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To my friend Giulio Regeni

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Acknowledgments

The idea of writing this thesis about industrial policy was born in one of the last conversations I had with my friend, Giulio Regeni who died only a few months later for his academic idealism which focused on creating a better and more just world. I would like to dedicate this thesis to Giulio, whose curiosity and idealism have inspired me throughout the process of writing and beyond.

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Abstract

Since the beginning of the financial crisis in 2008, industrial policy has reclaimed its position on the political agenda in Europe. In 2010, the European Union included industrial policy as a flagship initiative under its Europe2020 strategy, which tried to provide a way out of the crisis. In contrast to the past, current European industrial policy strategies include aspects of environmental policy in their framework. By adopting a historical-materialist approach, supported by theoretical concepts such as the regulation and hegemony theory, critical state theory and society-nature relationships, this thesis argues that the “renaissance” of industrial policy is the outcome of a broader hegemonic crisis of societal power relationships in the EU. Furthermore, a recent inclusion of environmental policy indicates a crisis in the concrete material relationships of the neoliberal hegemonic paradigm. These developments enabled the emergence of counter-hegemony projects such as the “*neoclassical green industrial policy*” and the “*socio-ecological industrial policy project*”. As a result of conflicting interests this moment of hegemonic struggle materialised itself in an apparent contradiction between ambitious Europe 2030 environmental targets and the 20% reindustrialisation aim of the European Commission. However, a public-private alliance comprised of a group of European member states, parts of the European state apparatuses, and business networks succeeded in stabilizing their hegemonic position through a recalibration of the neoliberal industrial policy paradigm. In order to ensure global competitiveness, this “*climate pragmatism industrial policy project*” reduces the environmental aspects of current industrial policy strategies to security concerns over supply and access and operates at the expense of environmental and social standards in Europe.

Seit dem Beginn der Finanzkrise 2008 fand das Thema Industriepolitik den Weg zurück auf die politische Agenda in Europa. 2010 beschloss die Europäische Union, dass Industriepolitik eine der Leitinitiativen der Europa 2020 Strategie werden sollte, um einen Weg aus der vorherrschenden Krise aufzuzeigen. Im Gegensatz zu vergangenen Strategien inkludieren aktuelle industriepolitische Ansätze in Europa explizit umweltpolitische Aspekte in ihr Portfolio. Ein historisch-materialistischer Ansatz, unterstützt durch Elemente der Regulations-, Hegemonie-, sowie der kritischen Staatstheorie und dem Konzept der Gesellschaftlichen Naturverhältnisse

erlaubt es dieser Arbeit, die „Renaissance“ der Industriepolitik als Resultat einer umfassenderen Hegemoniekrise der dominierenden Macht- und Herrschaftsstrukturen in der EU zu konzeptualisieren. Die vorliegende Arbeit argumentiert zusätzlich, dass die gegenwärtige Inklusion umweltpolitischer Aspekte ein weiteres Anzeichen für eine solche Hegemoniekrise ist, welche auch den „materiellen Kern“ des vorherrschenden neoliberalen Paradigmas umfasst. Dies begünstigte die Entstehung neuer hegemonialer Projekte wie dem „neoclassical *green industrial policy project*“ und dem „*socio-ecological industrial policy project*“. Der resultierende Kampf um Hegemonie materialisierte sich in einem offenkundigen Widerspruch zwischen ambitionierten Umweltzielen der EU 2030 Strategie und dem 20% Re-Industrialisierungsziel der Europäischen Kommission. Nichtsdestotrotz schaffte es eine öffentlich-private Allianz bestehend aus einer Gruppe von EU Mitgliedsstaaten, Teilen des europäischen Staatsapparates sowie Industrievertretern ihre hegemoniale Position durch eine Rekalibrierung des dominierenden neoliberalen industriepolitischen Paradigmas vorerst abzusichern. Das „*climate pragmatism industrial policy project*“ reduziert die umweltpolitischen Aspekte gegenwärtiger industriepolitischer Strategien zu Fragen von Versorgungs- und Zugangssicherheit, um so eine kurzfristige Wettbewerbsfähigkeit zu bewahren. Diese geschieht auf Kosten von Sozial- und Umweltstandards in Europa.

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Abbreviations

CAG	Competitiveness Advisory Group
CAP	Common Agricultural Policies
CTP	Common Transport Policies
DG	Directorate General
EC	European Community
ECJ	European Court of Justice
ECSC	European Coal and Steel Community
EEC	European Economic Community
ERP	European Recovery Program
ERT	European Roundtable of Industrialists
ETUC	European Trade Union Confederation
EU	European Union
EURATOM	European Atomic Energy Community
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNV	Gesellschaftliche Naturverhältnisse
HA	High Authority
HPMA	Historical-Materialist Policy Analysis
IMF	International Monetary Fund
IPA	Interpretative Policy Analysis
IPE	International Political Economy
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OEEC	Organisation for Economic Co-operation and Development
PAYGO	Pay-as-you-go principle
R&D	Research and Development
SEA	Single European Act
SOE	State Owned Enterprise
UK	United Kingdom

UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNICE	Union of Industrial and Employers' Confederation of Europe
UNIDO	United Nations Industrial Development Organisation
US	United States of America
WTO	World Trade Organisation
WW II	World War Two
WWWforEurope	Welfare, Wealth, Work For Europe

1. Introduction

1.1. Starting Point and Problem Description

Few economic policies have experienced a similar rollercoaster of popularity as industrial policy. After the Second World War, industrial policy was an indispensable part of most economic strategies in Europe. (Grabas & Nützenadel, 2013) The aim of industrial policies was to actively shape and create markets in the economy. At that time, industrial policies involved explicit state support for “national champions” on firm level, but also for industrial sectors as a whole, also known as a “picking winner” strategy. (Owen, 2012) Furthermore, it was common practice to protect strategic industries against competition from superior-foreign producers. This became to be known as the “infant industry argument”. The market was not seen as the most efficient means to achieve an efficient allocation of resources and socially and politically desirable economic outcomes. (Chang & Andreoni, 2016; Warwick, 2013) Industrial policy was based upon an institutional framework which provided public authorities with the possibility to show their “visible hands”, and many instruments such as public ownership, different forms of state aid and subsidies, market protection, and specific support for the development of new firms, technologies and products. (Mazzucato, 2015b; Pianta, 2015)

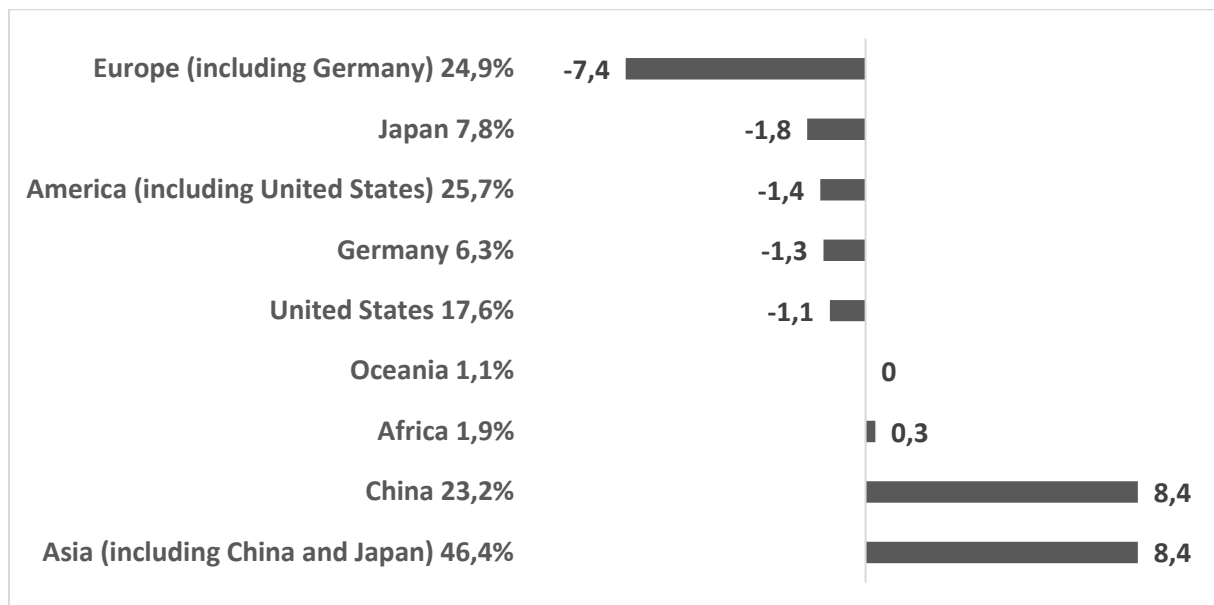
At the European level, first steps towards European integration were enabled through the coordination of such industrial policies in order to create a European Steel and Coal Community (ECSC) in 1951. In 1957, cooperation was further strengthened by the creation of the European Economic Community (EEC), which enabled free trade for most industrial goods among its six founding members. (Grabas & Nützenadel, 2013) The EEC’s fast growing markets were offered a high degree of trade protection from non-EEC producers, but protectionist measures also remained within the EEC. During that period, various intergovernmental agreements between member states tried to provide support to specific industrial sectors, aiming to develop markets (especially high-technology industries), and the member states cooperated in Research and Development (R&D). This served to narrow the technology gap (often referred to as the “American Challenge”) between Western Europe and the US, or put differently, to strengthen the position of Europe in global competition. (Foreman-Peck & Federico, 1999; Pianta, Lucchese, & Nascia, 2016)

After heated debates during the late 1970s and the mid-1980s, the phrase *industrial policy* fell into disrepute and into an ideological motivated neglect for the next three decades. (Chang & Andreoni, 2016) In the course of the 1980s, a change of the economic regulatory paradigm towards neoliberalism occurred. While sheltering European industries from outside competition had been the central policy focus prior to this regulatory shift, the perceived lack of free competition within European markets took the centre stage of economic strategies. (Buch-Hansen & Wigger, 2010) The neoliberal argument was that government failures were more likely (e.g. rent seeking, vested interests, etc.) than market failures. Within the neoliberal paradigm, markets are the most efficient tool to allocate resources, when the challenge is to create new activities and markets. (Pianta et al., 2016) Privatisation of SOE's, trade liberalisation together with macroeconomic stability (i.e. framework conditions) and a minimum government approach became the "new" requirements for economic growth and a healthy economy. (Warwick, 2013).

Governments and the EU institutions increasingly left decisions to the market. The EU was an important driver of this evolution by focusing its policies on the global liberalisation of trade and financial flows, deep liberalisation of domestic markets, including public procurement, and monetary integration by creating a common currency. This reduction of national and European policies had several consequences: increased market concentration; specialisation and oligopolistic power in most industries; increased regional disparities within regions and societies, and a general trend of deindustrialisation across Europe. (Pianta et al., 2016) More importantly, these developments also caused a radical shift in the underlying societal power relations, with large multinational players extending their powers.

The negative consequences of the neoliberal turn accumulated in the outbreak of the financial crisis. Starting in 2008, the crisis has changed the map of world industry considerably. Even though Europe's economy had been subject to a process of deindustrialisation before the outbreak of the crisis, this process has been fundamentally accelerated since its outbreak. (see Figure 1)

Figure 1: World Manufacturing Value Added Shares in 2013 and Change from 2008 to 2013



Source: Pianta et al. (2016)

However, the crisis was not only limited to the financial and economic realm of the neoliberal paradigm, it also produced moments of crisis in the socio-ecological realm, the social realm, as well as the political realm of neoliberalism. (Bader, Becker, Demirovic, & Dück, 2011; Brand, 2009)

These different moments of crisis, as well as the realisation that countries with a strong industrial core dealt better with the outcomes of the crisis than those with a weaker industrial core, seems to have reopened the space for industrial policy. Recently, industrial policy has re-emerged and has again become an integral part of economic strategies throughout Europe. Post-Brexit British government created a new “Department for Business, Energy and Industrial Strategy”¹ (Clark, 2016), France launched its “New Face of Industry” program (Gouv.fr, 2013) and Germany is working on the future of its industry 2030 (Böhmer et al., 2016), just to name a few.

Industrial policy also regained its fashionability on a European level. In 2010, the European Commission made industrial policy a flagship initiative of its Europe 2020 economic strategy in order to achieve “smart, sustainable and inclusive growth”.

¹ The new Department of Business, Energy and Industrial Strategy has been created through a merger of the Department for Energy and Climate Change and the Department for Business, Innovation and Skill. (M. Foster, 2016)

(European Commission, 2010b) In its 2014 communication, “For a European Industrial Renaissance”, the Commission emphasized the importance of industry for post-crisis growth and modernisation and reinforced its reindustrialisation ambitions by introducing a target to increase industry’s share in Europe’s GDP to 20% by 2020. (European Commission, 2014)

Additionally, massive bail outs in the financial sector, bank nationalisations and relaxed state aid regimes for troubled industries seemed to go against the longstanding neoliberal paradigm. (Wigger & Buch-Hansen, 2014) Furthermore, there has been a growing consensus that a “new industrial policy” needs to take environmental and social problems into account in order to establish a sustainable growth path. (Aiginger, 2014) In these concepts the environmental dimension plays a key role. Green and sustainable growth strategies are expected to deliver new growth opportunities, create new jobs, reduce inequalities and help to fight climate change. “Pro-active” and “green industrial policies” are expected to help to deliver this vision. (Bongardt et al., 2010; European Commission, 2010b)

Consequently, the rejuvenation of “pro-active” industrial policies and the aim of a “sustainable” growth path seem to indicate a regulatory change as well as a shift in the societal power relations towards a stronger role of public institutions in the economy. However, the EU’s post-crisis economic strategy, including its industrial policy communications, does not provide a clear path or vision. (Ambroziak, 2015) Much rather, it produced contradictory elements such as “ambitious environmental targets” and a 20% reindustrialisation aim.

The focus on industrial policy is not only relevant because of its recent return to European policy agendas, it also constitutes a key guiding element of economic governance. Notably, industrial policy regulations significantly affect other areas of governance, such as environmental and social regulations.

1.2. Research Question and Research Aims

Within this context, this thesis wants to examine the conditions and the development of industrial policy rejuvenation in the context of the multiple crises in Europe. Is the return of the phrase *industrial policy* an indication of change in the dominating regulatory paradigm in the EU, and if so, what counter-projects have been emerging? Furthermore, how do the EU’s industrial policy strategies cope with contradictions

resulting out of the integration of ecological (and implicitly social) dimensions into the field of industrial policy and how does this affect environmental regulation?

These reflections lead me to the following research question:

How have European industrial policy strategies evolved in terms of form, content and scope since its proclaimed “renaissance” in the context of the multiple crises? Further, is its “renaissance” a sign of a broader regulatory change which also affects Europe’s environmental regulation?

The following hypotheses will guide the research process:

H1: *The “Renaissance of Industrial Policy” has to be seen as a result of the hegemonic crisis of the neoliberal capitalist regime. Thus, the underlying balances between social forces are questioned.*

H2: *Through the introduction of industrial policy, European state apparatuses try to regain political power in the regulatory paradigm.*

H3: *The arising contradictions in the realm of European industrial policy indicate that the process of searching for new hegemonic projects is contested. Hence, industrial policy serves as a strategic field of hegemonic struggle between different hegemony projects.*

H4: *As a consequence of the hegemonic crisis of neoliberalism, its “material core” and its mode of production have come under pressure.*

H5: *Environmental regulation therefore constitutes a key area of economic governance and industrial policy.*

1.3. Research Scope

As the research question indicates, this thesis will focus on the major industrial policy communications published by the European Commission (EC) between 2010 and 2014. However, historical developments on in the theoretical, as well as in the political discourse around industrial policy are considered to be an integral part of the research process for the given research question as it provides important insights into the “structural roots” of current industrial policy debates.

As the research question indicates, this thesis will focus on industrial policy strategies on a European level. Country specific regulations will only be presented if they are part of a broader argument.

Due to limitations regarding the extent of this work, related political fields and strategies, e.g. competition policy, energy policy, infrastructure policy, cohesion policy, regional policy, circular economy strategies, etc., will not be explicitly addressed². Nonetheless, this thesis will indicate which of these fields and strategies could be influenced by industrial policy and vice versa.

1.4. Significance of this Thesis

From a social perspective, this thesis is of highest relevance, as European industrial policy has various socio-economic and socio-ecologic impacts. Industrial policy strategies do not only determine the relationship of societal forces in a political system (i.e. the state and the market) at different junctures, they can also shape and decide what will be produced. Therefore, industrial policies can actively help to deliver socially desirable outcomes, such as a sustainable mode of production and consumption, decent work, reduced inequalities, etc.

From a scientific perspective, this thesis contributes a new perspective on the return of industrial policy to the European policy agenda. It looks beyond the given explanations and it analyses the “structural roots” of the industrial policy discourse in the context of the multiple crises. Furthermore, it integrates the environmental dimension into the analyses and therefore provides a new perspective on contradictions between environmental targets and reindustrialisation efforts on a European level.

1.5. Methodology

The analysis of European industrial policy in the context of the multiple crises is based on a critical political economy approach, i.e. a historical-materialist policy analysis (HMPA). This analysis is further supported by theoretical concepts such as the capitalist mode of production, regulation and hegemony theory, critical state theory and political ecology concepts such as society-nature relationships.

² Chapter 4 provides a comprehensive discussion on the definition of industrial policy.

This methodological and theoretical approach has been chosen as it supports the analysis of social struggles and relationships of forces in the recent evolution of industrial policy in Europe.

1.6. Structure and Outline of the Thesis

Chapter 2 of this thesis provides the theoretical foundations for this work. The theoretical discussion of the multiple crises provides the reader with an idea about the framework in which the “renaissance” of industrial policy has taken place. An extended version of regulation theory explains the different crisis regulation efforts in the EU. The elaboration of political ecology and the concept of “society-nature relationships” enables the integration of the concrete material relationships of societal forces into the analysis.

Chapter 3 provides a relevant definition of policy analysis. Three different policy approaches are presented while the historical-materialist policy analysis approach is discussed in greater detail. Kannankulam and Georgi’s (2014) approach concerning the operationalisation on the empirical investigation is also presented.

Chapter 4 gives an introduction to the field of industrial policy and discusses the different definitions of industrial policy. Furthermore, it provides a taxonomy of industrial policy rationales along the identification of four distinct industrial policy waves.

Chapter 5 traces the historical developments of industrial policy in the European Union in order to provide a comprehensive background to current developments in the field.

Chapter 6 analyses four key documents concerning the industrial strategy which have been published by the EC since the outbreak of the crisis to provide contemporary context. Following this is an analysis of relevant and conflicting actors in the discourse. The actors are summarised into “hegemony projects” and their specific capacities, objectives and rationales are discussed. This is followed by a process analysis which reconstructs the dynamic processes in the investigated conflict.

Chapter 7 explicitly addresses the given research question as well as the stated hypotheses.

2. Theoretical Framework

The development of a theoretical framework serves to lay out a solid foundation for this thesis. In the opinion of Weible and Sabatier (2014, p. 3),

“[t]he need for theories is ever essential for studying the complexity of the policy process. In studying such complexity, people are innately restrained by cognitive presuppositions that cause them to recognize some aspects of the process and ignore others. Using one or more theories is one strategy to help mitigate the effects of such presuppositions [...]”

Hence this section provides various theoretical concepts which in sum provide a comprehensive theoretical foundation rooted in historic-materialism in order to analyse the “Renaissance of industrial policy” in Europe and to answer the research question set out above.

The theoretical discussion of the multiple crises serves to illustrate the different moments of crisis which have produced the socio-economic framework in which current industrial policy approaches are operating. Insights from an extended regulation theory approach provide an understanding for the regulation of the “mode of production” and the role of hegemony in a supranational environment such as the European Union. The concept of society-nature relationships offers the possibility of including the “material core” of a certain “mode of production” and its material relationships into the analysis of this thesis.

2.1. The Multiple Crises

Today’s society is affected on a regular basis by different modes of crisis. One can distinguish the economic crisis (Konjunkturkrise) from more severe (concerning their impact on society) and bigger crises. Economic crises occur in a four to five year circle and are embedded in a long-term cycle of crisis which affects societies in a timeframe of 40-60 years and lead to a structural crisis. A crisis is always a crisis in social conditions which can be defined as relatively periodic practices of social collectives and individuals. Therefore, a crisis can be seen as the result of tensions and contradictions in those societal conditions and relationships. Another characteristic of

an intrinsic situation of crisis is, that a variety of actors – at least in the short-term – ask for a reorganisation of those societal conditions which are in crisis. Hence, crisis and crisis awareness are inseparable. (Bader et al., 2011)

Based on materialistic theory, the eruption of crisis can be explained in a cyclical manner. The basic cycle of capitalist societies is the cycle of (M)oney- (C)ommodity- (M)' (original money plus surplus value). Monetary capital serves as pre-condition for the production of goods which are put in value by market forces, so that the invested monetary capital returns to the owner with additional monetary value. This cycle includes various moments: production, circulation, distribution and consumption. Additionally, other processes are linked to this cycle: processes in the biophysical sphere such as resource extraction, energy production, supply of infrastructure, etc., but also societal processes such as the production of human working capacity, the capability to organise and control the production apparatus, the coordination and cooperation of a high number of people, the administration and distribution of commodities, the types and the extent of consumerism or savings and credits.

