope. Regarding legislative nature, the ECA is a Regulation which has progressed through the EU's ordinary legislative procedure from the Commission to the Council and Parliament. The IPCEI ME/CT is quite different in the sense that it is a policy that only involves the Commission and the Member States willing to participate. This also shows that while the ECA as a Regulation applies to all Member States,

the IPCEI only involves participating Member States. With respect to scope, the ECA is substantively broader given the three pillars that form the framework, whereas the IPCEI is more narrowly aimed at facilitating state aid in accordance with Article 107(3)(b) of the Treaty on the Functioning of the European Union (TFEU). It is these two key different variables that have ultimately led to the selection of the two cases.

Data collection and analysis

The method of data collection is document analysis. Documents are literary, textual or visual devices that enable information to be shared and 'stories' to be presented (Coffey, 2014). They are produced, shared and used in socially organised ways, making them versions of reality which conform to various kinds of convention, and created with a particular purpose in mind (Coffey, 2014). This notion emphasises that while documents provide useful information, the contents are not to be deemed the absolute or only truth. With this study the aim is in large part to uncover the perceptions on reality actors hold and proclaim, and less so what the actual reality is. To this effect, documents collected are government documents (both Dutch and EU), legislation, (corporate) position papers, reports, and transcribed account of parliamentary commission hearings. With regard to the time horizon the ACF prescribes observing policy change over a time period of at least 10 years (Sabatier & Weible, 2007). This study will adhere to this time frame and collect data over the period 2014 to 2024. Both cases of policy were adopted by the Dutch government towards the end of this time frame (European Commission, n.d., 2023). While longer time frames are possible within ACF application, given that the semiconductor industry as a policy field is characterised by rapid technological development, most relevant data for the specific research aims is expected to exist within the past decade.

Collected data is analysed using content analysis. Content analysis is a method for systematically describing the meaning of qualitative data by assigning successive parts of the material to the categories of a coding frame (Schreier, 2014). Content analysis was deemed applicable for this study for two main reasons. First, content analysis can be employed for a wide range of materials, visual or verbal, self-generated, and most relevant to our case sampled material from sources such as websites, parliamentary databases etc. (Schreier, 2014). Second, Schreier (2014) explains that this method of data analysis allows for varying portions of concept-driven and data-driven categories within the coding frame. This is particularly relevant for this study given that the aim is to analyse the cases through the theoretical framework of ACF, which can be done through creating a coding frame built around ACF. In a review of studies that have applied ACF Nohrstedt & Olofsson (2016) note that nearly half of the

applications used unspecified methods and drew upon unsystematic collection and analysis of existing documents and reports (p. 27). Through qualitative content analysis and a robust coding frame based on ACF this study aims to offer a systematic analysis of the collected data.

Data collection by means of document analysis was performed through the publicly available Dutch parliamentary and government databases *tweedekamer.nl* and *officielebekendmakingen.nl*. In the database *tweedekamer.nl* search terms used were "micro-elektronica" and "chips act" which respectively produced 96 and 181 results for the period from January 1, 2014 and the date of data collection May 15, 2024. The term "micro-elektronica" was used without "IPCEI" because that would have included documents on other IPCEI projects not related to microelectronics. This produced a total 277 results, of which 156 were selected on the relevance of their contents. The main criteria at this stage was whether the document only features a single mention of the term, or featured substantive content of a sentence or more, those in accordance with the latter were selected. The IPCEI and Chips Act are both recent policies. This meant that most documents originated from 2021 onwards, which meant there was quite a gap in information if the 2014-2024 time frame was to be adhered to following ACF principles of observing at least a decade. For that reason, a second round of data collection occurred. In the database *officielebekendmakingen.nl* search terms used were "halfgeleider" and "semiconductor" which produced a total of 98 results for the period from January 1, 2014 to January 1, 2021. Of these 98 results a total of 28 documents were selected after assessing relevance and removing duplicates from the first round of searches. Additionally, use of the terms "micro-elektronica" and "european chips act" in this database produced 7 new non-duplicate documents after assessment of relevance. This amounts to a total of 191 documents, which was brought back to 179 after removing documents after January 1, 2024 given that the policy processes for both cases ended in 2023. This insight was gathered during the data collection process. The qualitative data research software ATLAS.ti was used to organise documents, create quotations and engage in coding. 17 documents featured no additional information, leading to 162 documents analysed to produce 547 quotations. The coded quotations were subsequently analysed through content analysis to extract the information needed for analysis and to answer the research question.

Reliability and validity

This study preserves reliability through sourcing data from publicly available data from government publication databases. This study aims to be transparant in data collection and analysis by providing a detailed account of these processes. The use of a 10-year time frame

helps to ensure that findings represent developments and patterns accordingly without risks of drawing conclusions on a snapshot in time. The use of a coding scheme with specific definitions aims to aid in consistency and stability of measurement.

Validity is sustained through use of a coding scheme that is closely aligned with the theoretical frame of ACF. The interpretivist nature of content analysis could impact validity of measurement. However, this risk has been mitigated as far as possible with a systematic approach to analysis and clearly defined coding categories.

Operationalisation ACF

The ACF has been employed using various different research methods (Henry et al., 2022). According to Henry et al., (2022), in their examination and overview of methodological approaches to ACF application, there is no single way to apply the framework given that it can support numerous research designs. Studies applying ACF typically do not apply all aspects of the framework since its extensive nature can make analysis generally arduous (Weible et al., 2011). The methodological approach of this study relies on content analysis of data in textual form derived from various relevant documents. To conduct this analysis a coding scheme has been developed following the key theoretical elements of ACF. Most studies on advocacy coalition start with identifying policy actors' belief systems and then clustering policy actors into coalition based on their shared beliefs (Henry et al., 2022). This study will employ this same approach and conduct further analysis based on those results.

Belief systems

As discussed earlier, in the ACF actors operate based on their belief systems which are comprised of three tiers: deep core beliefs, policy core beliefs and secondary aspects (Sabatier & Weible, 2007). According to Henry et al. (2022) what differs between these tiers is their scope relative to the subsystem, with deep core beliefs at the broadest scope and secondary aspects at the narrowest. Based on these authors' work and (Sabatier, 1998) the descriptions for measurement entail: (i) deep core beliefs are fundamental normative orientations or worldviews that apply across subsystems, (ii) policy core beliefs are fundamental policy positions and normative and empirical beliefs within and concerning a single policy subsystem, and (iii) secondary beliefs are instrumental means necessary for realising the policy-core beliefs or beliefs associated with a part of a policy subsystem. These categorical descriptions feature in the coding scheme of Table 1 along with the examples of components for each tier based on

Sabatier (1998) and (Henry et al., 2022). This study will engage in belief measurement through unsolicited written or verbal statements as defined by Henry et al. (2022) meaning that the set of relevant beliefs and actors' positions on these beliefs are inferred through systematic coding of the raw data expressed in published literature, media reports of policy issues, or transcripts.

Table 1: Coding scheme for belief systems

	Description	*Illustrative components of statements*
Deep core beliefs	Statements concerned with fundamental normative orientations or worldviews that apply across subsystems.	• Political ideologies • Normative values • Relative priority of various ultimate values: freedom, security, power, knowledge etc. • Basic criteria of distributive justice
Policy core beliefs	Statements concerned with fundamental policy positions and normative and empirical beliefs within the general semiconductor industry subsystem	• General goals for a policy subsystem • Positions on general policy solutions and policy instruments • Problem severity and cause • Views on distribution of authority between government and market, and among levels of government. • Views on methods of financing. • Views on the ability of society to solve the problem (e.g., technological optimism v. pessimism) • Participation of public v. experts v. elected officials.
Secondary beliefs	Statements concerned with instrumental means necessary for realising the policy-core beliefs or beliefs associated with a section of the semiconductor industry subsystem	• Instrumental means for achieving policy-core ends (or goals) • Relative weight of various causal mechanisms of problems • Solutions and problems associated with part of a policy subsystem • Most decisions concerning administrative rules, budgetary allocations, disposition of cases, statutory interpretation, and even statutory revision.