These capitalist relations of production are also expressed in societal relationships such as society-nature relationships, politics, legal structures, family structures, religion, arts or science, which act autonomous from the economic cycle to some extent. It is important to state that even though the cycle of reproduction of capital and the cycle of reproduction of social spheres are autonomous from each other to some extent, they are nevertheless interdependent. None of these spheres is capable of reproducing itself on the long-term without the societal reproduction. All of those realms can be captured by the dynamics of crisis in the relationships of production and the reproduction of capital. (Bader et al., 2011)

A culmination of different dynamics of crisis is normally unlikely to happen because of shifts in time and space, but some constellations are possible where different dynamics of crisis coincide. Under these conditions, different dynamics of crisis can mutually reinforce each other and accelerate in speed. (Bader et al., 2011)

Bader et al. (2011) make the argument that we are currently facing such an improbable historic constellation referred to as multiple crises.

“Unter dem Begriff der multiplen Krise verstehen wir dabei eine historisch-spezifische Konstellation verschiedener sich wechselseitig beeinflussender und zusammenhängender Krisenprozesse im neoliberalen Finanzmarktkapitalismus. In unserem Beitrag betrachten wir dabei vier von uns als zentral angesehene Krisenkomplexe: die Krise der finanzdominierten Akkumulation, die sozial-ökologische Krise, Dauerkrisen der Reproduktion sowie die Krise der parlamentarischen Demokratie.“ (Bader et al., 2011, p. 12)

Brand (2009) extends the definition of the multiple crises by further differentiations. In the social sphere, he further names the crisis of forced migration, the crisis of gender relations and hegemonic masculinity as well as social integration. Additionally, Brand adds the crisis of institutions as well as the crisis of food security.

2.1.1 Economic Crisis

“Die kapitalistischen Zentren seit 2007 ergreifende Krise der Finanzmärkte ist keine reine Finanzkrise, vielmehr artikulieren sich in ihr Widersprüche des neoliberalen Finanzmarktkapitalismus“ (Bader, Pauline Becker, Florian Demirovic, Alex Dück, Julia, 2011)

According to Brand (2009), five important characteristics of financial capitalism can be identified:

- The internationalisation of capital since the 1970ies and the rise of the so called emerging countries—such as China—have led to severe imbalances between national economies. Those countries whose current accounts show a deficit have to import capital with relatively high interest rates.³
- Processes of labour have been subject to a structural change towards flexibilisation and casualisation. These developments were enforced by the integration of a high number of new work force in the global labour market, while increased competition within the labour market weakens the position of workers. The result that is a distribution of income and wealth which goes bottom up. The growing wealth of a small part of society is largely invested in financial markets rather than spent through consumption.

³ The USA poses an exception to this phenomena since the US Dollar serves as world currency.

- The deregulation of financial markets since the 1970s has led to massive growth in that sector. The break-down of the Bretton Woods system gave birth to new financial products such as derivatives which were supposed to help international enterprises to protect themselves against exchange rate risks. This also increased speculation on financial markets.
- Privatisations of pension funds led to the abolishment of then Pay-as-you-go (PAYGO) principle and to the introduction of capital covered mechanisms. This means that more and more money is being placed in funds for decades and therefore hinders investments in the 'real' economy.
- Old and new actors as well as institutional investors such as insurances and pension and investment funds offered new financial products such as asset backed securities on loans to create new sales markets to increase the value of invested capital.

Other scholars such as Foster and Magdoff. (2009) emphasise the fact that the explosion of the financial sector in recent decades and the financial implosion which is currently taking place are to be explained in the context of stagnation tendencies within the underlying economy – the 'real economy', i.e. the part of the economy that is concerned with actually producing goods and services. "[...] the real root of the financial bust, we shall see, went much deeper: the stagnation of production and investment". (J. B. Foster & Magdoff, 2009, p. 120) Slower growth in the real economy gave rise to the accelerated accumulation of capital in the financial sector, as capital sought to leverage its way out of the problem by expanding debt and gaining speculative profits.

This meant that businesses were increasingly dependent on the growth of finance to enlarge and preserve their monetary capital. Hence, profits were increasingly invested in financial products to make use of monetary capital, rather than in the expansion of productive capacity. These processes of deindustrialisation are also to be observed in Europe, where the industrial production capacities have declined massively during the last decades- A trend which has been have been reinforced by the outbreak of the financial crisis. (Pianta et al., 2016) Hence, the economic crisis can also be interpreted as a crisis of industrial production, especially in Europe.

2.1.2. The Socio-Ecological Crisis

The ecological crisis is often theorised to be exceeding the ecosystem's carrying capacities through the depletion of natural resources and sinks. However, this view tends to neglect the inherent relationship between society and nature in a capitalist system and is therefore short-handed, as Brand argues:

“Es handelt sich jedoch um eine sozial-ökologische Krise in dem Sinn, dass die gesellschaftlichen Formen der Naturaneignung krisenhaft sind: Die Produktions- und Lebensweise, die damit verbundenen politischen Verhältnisse und ein auf Ressourcenausbeutung basierender Weltmarkt, auf dem sich die reichen Länder Ressourceninputs organisieren.“ (Brand, 2009, p. 5)

Therefore, one of the most important aspects of the social-ecological crisis is that it has effects on global and societal relationships and structures, and vice versa. (Bader et al., 2011; Brand, 2009)⁴

2.1.3. The Crisis of Social Integration

There has been a growing realisation that non-market exchanges can challenge and disrupt capitalist accumulation regimes, and yet the former are also an essential prerequisite to the latter. Growing profits and higher rates of returns have been enabled through new strategies of accumulation and a more market-oriented reorganisation of the societal sphere. The consequences of this transformation process are rising contradictions in social reproduction which have manifested themselves in moments of crisis in manifold realms of social reproduction: casualisation of working and living conditions, privatisation and liberalisation of former public services such as healthcare, gender relations, etc. (Bader et al., 2011)

These processes have been reinforced by the social consequences of neoliberal and imperial globalisation tendencies which enable economic growth and produce a stronger economic polarisation of the society. Wages have declined in most countries while the average incomes have dropped simultaneously. (Brand, 2009)

⁴ The underlying causes of the socio-ecological crisis and its relation to the sphere of production will be discussed in more detail in the section 2.3.1 of this work.

The impact of these tendencies has not been distributed equally among societal groups and countries. Lower and middle income classes are most vulnerable towards these trends; rising social inequality is one of the most prominently discussed consequences. These issues have not only been raised by economic mainstream institutions such as the OECD and the IMF (2015), who warn not only about the political and social costs of this trend, but also of the economical ones. They have also been discussed prominently on a European level as the divergence between the “industrial core” and the “southern periphery” has been increasing since the outbreak of the crisis. (Dellheim & Wolf, 2013; Landesmann, 2015; Pianta et al., 2016)

2.1.4. The Crisis of Parliamentary Democracy

“The starting point is a problem in the relationship between capitalism and democracy which is also a problem for capitalism itself. And the problem of capitalism and democracy is that the market economy in order to function needs a very flexible, uncertain labour force. But democracy needs to give people certainty and security in their lives.” (Crouch, 2004, p. 2)

According to Crouch (2004), post-democratic states are still based on a fully operating democratic system, nevertheless their decision-making power are progressively limited.

Since the 1970s, states have started to focus on improving the business climate of their countries in order to increase their competitiveness in a globalised economy. Interests of transnational fractions of capital are giving priority over stable structures of a welfare state which serves wage-earners. (Demirović, 2010) At the same time, the position of national parliaments and parties in decision-making is weakened by relocation tendencies towards informal bodies, supranational institutions or transnational public-private networks. This also holds true for other state institutions. Different forms of representation, such as political parties, public administration, trade unions, etc., are becoming more and more marginalised in the political process. (Demirović, 2010)

The crisis of representation and political institutions becomes also visible in former mass parties. Stable forms of representation between the so called mass parties and

their voters have diminished over the past decades. The cause for this is often explained by the loss of confidence of the voters, but this loss of confidence is not only caused by failed politics, it can also be understood as a direct outcome of the above described crisis of the parliamentary democracy. (Bader et al., 2011) The continuous reduction of the political operation space of parliamentary democracies is also captured by regulation theory approaches which will be discussed in the following section of this chapter.

2.2 The Regulation of the Crisis

The accumulation imperative, i.e. capital's inherent desire to increase profits through extensive or intensive strategies of investment, is at the centre of capitalism, which has to be understood as a social form. Hence, the accumulation imperative has far-reaching implications which go beyond a mere economical perspective. The "relations of production" and the change thereof directly influence the "relations of society" as a whole or, as Marx described it, the "capitalist mode of production". (Bieling & Brand, 2014)

As outlined above, capitalism does not only produce social forms of life and production, it also produces specific bio-physical relations. Hence, society-nature relations are always an inherent part of any social relation of (re)production and are therefore also subject to historically concrete power relations and structures of domination. The domination of nature and societal domination are therefore strongly linked. (Bieling & Brand, 2014; Brand & Wissen, 2013)

The French school of regulation theory have tried to advance the concept of the capitalist "mode of production" in order to enable a differentiation of certain types of capitalist formations within capitalism, and to

"[...]examine the historically contingent ensembles of complementary economic and extra-economic mechanisms and practices which enable capital accumulation to occur in a relatively stable way over long periods despite the fundamental contradictions and conflicts generated by the capital relation itself." (Jessop, 1997, p. 2)

However, Bieling and Brand (2014) identify some short-comings and blind spots within the traditional regulationist approach. The first problem concerns the "implicit functionalism" and "stability orientation" of many regulationist works, which tend to put

regulatory and socio-technological perspectives in the focus of analysis and thereby neglect the critical discussion of the generation of conflict, as well as (dis)consent and issues of hegemony. The second problem is that most regulationist views tend to remain trapped in the dichotomy between nation state and world market. The authors propose an extension of the theory by a neo-Gramscian International Political Economy (IPE) perspective and a Neo-Poulanzian understanding of the (internationalized) state.

The work of Robert Cox (1989) serves as a starting point for the extension of the analytical framework. Cox puts production relations at the centre of a critical analysis of the functions and mechanisms of hegemony. (Bieler & Morton, 2004; Bieling & Brand, 2014) Yet it is important not to understand production in a pure economic sense, on the contrary:

“[p]roduction is to be understood in the broadest sense. It is not confined to the production of physical goods used or consumed. It covers the production and reproduction of knowledge and the social relations, morals and institutions that are prerequisites to the production of physical goods.”
(Cox, 1989, p. 39)

Cox also emphasises the social configuration of different forms of power which are inscribed into the different modes of (re)production. This also implies that issues of hegemony and hegemonic struggles have a certain “material core” or as Bieling and Brand (2014, p. 192) put it: “[h]egemony needs to offer a more or less attractive form of living in order to generate active consensus or, at least, to make alternatives – for instance, via the techniques of discursive disarticulation – less viable.”

Gramscian IPE can also contribute to overcome the dichotomy of traditional regulationist approaches through the understanding of hegemony as a consensually supported mode of transnational development that goes beyond inter-state relations. “Transnational hegemonic relations are fundamentally shaped by the ‘uneven and combined’ patterns of economic penetration and interdependence.” (Bieling & Brand, 2014, p. 192)

In this context, Neo-Gramscian IPE also highlights the importance of taking the extension of the “integral state”, i.e. the state-civil society relations, into account. This process results in an emerging transnational civil society. This new transnational civil

society is also an object to new power relations and is dominated by transnational corporations and their business associations in collaboration with academics, think tanks and governments, who are trying to pursue their interests through the establishment of international arrangements such as treaties, institutions or regimes. (Bieling & Brand, 2014)

Stephen Gill (2008) describes this process as “new constitutionalism”, which

“[...] operates in practice to confer privileged rights of citizenship and representation to corporate capital and large investors. What is being attempted is the creation of a political economy and social order where public policy is premised upon the dominance of the investor [...]” (Gill, 1998, p. 29)

Important features of the “new constitutionalism” are the facilitation of the emergence of new modes of statehood beyond the nation-state, and the promotion of transnational state-civilian society complexes. However, most neo-Gramscian IPE scholars fail to provide an adequate analytical framework to address these new and more complex transnational state-backed regulatory dynamics.

In order to overcome these analytical barriers, Bieling and Brand (2014) provide a new understanding of the state, based on Poulantzas (2000) state theory. Instead of further static definitions of the state, Poulantza suggests a more dynamic understanding of the concept of the state. He refers to this as a “relationship of forces”.⁵ Moreover, “[...] the state is the strategic terrain which is by and large, albeit not completely, controlled by dominant forces, i.e. those who dispose of the means of production.” (Bieling & Brand, 2014, p. 193) This means that the state is to be conceptualised on the one hand as a terrain of struggle, but also as a social and institutional setting which can fail.

However, it is also important to stress that the state must be seen as a multiscalar social relation, i.e. “[...] its modes of existence and functions can also be performed at international level and especially via international state apparatuses”. (Bieling & Brand, 2014, p. 194) Brand et al. (2011) therefore suggest to enhance Poulantzas state concept by including “second order condensation of social relationships” which find their expression in the increasing amount of international legal standards and norms

⁵ Poulantza's theory of the state is discussed in greater detail in section 3.2.3 of this work.

as well as considerable resources and instruments of political steering on an international level.

This “second order condensation” builds upon two distinct characteristics. (Bieling & Brand, 2014) First, it differs from the domestic arena as the structures of the transnational civil society and public spheres are nationally fragmented. Therefore not only increasing transnational activities of business associations, political parties, social movements, NGO's and academic and journalist practices constitute a building bloc of the condensation process, but also national state apparatuses such as governments, ministries, and public administration bodies constitute an important element in the condensation process. Second, the kind of statehood which emerges on the international arena and the accompanying “new constitutionalism” generate a form of market-liberal oriented state which “[...] primarily focuses on property rights, investors' freedoms and predictable trade relations, and perhaps takes into consideration some aspects of checks and balances.” (Bieling & Brand, 2014, p. 194)

These processes and characteristics also hold true for the European Union, where competencies have moved up to the inter- or supranational level, while most administrative tasks remain on a national level. Bieling and Brand (2014, p. 194) define the EU as “[...] a form of ‘second-order condensation of societal power relations’ strongly based on ‘new constitutionalist’ arrangements”.

Thus, the regulationist approach extended by neo-Gramscian IPE provides an appropriate foundation to examine the regulation efforts of the crisis in in the European Union, “the most prominent example” for the internationalised state. (Bieling & Brand, 2014) The field of industrial policy has to be seen as a constitutive element of the “new constitutionalist” arrangements.

2.3 Political Ecology

“All ecological projects (and arguments) are simultaneously political-economic projects (and arguments) and vice versa. Ecological arguments are never socially neutral any more than socio-political arguments are ecologically neutral. Looking more closely at the way ecology and politics interrelate then becomes imperative if we are to get a better handle on how to approach environmental/ecological questions” (Harvey, 1993, p. 182)

The term “political ecology” was first used in academic publications in the late 1960s and early 1970s. (Wolf, 1972) Since its beginnings, the term “political ecology” has been open to a wide range of definitions with differences in emphasis. However, the term “*political* ecology” also implies that there must be an apolitical ecology. Apolitical approaches conceptualise ecological problems as external and neutral processes which can be solved via technological advances (R. L. Bryant, 1998; Harvey, 1993).

Robbins (2011) identifies two other prominent apolitical approaches, namely the ‘ecoscarcity/Neo Malthusian’ and the ‘modernisation’. The ecoscarcity/neo-Malthusian approach identifies demographic problems as the source for environmental crisis and change; population control acts as the key element in the solution of the environmental crisis and is given priority over the reconfiguration of global distributions of power and goods. Modernisation approaches to environmental and ecological change on the other hand generally assert that win-win situations can be created through efficiency gains in production, which lower the environmental pressures and accelerate economic growth. However, Robbins (2011, p. 31) points out that “[...] the dominant contemporary accounts of environmental crisis and ecological change tend to ignore the significant influence of political economic forces. [...] The other lesson is that apolitical ecologies, regardless of claims to even-handed, are implicitly political.”

As outlined above, the relatively young field of political ecology is not homogenous. Still, according to Bryant and Bailey (1992; 1997), political ecology accounts and research efforts share the common premise that environmental change is not a neutral process; it is activated by political conditions and ramifications that originate in existing

socio-economic inequalities and political processes. Three linked assumptions for research in political ecology can be derived from this:

1. Costs and benefits associated with environmental change are for the most parts not distributed equally.
2. Social and economic inequalities are either reinforced or reduced by the unequal distribution of environmental costs.
3. The varying social and economic impact of environmental change alters the power relations amongst actors and has therefore an explicit political dimension.

Based on these three assumptions, Bryant and Bailey (1997) developed the concept of a “politicised environment”: “[c]entral to the idea of a politicised environment is the recognition that environmental problems cannot be understood in isolation from the political and economic contexts within they are created.” (Raymond L. Bryant & Bailey, 1997, p. 26) Questions regarding environmental change must therefore always consider the material and discursive substructure of these problems. Power relations provide actors with the ability to control or to resist other actors. The appropriation and control of nature as well as access are always contested and inherent parts of a politicised environment.

2.3.1. Society-Nature Relations

Also located within the paradigm of political ecology is the framework of the concept of “societal nature relations” (Gesellschaftliche Naturverhältnisse [GNV]) which attempts to integrate various critical approaches. This concept is based on the core assumption that the relationship between society and nature is not an external relationship. Therefore, the society-nature relationship is constitutive to social and political domination. (Brand & Görg, 2008; Brand & Wissen, 2013)

Nature and society are regarded as simultaneously different but also mutually constituted which implies that nature cannot be understood as an external norm. Rather, nature has to be conceptualised as a field of interrelations that can be socially configured, while at the same time escaping complete and comprehensive configuration and control. “Society-nature relationships are concrete material relationships structured by social process of production and consumption (management or ‘metabolism’) and hegemonically defined by social perceptions and

interpretations, which, in turn, impose certain limits on these constructions.” (Brand & Wissen, 2013, p. 690)

In contrast to other theories influenced by development, evolution or modernisation, changes in the society-nature relationships are not understood to be linear or continuous processes; they are crisis-prone developments characterised by ruptures and discontinuities. (Brand & Wissen, 2013)

Hence, society-nature relationships are an integral part of all other forms of social relationships. Brand and Wissen (2013) try to make the relationship between the individual, society and nature more explicit and understandable in describing it as a relationship with material and cultural aspects which are shaped and constituted by social conflicts. A car, for example, is much more than a vehicle on four wheels with a combustion engine: “[...], it is a social commodity whose development, production and use depend on relations of competition and cooperation, business and trade-union interests, the organisation of production and cooperation, [...] and the necessary research and governmental policy support.” (Brand & Wissen, 2013, p. 691) This example also shows that capitalist production highly depends on nature at a material level.

However, as Görg (2003) argues, nature cannot be produced at will. It has a certain autonomy; its reproductive capacities can be exceeded and undermined. This notion is important as it implies, that “[...] created ecosystems, while intentionally or unintentionally produced by capitalism, possess casual powers of their own and take on agency in relation to capitalist processes of which they are medium and outcome.” (Brand & Wissen, 2013, p. 691) Put differently, the society-nature relationship and its tendency to be prone to crisis is closely linked to other aspects of crisis.

An environmental crisis can therefore serve as a catalyst for structural change by shifting power relations between capital fractions and creating new spaces for crisis management. Those spaces are not only found within the institutional terrains which have been explicitly foreseen and designed for environmental politics, they are also found and created in policy fields like trade policy or, as this thesis suggests, industrial policy. Often, the policy fields of implicit environmental policy are far more important than those of explicit environmental policy, as they shape the underlying framework for explicit environmental politics. (Conca, 1993) Vice versa, this also holds true for explicit

environmental policy; environmental politics are not only concerned with environmental issues in a narrow sense. Brand and Wissen (2013) argue that the struggles over the conditions of future industrial development are also fought out within the framework of international environmental agreements, most prominently under the United Nations Framework Convention on Climate Change (UNFCCC) or the EU 2030 Climate and Energy Framework.