Note: based on Sabatier (1998) and Henry et al. (2022)

Advocacy coalitions

As we move to this next step we build on the data on beliefs systems and actors identified in the previous step. The fundamental concept regarding coalitions is *shared beliefs*, which is said to serve as the glue that holds coalitions together (Henry et al., 2022). Coalitions in this context are not necessarily formal entities, they are typically informal or implicit alliances of policy actors engaging to influence the direction and substance of a policy subsystem (Henry et al., 2022). Based on this, the operationalisation for establishing coalitions in this study is that for a group of actors to be members of the same coalition they must share a common set of core beliefs, either deep core or policy core (Henry et al., 2022).

Policy change

In the ACF policy change can occur through four pathways: (i) external shocks, (ii) internal shocks, (iii) policy-oriented learning, and (iv) negotiated agreements (Henry et al., 2022; Sabatier & Weible, 2007). To facilitate measurement of these pathways, definitions have been attributed to each of them mostly based on Jenkins-Smith et al., (2018) to form a coding scheme. First, external shocks are measured as events that are outside of subsystem participants' ability to influence underlying causes and triggers and involve change in external system events or relatively stable parameters. Second, internal shocks are events that occur inside the territorial boundaries and/or the topical area of the policy subsystem, have potential to be affected by subsystem actors and are likely to influence beliefs and heighten attention on certain policies. Third, the pathway of policy-oriented learning is described as incremental and enduring changes in thought or behavioural intentions that result from experience and/or new information concerning the attainment or revision of policy objectives (Sabatier & Weible, 2007). Lastly, negotiated agreement is measured as situations in which previously adverserial coalitions negotiate and enter into an agreement in an effort mitigate alterative outcomes that would result negatively for all coalitions (Sabatier & Weible, 2007). Table 2 offers an overview of the pathways of policy change.

Table 2: Coding scheme for pathways to policy change

	Description
External shocks	Statements concerned with events that are outside of subsystem participants' ability to influence underlying causes and triggers and involve change in external system events or relatively stable parameters.
Internal shocks	Statements concerned with events that occur inside the territorial boundaries and/or the topical area of the policy subsystem, have potential to be affected by subsystem actors and are likely to influence beliefs and heighten attention on certain policies.
Policy-oriented learning	Statements concerned with incremental and enduring changes in thought or behavioural intentions that result from experience and/or new information concerning the attainment or revision of policy objectives.
Negotiated agreement	Statements concerned with situations in which previously adverserial coalitions negotiate and enter into an agreement in an effort mitigate alterative outcomes that would result negatively for all coalitions.

Note: based on Jenkins-Smith et al. (2018) and Sabatier & Weible (2007)

Empirical Findings

This chapter will present and synthesise the findings uncovered through coding. Note that the stand-alone quotes in this chapter serve an illustrative purpose and do not represent the full extent of the 547 quotations analysed to support the description of the findings. A list with references to the source documents of the quotes presented here will feature in the Appendix. A full list of quotations and coding results can be presented upon request. This chapter will start with a description of the IPCEI ME/CT case, followed by the European Chips Act case. Each section will discuss beliefs systems and the path to policy change.

IPCEI ME/CT

Belief systems

Deep core beliefs

The data indicates that the Dutch government attributes considerable importance to European and international cooperation. In July of 2019, in response to parliamentary questions, the Secretary of State of Economic Affairs indicated that European cooperation is crucial to make optimal use of the innovative abilities of industry, and that European cooperation creates more impact because financial means and knowledge can be combined to create economies of scale. This position is reflected in the data on broader range of policies, mostly regarding various industries where the EU could grow its global competitiveness in. The Dutch government's position, as indicated by various instances in the data, is that maintaining open economies and trade internationally is paramount. The Minister of Economic Affairs expressed in June of 2022 during a debate that "We (the Netherlands) want to be an open economy. The Netherlands is a country that above all wants to have open borders and benefit from trade, not only in Europe, but also beyond. Our companies benefit from this, and also our citizens in the Netherlands". Doing otherwise is said to hurt market, funding and innovation opportunities, and in turn harming the EU's economic position globally. The Netherlands and the EU as global actors already hold strong positions economically. To maintain this, several instances in the data point to maintaining a favourable business climate in both the Netherlands and the EU.

> It is important that we commit to creating and maintaining an attractive European business climate. The Netherlands considers the importance of curtailing strategic value chains and that the European Commission employs long-term strategies to strengthen these with a good mix of policy instruments.
> *Ministry of Economic Affairs and Climate (March 1, 2023)*

In addition to economic views, the statements also point to strategic perspectives. The government's perspective appears to centre around mitigating strategic dependencies and strengthening autonomy, both for the Netherlands and the EU. Various statements by Dutch government and EU officials express concerns over certain dependencies with states that pose potential threats to the Netherlands, the EU, or their allies. Threats in this context refer to significant negative consequences for economy or national security. In a government report named *Open Strategic Autonomy* from 2022 the Dutch government expresses that "we set out to strengthen European industry to increase the role European industry and corporations play in international value chains, and in doing so mitigate the risks of strategic dependencies".

Policy core beliefs

Several aspects of the deep core beliefs manifest themselves into the policy core beliefs. In these beliefs more nuanced policy preferences become apparent. Statements by Dutch government officials indicate that strategic economic, security and innovation interests are expected to guide the decision to participate in an IPCEI. There is a broadly shared belief amongst Dutch government officials, members of parliament and corporations that the IPCEI ME/CT has the potential to contribute to future NL and EU earning capacity, as well as internal and international competitiveness. Dutch government officials view IPCEI participation to have significance for societal and economic interest.

The IPCEI is viewed as way to help invest in beyond state-of-the-art innovation that would otherwise be difficult to facilitate financing for. Participation in the IPCEI in this regard is typically viewed as an instrument to use against risks of market failure in innovative and promising but yet underfunded areas of semiconductor development. The Dutch government holds the position that the IPCEI, as an instrument for state aid, should be used proportionally, selectively and with restraint to maintain a level-playing field for corporations in the internal market. In a meeting of the European Competitiveness Council in May of 2021, Dutch representatives expressed that the Netherlands views the IPCEI as a possible instrument to mitigate strategic dependencies but "that IPCEI's should only be applied when thorough

analysis shows that there is market, transition or system failure". Arguments underlying the government position are the risks of disturbing market dynamics, and additionally the possibility that powerful vested industry players will use the instrument to gain an unfair advantage over other competitors. Participation in the IPCEI is also said to depend on the level of commitment and interest from private domestic actors, and to this end communication between government and industry players is described as essential.

Statements indicate that the IPCEI is seen as part of a broader set of efforts to create a robust and resilient semiconductor ecosystem within the EU. In this regard cooperation between industry actors and research institutes is deemed crucial. In December of 2020 the Dutch government, together with 19 other EU Member States, signed the *Joint declaration on processors and semiconductor* which includes the intention to strengthen the European semiconductor-ecosystem through existing programs and a second IPCEI on microelectronics as an initiative that was yet to be developed. The need for such an ecosystem is also reflected by statements that view the IPCEI as an instrument to mitigate undesirable strategic dependencies by strengthening and protecting value and supply chains that are essential to the European semiconductor industry.

Secondary beliefs

Specific elements of the IPCEI make it an attractive policy program to participate in for Member States seeking to support domestic corporations. One of the main characteristics is that the IPCEI allows state aid to be used for a broader range of applications compared to other or previous policy programs. This range includes experimental research, investments in facilities and machines, building research facilities, and first industrial application of a technology, which all aim to help make innovation in new cutting-edge technologies more viable. In addition, the IPCEI offers higher levels of state aid than other or previous programs and allows for the possibility of financing up to 100% of the funding gap with state aid. The Dutch government in 2021 set out to reserve funds for upcoming IPCEI it intended to participate in, these were the IPCEI ME/CT (or IPCEI ME2) with an allocation of €230 million and the IPCEI Cloud Infrastructure and Services (CIS) with €70 million. The IPCEI was set out to act fast and support the right private actors in the industry, but specifically Intel in their position paper on the ECA in 2022, note that the IPCEI procedures around admitting projects and waiting for approval from the European Commission can take a long time. Member States in their statements appeared to agree with the notion that Intel put forward.

> They will not be examined under existing rules applicable to Important Projects of Common European Interest (IPCEI) for which state aid approval can take a long time because application of those rules requires multiple projects and Member States.
> *Intel (May 11, 2022)*

> Commissary Breton welcomed the initiative and emphasised that IPCEI's are becoming more important in strengthening strategic value chains. Breton also took note of the call from Member States to simplify and expediate the processes for IPCEI's
> *Ministry of Economic Affairs and Climate (December 1 and 2, 2022)*

In November of 2023 the participating Dutch semiconductor corporations received their state aid funding approved by the European Commission in June earlier that year. The corporations ASML, NXP and Nearfield Instruments received a combined €220 million in Dutch state aid for the development of radar and 6G-technology (NXP), and realisation of the newest generation of machines for advanced semiconductor production (ASML and Nearfield Instruments).

Path to policy change

External shocks

Various statements point to changes in the geopolitical realm which have in turn shed light on strategic vulnerabilities with actors and states that are possibly adversarial to the interests of the Netherlands, the EU or their allies. These developments have led actors to reconsider their views. In several instances these developments and risks have been tied to national security and defense aspects. In a government report on strategic autonomy in 2022 the Dutch government expresses that the Russian invasion of Ukraine has expedited efforts concerning mitigation of strategic dependencies, and that the IPCEI is a concrete example of the government's efforts to reduce sensitive strategic dependencies. A number of statements refer to the economic effects caused by the pandemic and in a few instances the IPCEI is mentioned in relation to the supply shortage of semiconductors.

> For increasing the European production capacity and tackling the current shortages in the semiconductor industry targeted (sectoral) industry policy is needed in addition to generic European industry policy. The Netherlands will stimulate this kind of policy in the cases in which certain strategic value chains and ecosystems are present. This manifests itself, amongst other forms, in participation in three Important Project of Common European Interest (IPCEI), of which the IPCEI Micro-Electronics II is one.
> *Ministry of Foreign Affairs (March 25, 2022)*

Internal shocks

Statements detailing issues with supply and value chains in the European semiconductor context occur within the data. In this context an interesting position appears in a statement indicating that companies are primarily responsible for mapping and acting on these issues, not necessarily the government actors in the Dutch government or the EU-level.

> If we are talking about suppliers outside of vital sectors, such as suppliers of metals or microchips, it is primarily on the companies themselves to secure their supply chains and diversify. It is the responsibility of us in the Netherlands and Europe to create an attractive business climate.
> *Minister of Economic Affairs and Climate (September 29, 2021)*

Policy-oriented learning

Over time the IPCEI as a policy instrument became more interesting to the Dutch government and Dutch companies in the semiconductor industry. The IPCEI ME/CT is the second iteration of an IPCEI that focuses on semiconductors, the first was launched in 2017 and did not include The Netherlands despite the important role several Dutch companies play in the global semiconductor ecosystem. Statements indicate that there was little interest from Dutch companies to submit projects for the first IPCEI on semiconductors, but that several have now expressed interest with this second iteration in the form of the IPCEI ME/CT.

> A first IPCEI for microelectronics was set up in 2017, which included France, Germany, Italy, the United Kingdom and Austria as participating Member States. The Netherlands did not participate in this due to alternative prioritising by potential Dutch participants. Now a second IPCEI is in development, which does have large interest from the Dutch corporate world.
> *Ministry of Economic Affairs (June 15, 2021)*

Another aspect that has gained salience throughout the examined period is that policy is increasingly shaped by changing geopolitical dynamics. This includes the rise of actors such as China, which has reshaped dynamics within the global semiconductors industry in terms of security risks but also supply chain risks for the EU and the Netherlands. These growing vulnerabilities have facilitated a trend towards more European cooperation by the Netherlands in order to size up against range of powerful geopolitical actors such as China, the United States and Russia.

European Chips Act (ECA)

Belief systems

Deep core beliefs

Statements indicate that the Netherlands in their policy has long been and remains a strong advocate for competitive markets, an open international economy, and thus has interest in stringent state aid regimes within the EU. This is not to say that the Netherlands does not make use of any state aid possibilities that exist. It means that the use of this instrument is conditional on a thorough assessment of the impact on the market and whether other alternative sources of funding have been exhausted.

> In 2021, the Netherlands ranked fifth in absolute numbers in terms of state aid expenditure after Germany, France, Italy and Spain. In relative terms, looking at the percentage of GDP, the Netherlands is in the middle bracket. The government values a level playing field within the EU. The government therefore emphasises to the Commission that the state aid rules must prevent disruption of the level playing field as much as possible and that state aid must therefore be targeted and temporary, with incentives for sustainability being disrupted as little as possible.
> *Minister of Economic Affairs and Climate (May 17. 2023)*

While other states within the EU are more favourably predisposed towards the use of state aid as a policy instrument, the Dutch government typically expresses opposition to measures that disturb market dynamics such as state aid and protectionism. It does so especially in situations where EU policy could impact global markets where cooperation with non-EU states is key for Dutch or EU economic interests.

> The government also advocates in a European context that when addressing unwanted dependencies or strengthening the resilience of the EU, one must guard against unnecessary protectionism and that cooperation with like-minded partners should continue to be sought where possible. By finding the right balance we can strengthen our competitiveness and our safety.
> *Minister of Foreign Affairs (November 18, 2021)*

Addressing and mitigating the risks of undesirable strategic dependencies, along with increasing the EU's economic resilience are the most frequently occurring beliefs in the data. These beliefs are held by the Dutch government, EU officials, and corporations active in the EU as illustrated by statements from EU Commissioner for Competition and Dutch semiconductor manufacturer NXP.

> Executive Vice-President Margrethe Vestager emphasised the importance of increasing chip production within the EU. Both the digital and the green transition require a – much – larger quantity of chips. Recent years have shown that the EU is dependent on the smooth functioning of international supply chains. Vestager indicated that the Chips Act should strengthen the EU's resilience.
> *Minister of Economic Affairs (June 28, 2022)*

> A strong European semiconductor ecosystem is the backbone for a competitive and resilient EU economy. It is also indispensable in achieving the ambitious targets of the green and digital transition.
> *NXP (May 11, 2022)*

Several ways to achieve a desired level of autonomy and resilience from geopolitical influences emerge from the data. Regarding innovation, the arguments presented emphasise that technological and digital leadership by the Netherlands and the EU is needed to maintain and improve their position in the world. These perspectives often mention investing in promising technologies that have the potential to be valuable in the future as this would allow Europe to have an advantage in a particular area of technological development. Measures like these are aligned with statements calling for more European technological sovereignty. To this end, more EU cooperation is desired to face large economic, climate-related or geopolitical challenges that will emerge in the future. In several instances emphasis is placed on the importance of facilitating strong cross-border ties within the EU between research institutes and industry to aid in achieving progress in technological development. Another frequently occurring and related perspective in the data are calls to develop the EU's open strategic autonomy. The minister of Economic Affairs explained the government's position on this concept in September of 2023 as follows.

> In short, the European pursuit of open strategic autonomy means that we as the EU want to prevent us from being put under economic pressure in an improper way. After all, if our economy is resilient, we can (continue to) make independent choices and adequately represent our public interests. The Letter to Parliament on Open Strategic Autonomy of November 8, 2022 explains how the government is shaping this policy along three pillars: 1) strengthening the political-economic foundation of the EU; 2) the mitigation of risky strategic dependencies; and 3) the strengthening of the EU as a geopolitical player.
> *Minister of Economic Affairs and Climate (September 27, 2023)*

Open markets are of great importance to the Dutch government, and this extends beyond the EU to the international stage as well. Statements indicate opposition to risks of internal EU or global subsidy races, possibly provoked by unfair competition by other big geopolitical players. Nevertheless, the Dutch position remains that policy on strategic dependencies should be formulated at the EU level due the interwovenness of economies, in Europe and globally. However, aspects of these strategic dependencies that touch on national security should remain within the authority of the Member States.

Policy core beliefs

Many statements underline that the ECA should focus on increasing semiconductor production capacity within the EU. The Dutch government shares this view but notes that it sees no need for this production capacity to be developed within the Netherlands, as production capacity elsewhere in the EU would still be beneficial to the Netherlands given the key position of its corporations and research institutes in the semiconductor industry. Data also indicates that the ECA should have a broader scope than just the development of production facilities, it should strengthen the European relevance in the global semiconductor ecosystem as illustrated by this statement by ASML in their position paper on the ECA. The second statement by ASML aligns with the position of the Dutch government regarding the benefits of developing production capacity elsewhere in the EU.