In the context of crisis management, the contradictions of capitalist society-nature relations become more apparent. In recent decades, there has been an increasing international competition for natural resources and an intensified competition over CO₂ sinks or, to put it less technical, the right to pollute.

“Environmental policy is bound to take place on this terrain of geopolitics and geo-economics precisely to the extent that environmental policy terrains are being blocked or at least affected by geopolitics and geo-economics. There is thus a partial shift from explicit towards implicit environmental (and also geo-) politics.” (Brand & Wissen, 2013, p. 701)

Transformations within the society-nature relationship are not necessarily motivated by environmental concerns. The restructuring of production, consumption and distribution systems is often triggered by concerns arising from competition and the compulsion of valorisation, especially in the context of crisis and its management. The society-nature relationship can thus only be adequately analysed and understood with reference to general structural transformations.

Bieling and Brand (2014) state that society-nature relations particularly shape current modes of crisis politics. However, at the same time, “[...] hegemonic societal nature relations are in a very ambiguous way a stabilizing moment within crisis.” (Bieling & Brand, 2014, p. 190)

3. Methodology

Policy analysis can be defined as the study of “what governments do, why they do it, and what difference it makes.” (Dye, 1976) Consequently, policy analysis focuses on the content and the concrete framework for the implementation of institutionalised politics. (Brand, 2013) Policy analysis therefore provides us with the tools to understand how political intervention comes about, how political programs and measures are constituted, and their effects. (Klöti, 2003)

Analytically, the concept of *policy* can be distinguished from *politics*, which focus on the strategies of political and societal forces in political conflicts and compromises, and from *polity*, which focuses on political institutions and governance structures. (Klöti, 2003) Even though there are many broad definitions and interpretations of the concept of policy, it would be misleading and short-sighted to conceptualise it as a synonym for governance since such a narrow definition neglects the role of private actors and forces in the fulfilment of public duties.

Anderson (2014, p. 5) provides a more specific definition of public policy as “[...] a purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern”.

With an idea of the aims of the concept of policy analysis and a definition of the term (public) policy provided above, the following sections will focus on different theoretical approaches and concepts within the realm of policy analysis.

3.1. Traditional Approaches to Policy Analysis

When views which considered state policy as a process of power and its distribution or as an outcome of ideological struggles of political parties changed in the 1960s, policy analysis grew to become more important on the academic agenda. From its beginnings, the concept of policy analysis has been strongly intertwined with the assumption that the policy process is evolving in an evolutionary manner through stages or phases. (Jann & Wegrich, 2007). However, different theoretical approaches have been developed since.

In this section, a brief overview over existing concepts and approaches will be provided, followed by an introduction to historical-materialist policy analysis (HPMA) which serves as the methodological foundation for the analysis of the current industrial policy in Europe in this thesis.

3.1.1 The Rationalist Paradigm

The traditional textbook approach to the analysis of policy classifies the policy-making approach into discrete component steps and analyses each of them separately. Conceptualising policy as a process that is the sum of analytical units which are treated as temporally and functionally distinct goes back to the early works of the American political scientist Harold Laswell. (Porter & Hicks, 1995) Laswell's policy process consists of seven stages: intelligence, promotion, prescription, invocation, application, termination, and appraisal. (Laswell, 1956).

Ensuing from the growth of policy studies in the 1960s and 1970s, Laswell's model has been developed further by the academic community to improve the structure of its questions about conditions and objectives of policies. (Porter & Hicks, 1995) Various called the linear, mainstream, common-sense or rational model, this approach includes: (1) the identification of policy problems, (2) agenda setting, (3) the formulation of policy proposals, (4) the adoption and legitimation of policies, and (5) the evaluation of policies. It has become a widely used model of the chronology of a political process. (Brand, 2013; Jann & Wegrich, 2007; Porter & Hicks, 1995; Sutton, 1999) Breaking the political process down into separate stages reduces the complexity of public-policy-making and makes the policy process more comprehensible.

Even though the rationalist paradigm and the heuristic stages have been widely adopted throughout the field of policy analysis, the model became subject to widespread criticism. Scholars criticized the technocratic misunderstanding of policy studies which defined the impact of policy studies as their materialization in institutional and legal structures, thereby downplaying the fact, that societal power relations do indeed determine the opportunities to pursue successfully interests and that policies are rather part and terrain of social struggles than a rational means for the state to deal with problems. (Brand, 2013)

Furthermore, the rationalist paradigm and its model of heuristic stages have been criticised for being too schematic. Scholars have pointed out that decision making in the real word usually does not follow the proposed sequence of separate stages. (Jann & Wegrich, 2007)

Since public actors are at the centre of analysis, the role of private actors within the process of policy-making is often neglected. The state is seen as the central institution

where decisions are made. Private actors are only considered when contributing to the fulfilment of policies. (Brand, 2013)

According to Brand (2013), an important aspect of the rational paradigm is that only limited knowledge exists about social patterns of interaction, and that the steering mechanisms act consciously and reflexively against the background of specific policies.

Furthermore, knowledge about the state as the subject of policies is still limited due to the high complexity caused by manifold actors and varying constellations of interest in different policy fields. (Schneider, 2008)

Greven's (2008) main criticism with the rational paradigm is that factors of power relations and structures within the policy process are neglected or even forgotten: "Konstitutiv für diese Vergleiche ist die auffällige Gemeinsamkeit, 'Politik' dominant als rationales Problemlösungshandeln zu konzipieren, 'Macht' vorwiegend als dafür notwendige Ressource zu betrachten und die Eigeninteressiertheit und systembezogene Interessensverflochtenheiten der politischen Akteure weitgehend auszublenden." (Greven, 2008, p. 27)

Another point of critique, raised by Sutton (1999) and Fischer (1990), is that 'advocacy' research and the attempt to create knowledge by experts have developed into a technical and market-oriented form of expertise. For this, Sutton (1999) makes reference to the term 'political technology', which was first used by Michael Foucault, arguing that the political nature of policies is hidden by the use of a language that suggests objectivity, neutrality and rationality. Knowledge is equated with scientific knowledge and should therefore lead to more rational policy decisions.

To overcome the weaknesses of the overly rationalist models and approaches to policy analysis, causal-analytical approaches were developed. The objective of these approaches lies in the understanding of policy change in relation to shifting ideas or paradigms in which change is seen to be caused by external factors, such as party politics. (Brand, 2013) Another prominent approach focuses on advocacy coalitions and its corresponding systems of beliefs of actors in different institutions such as public administration. (Sabatier, 1988; Sabatier & Weible, 2014)

Brand (2013) concludes about the rational paradigm and its offshoots that these approaches "[...] often fail to recognize power structures and tend to reproduce a top

down model of policy-making. Moreover, they do not reflect the overall context of formulated and implemented policies.” (Brand, 2013, p. 5)

3.1.2 Interpretative Policy Analysis:

Since the 1990s, a new stream of policy analysis has emerged in the context of the critique of the rationalist policy analysis paradigm. The interpretative policy analysis (IPA) focuses on discourse, meaning, language, argumentation, and rhetoric as the essential parts of policy and therefore, too, for policy analysis. (Sabatier, 1988) While other approaches in the field focus on the roles of ideas and learning, IPA emphasises the role of language in the policy process: language is seen as more than just a means of communication, it also serves as a constitutive for policy. (Gottweis, 2006)

IPA also tries to break the dichotomy of knowledge and policy which had been presumed by other approaches. Knowledge is seen as creating meaning, social and political problems, reality, action, the self-perception of actors, and their evaluation of political constellations.(Brand, 2013) Another important characteristic of IPA is the assumption that the world is not described as fixed or stabilised; on the contrary, it is characterised by radical uncertainty and complexity. In the tradition of Foucault, post-structuralist approaches of interpretative policy analysis argue that power and knowledge are co-constituted, through which “truth effects” can be produced. Through this process, subjects can constitute themselves in the policy arena. (Gottweis, 2006) Therefore, the emphasis in IPA is on the questions of how meanings and reality are being created, and how they in turn lead to the creation of certain regulations. Policies are defined as performative processes which attempt to organise and fix the meaning of political events and developments, as well as of new or existing policy fields and the way in which specific boundaries and story lines are established. “Hierarchies and power are important, because they determine what can and cannot be said.” (Brand, 2013: 6) Therefore, IPA argues for a democratisation of knowledge and positions itself in stark contrast to rationalist approaches to policy analysis.

Nevertheless, critics have raised concerns, alleging an “overly optimistic approach” (Brand, 2013; Gottweis, 2006) regarding the possibilities and effects of more participation in the policy process. Another point of criticism concerns the exclusivity of knowledge, meaning, arguments, and discourses as the central concepts of analysis: the IPA view narrows the perspective of the analysis and overlooks fundamental questions such as how societal reproduction functions beyond the realm of debate.

(Brand, 2013) Hence, IPA examines the policy process on a micro perspective without linking it to a macro level.

Still, it is important to highlight that the concept of history in IPA is being contested and object of contingencies rather than seen as a linear process. This offers a broader corridor of analysis than mainstream approaches. IPA also criticises existing policy-making structures, their institutional settings, and their embeddedness into societal contexts and power relations. This leads to a focus on the contested structures, shaped by power, in which policies are being made, rather than solely on the effectiveness of regulations. (Brand, 2013)

3.2 Historical-Materialist Policy Analysis

Brand (2013) offers an outline of a historical-materialist policy analysis on the basis of a dual critique. The first point concerns the conceptualisation of policy in an overly functionalist way by historical-materialist approaches. Policies are seen as the outcome of predominant social relations with class relations being the most prominent ones. Contingencies and the internal logic of the policy process are therefore barely captured by these approaches. The second point of his critique concerns the correspondence (or the lack of it) between societal reproduction and policy.

Brand (2013) argues that despite these critical prerequisites, historical-materialist theory offers a profound foundation for policy analysis as it considers the domination shaped forms of societal reproduction as whole and specific societal relationships. "It looks at the structural conditions under which societal actors and forces are potentially able to act, and do in fact act." (Brand, 2013, p. 6) Another important assumption of historical-materialist theory is that capitalist societies are considered to have no steering centre. Neither capital nor the state have the ability to fulfil that role. Rather, capitalist societies are controlled by structural conditions such as the value form, the credit and the production of surplus value, competition and the accumulation imperative, as well as the political form. Following this logic, historical-materialist theory focuses on societal relations such as class, gender or society's relationship with nature; relationships which are seen to be the outcomes of the social division of labour, the commodity-form of societal production, and the private appropriation of surplus value, including forms of subjectivation and the appropriation of nature. (Brand, 2013)

The historical-materialist perspective assumes that some form of requirements exist which enable the reproduction of the intrinsically insecure and improbable reproduction of societal relations. The valorisation of capital through the private appropriation of surplus value and related class relations must function to ensure the reproduction processes. However, these requirements are often insufficient as Brand (2013, p. 7) argues. “[...] it becomes even clearer that manifold social phenomena in modern societies cannot be reduced to the imperative of capital accumulation or to class domination.”

Brand (2013) provides an example from the field of environmental policy. Environmental problems and attempts to formulate responses on a policy level are not only to be seen as mere expressions of capitalist relations, but have to be understood in terms of their own dynamics such as the material degradation of living conditions or the outstanding epistemic role of modern societies. He also emphasises the need of policy analysis to consider “[...] the complex and contingent political, socio-economic, socio-cultural, and subjective relations in which people and collectives reproduce themselves materially and symbolically, [...]” (Brand, 2013, p. 7)

In this context, it is important to overcome the dual critique which Brand has identified. The concept of public policies cannot be analysed without a detailed understanding of the state, of the societal context of policies, and of the process of mutual correspondence.

3.2.1 A comprehensive understanding of the State

In most approaches to policy analysis, the state is recognised in its existence, but is usually not defined on a theoretical level. The state is rather seen as institutionally separated from the rest of the society. Its role is limited to its disposal of specific and impersonal means of power, the fulfilment of certain functions, and its materialisation in apparatuses and in discourse. (Brand, 2013)

However, the historical materialist perspective differs from this assumption. “[...] the institutions of the integral state do not and cannot regulate, mediate and stabilize the contradictory relationships of capitalist societies from the outside, from some imaginary neutral position or ‘from above’.” (Kannankulam & Georgi, 2014, p. 62)

Its structures and actions can only be understood by considering social practices and forces, the social context and its changing nature, as well as the contested role of the

state in the reproduction of capitalist societies. (Brand, 2013; Kannankulam & Georgi, 2014) Or as Kannankulam and Georgi put it,

“[...] it is because the societal conflicts and the struggles materialize and are being transformed within the state apparatuses, that the antagonistic social relations and thereby reproducing the whole of capitalist societies and, for a while, the distinct modes of capitalist accumulation.”
(Kannankulam & Georgi, 2014, p. 62)

This assumption is based on the critical state theory of Poulantzas (2000). Poulantzas describes the state as a “strategic field” and “process” in which manifold conflicts of intersecting power networks articulate and exhibit mutual contradictions and displacements. The state can therefore be understood as “a relationship of forces, or more precisely the material condensation of such relationship among classes and class factions, such as this is expressed in the state in a necessarily specific form.” (Poulantzas, 2000, p. 159)

Following this understanding, Poulantzas’ concept of “condensation” can help to understand how societal changes are reflected in societal power relations and are thereby inscribed into the state and how they shape policy making. “In other words, institutions cannot be analysed without analysing the shifting relationships of forces in a society.” (Kannankulam & Georgi, 2014, p. 62)

3.2.2 Context and Corridors of Policy Making

A central assumption of the HPMA framework is that policies are created in a specific context. The meaning of the given context is provided by particular actors or a set of actors. However, the context is also reproduced independently of that meaning. It is therefore important to theorise this process in order to understand its effects and the underlying structure. (Brand, 2013)

For this purpose it is crucial to understand that according to Marx (1998), modes of production correspond to the underlying structures of production-relations which human beings are entering during their social life and in the creation of their social life. HPMA also looks beyond a certain policy field and its concrete context, as the historically variable patterns of domination need to be detected.

“What is of interest for HPMA with respect to ‘context’ are those actions and possible strategic projects of actors which, through contest and compromise, and in the light of previously existing patterns, have potentially universalizing effects, and which create ‘corridors’ [...] of policy-making.” (Brand, 2013, p. 9)

Gramsci’s concept of hegemony offers a valuable framework for this purpose, because it describes dimensions which influence and shape concrete contexts and corridors of policy making. The process of creating hegemony is not only important for dominant classes to secure their interests, it also produces and secures power constellations over longer time periods. This ensures the possibility of settling potential conflicts in a rule-guided manner among opposing parties and to reach a compromise. The quality of compromise is dependent on the conditions of possible polarisations and on the question of which actor succeeds in monopolising the power to define what emerges as a potential opposition and to the structure of balance achieved by compromise. This ensures the ability to solve emerging problems in a rule-guided manner. This process can be described as a form of universalisation: “One—albeit not the only—important instance on universalisation is that particular interests, norms, and ideas, as well as forms of compromise, organisation of power, etc., become state-and hence public policy.” (Brand, 2013, p. 9)

For HPMA it is therefore crucial to ask which discourses and/or practices create problems and could therefore become political issues in the sense that they create or reinforce particular policies. If they do become political issues, the form of hegemony will determine how they enter the political process and therefore how they become policies.

3.2.3 Correspondence and Non-Correspondence between Societal Reproduction and Policies: The Role of Institutions

To gain a better understanding of successful policy intervention, it is essential to develop understanding and knowledge about the “object of steering” and of the “subject of steering” such as the policy structure and process.

“The task is to link the analysis of concrete manifestations to the underlying social grammar, or the causal mechanisms of hegemonic relations, without overlooking contingencies, concrete strategies, or the possibility that with particular policies implemented under specific conditions and power relations a policy window could emerge.” (Brand, 2013, p. 10)

Further, policies which were achieved by “muddling through”, by non-decisions, or by competition among parties and politicians have to be considered. (Brand, 2013)

In HMPA, the relationship between the object and the subject of steering constitutes itself through a correspondence of the social and the political. The functions of the state in the process of societal reproduction would otherwise fail. How these functions are fulfilled and whether they succeed is historically contingent:

“Policies are in that sense part of, and the product of, social struggles- struggles to determine socially accepted definitions- and at the same time have to fulfil certain societal functionalities, i.e. the more or less successful regulation of contentious, contradictory, and potentially crisis-driven social relations.” (Brand, 2013, p. 10)

However, the question of how those functional requirements are translated into policies is often overlooked.

Taking into consideration that some kind of requirements that need to be fulfilled in order to enable societal reproduction exist, although it is not clear what these requirements exactly are, policies play an essential role. Brand (2013, p. 11) argues that: “[s]pecific policies are not per se rational, but ‘rationality’, in the sense of viability and acceptance, has to be created in the process of search.” This process of searching can be translated into knowledge. Following the direction of thought by Foucault, Gramsci, and Poulantzas, an understanding of the state as a knowledge apparatus, which in principle does not know much about societal problems that have to be addressed in the course of governance, helps to tackle this problem. Nonetheless, trajectories of experience and knowledge production already exist, therefore certain forms of knowledge are more inscribed into particular institutions than others. These

forms of knowledge form part of a barrier and can therefore be described as part of the “selectivities of a state”.(Brand, 2013; Kannankulam & Georgi, 2014)

In this view, both the creation of knowledge and of policies are objected to certain selectivities. Those selectivities determine the identification of problems as well as the paths of processing. The state also determines the way in which which certain problems are addressed. Brand (2013) illustrates this with an example from the field of environmental policy. The ecological crisis and the implicated problems are not being framed in opposition to the general interest of capital, although some capital fractions are being addressed.

The state needs to constantly produce knowledge about those aspects of society which need to be governed, about requirements which are a necessity to ensure societal reproduction, about existing and potential problems, etc. This knowledge can be created through its own activities, but also by other actors such as lobbyists, think-tanks, the public, etc. “Arguably, this is a central mode of governance.” (Brand, 2013, p. 11)

However, Jessop stresses that access and power are asymmetrically distributed among actors:

“Particular forms of state privilege some strategies over others, privilege the access of some forces over others, some interests over others, sometime horizons over others, some coalition possibilities over others. A given type of state, a given state form, a given form of regime will be more accessible to some form forces than others according to the strategies they adopt to gain state power.” (Jessop, 1990, p. 10)

3.2.4 Operationalisation

Provided with a better understanding of the state and having considered the hegemonic context as well as the corridors and selectivities in policy-making, questions on the operationalisation arise.

Kannankulam and Georgi (2014) introduced a three-tier approach to analyse social struggles and relationships of forces according to the HMPA framework: context analysis, actor analysis, and process analysis.

a. Context analysis

HPMA is a method which looks at a policy field not just in an analytical manner, but also tries to identify the attached social and political struggles. The central aim of the contextual analysis is to provide insights into “[...] a specific historical situation to which social and political forces reacted differently and in opposition to each other [...]” (Kannankulam & Georgi, 2014, p. 63)

b. Actor analysis

Following the contextualisation of the investigated policy field, the second step provides an analysis of the actors involved. “To be sure, the actors themselves, their specific capacities, objectives and rationales are co-constituted or structured by the historical situation. (Kannankulam & Georgi, 2014, p. 63) Kannankulam and Georgi divide this crucial step into the following three sub-steps:

As a first sub-step, they suggest to identify the opposing strategies which are pursued in the investigated policy field. The researcher has to find out who the important actors are and what strategies they were pursuing during the different phases of the investigated policy subject. Apart from looking into the strategies of ‘established’ actors such as political parties, trade unions firms, etc., it is equally important to include other institutions which are part of the state apparatuses such as e.g. social movement groups.

As a second sub-step, a classification of these strategies is made by dividing them into so-called “hegemonic projects”. This should help to identify the often unclear number of actors in any given societal conflict in accordance with their specific power resources.

“In distinguishing different hegemony projects, a claim is made that the practices compromised therein share a distinct, common direction. The actor analysis seeks to make heuristic statements that are as plausible as possible about the constellation of social forces. [...]” (Kannankulam & Georgi, 2014, p. 64)

Subsequently, an assessment of the relative positions of the identified hegemony groups in the societal relationships of forces should be undertaken. Therefore, the potential power resources of the identified hegemonic projects have to be analysed. Kannankulam and Georgi distinguish between four different resources:

1. organisational resources such as bureaucracies, contact networks, money, or the capacity to threaten or use force;
2. systemic resources which refer to an actor's capability to make (mostly economic) decisions that have systemic consequences;
3. discursive, ideological and symbolic resources which are derived from an actor's capacity to refer to or to accept discourses or concepts that embody a highly symbolic capital;
4. institutional or strategic-structural selectivities focus on the question of how the position of actors or hegemonic projects in the relationship of forces corresponds to the dominant selectivities in social, economic and political institutions. "Actor strategies, [...] are privileged or disadvantaged according to the degree that their strategies and political projects are complementary to the existing institutional configurations and path-dependencies." (Kannankulam & Georgi, 2014, p. 65)

In reference to the research question of this thesis, historical-materialist approaches to policy analysis offer promising theoretical and methodological tools to identify the "structural roots" of recent attempts to revive industrial policy in Europe.