> ASML welcomes and supports the Chips Act proposed by the European Commission. However, the Chips Act should not only focus on increasing production capacity, but on increasing European relevance in the global semiconductor ecosystem.
> *ASML (May 11, 2022)*

> Due to its strengths in the field of materials and chip production equipment, the Netherlands has a lot to gain from capacity increases and new forms of chip production within Europe.
> *ASML (May 11, 2022)*

The view broadly shared amongst government, industry and research institutes is that the ECA should aim to increase Europe's relevance and competitiveness in the global ecosystem. The increase in production capacity is one element of the approach towards this ambition. Another element that emerges from the data is that Europe should take a shift towards leading edge semiconductor capabilities and gain an advantage in a specific area of the semiconductor ecosystem.

> The government is of the opinion that a European approach to the semiconductor industry should include the following strategic goals: strengthening and expanding the current European ecosystem, in particular through a focus on highly advanced and next-generation technologies
> *Ministry of Foreign Affairs (March 25, 2022)*

Statements indicate that various actors recognise that the semiconductor value chain is arranged internationally and depends on open trade and good international cooperation. In this same vein the Dutch government and companies active in the semiconductor industry heavily emphasise towards the EU to maintain and stimulate cooperation with internationally like-minded countries in the global semiconductor ecosystem. These countries and regions include South Korea, Japan, Taiwan, Canada, and the United States. Maintaining engagement these actors with a minimum of transaction costs involved is deemed key for the semiconductor industry given that there are mutual dependencies between these countries that are fundamental to the functioning of the semiconductor industry and market. Decoupling the EU from this international network is not realistic or desirable as illustrated by statements made by Dutch prime-minister Mark Rutte during a parliamentary debate in March of 2022.

> And on this point the idea is that this strategic autonomy must be there, but open, in the sense that we continue to connect with Korea, Japan, Canada, America and also other economies that are very innovative. Then you prevent the fortress from becoming Europe — not that France wants that, but the risk of strategic autonomy is that it can also be seen

> as a bit inward-looking. And they agreed with us that it must be a strong Europe, for example when it comes to the production of the highest level of ICT, chips, etc. — look at ASML, but also at the clusters around Grenoble in France, around Leuven and around Eindhoven — but that it must be open, so in very close cooperation with especially the four countries outside Europe that I mentioned.
> *Prime-minister Mark Rutte (March 23, 2022)*

China has so far not been mentioned in this regard but is, as indicated by statements, arguably equally as important to the global semiconductor industry. ASML notes in their position paper on the ECA in May of 2022) that “an international value chain without Chinese involvement is not a realistic goal in the short and medium term and some dialogue with China will remain necessary, whether or not through multilateral forums”. The EU and China are economically connected in a way that makes unilateral abandonment of this relationship detrimental to either party. The perspective on this relationship by the Dutch government aligns with that of ASML as illustrated by the following statement.

> EU-China relations are broad and complex. China and the EU are important for each other's earning and innovation capacity, partly given the great interconnectedness of international value chains. At the same time, a lot of attention is paid in the Netherlands and the EU to the risks and vulnerabilities that this interrelationship entails. Many steps have therefore been taken in recent years to strengthen our resilience through country-neutral measures.
> *Ministry of Foreign Affairs (October 28, 2022)*

The Dutch government and several companies in the semiconductor ecosystem frequently make statements on the necessity of including industry actors for achieving the goals of the ECA. Companies that issued position papers expressed concerns over the contents of the ECA during the policy formulation phase and noted that consulting the industry is necessary to deliver effective and efficient policy. Infineon, a US semiconductor company with presence in the EU, has concerns over the governance structure elements embedded in the Chips Act and notes in their position paper on the ECA that "the industry should play a more direct role in working together with public authorities.” (dated May 11, 2022). ASML explicitly mentions the Chips Joint Undertaking and Semiconductor Board elements of the ECA governance structure and emphasises the need for sector specific knowledge in policy formulation and implementation.

> The goals of the Chips Act are undoubtedly ambitious. To achieve this, the involvement of the semiconductor industry is indispensable. The responsibilities of the Chips Joint Undertaking and the Semiconductor Board require sector-specific knowledge. That is why parties from the semiconductor ecosystem must be actively involved in order to arrive at effective decisions that are workable for the industry, especially because governments in Europe have not been closely involved in recent developments within the semiconductor industry and need knowledge from the industry in order not to make market-disrupting decisions.
> *ASML (May 11, 2022)*

Secondary aspects

Regarding the more specific elements of the ECA, the Dutch government and the EU align in their view of *photonic integrated circuits* (PIC) as one of the important technologies for the future of the European semiconductor industry. This technology has been researched and developed in the Netherlands for a considerable number of years, and with government support for this sector since 2018. Statements indicate that European support for further development could gain the Netherlands and the EU a leading position globally regarding this technology. More generally, companies and institutes in the semiconductor industry indicate that public investments into research and development (R&D) are crucial and argue that this will in turn attract more private investment. They also note that the public and private investment needed to reach the ambitious target to grow Europe's global market share of semiconductor production from 8% to 20% would be far greater than the already significant budget of the ECA, which was estimated to bring about €43 billion in public and private financing. The Dutch government is sceptical on the 20% goal set out by the EU and proposes a way to reframe the target by focussing on the more advanced types of semiconductors.

> The government supports the ambitious European efforts in the field of microelectronics, including the efforts regarding the global semiconductor shortage and reducing strategic dependencies. Tough objectives can encourage parties to achieve them, in particular when these are also feasible. However, the government has doubts about the realistic feasibility of an undifferentiated 20% of the total global semiconductors production value. The government therefore proposes that: this target instead aimed at a European share of 20% within the segment of "production of advanced and sustainable semiconductors, including processors". The government's basic principle is that we want to prevent protectionism.
> *Ministry of Foreign Affairs (April 23, 2021)*

In addition to technologies of the future, certain companies also emphasise that the EU should also develop capacity to manufacture current-age semiconductors that are relevant for European industries, such as the automotive industry. These semiconductors are not necessarily the highly advanced small node (around 6nm or smaller) semiconductors that are predominantly produced in South Korea or Taiwan, but rather within the range of 12-40nm. Industry actors also emphasise the need for funding across in broader spectrum of semiconductor technology development, from research to pilot-lines and first-of-kind facilities. Companies express that delays in investment and allocation of funds due to administrative procedures should be avoided. Another frequently appearing aspect deemed to hinder the industry's growth in Europe is the shortage of skilled talent.

A significant point of disagreement regarding the elements of the ECA is the scope and contents of the coordination mechanism in the third and final pillar of the ECA policy proposal. This coordination mechanism mirrors policy instruments used during the COVID-19 crisis for securing production capacity and claiming priority from production facilities that operate within the EU, preventing them from exporting products needed in the EU during a declared state of crisis. Instead of vaccines, masks or testing kits, the products in question now are semiconductors. As indicated from the data, the Dutch government and several companies are highly sceptical of this instrument. The criticism particularly focuses on: (i) the vague conditions necessary to declare a crisis, (ii) its impacts on the business climate given that this degree of government intervention can be off-putting for companies, (iii) and the lack of institutional involvement for companies in the governance structure and the Semiconductor Board within this pillar which decides on the allocation of production when this mechanism is activated. The following excerpt from Infineon's position paper on the ECA illustrates the view

held by multiple companies in the industry and shows that the EU and the corporation fundamentally held differing views on the causes of the semiconductor shortage issues.

> The proposed Chips Act alludes to several terms such as “crisis”, “disruption”, and “crisis stage” and proposes that public authorities should be granted far-reaching competencies, e.g. information gathering, emergency toolbox, common purchasing, priority rated orders, export ban and penalties. It is worth noting that the current semiconductor shortage – which is not properly described as a “semiconductor crisis” in the Chips Act – is a consequence of the skyrocketing global demand for “everything digital” during and after the pandemic as well as procurement decisions and “just-in-time” practices by downstream players. Today, semiconductors are embedded in an inestimable number of final products, which is increasing the sector’s fragility against many risks, including geopolitical instabilities that are challenging to mitigate. For instance, the proposed monitoring and crisis response tools in the Chips Act would not have helped to prevent or reduce the negative impact of the COVID-19 crisis or the crisis caused by the current war in Ukraine on semiconductor supply chains.
> *Infineon (April 29, 2022)*

The Dutch government additionally emphasises that the ECA is not an instrument for screening investments and corporate take-overs in cases where funding or influence originates from states are potentially adversarial to European or Dutch interests. For these purposes there should be separate policy to protect national interests and security through investment screening and export-restrictive measures. However, the Dutch government is highly sceptical on the EU using these measures arguing that it severely disrupts international trade and supply chains.