4. Industrial Policy – A Contested Policy Field

Before turning to the specific European context of industrial policy, it is important to raise the question what industrial policy is and what its aims are. Therefore this section provides an overview over the debate of industrial policy, as well as a working definition of industrial policy for this thesis.

4.1 A Variety of Definitions

"Before embarking on this task, it is more than useful to clarify upfront that the verdict on what industrial policy can achieve very much depends on what we think industrial policy is." (Riess & Valila, 2006, p. 12)

Few topics in economics and politics have caused more controversy than the subject of industrial policy. "Not just its effectiveness and generalizability, but also its definition and very existence have been debated." (Chang, 2011, p. 83)

Di Maio (2014) argues that there are several reasons for that. First, there is the lack of a general definition of industrial policy. This is problematic because an accepted

definition would determine answers to fundamental questions such as about the theoretical justification for the application (or non-application) of industrial policy, which measures should be considered as part of industrial policy, and what its effects have been the past. Second, the theoretical justification of industrial policy in its most basic version is based on the acknowledgment of market failures. Therefore, industrial policy must be analysed in the context of imperfect competition and incomplete markets. This requires a set of mathematical instruments to integrate those factors; a practice which, until recently, had not been common among economists. Third, the analysis of industrial policy is currently at the intersection of different research fields including economic history, development economics and political science. “Finally, and not surprisingly, it is a highly sensitive political issue.” (Maio, 2014, p. 553) Hence, the starting point of any discussion about the concept of industrial policy has to be a definition of what is meant by the term, or more specifically, what its objectives are and which measures are part of it.

There currently exists a wide variety of definitions of industrial policy. Literally interpreted, *industrial policy* should mean *policies which target industries*, in the same way in which *agriculture policy* means *policies that affect the agricultural sector* or *monetary policy* means *policies that regulates monetary variables*. (Chang, 2011)

Indeed there are many scholars who follow this definition. One of the most prominent proponents of industrial policy in the US, Reich (1982), includes policy measures such as favouring business sectors and industries, policies to support the building of industrial infrastructure, policies to create a skilled workforce, and regional policies. Other scholars like Pinder (1982), a British proponent of industrial policy, even go a step further and extend the definition of IP with an exhaustive list of policy measures which include manpower policies, fiscal and financial incentives for investment, public investment programs, public procurement, research and development policies, antitrust policies, merger policies to create ‘national champions’, etc.

However, Chang (2011) argues that the majority of politicians and scholars do not refer to industrial policy in such a broad sense. According to him, industrial policy is much more often conceptualised as a very particular type of policies *which affects industries*. “It is commonly known as ‘selective industrial policy’ or ‘targeting’ - namely, a policy that deliberately favours particular industries over others, against market signals, usually (but not necessarily) to enhance efficiency and promote productivity.” (Chang, 2011,

p. 2) Chang therefore defines industrial policy as “[...] aimed at particular industries (and firms in their components) to achieve the outcomes that are perceived by the state to be efficient for the economy as a whole.” (Chang, 2012, p. 66)

Another prominent scholar in the realm of industrial policy, Dani Rodrick, defines industrial policy as “[...] policies that stimulate specific economic activities and promote structural change. As such, industrial policy is not about industry per se. Policies targeted at non-traditional agriculture or services qualify as much as incentives on manufacturers.” (Rodrik, 2008, p. 2)

Foreman-Peck and Federico (1999) adopt a very broad definition in their review of industrial policy in Europe. They define industrial policy as “[...] every form of state intervention which affects industry as a distinct part of the economy.” (Foreman-Peck & Federico, 1999, p. 3)

Differences regarding the scope of industrial policy can also be found in the definitions of international organisations. While UNCTAD defines industrial policy in a more narrow sense as a “concerted, focused, conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools” (UNCTAD, 2009, p. 4), the World Bank has adopted a broader definition considering industrial policy as “government efforts to alter industrial structure and promote productivity-based growth.” (World Bank, 1993, p. 304)

Based on the widely cited definition of industrial policy by Pack and Saggi (2006), the OECD defines industrial policy

“[...]as any type of intervention of government policy that attempts to improve the business environment or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such an intervention.” (Warwick, 2013, p. 16)

An even more general use of the term industrial policy is provided by the European Commission:

“Industrial policy is horizontal in nature and aims to secure framework conditions favourable to industrial competitiveness. It is also well integrated into a number of other EU policies such as those relating to trade, the internal market, research and innovation, employment, environmental protection and public health. EU industrial policy is specifically aimed at: (1) ‘speeding up the adjustment of industry to structural changes’; (2) ‘encouraging an environment favourable to initiative and to the development of undertakings throughout the Union, particularly small and medium-sized undertakings’; (3) ‘encouraging an environment favourable to cooperation between undertakings’; and (4) ‘fostering better exploitation of the industrial potential of policies of innovation, research and technological development’ “(*European Commission, 2008a, p. 1*)

Aiginger and Sieber (2006) characterise this kind of definition as a ‘matrix type’ of industrial policy which combines horizontal and vertical measures.

Considering the wide variety of definitions of industrial policy, their conceptual underpinnings and their effectiveness, Riess and Väilä refer to industrial policy as

“[...] something of an oddity among the various areas of economic policy. On the one hand industrial policy is considered as just another policy area [...]. On the other hand, as opposed to other policy areas, industrial policy lacks a clearly identifiable set of goals, policy instruments, and institutions, such as a legislative framework [...]. In other words, while denoted a ‘policy’, industrial policy lacks most of defining features thereof.” (Riess & Valila, 2006, p. 12)

Table 1 gives an overview on the variety of existing definition of industrial policy.

Table 1: Variety of Definitions of industrial policy

<i>“Industrial policies are concerned with promoting industrial growth and efficiency”</i>	(OECD, 1975)
<i>“Industrial policy may be generally defined as any government measure, or set of measures, to promote or prevent structural change”</i>	(Price, 1981)
<i>“[...] the term industrial policy indicates the relationship between business and government on a microeconomic level [...]”</i>	(Wachter & Wachter, 1981)
<i>“[...] everything which is useful to improve growth and competitive performance”</i>	(Zysman & Tyson, 1984)
<i>“Industrial policy [...] means government policy aimed at or motivated by problems within specific sectors.”</i>	(Johnson, 1984)
<i>“Industrial policy means the initiation and co-ordination of governmental initiatives to leverage upward the productivity and competitiveness of the whole economy and of particular industries in it.”</i>	(Hall, 1986)
<i>“Industrial policies refer to those policies intended to affect in some ways manufacturing or service industries.”</i>	(Geroski, 1989)
<i>“ [...] a wide-ranging, ill-assorted collection of micro-based supply initiatives which are designed to improve market performance in a variety of occasionally mutually inconsistent ways”</i>	(Krugman & Obstfeld, 1991)
<i>“Industrial policy is an attempt by a government to encourage resources to move into particular sectors that the government views as important to future economic growth”</i>	(Sharp, 1998)
<i>Industrial policy is one“[...] aimed at particular industries (and firms as their components) to achieve the outcomes that are perceived by the state to be efficient for the economy as a whole.”</i>	(Chang, 1993)
<i>“Industrial policy can be defined as any policy affecting the allocation of resources to industry an in this sense embraces both macroeconomic policy [...] as well as the more traditional areas of microeconomic policy.”</i>	(Sharp, 1998)
<i>Industrial policy is “[...] every form of state intervention that affects industry as a distinct part of the economy.”</i>	(Foreman-Peck & Federico, 1999)
<i>“Narrow view: Restrict attention to policies that target particular firms and industrial sectors. Broad view:</i>	(Beath, 2002)

<i>any policy that shapes or influences the competitiveness of a country's firms and industries."</i>	
<i>Industrial policies are "[...] restructuring policies in favor of more dynamic activities generally, regardless of whether those are located within industry or manufacturing per se."</i>	(Rodrik, 2004)
<i>Industrial policy is "[...] the activity which creates a favorable environment for European business in general, the manufacturing sector and its industries in specific."</i>	(Aiginger & Sieber, 2006)
<i>Industrial policy "[...] is any type of selective intervention or government policy that attempts to alter the structure of production towards sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention."</i>	(Pack & Saggi, 2006)
<i>"Industrial policy refers to a set of measures taken by a government and aiming at influencing a country's performance towards a desired objective."</i>	(Pitelis, 2008)
<i>"[...] adequately targeted industrial policy targets at particular market failure (such as knowledge externalities or financial market imperfections)."</i>	(Aghion, 2012)
<i>Industrial policy means "[...] government policies directed at affecting the economic structure of the economy."</i>	(Stiglitz, Lin, & Monga, 2013)
<i>Industrial policy can be defined as "[...] encompassing any policy measure aimed at aligning the structure of a country's economy with the needs of sustainable development within established planetary boundaries."</i>	(Lütkenhorst, Altenburg, Pegels, & Vidican, 2014)
<i>"The role of industrial policy is to facilitate structural change in favor of higher productivity activity. The focus is on the expansion of activities within the manufacturing sector, although in principle industrial policy could target resource shifts in favour of any 'modern sector' activity."</i>	(UNIDO, 2015, p. 2)
Source: Author's own elaboration based on Aiginger (2007) and Warwick (2013)	

Aiginger (2007, p. 299) argues that most definitions disagree upon:

- sectoral targeting versus horizontal measures which are designed for many or all industries (sectoral versus horizontal)

- policies which restructure predominantly existing firms often decelerating the speed of change, versus the promotion of entry, entrepreneurs, spinoffs, new capabilities (passive versus active approaches)
- a focus on competitiveness through 'framework' measures versus micro intervention for specific firms, regions and industries ("picking winners" versus general measures)
- subsidies to prevent exits (out of political reasons) versus the promotion of innovation, training and other "dynamic activities" (restructuring versus promotion of spill overs)

However, according to Brand (2016), no true or right definitions of concepts such as industrial policy exist.

"Concepts, especially when they become important, are more or less broad containers or epistemic terrains where different understandings come in and where a common core understanding might emerge. Not at least this depends on implicit or explicit theoretical assumptions but also cognitive interests. (Brand, 2016, p. 3)

Considering the amount of diverging definitions, several efforts have been made to systematise the different approaches to industrial policy. (Cimoli, Dosi, & Stiglitz, 2015; Naudé, 2010; O'Sullivan, Andreoni, Lopez-Gomez, & Gregory, 2013; UNIDO, 2015; Warwick, 2013)

The most promising approaches for this thesis are provided by Warwick (2013) and Andreoni (2015). Among others, Warwick (2013) considers the rationale and the policy orientation as the most promising categories for developing a sound taxonomy of industrial policy. However, it is important to acknowledge that an overlap exists between those two categories.

4.2 Varieties of Rationales– Industrial Policy Waves and Turning Points

A common feature of all rationales for industrial policy is that no society can attain higher and sustainable levels of per capita income without going through a fundamental process of structural change. All advanced and emerging economies have gone through this process in their economic development, undergoing the transformation from being characterised by traditional, low-productivity activities such as agriculture to being characterised by higher-productivity activities such as

manufacturing and services.⁶ (Naudé, 2010) According to Rodrick (2008, p. 6), “[...] industrial development is fundamentally about structural change.”

One of the most disputed aspects concerning these debates is the role of government in promoting structural change. “The way in which governments aim to achieve this fast-tracked structural change is evident from their industrial policy.” (Naudé, 2010, p. 2)

However, as outlined in section 4.1 of this thesis, industrial policy as a means of structural change is not characterised by a one way solution. Rather, it can be described as a contested policy field which has evolved considerably since World War II. Its development patterns have been largely influenced by the underlying rationale and economic doctrines, which have shaped the discourse around industrial policy over the last decades, or not shaped it, as Chang and Andreoni (2016, p. 3) put it: “[...] the debate on industrial policy had lapsed into three decades of ideologically-motivated wilful neglect – ‘industrial policy’ became a phrase that one does not utter in polite company.”

A broad number of scholars have reviewed the development of industrial policy thinking over time and have cast light on the underlying evolution of rationales and economic doctrines. (Chang & Andreoni, 2016; Landesmann, 2015; Naudé, 2010; Pryce, 2012; Rodrik, 2004)

There seems to be a consensus that the phases or waves of post-war industrial policy thinking can be divided into (1), a phase of traditional ‘hands-on’ industrial policy, followed by (2), a period of laissez-faire and market-led industrial policy, in turn evolving into (3), a neoclassical market failure framework which recognised the role of the government in promoting the development of capabilities, and, most recently (4), green industrial policies which focus on the creation of new “green” growth paths .

⁶ In the context of this thesis, it is important to stress that this transformation process has not only occurred on a socio-economic scale, but has been accompanied by fundamental biophysical consequences of industrialisation. The transition from an agrarian to an industrial socio-ecological regime had major consequences for patterns of energy use, land use, resource use, and labour organisation. The process of industrialisation has offered solutions for input- and growth-related sustainability problems of agrarian regimes, but has also created new sustainability problems of a larger scale, most prominently climate change. For further reading on this issue, see: Fischer-Kowalski & Haberl, 2007; Haberl, Fischer-Kowalski, Krausmann, Martinez-Alier, & Winiwarter, 2011; Krausmann, Schandl, & Siefert, 2008; Siefert, Krausmann, Schandl, & Winiwarter, 2006.

4.2.1 First Wave – Traditional Industrial Policy (1940s- mid 1970s)

“Once upon a time, economists believed the developing world was full of market failures and the only way in which poor countries could escape from their poverty traps was through forceful government interventions.” (Rodrik, 2004, p. 1) Rodrick’s ironic description of the traditional approach refers not only to developing economies, but also to the post-war ‘western’ world. After the Second World War, during a period often referred to as the ‘golden age of capitalism’ or ‘Fordism’, industrial policy was adopted as one of the main tools for countries’ indicative planning in order to advance industrialisation and structural change.

The underlying rationale at that time was that government must intervene in markets, since they are characterised by distortions (such as externalities or market power), or because they are incomplete (for example future markets for many goods do not exist, or strategic structural change). “As known from the basic theorem of welfare economics, under such market failures, a competitive market system does not yield the socially efficient outcome.” (Pack & Saggi, 2006, p. 3) Industrial policy is therefore needed to prevent market failures and to ensure development and growth.

Pack and Saggi (2006) identify four main arguments which favour this approach to industrial policy: (a) infant industry protection, (b) the presence of coordination failures, (c) the presence of knowledge spill-overs and dynamic scale economies.

(a) infant industry protection

“Safeguarding the possibility of learning is indeed the first basic pillar of the infant industry logic.” (Cimoli et al., 2015, p. 128) The underlying argument is that production costs for newly established domestic industries in a country may be initially higher than in other countries due to, e.g. advances in experience. Over time, domestic producers can improve their competitiveness due to learning and the resulting establishment of dynamic scale economies. Within this logic, the argument is that if a certain domestic industry is not initially protected from foreign competitors, it may never establish itself. Furthermore, if dynamic scale economies grow strong enough, temporary protection of the domestic industry is of advantage to the national interest. (Naudé, 2010; Pack & Saggi, 2006) Therefore, the debate about industrial policy focussed on whether it makes sense to forego income in the short run by protecting inefficient producers that

may be able to deliver higher income in the long run. (Chang & Andreoni, 2016; Lin & Chang, 2009)

(b) knowledge spill-overs and dynamic scale economies and industrial targeting

The comparative advantage concept of David Ricardo, states, is that, in free trade, a country can increase its income and welfare by moving resources into specific sectors in which its opportunity costs of production are lower than in other economies. However, the concept of comparative advantage has been criticised for being too static and therefore hindering the development of dynamic efficiency. (Lin & Chang, 2009; Succar, 1987) As Chang argues,

“[...] this does not mean that a country should conform to its comparative advantage [...]. As I have argued, given the nature of the process of factor accumulation and technological capability-building, it is simply not possible for a backward economy to accumulate capabilities in new industries without defying comparative advantage and actually entering the industry before it has the ‘right’ factors endowments.” (Lin & Chang, 2009, p. 491)

In other words, Chang and Succar argue for selective industrial policies in to diversify the economic structure of an economy.

Another point which is raised by economists in favour of the traditional approach to industrial policy, is that certain industries are more likely to create spill-overs based on knowledge diffusion or other factors and that governments should encourage the development of those strategic industries. A prominent example for such a case is the U.S. Department of Defence, generating and financing a portfolio of projects which are credited to have been key contributors to the development of the internet. The social benefits of research were much larger than the anticipated private benefits. Guided by public research efforts, the U.S. Department of Defence foresaw a potential need that may have been overlooked by the private sector. Hence, in this instance, success resulted from addressing a market failure. (Pack & Saggi, 2006)

This kind of targeted industrial policy has often been described by scholars as ‘picking winners’ or national champions. (Naudé, 2010; Warwick, 2013)

(c) coordination failures

The basic idea behind the coordination failure argument is that many projects require multiple investment efforts in order to become viable, and if these investments are being made solely by private actors, little guarantee exists that they would not invest according to their self-interest. (Pack & Saggi, 2006) According to Scitovsky (1954), those interdependencies among producers, which he calls “pecuniary external economies” (also referred to as “reciprocal pecuniary externalities”), are strongly connected with the problem of allocating savings among different investment opportunities. Within the framework of the general equilibrium theory, the probability of private investment is usually considered to be a good indicator of its social desirability. “To this rule however, the exceptions are too great and obvious to be ignored [...]” (Scitovsky, 1954, p. 146)

Pack and Westphal (1986) argue that pecuniary externalities related to investments are a common feature in the process of industrialisation. They provide an example of two infant industries, where industry A produces an intermediate good which is required by industry B, with neither of those industries being profitable if established alone. However, if both industries are established, a socially desirable outcome is the result. Without explicit coordination efforts between investments, this outcome would not have been obtained, as the common pricing system is not capable of playing that role. Or as Rodrik puts it: “Most fundamentally, market prices cannot reveal the profitability or resource allocations that do not yet exist.” (Rodrik, 2008, p. 7) Structural change is therefore unlikely to happen if the government does not intervene.

Hence, the first wave’s rationale for industrial policy was largely based on regulating market failures and guiding structural change. A common characteristic of this approach is the sectoral focus of industrial policies and a strong role of the government in the economy. So called ‘National Champions’ and ‘Picking-Winner’ strategies are enforced through subsidies or other forms of state aid, such as public procurement, trade protection, state-owned enterprises, etc.

However, several systemic issues were not discussed under this approach. “[...] there were virtually no discussions of the relative merits of different tools of industrial policy (e.g., tariffs, subsidies, regulation) nor those issues related to policy implementation

(e.g., administrative structure, bureaucratic capabilities, institutional mechanisms, or corruption)” (Chang & Andreoni, 2016, p. 5)

Systemic issues and failures have also been the main arguments for critics of the traditional approach and the proponents of the second wave of industrial policy.

4.2.2 Second Wave – Laissez Faire Approach (mid 1970s-1990s)

“Then there came a time when economists started to believe government failure was the far bigger evil, and that the best thing that government could do was to give up any pretense of steering the economy” (Rodrik, 2004, p. 1) By the mid-1970s, coinciding with the rise of free-market ideologies in the US and the UK governments of Reagan and Thatcher, industrial policy was once again heavily debated.

According to Landesmann (2015), industrial policy had fallen into disrepute on the basis of two key arguments. First, why should governments have more information about the direction in which structural change should be steered than actors in the private sector (state versus market), and second, if policy measures are designed to differentially benefit certain industries or types of enterprises, such policy measures are more likely to be exposed to lobbying efforts and rent-seeking (sectoral versus horizontal measures). Further, it increases the scope for the capture of governments by vested interest and thus biases competition, which was then seen, together with free-trade, as an essential prerequisite to growth and innovation. Aighon et al. (2015) state that this argument won over the sectoral and infant industry protection rational of the first wave of industrial policy. Thus, government failure was seen to be worse than market failure.