> In addition, in the cabinet's view, the proposal for the Chips Act does not indicate sufficiently clearly when there is a crisis and when an export restriction would be the correct response. As indicated in the BNC sheet, the cabinet believes that the EU should be very cautious with export restrictive measures. The benefits of international trade, access to global value chains and international competition must be preserved.
> *Ministry of Economic Affairs and Climate (June 2, 2022)*

Path to policy change

External shocks

Supply chain disruptions and shortages, sometimes caused or exacerbated by the COVID-19 crisis, are mentioned often within the data. Perspectives vary, mostly between the EU and corporations, on the degree to which the pandemic played a role in causing the supply chain issues or whether the pandemic exposed a growing problem that was bound to happen. Dutch semiconductor manufacturer NXP details in their position paper on the ECA in May of 2022 that the semiconductor shortage was not a caused by a crisis chip production or disruptions in raw material supply (as suggested by the ECA proposal), but instead due to unanticipated demand for semiconductors during the pandemic coupled with significant fluctuations in chip demand in important sectors such as automotive or industrial. This view is shared amongst corporations.

Geopolitical risks and developments also occur within the data regarding external events. Most occurrences refer to the Russian invasion of Ukraine and the use of economic restrictions that followed from this. This event played a role in shifting perspectives on the need to counter geopolitical risks to economic interests as illustrated by the views held during a meeting of the EU Council on Competition in July of 2022.

> The Council discusses the theme of resilience in relation to the current geopolitical context and specifically the Russian invasion of Ukraine. Recent developments underline the importance of strengthening the EU's resilience and geo-economic position.
> *Ministry of Economic Affairs and Climate (July 7, 2022)*

Various statements in the data point to how these crises exposed vulnerabilities due to high dependency on non-EU suppliers in strategic sectors such as the semiconductor industry. These dependencies pertain to a broader scope than just the semiconductor end-product since statements also relate them to the raw materials and other components needed for production capacity in the EU. The following excerpt from the European Commission’s 2022 policy agenda showcases their view on relations between the effects of crises, strategic dependencies and semiconductor production capacity.

> Despite many challenges and disruptions, Europe came through the crisis in large part due to its innovative skills, its strong industrial base and its diversified and competitive supply chains. However, in a few strategic sectors, it has been vulnerable due to high dependency on a very limited number of non-EU suppliers, especially in relation to raw materials. This is particularly apparent when it comes to semi-conductors. Supplies of these chips which power Europe's digital solutions have become a real concern for EU industry, with cases of production being slowed down. Against this background, we will adopt a European chips act to promote a state-of-the-art European chip ecosystem to boost our innovative capacity, security of supply and develop new markets for ground-breaking European tech. *European Commission (October 19, 2021)*

Internal shocks

The data indicates that the Dutch government has expressed interest in exploiting opportunities with leading edge technologies within the semiconductor ecosystem that have promising future potential. Data mainly points to the technology of photonics and photonic integrated circuits, which have been researched and supported for several years in the Netherlands. A letter from the Ministry of Economic Affairs to parliament in June of 2020 details how in light of interest from foreign investors, and the likelihood for them to make a sizeable investment into the Dutch company Smart Photonics, the Dutch government decided to offer the company a €20 million loan to maintain this technology and the related R&D domestically. Other statements confirm this effort to protect Smart Photonics and illustrate how some members of parliament are supportive of the aim to achieve a leading position in such technologies, as illustrated by this excerpt from a parliamentary commission debate with the Minister of Economic Affairs and Climate held on February 22, 2022.

> Then the manufacturing industry, industrial policy, reshoring and projects in Europe, of which the Chips Act is a very good example. This involves billions in investments. (…) Of course, attention is paid to the new pearls. We have had some great examples of this in the past period, in which the government has also invested. SMART Photonics is one. We said about photonics: we have to do that. But we must also ensure that we do not allow new companies, whether they are the future Philips or the future ASML - it does not matter - to move abroad, but rather that they become part of our future earning capacity. The State must not do this alone, but together with the business community.
> CDA Member of Parliament (February 22, 2022)

Policy-oriented learning

Over time statements show that the Dutch government, together with industry players, has increasingly raised concerns over the scope of the crisis mechanism as part of the ECA. The fundamental arguments focus on the involvement of companies and other industry actors to be part of the decision-making progress in the European Semiconductor Board as part of the ECA. Ultimately, companies or other interests from the semiconductor industry were not given a seat or other permanent institutional role within the European Semiconductor Board.

Another observation is that the Dutch government statements indicate a gradual shift towards viewing the semiconductor industry in relation to developments in the geopolitical context and national security. If we go back a couple years in the past to 2018, the Minister of Economic Affairs answered in response to questions on the protection of Dutch semiconductor manufacturer NXP from foreign takeovers that the semiconductor sector in general was not necessarily considered to have risks for national security.

> We have made an analysis of the sectors where these issues of national security and public order could play. We have continued that for further information analysis. The Minister of Security and Justice will come back to that later. Based on the selection we have not included semiconductors, because we believe that these issues do not arise here. That the United States has a different view on this, is interesting in itself. I'm just as curious about that as Mr Paternotte. But we're not going to know. We have judged for ourselves and based on analysis came to the conclusion that that sector does not belong on the list.
> *Minister of Economic Affairs and Climate (April 12, 2018)*

Statements regarding national security and the strategic dependencies in relation to China became more frequent over time following a 2019 report by the Ministry of Foreign Affairs on the relations between the Netherlands and China. This report emphasises that China has ambitions to strengthen its geopolitical presence, that technological development is one aspect of this, and that the Dutch government has to remain wary of risks to Dutch economic or security interests posed by China. In that same year a letter to parliament from the Minister of Economic Affairs details how Dutch semiconductor lithography company ASML had suffered theft of company data by at one of the corporation's subsidiaries in the United States for several years, with some indirect links to Chinese government involvement. These events found their way into the government's position regarding mitigation of national security risks in the

semiconductor ecosystem and linked to the ECA. The following statement shows the government position on countries that hold adverse views to the Netherlands in the geopolitical context and the increase attention for protection of intellectual property and sensitive information.

> The Chips Act is an essential foundation within the promotion track, where international cooperation and knowledge exchange are crucial for future innovations. At the same time, the government recognises the concern that unwanted transfers of knowledge and technology, including intellectual property, are taking place to countries that have an offensive program against the Netherlands or allies. The government has a wide set of protection instruments available for this purpose. This includes export controls on strategic goods, the frameworks for which are regulated at European level. (…) This set of instruments to safeguard national security in the event of unwanted knowledge transfer is in addition to legislation and regulations that companies and knowledge institutions can use to protect their intellectual property, patents and trade secrets.
> *Ministry of Economic Affairs and Climate (June 8, 2022)*

Analysis

This chapter will analyse the findings presented in the previous chapter through the frame of the theoretical framework based on Advocacy Coalition Framework, identify advocacy coalitions, and address how the theoretical expectations measure up to the results. To reiterate, the research question of this study is*: How did advocacy coalition efforts influence the Dutch government's role in the policy processes of the European Chips Act and IPCEI ME/CT?* The aim of this study is to gain insight into what factors shape the Dutch government's policy regarding the semiconductor industry in the European and international context, given the leading role certain Dutch corporations hold in the global semiconductor ecosystem. To this end, and based on the theoretical framework of ACF, three theoretical expectations have been formulated: (i) Dutch corporations active in the semiconductor industry are part of the dominant coalition within the policy subsystem; (ii) Dutch corporations active in the semiconductor industry as part of the dominant coalitions are the main drivers of policy change; (iii) The dominant coalition's beliefs system centre around economic arguments in favour of supporting corporations in the semiconductor industry.

This chapter will start with identifying advocacy coalitions, followed by analysis of both cases, ultimately concluding with a reflection on the theoretical expectations formulated based on ACF.

Advocacy coalitions

Based on the findings this study has identified two coalitions: the *Economy Coalition*, and the *Strategic Resilience Coalition*. The Economy Coalition includes corporations within the semiconductor industry which are active within the EU, and the Dutch government. This coalition's deep core beliefs are characterised by a fundamental belief in free trade in open markets and an optimal business climate. Maintaining competitive markets is key and though not necessarily opposed to state aid or subsidies for certain purposes, it values a level-playing field amongst global competitors. This coalition will typically oppose government influence in the market when this influence could disrupt market dynamics or diminish corporations' executive autonomy. Policy preferences involve measures or policy instruments that aid economic growth in a macro sense or alternatively at the micro-level allow start-ups to grow into more developed corporations. Following the belief in free trade and open market, members in this coalitions are hesitant towards restricting sources of investment even if this funding

happens to originate from a country geopolitically not aligned with Dutch or the EU interests. Similarly, export restrictions have to be the result of careful consideration and assessment of relevant factors. This coalition encourages authorities to engage in dialogue with industry, and advocates for collaboration between policymakers and corporations during the various stages of policy development.

The Strategic Resilience Coalition is mostly associated with various EU institutions and actors. Fundamentally, this coalition views reality through a perspective that attributes more weight on geopolitical developments and long-term perspectives on Europe's position and relevance in the world. Members have a more favourable view towards using legislative means to safeguard political autonomy in international markets. In the Strategic Resilience Coalition innovation is seen as instrument to gain strategic independence in the medium to long-term future and mitigate international dependencies that pose risks to domestic economic or security interests. The coalition is less hesitant to the introduction of policy on the European level that would restrict trade to promote or protect domestic markets or innovation, such as export-restrictive measures.

IPCEI ME/CT

Findings show that participation in the IPCEI ME/CT is a result of the Dutch government's considerations regarding economic and innovation opportunities. Government officials and corporations view the IPCEI as a way to develop technologies that will contribute to strengthening the economic position of domestic corporations and in turn the Netherlands, since government officials also consider participation to have significance for societal and economic interests. A key belief held by the Dutch government is that market dynamics typically should not be disturbed and state aid through an IPCEI should only be considered in situations where analysis indicates that there is market failure. Given that the Netherlands did participate in the IPCEI means that in the government's view, there were certain dynamics or failures present in the market that the market could not remedy without government support. In relation to the Netherlands I believe, based on the data, that this market failure in question was the lack of private funding for specific innovative projects, which could improve the position of the Netherlands and the EU in the semiconductor ecosystem through gaining an advantage in certain technologies. This assessment is based on which projects ultimately received a share of the combined total of €220 million in state aid: 6G-technology and new generation advanced semiconductor production. Both are aimed at technologies that are not mature now but could

become relevant in the future, giving the Netherlands and Europe some advantage if their development proceeds as expected.

Both the Economy Coalition and Strategic Resilience Coalition are active the IPCEI ME/CT policy process. The Economy Coalition consists of the Dutch government and corporations seeking to partake in the IPCEI ME/CT. The Strategic Resilience Coalition is present in the sense the EU views the IPCEI as an instrument to mitigate strategic dependencies. However, participation in the IPCEI is in essence completely up to the Member State and domestic corporations' willingness to submit projects for the European Commission to approve. The initiative must come from corporations as illustrated by the finding that the Netherlands did not participate in the first IPCEI on semiconductors in 2017 due to lack in interest from domestic corporations.

Regarding the pathways to policy change I assess based on the findings that external shocks and policy-oriented learning contributed to the policy change which manifested into the participation in the IPCEI ME/CT. The Economy Coalition, and especially Dutch corporations engaged in policy-oriented learning from 2017 onwards following their absence in the first IPCEI on semiconductors. Over time members of the coalition realised the benefits of participating in the IPCEI program. However, this is not the only factor. External shock in the form of exposed vulnerabilities in supply chains and strategic dependencies highlighted the significance of more European autonomy in semiconductor ecosystem.

Thus, all things considered and primarily given that the participation in the IPCEI ME/CT relies on a considerable amount of initiative from Dutch corporations in the form of developing and submitting viable projects for review, I assess that the Economy Coalition is the dominant coalition in this case, with the Strategic Resilience Coalition being the minority coalition.

European Chips Act (ECA)

The Economy Coalition's stance remains that they are supporters of competitive markets and an open international economy. State aid is not out of the option but must be accompanied with stringent regimes to mitigate risks of disrupting market dynamics that hurt competition, both within the EU and internationally. Findings indicate that calls for European resilience and autonomy, in line with the Strategic Resilience Coalition's views, are more pronounced and explicit in the ECA policy process than in that of the IPCEI ME/CT. Dependencies on non-EU states such as South Korea, Taiwan, China and the US were made clear through semiconductor shortages for key European industries such as the automotive industry in the wake of the

COVID-19 pandemic which disrupted supply chains. The Strategic Resilience Coalition made use of these external shocks to further their policy preferences. The consequences of these dependencies and advocacy by the Strategic Resilience Coalition resulted in increased European desire to regain strategic autonomy in semiconductor production and a target set for increasing European production capacity from 8% to 20% of global semiconductor production. This was primarily the stance of the Strategic Resilience Coalition, but the Economy Coalition agreed on the main points and had differing views on the more nuanced points within the policy core and secondary aspects. They agreed that strategic autonomy for Europe was a goal worth pursuing but emphasised that this should be "open" strategic autonomy which primarily meant that trade should not simply become a geopolitical tool and ties with the aforementioned countries that are essential to the semiconductor industry should be preserved. For the Economy Coalition this includes maintaining as much open trade with China as possible, even in light of geopolitical differences, because the economic ties between the EU and China are significant and important to the European semiconductor industry. Decoupling from the international semiconductor ecosystem is described as not realistic or desirable by the Economy Coalition.

The Economy Coalition had strong opposing views to the Strategic Resilience Coalition regarding secondary aspects, specifically the measures in the third pillar of the ECA policy proposal. These measures set out to create a crisis mechanism that would allow the EU and Member States to gain extensive influence in how semiconductor corporations operate when a state of crisis has been declared by the EU. This influence involves executive decisions on production capacity and priority orders for EU Member States over international customers. Most semiconductors corporations that submitted position papers on the ECA emphasised their concerns over what they essentially described as overreach. The Dutch government, also part of the Economy Coalition, agreed with the semiconductor companies and emphasised towards the EU that the proposed measures regarding the crisis measures would hurt the business climate and make the EU less appealing to foreign corporations active in the semiconductor industry. The Economy Coalition urged for reconsideration and urged for corporations to have a permanent role within the governance structure that decides on measures pertaining to the crisis mechanism. Despite efforts by the Economy Coalition the crisis mechanism component remained in the final ECA Regulation and corporations in the industry did not gain representation next to the Member States in the governance structure of the European Semiconductor Board.

To conclude, in contrast to the IPCEI ME/CT, the Strategic Resilience Coalition is the dominant coalition in the ECA policy process. This is mainly based on: (i) how the Strategic

Resilience Coalition seized the opportunity presented by external shocks to further their beliefs and policy preferences, (ii) the observation that the Economy Coalition only had minor opposition to policy core elements that mostly aligned with the Strategic Resilience Coalition, and (iii) how the Economy Coalition failed to bring change to secondary aspects regarding scope and inclusion of corporation regarding the governance structure in the European Semiconductor Board as part of the third pillar of the ECA. What also becomes clear is that the Dutch government and corporations were strongly aligned in their vocal opposition to the crisis mechanism as a component of the ECA.

Theoretical expectations

Dutch corporations active in the semiconductor industry are part of the dominant coalition within the policy subsystem.

Analysis indicates that in the case of the IPCEI ME/CT Dutch semiconductor corporations were part of the dominant coalition, which was the Economy Coalition. However, this was not the case of the ECA policy process. In the ECA case Dutch corporations were still part of the Economy Coalition but did not form the dominant coalition. While not being part of the dominant coalition in the ECA case, the Dutch corporation nonetheless held beliefs that were mostly in favour of the ECA policy with some opposition to policy core beliefs and mostly secondary aspects of the ECA policy proposal related to inclusion of corporations in decision-making processes.