The role of government should therefore not be active; it should rather act as a provider of framework conditions which allow the market-forces to work adequately. “Trade liberalisation (exports), privatisation and attracting Foreign Direct Investments together with the macroeconomic stability and minimum government interference are the basic requirements for growth and industrialisation.” (Naudé, 2010, p. 10)

This doctrine also manifests itself in global institutional settings, reducing the room for manoeuvring. “Intervention – in such forms as tariffs and subsidies – is limited by the rules of the Single Market, bilateral trade agreements and finally the WTO and the IMF (‘structural conditionality’)” (Aiginger, 2007, p. 303)

This understanding of economic development together with the implementation of the 'structural conditionality' in form of the WTO and the IMF (as well as the US Treasury) became to be known as the *Washington Consensus* at the beginning of the early 1990s. (Serra & Stiglitz, 2008)

According to Williamson (1990), the Washington Consensus was a response to the leading role of governments in the process of structural change. The introduction of the Washington Consensus indicated that this era was over. According to Serra and Stiglitz (2008), the Washington Consensus is based on three big ideas: a market economy, openness to the world, and macroeconomic discipline.⁷

The second wave of industrial policy is therefore characterised by being horizontal and supply-sided in nature, paired with an emphasis on competition policy, rather than on intervening governments.⁸

4.2.3 Third Wave – Neoclassical Mainstreaming of Industrial Policy (from the 2000s onward)

Since the beginning of the new century, a new phase of debate on industrial policy has emerged. According to Landesmann (2015), the renewed interest in the role of industrial policy has been partly in response to the structural adjustment processes resulting from the fast international economic integration (globalisation), and partly from the insights of development literature on the success and failure of different forms of government interventions and public-private partnerships observed in developing and emerging economies.

Aghion et al. (2015) offer similar reasons for new considerations on the issue. For them, the first and most important reason for reconsideration is climate change and

⁷ Williamson's (1990) original Washington Consensus centred on ten reforms: (i) fiscal discipline in order to eliminate public deficits; (ii) a change in the priorities of public spending: withdrawal of subsidies and increased spending in health and education; (iii) tax reform: broadening tax bases and reducing tax rates; (iv) positive real interest rates, determined by the market; (v) exchange rates determined by the market, which must guarantee its competitiveness; (vi) liberalisation of trade and opening of the economy (Williamson did not attach any priority to the liberalisation of capital flows); (vii) no restrictions on foreign direct investment; (viii) privatisation of public enterprises; (ix) deregulation of economic activity; (x) a solid guarantee of property rights. "We can organize Williamson's ten items into two main groups: on one hand, the promotion of economic stability through fiscal adjustment and market orthodoxy; on the other hand, a dramatic reduction of the role of the state in the economy. It was a development strategy that markedly differed from the import substitution strategy that dominated in the 1970s". (Serra & Stiglitz, 2008, p. 4)

⁸ However, the assumption that horizontal measures are less distortive than sectoral interventions have been subject to debate among academics.

the increasing awareness that, without government intervention, negative externalities such as draughts, deforestation, migration, conflicts, etc., will be generated worldwide. Measures to combat these threatening externalities must go beyond the pricing mechanisms. Second, the financial crisis prompted many governments (including the US) to provide support to particular industries such as the automotive sector. And lastly, laissez-faire policies have led to a faster deindustrialisation of developed countries, which instead focus on upstream R&D and service sector development, while outsourcing many manufacturing tasks to developing countries where labour costs are low. However, countries like Germany and Japan have better managed to maintain intermediate manufacturing segments through a more active industrial policy, which has allowed them to benefit rather from outsourcing less capital-intensive segments. Those countries with a stronger industrial base have also been less affected by the economic crisis than others. (Pianta et al., 2016; Warwick, 2013)

Stöllinger et al. perceive a change in the sense as,

“[...] a comparatively large manufacturing sector is no longer to consider to reflect an outdated economic structure, inadequate for a post-industrial, services-dominated economy such as the EU. Rather [...] a dynamic manufacturing sector is again considered to be a prerequisite for an innovative and fast-growing economy. (Stöllinger et al., 2013, p. 9)

In this context, Rodrick (2008) states that the question is not whether industrial policy is needed, rather that debates should focus on how they should be implemented.⁹

In contrast to the non-interventionist stance, the neoclassical interpretation of industrial policy proposes a more nuanced approach to the field. Several arguments in line with first wave approaches of industrial policy have re-emerged on the basis of neoclassical economics. (Chang & Andreoni, 2016)

⁹ In another publication, Rodrick (2011) calls for a ‘manufacturing imperative’, highlighting the importance of a stable manufacturing sector for sustainable growth. He states that “as economies develop and become richer, manufacturing- ‘making things’ – inevitably becomes less important. But if this happens more rapidly than workers can acquire advanced skills, the result can be a dangerous imbalance between an economy’s productive structure and its workforce. We can see the consequences all over the world, in the form of economic underperformance, widening inequality, and divisive politics.” (Rodrik, 2011, p. 1) More recently, Rodrick has analysed these tendencies (mainly referring to developing regions) and has described this phenomena as “premature deindustrialisation”. For further reading, see Rodrik, 2016.

A key assumption of the third industrial policy wave is that certain market failures still exist and that public action is required in order to correct these failures (such as different forms of externalities, market power, capital market failures, etc.) and to guarantee the provision of public goods. (Warwick, 2013)

Hausmann and Rodrik (2006) have delivered a prominent example for the case of 'information externalities'. In this argument, in addition to the failures of the market to coordinate investments between related industries and to supply public goods, information externality is seen as a major obstacle to industrial development. Hausmann and Rodrick point out that a firm which enters a new industry before others generates information about the profitability for other potential entrants but does not get compensated for the risk of venturing into new economic fields, resulting in a slowed down industrial diversification and development. Therefore, governments should encourage pioneers via subsidies. However, the authors explicitly advise against trade protection or export subsidies on the grounds that those measures do not differentiate between the innovator and the imitator.¹⁰

However, within the mainstream economic framework, market failure is seen as a necessary but insufficient condition for public intervention. Whether governmental intervention is justified or not depends on an assessment of whether the gains from intervention outweigh the costs of governmental failure, misallocation of resources, or undue competition with private initiatives. Thus, there is always a trade-off between market failures on the one side, and government failures on the other. (Walz, 2015)

Neoclassical industrial policy is therefore mainly characterised by horizontal measures that can also be applied on a sectoral level. However, strong intervention measures such as applied in the first wave are not intended.

Aiginger and Sieber (2006) refer to this kind of industrial policy as a matrix approach. They describe it as a "[...] new paradigm of industrial policy [...] that first calls for measures improving competitiveness in all sectors in terms of rather broad measures, and subsequently acknowledges sector differences in the impact of these measures.

¹⁰ Chang and Andreoni (2016, p. 11) argue that " [...] the Hausmann-Rodrick information externality is essentially an incomplete version of infant industry argument translated into the language of Neoclassical market failure". Chang and Andreoni identify the shortcomings of such an approach and state that the neoclassical theory of production is based on wrong assumptions, such as the perfect transferability of knowledge in production.

We label this new paradigm the ‘matrix approach’ to industrial policy, because it combines horizontal and vertical measures.” (Aiginger & Sieber, 2006, p. 573)

Mazzucato points out that even though market failure approaches offer interesting insights,

“[...] it is at best useful for describing steady state scenario in which public policy aims to put patches on existing trajectories provided by the market. It is less useful when policy is needed to dynamically create and shape new markets, [...]”. (Mazzucato, 2015a, p. 122)

4.2.4 A Potential Fourth Wave of Industrial Policy - Green Industrial Policy?

Green industrial policy approaches have begun to enter the stage of industrial policy more prominently since the outbreak of the economic and financial crisis in 2008. (Aiginger, 2014) It is to be noted that green industrial policy approaches and publications are mainly addressed to already industrialised countries, which is comparatively specific, since industrial policy debates of the past have mainly (although not exclusively) been taking place in the realm of development economics, addressing economies in the early stages of their respective industrial development. (Livesey, 2012)

While market failures re-entered the rationale for industrial policy in the third wave, they are also the central for green industrial policy approaches, although the rationales for government intervention “[...] go well beyond the traditional market failure arguments [...]” (Aiginger, 2014, p. 2). Thus, environmental externalities pose a further regulatory challenge to industrial policy.

However, the field of green industrial policies is not homogenous. While some approaches are still closely linked to the rationale of the third wave approaches (Aghion et al., 2015; Aghion, Boulanger, Cohen, & others, 2011; Aiginger, 2012, 2014; Rodrik, 2014), others call for a more progressive conceptualisation of green industrial policy (Altenburg, Rosendahl, Stamm, & von Drachenfels, 2008; Lütkenhorst et al., 2014; Mazzucato, 2015b; Pianta, 2015; Pianta et al., 2016).

A common denominator of these approaches is that the structural change which they desire are not only directed at the manufacturing sector but at the structure of the economy as a whole. (Aiginger, 2014; Pianta et al., 2016)

Aiginger (2014, p. 1) states, that green industrial policy¹¹ “ [...] is systemic, working in alignment with other policy strands and supporting social and environmental goods.” According to his approach (which focuses mainly on Europe), green industrial policy is based on social and ecological innovation. Industrial policies are conceptualised as partners to environmental policy rather than as adversaries.

Aiginger (2014) identifies common elements among these ‘new approaches’ to industrial policy, which can be described as a neoclassical approach to green industrial policy:

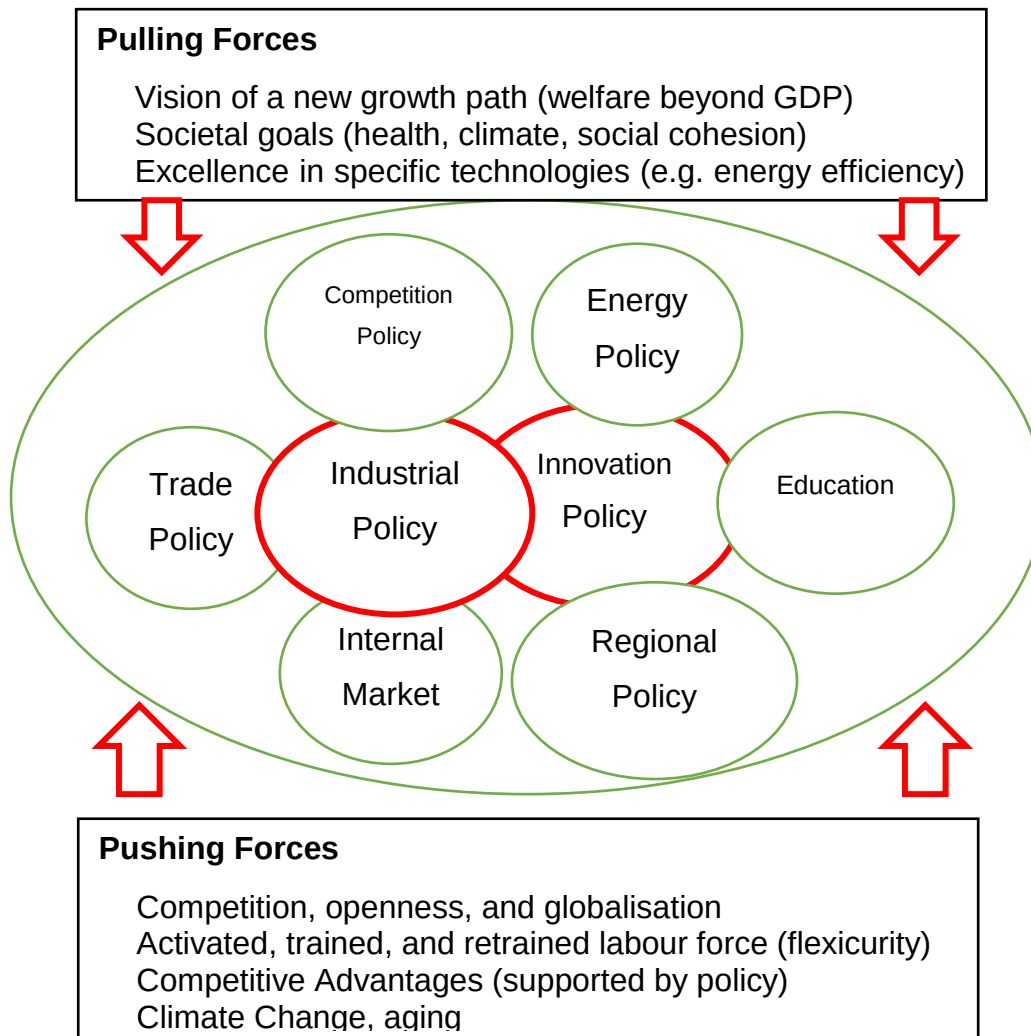
- Industrial policy should generate a climate of cooperation between public and private actors that create positive spill-overs to other sectors. However, it should be based on financial incentives and not picking-winner-strategies. (Rodrik, 2011) It should target broad sectors, instead of particular firms to promote new activities. Aighon (2011) calls for an industrial policy which follows markets, rather than leading them.
- Industrial policy is necessary to prevent lock-in situations of investing in old “dirty” technologies. The task of industrial policy is therefore to prevent path dependencies in unsustainable sectors.
- Industrial policy should create new competitive advantages, while at the same time helping to diversify an economy. For this purpose, exports should be stimulated rather than imports prevented, or as Aiginger (2014, p. 9) argues: “New industrial policy should favour competition, instead of being an adversary of competition policy.”
- Governments should only intervene into the economy when they have long-term interest and not just in order to achieve short term goals such as saving jobs in distressed regions and sectors, or during times of recession.
- Industrial policy has to be systemic, pushed by competition, pulled by ‘beyond-GDP’ goals. Therefore, industrial policy should start from a vision of a desirable

¹¹ The author does not label his approach ‘green industrial policy’ but ‘new industrial policy for a sustainable growth path’. (Aiginger, 2014, p. 1)

future economy in which factors such as income, social goals, and environmental sustainability will define welfare.

In a nutshell, industrial policy should be “[...] pulled by a vision, and pushed by competition.”(Aiginger, 2014, p. 10)

Figure 2: Pulling and Pushing Forces in the Neoclassical Green Industrial Policy Paradigm



Source: Aiginger (2014)

However, critics of the neoclassical approach to green industrial policy argue that “[a]s long as perfect internalisation of external costs – the cornerstone of neoclassical environmental economics- cannot be achieved, there is a need for ‘second-best’ policies.” (Walz, 2015, p. 146) Further, they criticise that the neoclassical approaches often narrow down the term “green” to “climate-friendly” and thereby solely focus on energy-related aspects of sustainable industrial policy. While those are certainly

important pillars of a green industrial policy, the implications of such an approach should go beyond such a narrow definition. (Walz, 2015)

For this purpose, Lückenhost et al. (2014) suggest the concept of planetary boundaries as a framework for green industrial policy. According to their approach, green industrial policy is considered to be a normative undertaking based on “societal goals” and “ethical imperatives”. Economic markets are conceptualised as social constructs with flexible and changing boundaries. “Markets provide an efficient allocation mechanism (a process norm) that needs to be guided by, and subordinated to, agreed societal outcome norms defining desirable development objectives in terms of environmental sustainability and distributional fairness.” (Lütkenhorst et al., 2014, p. 2) The triple challenge which is composed of maintaining economic growth, avoiding environmental disasters, and keeping inequality and poverty levels in check, calls for extended action which comprise more than just the improvement of allocative measure through the internalisation of environmental costs.

Mazzucato’s (2015b) concept of the “Green Entrepreneurial State” follows a similar lead. She argues that the state must show its “visible hand” in order to achieve a socio-ecological transformation:

“The state can act as a force of innovation and change, not only ‘de-risking’ the economic landscape for risk-averse private actors, but boldly leading the way, with a clear and courageous vision – exactly the opposite image of the State that is usually sold.” (Mazzucato, 2015b, p. 3)

Based on Karl Polanyi (1944), Mazzucato points out that a theory of the role of the state in shaping and creating markets needs to be established in order to show the necessity of public action in green industrial policies as the capitalist ‘market’ has been shaped by the state from its very beginnings. “The capitalist economy will always be embedded in social, cultural and political institutions and therefore subordinate to the state and subject to its changes.”¹² (Mazzucato, 2015b, p. 30)

¹² This argument is based on the concept of “embedded autonomy”, which was introduced by Peter Evans. (1995) In his work, Evans analyses the role of the state in fostering structural change and industrial transformation. The central argument is that the public sector needs some kind of “autonomy” from private actors, but also a certain degree of “embeddedness” to contribute to successful development.

Mazzucato focuses in her approach on innovation systems which are seldom just technical for her: “They are political (and social) and include a need for greater commitments of patient capital by governments and businesses” (Mazzucato, 2015b, p. 27) Conventional measures which are suggested by the neoclassical approaches such as horizontal R&D efforts are not enough: “In order for the crossroads to be decided and green transformations to be generated, government policies must overcome these naïve perspectives.” (Mazzucato, 2015b, p. 27)

Another important aspect raised by Mazzucato is that both risks and rewards of ‘innovative ecosystems’ (whose core form private-public partnerships) should be socialised. Government failures can occur, but “[...] at the root of it, there is only collective failure.” (Mazzucato, 2015b, p. 28) Thus, she opposes the view of neoclassical environmental economics of the role of the state and explicitly advocates for governments to lead the market instead of following it.

In this context, Lütkenhorst et al. (2014) identify four distinct features of a green industrial policy. Green industrial policies should:

- (a) Respond to pervasive market failures, particular to externalities, coordination failures, and public goods.
- (b) Address high uncertainty and long-time horizons which originate from a variety of factors, including the dynamics of complex ecosystems and the scientific modelling of climate change, the unknown technical feasibility and commercial applicability of new technologies, the unpredictability of global policy approaches and the risk surrounding innovative policy approaches.
- (c) Create new pathways instead of supporting path dependency which include carbon lock-in effects and unsustainable patterns of production and consumption. New pathways must be developed against the policy dilemma of nurturing transformative technologies and industrial sectors. ‘Picking Winner’ strategies must be the outcome of collective and consultative priority-setting.
- (d) Disrupt old pathways through a dual strategy: investment-encouraging activities must be complemented by investment-discouraging incentives.

In their recent publication, Pianta et al. (2016) argue for a progressive industrial policy which they define as being able to steer

“[...] the evolution of the economy towards activities that are desirable in economic terms (improving efficiency), in social terms (addressing needs and reducing inequality), in environmental terms (assuring sustainability and preventing climate change), and in political terms (protecting key national and European interests).” (Pianta et al., 2016, p. 6)

The authors advocate for a “decatalogue of principles” that could guide the emergence of such a progressive industrial policy in Europe:

- Achieving static efficiency.

A key concern for economic policy is that, in a short term perspective, available resources are efficiently used. Hence, capital and labour should not be left unused, but should be directed towards productive activities which bring domestic production capacity and potential demand closer together. They argue that in cases of market failures, the principle of efficiency requires “[...] public intervention including direct provision, that the goods and services needed by the society are effectively produced.” (Pianta et al., 2016, p. 24)

- Achieving dynamic efficiency.

A long-term perspective reveals that resources are not to be taken for granted anymore. Industrial policy provides promising measures of how resources could be expanded through research, innovation, investment, education, and acquisition of new competencies and skills. Public action can support this kind of dynamic efficiency through the growth of national industries with strong learning effects, and with productivity growth to sustain international competitiveness and high wage permanent employment.

These two principles imply that industrial policy has to select economic activities which are able to provide options for efficiency improvements and desirable growth paths. “By its very nature, therefore, industrial policy has to target the economic activities that are encouraged to emerge and expand.” The authors strongly argue for targeted policy actions and for the replacement of current “horizontal” approaches which, in their opinion, leave decisions to the market (and therefore to the strongest firms).

In addition to the two economic criteria summarised above, Pianta et al. (2016) identify eight further fundamental principles which share the idea that,

“[...] new economic activities must be characterized by a high ‘social quality’ in terms of the democratic process that this is set in motion, of technologies developed and used, of their impact on production, jobs, the environment and the distribution of gains.”(Pianta et al., 2016, p. 25)

- Practicing democracy and the diffusion of power

Industrial concentration and the extension of opaque connections between economic and political power are inherent features of market processes. Hence, democratic spaces are successively reduced. Progressive industrial policy must address this issue through the use of public action in order to open up new spaces for democratic practices in the deliberation of common priorities, decision making processes and in action aimed at reshaping economic activities. Institutions of the ‘new’ industrial policy and their form of governance must be informed by the principles of democratic participation, representation and power diffusion.

- Designing appropriate technologies

The direction of technological change results from R&D efforts by public and private institutions, from firms’ innovations and organisational changes in the context of societal behaviour which includes the role of workers, consumers, and citizens. Ecological sustainability and employment friendliness are to be at the centre of those developments. Industrial and innovation policy should lead technological change towards market and non-market activities of greater public interest.