Dutch corporations active in the semiconductor industry as part of the dominant coalitions are the main drivers of policy change.

I believe, based on the findings and analysis, that in the case of the IPCEI ME/CT Dutch corporations were indeed the main drivers behind policy change. This primarily has to do with how the IPCEI procedure is designed. An EU Member State seeking to participate in any IPCEI will first assess through dialogue with domestic corporations of there is interest to submit projects to receive state aid as funding. The findings indicated that in 2017 this assessment by the Dutch government resulted in an insufficient amount of interest from domestic corporations in the semiconductor industry. This changed in the period 2020-21 where the assessment resulted in a number of interested corporations willing to submit projects. This then led to the Dutch government officially participating in the IPCEI ME/CT. This illustrates how the Dutch government's policy change regarding the IPCEI is dependent on Dutch semiconductor corporations taking initiative.

Given that Dutch corporations, as part of the Economy Coalition, were not part of the dominant coalition in the ECA policy process the expectation does align with the findings in this case. Policy change was driven by to policy actors in the Strategic Resilience coalition seizing the opportunity presented by external geopolitical and economic shocks to further their policy preferences calling for more strategic autonomy for Europe regarding semiconductor production and development.

The dominant coalition's beliefs system centre around economic arguments in favour of supporting corporations in the semiconductor industry.

This expectation aligns with the case of the IPCEI ME/CT. The dominant coalitions' view and policy preferences primarily involved arguments in favour of promoting competitive markets, open international trade and creating attractive business climate through policies that appeal to corporations seeking to develop and produce semiconductors in Europe.

I would argue that the expectation applies to the ECA case as well, although not to the same degree as in the IPCEI ME/CT case. While the dominant Strategic Resilience Coalition emphasises policy goals of strategic and geopolitical autonomy for Europe, the means through which this is meant to be achieved do involve economic measures aimed at supporting semiconductor corporations. A main example would be the ambition to grow production capacity in Europe, which findings indicate is to be achieved through subsidies for companies with plans to build production facilities within the EU.

Conclusion

This study aimed to gain insight into what factors shape the Dutch government's policy regarding the semiconductor industry in the European and international context, given the leading role certain Dutch corporations hold in the global semiconductor ecosystem. In particular, the focus was on identifying whether coalitions of actors could be distilled and, if so, how these coalitions influenced policy processes within the policy field of the semiconductor industry. The study explored two instances of EU policy on the advancement of the semiconductor industry to examine how various actors shaped the Dutch government stance regarding these policies. The two policies in question were: (i) the European Chips Act (ECA), (ii) the Important Project of Common European Interest Microelectronics and Communication Technology (IPCEI ME/CT).

To this end, the study set out to analyse parliamentary, government, and corporate records and documents through the theoretical lens of Sabatier's (1998) *Advocacy Coalition Framework* (ACF). Data collection by means of document analysis through databases *tweedekamer.nl* and *officielebekendmakingen.nl* produced 179 relevant documents in the period 2014-2024, of which ultimately 162 documents were analysed to produce 547 quotations. These quotations were subsequently analysed through content analysis to produce the information needed for analysis and to answer the research question.

The research question of this study is: How did advocacy coalition efforts influence the Dutch government's role in the policy processes of the European Chips Act (ECA) and IPCEI ME/CT? Results indicate the Dutch government's role strongly aligns with the interests of corporations in the semiconductor industry in both cases, but that there was only clear influence in case of the IPCEI ME/CT. In the policy process of the IPCEI ME/CT the government's role was influenced by advocacy efforts, since participation of the Dutch government in the IPCEI depended on signs of interest and willingness from domestic corporations to submit projects for approval by the European Commission. In the case of the European Chips Act the strong alignment was exemplified during the policy process by their shared opposition to the crisis mechanism and concerns over the lack of industry involvement in the Act's governance structure. Regarding the ECA, while corporate actors and the Dutch government held similar deep core, policy and secondary beliefs, this study could not undoubtedly determine whether corporate advocacy influenced the government's role, or that the government's original policy position was already similar to that of the corporations without any influence.

Analysis shows that two coalitions can be identified: (i) the Economy Coalition, and (ii) the Strategic Resilience Coalition. The Economy Coalition is primarily comprised of corporations in the semiconductor industry and the Dutch government. The Strategic Resilience Coalition is mostly associated with EU institutions and actors. Results show that in the case of the IPCEI ME/CT the Dutch government and corporations, as the Economy Coalition, shared similar views, and that specific Dutch corporations were the driving force behind the Dutch government's decision to participate in the IPCEI ME/CT. Regarding the European Chips Act results show that the Dutch government and corporations again shared views and similarly opposed elements of the ECA that they saw as detrimental to the Dutch and European business climate. However, the Economy Coalition of corporations and the Dutch government failed in changing policy in their favour in this case.

Reflection on theory

Application of the theory of Advocacy Coalition Framework (ACF) proved effective in various ways. First, examining actor's views and policy preferences through ACF's tripartite concept of belief systems consisting of deep core, policy core and secondary beliefs proved useful during data analysis. Analysis through coding based on these three conceptual categories allows for a detailed understanding to what degree coalition members agree on policy.

ACF is most fit for cases where there is conflict within the policy area (Henry et al., 2022). Unfortunately, this is not evident before engaging in analysis. What was observed in this study is that while there were areas where coalitions clearly had opposing views, for instance the crisis mechanism in the ECA, on most areas the coalitions essentially agreed on the end goal but had different views on how to get there. An example is strategic autonomy for Europe as a deep core belief by the Strategic Resilience Coalition. The Economy coalition does not disagree with strategic autonomy but would add certain conditions to make it "open" strategic autonomy, and the Strategic Resilience Coalition would accept this alteration. The coalitions are effectively close to each other in beliefs, which can make it hard to discern between coalitions.

Another point that proved challenging is that the government is not a hollow shell in which advocacy coalitions place their policy preference, some notions regarding policy originate organically within government. Influence is hard to determine when the government reaches the same conclusions as other members in their coalition but based on the government's own assessments. This is arguably more a flaw of the research question formulation than of the theory used. Effectively what occurred in the design of this study is that the government, as an

actor capable of being a coalition member, was also the dependent variable that is to be influenced by coalitions. It would have been more appropriate and compatible with ACF to look at advocacy coalition influence on the country's position towards policy instead of influence on the government's position. That configuration would conceptually be less problematic as the government, as a potential coalition member, is no longer the explicit subject of the dependent variable. Nonetheless, the insights provided by the findings still stand seen as the government in this study was included as an actor that can be part of an advocacy coalition.

Limitations

Empirical findings have to be considered in light of certain limitations. A common limitation for ACF studies using text or media material for analysis is that they lack measurement of the coordination of action among coalition members (Kukkonen et al., 2017). This study faces the same limitation. While results were able to determine that the the views of the Dutch government and corporations in the semiconductor industry were mostly similar, the findings were unable to determine if this was the result of coordinated lobbying efforts in the case of the ECA. The interpretivist nature of the research design also has to be considered in relation to the results. Through a systematic approach to data collection and content analysis this study sought to mitigate the errors that arise from researcher interpretation.

Validity and Reliability

This study has limited external validity. While it discusses core beliefs of actors, and particularly the Dutch government, that could extend beyond the policy area presented in this study, care should be taken to not extend findings and observations presented here to other policy fields and instead rely on separate analyses of those specific cases.

This study has aimed to ensure reliability through transparent disclosure of methods employed. However, the interprevitist nature of this study does impact reliability in ways that are challenging to mitigate and as such have to be accounted for when assessing results.

Future research

In line with this study, I encourage future studies employing ACF and seeking to gain further understanding in coordination between coalition members and their strategies regarding the Dutch or European semiconductor ecosystems to consider use of interviews to gain insight in that regard (Henry et al., 2022).

Additionally scholars can consider applying ACF to a range of policies within the Netherlands, given that domestic policy processes in this country traditionally involve a collection of actors and coalitions that operate within society to advocate for their policy preferences.