- Reducing the role of finance

Industrial change has been extremely dependent on the power of finance to shape business priorities; in particular through the “*share-holder value principle*”. The pursuit of short-term financial gains has reduced resources available to R&D, investments, and innovation and has been a cause of accelerated deindustrialisation tendencies in Europe. “A new industrial policy in Europe should be part of broader regulations that limit financial speculation, and clearly discourage the extreme compensation of top managers and highly unequal distribution of rewards.” (Pianta et al., 2016, p. 26)

- Disarming the economy

Military technology, industry, and exports tend to become more relevant during times of depression and stagnation. Economic activities in the military sector tend

to distort technological change and reduce the resources available for socially useful activities. Hence, the dependence on military production should be reduced.

- Supporting employment

The outcomes of industrial policy must be employment-friendly. New economic activities have to be characterised by a high intensity of skilled labour, strong knowledge and learning processes, and the possibility of paying high wages. During transition periods in the industrial structure, attention should be given to the protection of workers and to the prevention of job loss.

- Improving ecological sustainability

“The seriousness of the ecological crisis and of climate change mean that all policies (most notably, the policy aiming to reshape Europe’s production structures) must give top priority to the improvement of the ecological sustainability of activities that are developed.” (Pianta et al., 2016, p. 27) In order to reach a sustainable mode of living, parallel changes are required to take place in supply as well as in consumption patterns. This requires a radical departure from the reshaping of economic activities.

- Assuring a fair distribution of benefits

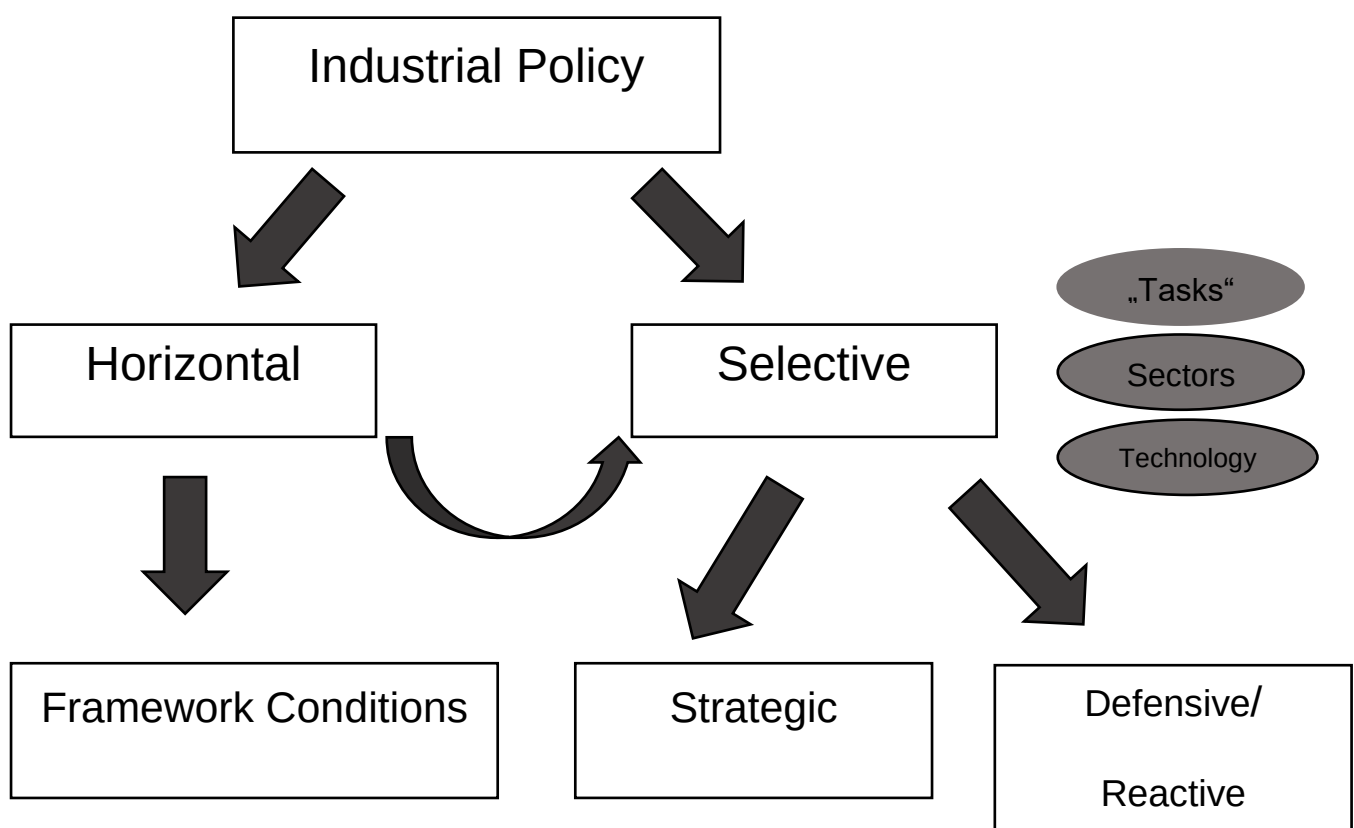
The distribution of benefits should be subject to an open and democratic process. “Schumpeterian” shifts in technology tend to benefit only new firms in terms of high profits while old firms disappear. Workers of the former tend to obtain only a small share of the functional income distribution, which allows nonetheless for a faster-than-average wage-growth. Workers at ‘destroyed’ firms are subjected to substantial insecurities as they lose their jobs and income. “The benefits of industrial policy also include the possibility of lower prices for the resulting goods and services to citizens, consumers and to other firms buying intermediate inputs for their production.” (Pianta et al., 2016, p. 27)

4.3. Industrial Policy Orientation – Horizontal vs. Sectoral

Industrial policy commands a large number of instruments which range from direct and indirect measures to support specific firms and industries (e.g. grants, subsidies, tax exemptions, public procurement, etc.) to support for knowledge institutions, infrastructure, and skills. “The characteristics of the instruments used for industrial policy vary considerably, ranging from the very narrow-only including the quantifiable subsidies granted to specific companies and industries-to very broad, including all government initiatives to improve business environment.” (Warwick, 2013, p. 24)

Hence, a popular way of distinguishing between industrial policies is to determine whether they are of selective or horizontal nature. Figure 2 shows that first, selective policies may result either from a targeted approach to industrial policy or from a selective application of horizontal policies; second, the selectivity can be targeted towards sectors, technologies, or tasks; and third, that selective policies can be adopted either for strategic or for defensive reasons. (Warwick, 2013) The targets of selective policies are usually certain sectors or even certain firms in an economy. (Chang, 2011)

Figure 3: Directions of Industrial Policy



Source: (Warwick, 2013)

Within the selective approach, a distinction can be made between strategic and defensive/reactive policies. Warwick (2013, p. 28) defines industrial policies as defensive/reactive in orientation, "[...] where it responds to acute challenges in the economic environment". For example, policies implemented in the 1970s in Western Europe as a response to rising global competition pressures on industries like coal mining or ship building were defensive in their orientation. Some of the policies in

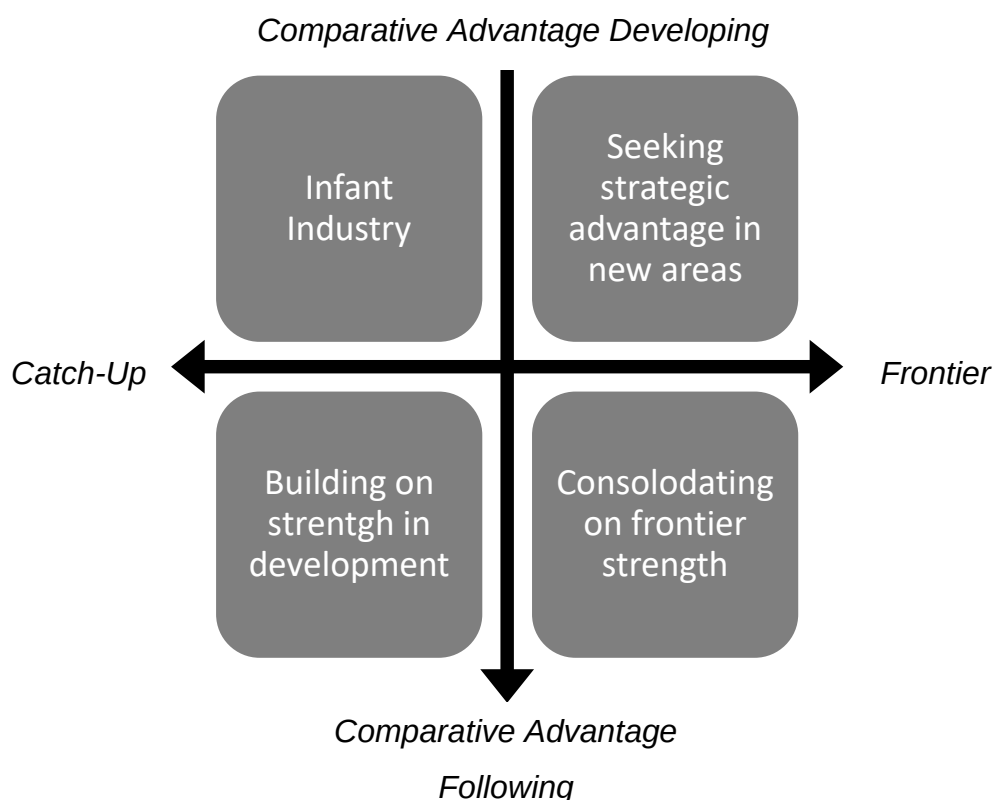
response to the recent financial crisis in 2008, such as loans to automotive companies or the extension of loan guarantee schemes to a wider group of firms, can be described as defensive policies. (Warwick, 2013)

Strategic industrial policy can be classified according to whether policies follow the comparative advantage of an economy or defy it, and according to the relative position of an economy concerning its status between catching-up and being at the technological frontier (see Figure 2). The orientation of a country's industrial policy strategy is likely to differ, depending on whether it is far from the technological frontier or not. In the realm of development economics, which are mostly concerned with economies in the catching-up phase, the respective role of comparative advantage has been subject to an intensive debate. (Lin & Chang, 2009)

Lin (2009) argues that a country should stick to its comparative advantage at every stage of its development in order to effectively exploit it. Chang on the other hand argues that a country should not only rely on the exploitation of its respective comparative advantage, but that a developing economy should invest in the acquisition of industry-specific technological capabilities through the experience of production. It is therefore necessary for the country to defy its comparative advantage if it is going to enter new industries (e.g. "green industries") and upgrade its industrial structure, and therefore grow in economic terms.

"Something of the same dilemma arises in the choice of policy orientation for industrial policy in frontier countries." (Warwick, 2013, p. 30) Policy makers have to decide whether the country should build on its comparative advantage and existing strength, or whether it should seek to develop strategic advantages in new areas. As the section 4.2.4 has shown, most green industrial policy approaches regard innovation as a keystone of future economic development. Hence, selective and strategic industrial policies are of highest importance in both neoclassical and progressive green industrial policy rationales.

Figure 4 Comparative Advantage



Source: (Warwick, 2013)

In contrast, horizontal measures can be interpreted as the equivalent of general business environment policies, or policies to improve ‘framework conditions’. However, horizontal policies often have a selective equivalent, e.g. targeted skill policies or sector-specific advisory services. (Warwick, 2013)

Further, it is almost impossible to formulate horizontal policies which do not imply certain discriminatory elements. Therefore, the distinction between horizontal and sectoral policies cannot be taken very far. “In a world with scarce resources, every policy choice you make, however ‘general’ the policy may look, has discriminatory effects that amount targeting”. (Chang, 2011, p. 13) Thus a certain directionality, whether it is explicit or implicit, is involved in virtually every broadly defined industrial policy. The only difference which can be made is the degree of targeting. (Chang, 2011)¹³

¹³ Warwick draws a similar conclusion about horizontal policies, as “[...] horizontal policies may turn out to be highly selective in their impact, e.g. general support for an input or activity that is used more intensively in some sectors than others.” (Warwick, 2013, p. 28)

The preceding section traces the evolution of the rationales for industrial policy, setting out a taxonomy of approaches based on the identification of policy waves and turning points in the realm of industrial policy. This approach to systemising industrial policy emphasises the point that industrial policy is indeed a highly normative undertaking (Lütkenhorst et al., 2014) which is in itself contested. The underlying construct of the diverse types of rationales is derived from the dominant economical doctrine. Currently, this doctrine can be described as neoclassical capitalism which, although acknowledging the existence of market failures, still refers to mainly market driven measures and mechanisms to target those.

This also holds true for the emerging field of green industrial policies. Although those approaches highlight the systemic character of industrial policy insofar as they call for a coordinated policy approach which targets more than just the manufacturing sector, they still refer to policy instruments of the third wave to encourage a socio-ecological re-regulation of the current regulatory paradigm. Furthermore, they often make use of quite a narrow definition of the term “green”.

However, more progressive approaches have emerged. They also centre around the idea of promoting structural change, which is based on a socio-ecological transformation. They also acknowledge that ecological sustainability cannot be achieved through efficiency gains and therefore call for a rethinking of the relationship between the market and the state (although they are not seen as opponents in those approaches, much more the state and the market are in mutual dependence).

5. Contours of a European Industrial Policy – A historical perspective

“There is a great deal of confusion about what industrial policy is, only surpassed by the confusion about what European industrial policy might be.” (Pelkmans, 2006, p. 4)

Current industrial policy paradigms in the EU have to be seen as a cumulative result of a long process of negotiations and compromise between several actors claiming to represent interests of varying types. This section provides a historical overview of political developments in the realm of industrial policy.

5.1. Industrial Policy in Europe after WW II

By the end of the Second World War, most European governments were facing a disastrous economic situation. Hence, the immediate task facing most European governments was to re-establish peacetime economies and economic reconstruction. A key stimuli for European recovery efforts was to catch up with the productivity levels of the US economy, which had been extending its productivity lead compared to Europe before and during the war. The US government also supported the reconstruction efforts of European economies by establishing the European Recovery Program (ERP) in 1947. Commonly referred to as Marshall Plan, the ERP was designed to assist the European Governments in rebuilding their economies. Most Western European Economies¹⁴ applied for admission to the ERP. To prevent the ERP from becoming a conglomerate of national “shopping lists” rather than a driver for economic integration, the US imposed conditions to the applicants which can be interpreted as the first common features of a European Industrial Policy. (Wirth, 2004)

Aside from the establishment of the Organisation for European Economic Cooperation in 1948 (OEEC), trade liberalisation and economic integration within the Western World, the coordination of primary industries formed the core principles of the Marshall Plan. “Therefore, the applications of all Western European governments for admission to the European Recovery Program have to be considered as pro-market, pro-trade liberalisation and pro-European integration decision.” (Grabes and Nützenadel, 2013)

The European Coal and Steel Community (ECSC) is often described as the second milestone towards a European industrial policy. (Foreman-Peck & Federico, 1999; Owen, 2012; Pianta et al., 2016)

At the time when the ECSC was proposed, concerns within Europe grew that Germany might regain its dominance in steel and coal production, both of which were strategic and scarce resources in were post-war Europe. In this context, Germany’s European neighbours feared that the German government could abuse its dominance in the market, preventing other economies in Europe from rebuilding their industries and economies. In 1950, the Schumann Plan launched the ECSC and was designed to alleviate those fears. Jean Monnet, the plan’s chief architect, drafted the ECSC treaty with the problems of steel and coal scarcity in mind, but mainly based on the idea of

¹⁴ Austria, Belgium, Denmark, Greece, Iceland, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, United Kingdom and Western Germany

first political steps towards supranational sectoral planning.¹⁵ The treaty was negotiated in Paris in 1951. During the course of the negotiations it became clear that most of the countries¹⁶ were not interested in a coordinated way of sectoral planning. The rational of most parties was to secure their access to resources in order to rebuild and protect national industries. The negotiations ended with a treaty which was less ambitious than intended by Schuman and Monnet. (Duchêne, 1994)

Nevertheless, the Treaty of Paris established the first supranational European institutions with real powers, at least on paper. A Council of Ministers consisting of ministers from the member countries controlled the High Authority (HA) and had to assent to its decisions. The ECSC also established a supranational European Court of Justice (ECJ) to arbitrate disputes among participants, including not only member states and European institutions, but also private actors such as companies and trade unions. (Alter and Steinberg, 2007)

According to Alter and Steinberg (2007), the Treaty of Paris created a framework of rules which can be considered as first steps towards a European industrial policy:

- Transparency in respect to prices: firms were obliged to publish prices, and price discrimination was forbidden.
- Management of investment: The High Authority could help fund or prohibit investments to avoid illegal subsidisation of industry.
- Banning cartels: cartels were generally forbidden.
- Banning Monopoles: the High Authority had to approve that mergers were aimed at increasing efficiency and not at market dominance.
- Eliminating subsidies: subsidies became generally illegal, though exceptions were permitted as long as they were gradually reduced.

¹⁵ Inspired by the plan to create the ECSC, some European politicians were tempted by the idea of creating a similar sectoral treaty for agriculture, the so called "Green Pool". Driving forces behind this idea were the governments of France and the Netherlands, both exporting countries which were in favour of European economic unification. But the idea of a single market for agricultural goods and products was heavily opposed by the British government, and the Scandinavian countries followed Britain's lead. The plan for a 'green pool' was therefore abandoned, but an intergovernmental solution under the OEEC structures, the Ministerial Committee for Agriculture and Food, was set up. However, the 'Green Pool' can be seen as the basis of what later was to become the Common Agricultural Policy in the EEC. (CVCE, 2012)

¹⁶ Belgium, France, West Germany, Italy, the Netherlands, and Luxembourg

- Labour Policy: information provisions aimed to create transparency in labour practices.
- Transportation: the same transport rates had to be applied to all steel firms, regardless of nationality, and rates had to be published.
- Foreign Relations: under the supervision of the Council of Ministers, the High Authority could negotiate and establish diplomatic relations with foreign governments regarding matters related to coal and steel.
- Crisis Measure: in the event of a manifest crisis, production quotas would be established by the High Authority.

In February 1953, the common market for coal, iron-ore and scrap markets was officially opened when the member states agreed on the elimination of tariffs and quotas as agreed upon in the treaty. Even after this highly symbolical vote, the High Authority had problems in tackling the policies and institutions which imposed barriers to trade, as it relied on the consent of the Ministerial Council. Member States prioritised national policies over HC suggestions, fearing losses in the fields of job protection and industrial growth. These objectives led governments to prefer market segmentation over unleashing competition via market integration. European governments blocked HA efforts to dismantle barriers to trade and often aided their firms in contravention of ECSC.¹⁷ Almost from the beginning of its existence, the ECSC was searching for its “Raison d’Être”. (Alter and Steinberg, 2007)¹⁸

“Looking back to the ECSC five decades later, the contrast with today’s economic thinking is rather sharp.” (Pelkmans, 2006, p. 8) Even though the ECSC created a kind of industrial policy geared towards more competition through free trade and a common internal market for coal and steel, a strong role of the state in the market and

¹⁷ All member states were cutting against ECSC policies. France granted low-interest state-guaranteed loans to help its industry, while at the same time following an economy of scale strategy including orchestrated mergers and domestic steel price controls. (Daley, 1996) Germany granted its steel industry indirect subsidies via special tax credits, low regulatory standards, and favourable credit conditions. (Esser and Fach, 1989) Italy supported its domestic steel industry through a combination of public sector investment, tariffs and increased concentration of ownership to create economies of scale. (Kipping et al., 2001)

¹⁸ Despite its limited regulatory capacities, the ECSC provided important incentives in the steel and coal sectors to its member states. More than 280 modernisation loans to coal and steel projects, totalling 725 million US Dollars were granted. These subsidised loans, which were granted at low rates, contributed to the promotion of process innovation which could be translated to higher output of the industry and a reduction of costs through industrial restructuring. Trade amongst the ECSC members increased notably and the output in steel increased more than three times from 1952 to 1974. The steel products became better, cleaner and cheaper. (Grabes and Nützenadel, 2013)

interventionism was a common feature of European industrial policy since WW II. Pelkmans (2006, p. 8) even goes as far as to state that “[s]ectoral and specific industrial policy lies at the origin of the European Community.”

Competition policy turned out to be a keystone of the agreement, even though it was mostly been neglected in practice. Montalban et al. (2011) emphasise the point that the first steps towards the competition policy of the Treaty of Paris were not due to ordo-liberal rational of Germany’s government but that it was introduced by the French government, which based its arguments on the rational of neo-mercantilism. Nonetheless, most historians agree that the French proposal for these regulations has to be seen as directly linked to national interests in this specific historical context, rather than as the outcome of the opposing economic doctrines of Germany’s and France’s governments. “Consequently, the ECSC’s articles on competition were shaped more by a politically-worked construction of French national interests than by any German ordo-liberal influence, [...]” (Montalban et al., 2011, p. 16)

5.2. The Era of Embedded Liberalism

After the rejection of treaties aiming to create a European Political Community and a European Defence Community in 1954, European integration took another step forward in 1957 through the adoption of the Treaties of Rome by the six ECSC members, founding the European Economic Community (EEC) and the European Atomic Energy Community (EURATOM).

The EEC and EURATOM were institutionally based on the same supranational governmental structures as the ECSC, although some adjustments were made. However, the EEC institutions were to some extent been weaker than their ECSC counterparts. “Member states wanted for the EEC less, not more, supranationalism than they had in the ECSC”. (Alter, 2001) Drivers behind these concerns were of economic origin and concerned the protection of national industries and a hesitating position towards competition.

The European Economic Community created a common market with two objectives. The first was to transform the conditions of trade and manufacturing within the community, and the second, more political, saw the EEC as a step towards a closer unification of Europe. (EUR-Lex, 2010)

The realisation of the single market was based upon the creation of a customs union through a gradual dismantling of trade barriers such as tariffs quotas and other trade barriers which inhibited the free movement of goods, services, and factors between the six founding members. Additionally, the Treaty of Rome called for the free movement of persons, services, and capital. The treaty also envisioned the harmonisation of external trade tariffs and some legal and fiscal rules, as well as common policies in the areas of agriculture (CAP), transport (CTP) and overseas territories.¹⁹ However, the Treaty of Rome did not explicitly include a common industrial or technological policy. The only provision regarding industries is to be found in Article 3, which demands the implementation of a system that ensures that competition in the Common Market is not distorted as one of the principle tasks of the Community. (Toepke, 1981) Therefore, the Treaty of Rome included several antitrust provisions which were applicable on a supranational level. (Rahl, 1971)

Two distinct articles about cartels (Article 85) and monopolies (Article 86) were adopted to guarantee a fair level of competition in the Common Market. (Montalban et al., 2011) Article 86 introduced a non-exhaustive list of forbidden practices:

- (a) the imposition of inequitable purchase or selling prices, or any other inequitable trading condition;
- (b) the limitation of production, markets or technical development of the prejudice of the consumers;
- (c) the application to parties of unequal terms in respect to equivalent supplies and lastly,
- (d) the conclusion of contracts to the acceptance by a party of additional supplies without connection with the subject of the contract.

Article 85 is based on the same list as Article 86, adding to the forbidden practices market-sharing or the sharing of the sources of supply. Furthermore, three exemptions to both articles have been agreed on:

- (a) cartels and monopolies which led to the improvement of production or distribution;
- (b) cartels and monopolies which foster technological or economic progress, and

¹⁹ Article 8 of the EEC Treaty foresaw that the Common Market should be progressively established during a 12 year period.

(c) those that were carried out by state monopolies and public services.

A more explicit provision regarding industries, although in the realm of competition policy, can be found in Articles 92 to 94 of the Treaty. The articles are aimed at two objectives: to deal with anti-competitive behaviour of private firms, and to try and regulate uncompetitive behaviour of member states' governments, especially in the realm of state aid to industries and to state-owned enterprises. (Aydin, 2009)

The Treaty of Rome has no sectoral slant regarding industries, except a minor clause in Article 92C concerning the shipbuilding industries. But here too, emphasis is put on the regulation of state aids.

The Treaty of Rome were the result of a compromise between the national interests of mainly France and Germany, both of which are often seen as representative of two opposing economical doctrines, i.e. neo-Mercantilism and ordo liberalism. The institutional beginnings of industrial policy in Europe are therefore characterised by a dichotomy between interventionist aspects influenced by France and competitive elements influenced by German ordo-liberals. (Montalban et al., 2011)

As soon as the Treaty of Rome was approved, debates regarding its application began. Interest associations from businesses especially raised their concerns about the effect of the Articles on competition and industrial policy and on national legal orders. One of their major arguments was that the exemptions to Articles 85 and 86 would open the door for "arbitrary intervention" of the member states.²⁰ Another concern raised by the business delegations concerned the asymmetrical treatment of private versus public businesses under the Treaty. (Montalban et al., 2011)

Different positions on the regulation 17/62 also existed within the EEC member states. Germany had already introduced a competition law on a national level in 1958. Fearing of having a much less strict system at the European level, German officials argued for a fast implementation of a regulation on competition policy. French officials on the other hand were in favour of a more accommodating cartel law, following their own national legislation. In 1961, during negotiations to enter the second stage of the common market through the adoption of the CAP scheme submitted by the Commission,

²⁰ The worst scenario being the introduction of industrial and competition policy in countries where this had not been the legal norm, i.e. Belgium, Italy, and Luxemburg.

Germany made the adoption of the regulation on competition an absolute condition for accepting a CAP as requested by France and the Netherlands.

However, it was one thing to introduce this system of rules, which institutionalised the competitive orientation of the EU's industrial policy, "[...] and a very different issue to actually succeed in using it to reduce existing, and forthcoming, cartels and monopolies." (Montalban et al., 2011, p. 26)

Even though the regulation 17/62 can be seen as success from an ordo-liberal perspective, the lack of administrative capacities to implement it hindered its implementation. Even Walter Hallstein, the first president of the Commission and an ardent German ordo-liberal, had to admit that the European institutions were not equipped to enforce these regulations.²¹ It was not until 1964 that the DG Competition issued its first decision forbidding a cartel, which became famous as the Grundig-Costen case. (Montalban et al., 2011; Rahl, 1971)

Even though important developments towards a competition-led industrial policy in Europe were taking place, the overall trend was, on the contrary, still in favour of neo-mercantilist and interventionist economic doctrine with defenders from large firms, national governments, and even the European Commission. (Montalban et al., 2011)

The main objectives in most European countries were the development of a large manufacturing base in the emerging industries of the 1950s and 1960s—steel, automotive, and chemistry (typical sectors of “Fordist” production)—and the development of new activities in the fields of electronics, aircraft, and biotechnology in the 1970s. These objectives were implemented by an extensive industrial policy which mainly operated on a national level.

“National policy tools that were adopted included an extensive role of state-owned enterprises; support to private firms through financial and investment aid; R&D funds; public procurement; market protection; specific support for the development of new firms, new technologies and major new products.” (Pianta et al., 2016, p. 16)

²¹ By 1963, more than 900 notifications of multilateral agreements and 34 500 bilateral agreements had been submitted to the DC Competition, which was represented by the German Hans von der Groeben. “As the French have forecasted, it soon appeared that the kingdom of von der Groeben was unable to handle one by one all the notified cases” (Montalban et al., 2011, p. 26)

On a European level, the creation of the Airbus consortium among four EU countries proved that European industrial policy in practice differed significantly from its regulatory principles in the Treaty of Rome. (see Box 1)

According to Pianta et al. (2016), policy instruments applied in Europe at that time included:

- (a) creation or expansion of state-owned firms in strategic industries; key infrastructures and natural monopolies;
- (b) subsidies and financial aid to private firms, support of their R&D efforts and investments, creation of the necessary infrastructure in order to ensure that a large share of the demand of growing industries was met by domestic producers;
- (c) trade protection of infant industries and use of managed trade and negotiations to open selected export markets in order to favour the growth of new industries;
- (d) public procurement of high-technology goods in order to provide an early demand pull to the development of new industries;
- (e) creation of institutions, forms of coordination, directing of credit flows, financing and public-private cooperation, favouring the development of new industries, organising new markets, setting standards and regulations;
- (f) strengthening of national innovation systems, including the development of public education, research and development with close links to public research, public services, and public and private firms.

Box 1: The Case of Airbus

Airbus started in the 1970s as consortium of different European aircraft manufacturers from France, Germany, Spain and the UK with the aim of challenging the overwhelming dominance of US aircraft producers of the time, most prominently Boeing. The story of Airbus is a much-cited example to showcase successful, industrial policy interventions enabled by the provision of capital to state-owned firms which involved direct subsidies to the consortium, public procurement and aircraft acquisitions, publicly funded R&D, as well as supporting export strategies. (Pianta et al., 2016; Thornton, 1993)

“Almost since its start, Airbus had to face accusations of unfair State aid, mainly from low-interest government loans for the developments of new aircrafts; [...] These accusations came in particular from the US rival Boeing, and Airbus responded that Boeing’s military and space contracts offered indirect subsidy to the US company.” (Pianta et al., 2016, p. 17)

This conflict was formally managed with an EU-US agreement in 1992 which set limitations on these forms of public support. With the introduction of WTO rules, both companies appealed to the WTO conflict resolution body, which in 2010 and 2011 ruled that Airbus had received improper subsidies in the form of below-market government loans. In 2011, the WTO ruled that Boeing had received improper local and federal aid against WTO rules.

More recently, the WTO ruled against Airbus, stating that the EU had failed in eliminating billions of dollars in illegal state aid to Airbus. The U.S. government has sought WTO’s permission to draw up sanctions against the EU which could penalise other European industries summing up to \$10 billion. However, the WTO is currently preparing a case against Boeing which is expected to fault the U.S. government for indirect subsidies through, among other things, state tax breaks. See Bradshaw, “EU Risks Billions in Sanctions as WTO Faults Airbus Support,” n.d., “WTO says EU failed to comply with Airbus subsidy ruling,” 2016; Hollinger, 2016.

“These cases show the extent to which free trade and competition rules reduce the space for industrial policy and create hurdles that can be overcome only by a major political decision.” (Pianta et al., 2016, p. 17)

5.3. Post-Fordism in Europe

In the context of the breakdown of the Bretton Woods regime in the early 1970s, the price shocks to the world economy induced by the first Oil Crisis in 1973, and the subsequent deep recession of 1974-1976, a critical transition in Europe's economic policy took place. After a period of impressive growth, industrial expansion, and economic growth, the economy slowed down considerably throughout Europe. (Crafts & Toniolo, 2010) From 1973 to 1990, the GDP per capita rose by only 1.91 percent annually on average, not even half as fast as during the post-war boom period.

“Apart from the pervasive and persistent decline in economic performance relatively to the previous boom, from 1973 until the early 1990's, accelerating inflation, rising public debt as well as rising unemployment, became the other common features of this transitional period.” (Grabas & Nützenadel, 2013, p. 64)

In the early 1980s, the economic policy debate in Europe (but also in the US) changed and was dominated by neoliberals who argued that the past forms of industrial policies which had been applied were drastically inefficient and inappropriate. The arguments in the European context were similar to those outlined in [4.2.2](#). At the centre of the neoliberal criticism was the argument that government failures are worse than market failures, which are more likely to provide an efficient allocation of resources and to develop new economic activities or, as Geoffrey Owen (2012, p. 22) puts it, “[...] the clear lessons from European industrial policy in the 1960's and 1970's was that governments had overrated the risks and costs of market failures and underestimated those associated with government failures.”

This also meant that the policy space for an interventionist approach to industrial policy was drastically reduced.

Montalban et al. state that

“[...] in the space of seven to eight years at the end of the 1980’s and the early 1990’s, the EC’s competition policy was transformed from a relatively weak set of instruments largely overshadowed by neo-mercantilist approaches to sectorized industrial intervention into a tightly knit policy placed at the heart of revitalized neoliberal economic doctrine made and implemented not only in Brussels but also throughout the member states.” (Montalban et al., 2011, p. 28)

This critical transition was characterised by two main events which were seen to have influenced the future path of Europe’s economic development. First, the deepening of economic integration throughout Europe through the Single European Act (SEA), and second, the rise of a neo-liberalist doctrine in several key member states, most prominently in the UK²². Both of these events were spurred by the growing concerns of almost all Western European governments facing the ‘American Challenge’, as well as the economic rise of Japan. (Owen, 2012)

As a result, European governments started to form their national policy frameworks around the core principle of competitiveness and also introduced it on the supranational level of the European Economic Community. (Grabas & Nützenadel, 2013) Montalban et al. (2011) show that different actors, such as the newly founded European Roundtable of Industrialists (ERT), the Delors Commission, as well as other interest groups, such as the European employers association (UNICE) and national governments, formed a strong opposition towards first-wave industrial policy approaches to economic policy and defeated these on a European level.²³

“Once the gradual abolition of the regulated market, of state intervention, and of the mixed economy in general began, in many Western European economies a proper deregulation race commenced.” (Grabas & Nützenadel, 2013, p. 74) Following the election of Margret Thatcher in 1979, the UK experienced drastic privatisation measures, followed by similar measures and from the mid-1980s also France.

²² According to Owen, (2012, p. 37), “[...] that Act, the most important step towards European integration since the Treaty of Rome, has been described as ‘Mrs. Thatcher’s baby’.”

²³A deeper analysis on the issue of lobbying during the process of the SEA is provided by Balanyá, Doherty, Hoedeman, Ma’anit, & Wesselius, 2003.

Following the election of Jaques Chirac, almost all French firms which had been nationalised by the preceding socialist government were privatised within just 18 months after Chirac's election. Post-Franco Spain followed the same paradigm. (Balanyá, Doherty, Hoedeman, Ma'anit, & Wesselius, 2003; Grabas & Nützenadel, 2013; Owen, 2012; Pianta et al., 2016)

In 1984, the European Commission put forth a package of proposals to eliminate trade barriers within the European Community. The package was subject to criticism from member states as well as from business representatives. While member states worried about a possible loss of sovereignty, business leaders considered the Commission's proposal as too vague, lacking concrete substance, and a clear time table. The ERT therefore put forward its own proposal concerning the establishment of a European Single Market entitled "Europe 1990: An Agenda for Action". (Dekker, 1985). The demands outlined in the Dekker proposal seemed to charge and open door in the newly installed European Commission. "Three days after Wisse Dekker presented his Europe 1990 initiative, the newly appointed president, Jacques Delors, delivered a speech in the European Parliament which closely paralleled Dekker's proposal." (Balanyá et al., 2003, p. 21) In 1986 the Single European Act (SEA), the legal framework of the Single Market was introduced and came into effect in 1987.

The Single European Act had drastic implications for Europe's economy. From the mid- to the late 1980s, the SEA fuelled a boom of merger activities as firms sought to anticipate and adapt to the new market conditions. The European Commission had been trying to establish a regulation of merger activities since the early 1970s, but its attempts had always been blocked by neo-mercantilist member states. (Montalban et al., 2011) The debate on the Merger Control Regulation showed that the neoliberal transformation of the European Community was not uncontested. "A bone of the contention was the desired form and content of an EC Merger Control Regulation, most notably, whether (democratically accountable) member state governments could overrule the (not democratically accountable) Commissions decisions in certain merger cases." (Buch-Hansen & Wigger, 2010, p. 18)

However, in 1989 the EC Merger Control Regulation was adopted and member states were merely granted a non-binding advisory role in the Advisory Committee. Suggestions from other parties concerning the inclusion of labour and industrial policy criteria to the regulation were blocked by the Commission. Ten years after the adoption

of the regulation, Leon Brittain stated that “[...] the supporters of an industrial policy were effectively beaten back, and the Regulation gives clear primacy to the competition criterion [...]”²⁴ (Brittain, 2000, p. 3)

Stricter and more predictable timetables, as well as a monopoly on decision making by the EU Commission (which implied that once the Commission opened a case, National Competition Authorities had no option of intervention anymore) was very much welcomed by transnational capital. It reduced the transaction costs resulting from multiple overlapping national regulations for businesses and created legal certainty for merger activities. (Buch-Hansen & Wigger, 2010)

However, during the beginning of the 1990s, first problems arose. European business leaders, especially from the electronics sector, began to alert the Delors Commission. Expensive merger activities, declining profitability of the sector, as well as increased competition—especially from Japan—threatened European industries in key product areas. (Buch-Hansen & Wigger, 2010)

A key question arose: “[w]ould it be possible for the Europeans to become effective multinationals, by making them more vulnerable to the more powerful and manoeuvrable Americans and Japanese, end up destroying them?” (Ross, 1993, p. 22) Most of the big European companies developed in a protected economic environment, as “national champions” with sheltered national markets and under the protection of public purchasing. During that time, American and Japanese firms were able to accumulate an immense amount of resources and capital, as well as internationalising their scope. Many industries that found themselves in economic troubles asked the Commission for bail-outs and more protectionist efforts, arguing that a failing of their companies had deeper consequences for the community for which the European Commission might be held responsible. (Buch-Hansen & Wigger, 2010; Ross, 1993)

The Delors Commission had to react to the issues at stake. Although aware that arguments about strategic industries had become unfashionable, the troubled

²⁴ Further, „I was determined that the Merger Regulation should not be used as a way of imposing an industrial policy in Europe, although there were quite a number of participants in the debate who wanted to do just that. Whether it was because they wished to create European champions, or wanted to allow social considerations to have an important impact, they wanted the wording to the Regulation to be sufficiently broad for the Commission to be able to consider matters going well beyond the effect of the merger on competition in the relevant market.“ (Brittain, 2000, p. 3)

European electronics sector was a special case. “Electronic technologies diffused throughout other industries. It was not only the European firms that were at issue, but much about the European economy more generally [...]”. (Ross, 1993, p. 22) The Commission decided to react to this issue with the publication of “Industrial Policy in an Open and Competitive Environment” in 1990. (European Commission, 1990)

The line of the publication was very clear: “the main responsibility for industrial competitiveness must lie with firms themselves [...]” (European Commission, 1990, p. 1) Firms were therefore seen as key actors to take the final decisions concerning the European economic structure. Further, the document describes that, “[w]ithin the Community, a growing consensus –at least implicitly – has developed on the policy needed [...]”. (European Commission, 1990, p. 1) This consensus describes the competitiveness of the industry as “the essence of the Community interest”. Therefore, the new “Community approach” has to ban interventionist strategies and instead introduce “horizontal” coordinating policies that act on the environment within which firms operate. The Community must promote a competitive environment for firms through corresponding policy measures, hindering interventionist public policies and private market power, while at the same time ensuring a stable and predictable macroeconomic climate. (European Commission, 1990)

The European Commission also dedicated a section of the document to the role of industrial policy in “[...] achieving a high level of environmental protection”. The document recognises the need for environmental protection, as the environment has a “value in itself both prudent and rational.” (European Commission, 1990, p. 10) The document also highlights that a market-oriented approach should be applied to tackle these considerations. “A high level of environmental protection is increasingly being met by economic and fiscal instruments and voluntary agencies rather than through legislation.” (European Commission, 1990, p. 10) Environmental regulation has therefore also become subject to the competition paradigm. (see Box 2)

Although the strong neoliberal spin concerning industrial policy is obvious, the Delors Commission managed to save some policy space for intervention in the field of strategic industries.

“The experience of the 70’s and 80’s has shown that interventionist sectoral policies are not an effective tool for structural adaption [...]”, however, “[...] in the past, particular difficult problems have been dealt with at Community level, steel, textiles and shipyards, for example. Likewise, the community has and should continue to pay particular attention to the areas which play a central role in the development of Europe’s economy and industry such as telecommunications, semiconductors, aeronautics and the maritime industry.” (European Commission, 1990, p. 19)

After the publication of the Industrial Policy document, the Delors Commission was working on a strategy paper for the troubled electronics sector. It tried to make use of the policy space which the previous document remained for public intervention. A strong internal debate within the Commission, especially between DG Research, DG Single Market and DG Competition occurred.²⁵ However, the Commission decided to support the electronics industry through subsidies and the orchestration of collaboration among the different national companies. (Ross, 1993)

Similar papers for other sectors such as automobile, biotechnology, maritime, textile and clothing followed. Ross (1993) saw in the developments of industrial policy under the Delors Commission to as a return to a more traditional approach during the period after 1992.

The dominance of the neoliberal doctrine within the discourse of industrial policy was also marked by another interesting phenomenon as Ross (1993, p. 40) describes: “However much one talked about horizontal-framework intervention to give clearer signals to firms that would ultimately make their own decisions, the firms themselves almost always wanted something that looked rather more like traditional sectoral intervention [...]” (Ross, 1993, p. 40) As Buch-Hansen and Wigger (2010) argue, this uncovers one aspect of the inherent contradictions of neoliberal capitalism. “That is, if

²⁵ While DG Research and the Delors office tried to find ways to formulate sectoral and targeted applications of the horizontal framework, arguing on the basis of a market-failure rational, DG Competition tried to block those efforts. A more detailed discussion of the internal processes which accompanied this paper is provided by Ross (1993).

capitalism requires relentless competition, yet capitalists do everything they can to destroy competition [...].” (Buch-Hansen & Wigger, 2010, p. 23)

5.3.1 The Mainstreaming of Industrial Policy

While the foundations of a European industrial policy framework were laid in the Treaty of Paris, it was only with the adoption of the Maastrich Treaty that it became fully institutionalized.²⁶ Industrial policy was one of the six new areas of Community policies which were established. Article 130 (now Article 173) reads:

²⁶ An interesting feature of Article 130 of the Maastricht Treaty is, that it never mentions industrial policy explicitly. The article is simply labelled “Industry”.