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Appendix: Sources illustrative quotes

Illustrative quote by	Date	Document number in collection	Parliamentary database code or link (databases: tweedekamer.nl & officielebekendmakingen.nl)
Ministry of Economic Affairs and Climate	March 1, 2023	172	kst-21501-30-575
Intel	May 11, 2022	113	https://www.tweedekamer.nl/kamerstukken/detail?id=2022Z08959&did=2022D18110
Ministry of Economic Affairs and Climate	December 1 and 2, 2022	115	kst-21501-30-570
Ministry of Foreign Affairs	March 25, 2022	135	kst-22112-3369
Minister of Economic Affairs and Climate	September 29, 2021	51	TK5-5-11-66
Ministry of Economic Affairs	June 15, 2021	49	ah-tk-20202021-3179
Minister of Economic Affairs and Climate	May 17. 2023	174	kst-21501-30-578
Minister of Foreign Affairs	November 18, 2021	44	https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2021Z20741&did=2021D44232
Minister of Economic Affairs	June 28, 2022	94	kst-21501-30-560
NXP	May 11, 2022	89	https://www.tweedekamer.nl/kamerstukken/detail?id=2022Z08861&did=2022D17912
Minister of Economic Affairs and Climate	September 27, 2023	173	kst-21501-30-584
ASML	May 11, 2022	86	https://www.tweedekamer.nl/kamerstukken/detail?id=2022Z08871&did=2022D17929
Ministry of Foreign Affairs	March 25, 2022	135	kst-22112-3369
Prime-minister Mark Rutte	March 23, 2022	77	TK 63 – 63-8-1
Ministry of Foreign Affairs	October 28, 2022	129	kst-21501-02-2533
ASML	May 11, 2022	86	https://www.tweedekamer.nl/kamerstukken/detail?id=2022Z08871&did=2022D17929
Ministry of Foreign Affairs	April 23, 2021	67	kst-22112-3096
Infineon	April 29, 2022	88	https://www.tweedekamer.nl/kamerstukken/detail?id=2022Z08837&did=2022D17862
Ministry of Economic Affairs and Climate	June 2, 2022	99	kst-22112-3426
Ministry of Economic Affairs and Climate	July 7, 2022	81	kst-21501-30-561
European Commission	October 19, 2021	40	https://www.tweedekamer.nl/kamerstukken/detail?id=2021Z18284&did=2021D39369
CDA Member of Parliament	February 22, 2022	96	kst-35925-XIII-89
Minister of Economic Affairs and Climate	April 12, 2018	21	https://www.tweedekamer.nl/kamerstukken/detail?id=2018D29809&did=2018D29809
Ministry of Economic Affairs and Climate	June 8, 2022	132	kst-21501-30-559

Note: All quotations along with codes available upon request

Appendix: List of analysed documents

162 documents

ATLAS.ti Report
Master Thesis - Data Analysis

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1 Advies van het Rathenau Instituut .pdf
2 blg-327728.pdf
3 blg-355986.pdf
4 Evaluatie doorwerking ruimtelijk economisch beleid in de regio; DEEL II Zeven cluster cases studies.pdf
5 Evaluatie doorwerking ruimtelijk economisch beleid in de regio.pdf
6 kst-29338-129.pdf
7 blg-592153.pdf
8 blg-597508.pdf
11 Structurele financiering voor het Holst Centre.pdf
12 Toekomst onderzoek nanotechnologie.pdf
13 blg-808384.pdf
14 blg-808966.pdf
15 blg-820861.pdf
16 kst-22112-2437.pdf
18 blg-850618.pdf
19 blg-850619.pdf
20 blg-863731.pdf
21 h-tk-20172018-73-10.pdf
22 blg-883780.pdf
23 blg-887436.pdf
24 blg-917246.pdf
25 h-ek-20182019-22-3.pdf
26 kst-30821-88.pdf
27 Verslag van een schriftelijk overleg over o.a. de geannoteerde agenda informele Raad voor Concurrentievermogen van 4 en 5 juli 2019.pdf
28 blg-930020.pdf
29 blg-941935.pdf
30 blg-943854.pdf
31 blg-944892.pdf
32 blg-946179.pdf
33 blg-952880.pdf
34 blg-955429.pdf
35 EU-voorstel_ Een nieuwe industriestrategie voor Europa COM (2020) 102.pdf
36 Financiering van het bedrijf Smart Photonics.pdf
37 kst-30977-157.pdf
38 Geannoteerde agenda informele Telecomraad 7 december.pdf
39 Visie op de toekomst van de industrie in Nederland.pdf
40 EU-voorstel_ Werkprogramma Europese Commissie 2022 COM (2021) 645.pdf
41 Europese top van 16 en 17 december 2021.pdf
42 Geannoteerde agenda Europese Raad van 21 en 22 oktober 2021.pdf
43 Preliminary Netherlands' input for proposed "European Chips Act".pdf

44 Schriftelijke antwoorden op vragen gesteld tijdens de eerste termijn van de begrotingsbehandeling van Buitenlandse Zaken 2022 op 17 november 2021.pdf

45 Schriftelijke antwoorden op vragen gesteld tijdens de eerste termijn van de begrotingsbehandeling van Economische Zaken en Klimaat 2022 op 3 november 2021.pdf

46 Verslag van de Europese Raad van 21 en 22 oktober 2021.pdf

47 Verslag van een schriftelijk overleg over de geannoteerde agenda voor de Raad Buitenlandse Zaken Handel van 11 november 2021.pdf

48 Antwoord op vragen van het lid Amhaouch over de stand van zaken rond de IPCEI's Micro-elektronica 2 en Cloud Infrastructuur en Services.pdf

49 Antwoord op vragen van het lid Amhaouch over het wereldwijde chiptekort en de noodzaak van een sterke, onafhankelijke Europese halfgeleiderindustrie.pdf

50 Buitenlandse spionage via mobiele netwerken.pdf

51 Coronasteunpakket.pdf

52 EU-voorstel_ Actualisering EU-industriestrategie COM (2021) 350.pdf

53 Memorie van toelichting.pdf

54 Nederlandse steun aan twee IPCEI's.pdf

55 stcrt-2021-20378.pdf

56 stcrt-2021-50262.pdf

57 Verslag houdende een lijst van vragen en antwoorden.pdf

58 Verslag Raad voor Concurrentievermogen 27 en 28 mei 2021.pdf

59 Verslag van een commissiedebat, gehouden op 17 juni 2021, over Bedrijfslevenbeleid en innovatie.pdf

60 Verslag van een commissiedebat, gehouden op 25 mei 2021, over de Raad voor Concurrentievermogen (formeel) d.d. 27-28 mei 2021.pdf

61 Verslag van een schriftelijk overleg over de geannoteerde Agenda Raad voor Concurrentievermogen 28 en 29 september 2021 (Kamerstuk 21501-30-539).pdf

62 Verslag van een schriftelijk overleg over o.a. de geannoteerde Agenda van de informele Raad Buitenlandse Zaken Gymnich van 2 en 3 september 2021.pdf

64 Europese top van 21 en 22 oktober 2021.pdf

65 Reactie op de motie van de leden Alkaya en Weverling (Kamerstuk 35570-XVII-26), de motie van het lid Sjoerdsma c.s. (Kamerstuk 35663-15) en de motie van het lid Brekelmans (Kamerstuk 21501-02-2383) inzake strategische afhankelijkheden.pdf

66 Verslag Raad voor Concurrentievermogen van 25 en 26 november 2021.pdf

67 Fiche_ Mededeling Digitaal kompas 2030.pdf

68 Verslag van een schriftelijk overleg over o.a. de geannoteerde agenda formele Telecomraad 4 juni.pdf

69 Verslag van een schriftelijk overleg over o.a. successen werkgroep ruimtemijnbouw.pdf

71 Antwoord op vragen van de leden Brekelmans, Van Strien en Rajkowski over het bericht 'Chipmaker Nexperia koopt Delftse start-up'.pdf

72 Begroting Buitenlandse Zaken 2023.pdf

73 Besluitenlijst procedurevergadering vaste commissie Economische Zaken en Klimaat d.d. 15 februari 2022.pdf

74 EU-wetgevingsonderhandelingen EZK. Kwartaalrapportage, april – juni 2022.pdf

75 EU-wetgevingsoverzicht Q3 2022.pdf

76 Europese top van 20 en 21 oktober 2022.pdf

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