1. The Community and the Member States shall ensure that the conditions necessary for the competitiveness of the Community's industry exist. For that purpose, in accordance with a system of open and competitive markets, their action shall be aimed at:

- speeding up the adjustment of industry to structural changes;*
- encouraging an environment favourable to initiative and to the development of undertakings throughout the Community, particularly small and medium-sized undertakings;*
- encouraging an environment favourable to cooperation between undertakings;*
- fostering better exploitation of the industrial potential of policies of innovation, research and technological development.*

2. The Member States shall consult each other in liaison with the Commission and, where necessary, shall coordinate their action. The Commission may take any useful initiative to promote such coordination.

3. The Community shall contribute to the achievement of the objectives set out in paragraph 1 through the policies and activities it pursues under other provisions of this Treaty. The Council, acting unanimously on a proposal from the Commission, after consulting the European Parliament and the Economic and Social Committee, may decide on specific measures in support of action taken in the Member States to achieve the objectives set out in paragraph 1.

This Title shall not provide a basis for the introduction by the Community of any measure which could lead to a distortion of competition".
(European Community, 1992, p. 52)

Many scholars describe the Maastricht Treaty as a turning point for industrial policy in Europe as a consensus has been reached that seemed to mark the end to a sectoral approach. (Aiginger & Sieber, 2006; Darmer & Kuyper, 2000; Pianta et al., 2016) While the EU did not gain sole competency to conduct industrial policy, the Treaty did

empower the European Commission to coordinate and support governmental activities in this field. (Ambroziak, 2015)

However, the Maastricht Treaty's impact on the European Union went far beyond the field of industrial policy. The treaty opened the way to the creation of a common European currency. The idea of the Euro has been introduced and according to Lipietz (1995) based on a deeply flawed institutional construction.²⁷ At the same time the Treaty forced the member states to reduce public debts and deficits which often caused waves of privatisations. The establishment of the Single Market reinforced these trends as it relied on the ability of market forces to direct investments and to guide the overall economy. Trade barriers and regulatory differences have been removed and public procurement had been liberalized with the expectation of economic gains resulting from greater competition, scale economies and lower prices for the consumers. (Pianta et al., 2016) "This market integration, however, has opened up a process of industrial concentration that has reduced production diversification and polarized specialisation patterns in most countries, increasing the distance between strong and weak actors, resulting in increased oligopolistic power in majority of industries." (Pianta et al., 2016, p. 19)

Buch-Hansen and Wigger (2010) emphasize the point, that neither the Single European Market nor, the Treaty of Maastricht brought substantive changes in the realm of industrial policy. Much more, it brought about a neoliberal discursive shift which had a remarkable impact on the Commission's enforcement strategies.

First, a "deconstructive moment" entailed a neoliberal critique of past modes of crisis management most notably interventionist policy tools. The narrative created an exclusively negative picture of those policies which endangered prosperity and wealth across Europe. After a short transition period and the evolution of a "constructive moment", "[...] the general neoliberal discourse gradually translated into a more specific discourse, revitalizing the enforcement of EC competition regulations." (Buch-Hansen & Wigger, 2010, p. 34)

²⁷ Further, Lipietz (1995) described the Maastricht Treaty as anti-ecologic and anti-social while it also dramatically reduced the democratic space of the EU. According to Lipietz, the implicit consequences of the treaty caused a major obstacle to the introduction of environmental taxes, since the treaty foresaw that such decision underlie the unanimity principle. (Lipietz, 1995)

The ERT has been a strong supporter of the neoliberal narrative for industrial policy. In 1993, as a reaction to growing concerns over the poor economic performance in the Community, the lobby published a report called “Beating the Crisis” in which it advocated for lowering the costs (of labour), reduce the regulations (with an emphasis on employment regulation) and raise the quality of products (through economies of scale and industrial concentration). (European Roundtable of Industrialists, 1993) Just a week after the presentation of the document by the ERT, the Delors Commission published its “White Paper on Growth, Competitiveness and Employment”. The two documents bear a striking similarity in both, the analysis of the current problems as well as in the proposed policy solutions: deregulation, flexible labour markets, transport infrastructure investments and international competitiveness. (European Commission, 1993)

Apart from the “constructive moment” which the White Paper provided, statements concerning the relationship between society and nature were also made. In section two of the document where issues of competition were addressed by the Commission “four overriding issues” to increase the competitiveness of Europe’s industry were presented. Among those four the promotion of “a sustainable development of industry” has been emphasized. The White Paper even dedicated a whole chapter to the document which drafted the pathway towards a “new development model” for the Community. Chapter 10 was configured as a kind of appendix to the white paper. (Enderlein & Rubio, 2015)

The vision set out in Chapter 10 starts with a statement on the structural links between environment and employment. “The current development model in the Community is leading to a sub-optimal combination of two of its main resources, i.e. labour and nature.” (European Commission, 1993, p. 145) While the resources of labour are underused, environmental resources are overused. According to the document, one reason for this development is that “[...] the substitution of labour by capital has been accompanied by a continued increase in the use of energy and raw material, leading to an over-exploitation of environmental resources.” (European Commission, 1993, p. 145) Further, the document concludes, that the economic and social problems the Community has to face are a direct result of those inefficiencies.

According to the document, a new development model has to be established which decouples economic growth from environmental degradation. It is further stated, that some of the issues raised have an explicit Community dimension as

“[...], the transition phase towards a more optimal economic model is easier to realize if several countries act together [...]. Furthermore, many measures implicitly or explicitly concern sectoral policies as well as steering on market forces within the internal market.” (European Commission, 1993, p. 147)

Clean technologies are being identified as a key to make the “economic-ecological relationship a positive one”. Structural change and the creation of a new clean technology base for Europe’s economy are to be by an “active and imaginative policy support”.

Even though the Commission has been rather progressive in its analysis of problems, the proposed policy recommendations have been rather weak as it stated that, “[t]he transition towards a new sustainable development model requires the development of a consistent set of market incentives.” On the one hand the document proposed increased and more coordinated R&D efforts in the field of clean technology and the development of economic incentives to support the diffusion of those technologies. On the other hand it suggested to shift taxation burdens from labour to resources, i.e. an environmental tax.

However, the principle of unanimity as well as the lacking support of major member states such as UK and Germany nullified the strategic breakthroughs of the White Paper. (Enderlein & Rubio, 2015, p. 4)

Box 2: Contours of Environmental Policy in the EU

The EU’s environmental framework consists out of different elements with the regulations which are provided by the treaty rules as well as the Environmental Action Programmes being important to considerations in the field of industrial policy. The institutional beginnings of environmental policy in the EU can be traced back to 1987 and the introduction of the SEA which introduced a new Environment Title which provided the first legal basis for a common environmental policy. However, it was not until the Treaty of Maastricht, that environmental protection became an

official EU policy area. Further, Article 2 of the Treaty acknowledged the interaction of environmental and economic policies by calling for a “sustainable and non-inflationary growth respecting the environment”. (Bär & Kraemer, 1998)

In 1997, the Treaty of Amsterdam brought two important changes to the EU's environmental framework. First, it introduced the principle of sustainable development into Article 2 of the Treaty making it an official objective of the EU's policies. More importantly, the Treaty introduced the ‘integration principle’ which established the duty to “[...] integrate environmental protection into all EU sectoral policies with a view to promoting sustainable development”. (European Parliament, 2016, p. 1) Hence, environmental policies are conceptualized to act as a framework for other policy fields such as industrial and competition policy.

In 2001 the Council added a third, environmental dimension to the Lisbon process with its Sustainable Development Strategy²⁸. In 2009 the Lisbon Treaty states under Article 3 (3):

“The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance.”

Environmental objectives and economic objectives, most notably competition, therefore form the constitutional base of the EU. However, the outlined goals of economic growth and a high competitiveness ensured through free competition and undistorted markets seem to conflict with the goal of environmental protection. (Kingston, 2011; Vedder, 2003)

This contradiction also becomes evident in the evolution of instruments of environmental policy, as Vedder (2003) suggests. He states, that one of the most prominent developments concerning the EU's environmental policy has been the shift from a “command and control” legislation to a market based orientation. Vedder (2003, p. 45) argues, that the regulation approach in environmental policy has been

²⁸ The EU's definition of Sustainable Development is based on the Brundtland Report (1987) and states that it stands for “meeting the needs of present generations without jeopardizing the ability of future generations to meet their own needs”.

the result of the “[...] dominant perception of the state and its role in society [...]”, especially in the 1960s and 70s. ‘Command and Control’ legislations aimed at strictly regulating a certain environmental aspect, e.g. limits on emissions. A potential consequence of such measures is that it intervenes into the market and hence distorts competition.

The use of market-based instruments started in the beginning of the 1990s. In contrast to the regulative approach, those instruments try to provide incentives to guide environmentally friendly behaviour of economic actors. Environmental taxation or emission trading schemes are typical instruments of that approach. Hence, environmental degradation is being conceptualized as a market-failure, therefore it has to be internalised. (Vedder, 2003) This logic is also in accordance with the ‘polluter pays’ principle which poses a general principle in the EU’s environmental policy. (European Parliament, 2016) However, the environmental performance of a competition-led environmental policy has been rather poor as the failure of the European Trading Scheme (ETS) suggests.

The next important step concerning Europe’s industrial policy has been the adoption of the Lisbon Strategy “[...] to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion.” (European Council, 2000, p. 1) In 2001 the Lisbon Strategy was complemented by the Gothenburg Strategy which added an environmental dimension to the Lisbon process for employment, economic reform and social cohesion. Its aim was to deliver a sustainable development strategy for Europe. “However, EU governments have very different views on the relative importance of the economic, social and environmental parts of the sustainable development strategy, while the links to the EU’s separate economic reform programme- the Lisbon agenda – remained confused”. (Begg & Larsson, 2005, p. 2)

The comprehensive economic strategy outlined by the Lisbon process was expected to deliver the,

“[...] transition to a knowledge based economy and society by better policies for the information society and research and development (R&D), as well as by stepping up the process of structural reform for competitiveness and innovation and by completing the internal market; modernizing the European social model, investing in people and combating social exclusion; sustaining a healthy economic outlook and favorable growth prospects by applying an appropriate macro-economic policy mix.” (European Council, 2000, p. 2)

In 2002 the European Commission (2002, p. 2) published its industrial policy strategy which states that, “[...] the vibrancy and dynamism of industry is essential for Europe to be able to sustain and increase its prosperity while meeting its wider social, environmental and international ambitions.” Further, industrial policy is characterized by the document as a “very wide field” implying that many of its instruments are the instruments of other policy fields such as competition, internal market, R&D, education, trade and sustainable development. It is a central tool in the achievement of the aims set out by the Lisbon and Gothenburg Strategies. (European Commission, 2002)

Aiginger and Sieber (2006) describe this approach to industrial policy as a „matrix approach“. This approach is characterized by the acknowledgment that broad horizontal measures affect certain industries more than others. Sectoral applications of industrial policy are needed in certain cases. Therefore, the “[...] new industrial policy outlined in the matrix approach is a definite sign of a more pro-active policy approach”. (Aiginger & Sieber, 2006, p. 583) However, it is emphasized by the authors as well as by the European Commission (2002) that “pro-active policy approach” does not equate to the interventionist approach of the first industrial policy wave. “In principle this new approach does not change the rationale behind the industrial policy of the European Community, which was used to combat market failures”. (Aiginger & Sieber, 2006, p. 583)

In 2005 the mid-term review revealed that the economic performance of the Lisbon Strategy was “[...] to date somewhat disappointing and the European economy has failed to deliver the expected performance [...]” (European Commission, 2005a, p. 1)

The Commission published a new communication, “Implementing the Community Lisbon Programme: A policy framework to strengthen EU manufacturing — towards a

more integrated approach for industrial policy". (European Commission, 2005b) One of the means to increase the effectiveness of the programme was to strengthen the role of national governments and the establishment of a "High-level Group on Energy, Environment and Competitiveness". The communication did not bring any relevant changes to the policy discourse and focused further on competitiveness and framework conditions with certainly excluding a return to selective interventionist policies. Simultaneously, it suggested tailor-made measures on the "basis of the concrete characteristics of sectors". (European Commission, 2005b)

The establishment of the High-level Group however seemed to acknowledge the increasing importance of environmental aspects in the industrial policy discourse. However, the group's composition was highly unbalanced in favour of industry and businesses. 13 out of 17 non-governmental members were representatives of industry and business. (Friends of the Earth Europe, 2008, p. 14)

Wesselious (2003, p. 1) draws a similar picture when he describes the EU's Lisbon Strategy as "[...] an example of corporate agenda setting at the European level". He argues, that corporate lobbying groups such as the European Employers' Confederation, BUSINESSEUROPE (UNICE) and the EU Committee of AmCham, the representative of companies headquartered in the US. However, the European Roundtable of Industrialists (ERT) has played a leading role in putting competitiveness and innovation at the centre stage of the EU's political agenda. The ERT was strongly represented in the Competitiveness Advisory Group (CAG) which delivered key documents for the European Union Leader's Spring Summit in Lisbon in March 2001. Representatives of the ERT described the ambitions set out by the Lisbon Strategy as the EU's 'double revolution'. On the one hand, the power of the state and the public sector in general is reduced through privatisation and deregulation and on the other hand the nation-state's power is transferred towards an international and modern structure at the European level.

The adoption of the Treaty of Lisbon in 2007 provided the minor revisions of the provisions on industrial policy which were laid out in the Maastricht Treaty, hence it underlines the orientation towards competition. Further, it suggests the introduction of guidelines and indicators, the organisation of exchange of best practices and the creation of monitoring and evaluation schemes. Additionally, the European Parliament was granted more legislative power in the field of industrial policy and the unanimity

principle in the Council was abolished. This grant of additional power to the European Parliament also made it easier for the Council to adopt guidelines, measures or indicators which would support industrial activities in the EU.(Ambroziak, 2012)

Dellheim and Wolf (2013, p. 2) also point out, that the Lisbon Treaty adds to these general declarations “[...] the commitment to strengthen the industrial and technological base of the defence sector as the only clear political orientation which is not left to the outcomes of market competition”.

In 2008, the Commission published the communication “Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan” (European Commission, 2008b). Sustainability concerns were given the centre stage in this publication.

“The challenge is now to integrate sustainability into this picture. [...] It is a key objective of the European Union [...] The challenges are directly linked to our way of life. The way we produce and consume contributes to global warming, pollution, material use, and natural resource depletion.”
(European Commission, 2008b, p. 1)

The publication states further, that a structural transformation of production and consumption patterns is “more pressing than ever”. Resource efficiency is conceptualized as a key tool in increasing competitiveness and the overall environmental performance.

However, Bieling and Brand (2014) note that the emphasis on resource efficiency is not solely nurtured by environmental concerns, much more it also reflects the growing concerns over the availability, and more crucially, the accessibility of natural resources to the European economy.

Even though the programmatic content of the communication reveals that it does not provide measures to change the predominant mode of production and consumption (it rather calls for a form of re-regulation) it has to be noted, that sustainability was made the guiding principle of industrial policy.

A historical perspective on industrial policy in Europe reveals that its evolution did not occur in a linear manner, much rather it was marked by ruptures and discontinuities. Furthermore, regulatory paradigm shifts in industrial policy were never isolated events, but part of a broader shifts in the regulation of capitalism which was induced by

changes in relationships of power and new modes of capital accumulation. (Wigger & Buch-Hansen, 2014) The field of industrial policy has been subject to substantial changes in terms of content, form and scope. In terms of content, industrial policy became almost synonymous with competition policy and changed considerably regarding the balance of power between state institutions and private actors. This heavily influenced the form of industrial policies which was continuously shifted towards the private and market sphere reducing the policy space and democratic accountability. This has been reinforced by a continuous extension of the scope of industrial policy which became increasingly Europeanized and globalized in its nature. (Buch-Hansen & Wigger, 2010) A “selectivity” of the European state apparatuses can be observed throughout the evolution of industrial policy. Deviations from the ruling regulatory paradigm, resulting out of the inherent contradictions of the capitalist mode of production, have occurred due to successful intervention efforts by dominant powers. Furthermore, moments of crisis seem to concur with a transformation (in the 1970s) or a reorganisation (in the 1990s) of industrial policies. The following section tries to examine current changes regarding industrial policy in the context of the multiple crises.

6. Industrial Policy in the Multiple Crises – Context Analysis

In 2009 the European Commission published the report ‘Economic Crisis in Europe: Causes, Consequences and Responses’ in which it stated, that the “[...] European economy is in the midst of the deepest recession since the 1930s [...]”. (European Commission, 2009, p. 1)

Simultaneously with the outbreak of the economic crisis a “renaissance” of industrial policy set in. While policy makers considered the term industrial policy as out-fashioned in the past 20 years, it has received renewed attention in the context of the multiple crises, especially in the EU. However, industrial policy measures per se have never been off the political agenda, as the historical analysis in the preceding [Chapter 5](#) shows. This has also been emphasised by Bianchi and Labory (2010, p. 306) as they state, that “[I]ndustrial policy therefore has always been and continues to be implemented around the world, despite the official discourse that rejected it until recently.”

The reasons for the increased attention towards that policy field are manifold. In the context of the EU, the most frequently raised argument is derived by the observation that countries with a higher share of industry in their GDP seem to be less affected by the economic crisis than countries with a weak industrial core. More generally demands to rebalance the economic structure within the EU became louder as bubbles in the non-tradable sectors of the economy were identified as a driving force behind the financial crisis. However, Europe's economies have been de-industrializing steadily for the last decades and even faster since the beginning of the economic crisis.²⁹(Aiginger, 2014; Dhéret & Morosi, 2014; Pianta, 2015; Stöllinger et al., 2013)

Another aspect is rooted in concerns over the EU's competitiveness. Rising competition from "emerging economies" such as China, Brazil and India has put the EU's economies under pressure, not only in typical low-technology sectors but increasingly so in high-value products. (Aghion et al., 2011; European Commission, 2010a) Those pressures are reinforced by the overall slow growth trajectory of the European economy and especially its productivity growth performance. Linked to that, Landesmann (2015, p. 133) states, that [...] Europe has not been at the forefront of the main innovative technological trajectories, [...] and shows little sign that it's going to change."

Furthermore, industrial policy has become an important part in the management of the ecological crisis and the "[...] necessary transition to a more sustainable, inclusive and resource-efficient economy" (European Commission, 2010a). Two different dimensions of the ecological crisis are given special attention by the EU. First, given the limited and uncertain access to natural resources and energy, industrial policy should help to foster resource and energy efficiency and secure the access to natural resources. (Bieling & Brand, 2014; European Commission, 2010a) Secondly, industrial policy can help to address the "big issues" such as climate change and international

²⁹ This eventual decline of importance of the producing sectors in the share of an industrialised countries' GDP is not a new phenomenon in economic theories. This can be explained on the one hand by demand forces (as the preference for services increases with higher incomes) and on the other hand by supply forces (as technical progress lowers manufacturing costs). Deindustrialisation has been considered as a characteristic element of a mature economy. A sectorial shift towards the service sector has been welcomed and even persecuted by policy-makers. The transition to a knowledge based economy, where intangible assets became increasingly important also raised new policy issues, especially in the field of competition policy (antitrust law) and innovation and technological policy (intellectual property rights and industrial cluster/network policy) . See (Aiginger, 2014; Bianchi & Labory, 2010) for further reading.

competition by building up a competitive advantage in so called “green industries”. (Aghion et al., 2011; European Commission, 2010; Mazzucato, 2015).

The issue of industrial policy gathered renewed momentum with the introduction of the “Europe 2020” strategy which succeeded the Lisbon Strategy whose economic outcomes were rather weak and did not provide a promising and new economic narrative to overcome the crisis. (Ambroziak, 2012; Dhéret & Morosi, 2014)

In March 2010 the Commission launched its new economic strategy by stating that,

“[E]urope faces a moment of transformation. The crisis has wiped out years of economic and social progress and exposed structural weaknesses in Europe's economy. In the meantime, the world is moving fast and long-term challenges – globalisation, pressure on resources, ageing – intensify. The EU must now take charge of its future”. (European Commission, 2010b, p. 1)

The narrative for the Europe 2020 Strategy is based on the three pillars of smart, sustainable and inclusive growth and comprises five headline targets for employment, R&D, education, fighting poverty and social exclusion as well as climate change and sustainability. In comparison to the Lisbon strategy, Europe 2020 radically reduced its number of indicators from 42 to 5 and incorporated an environmental dimension by introducing the 20-20-20 targets.³⁰ (Pochet, 2010)

The document states that smart growth is to be created by developing a knowledge and innovation economy. Sustainable growth should be achieved by promoting a more resource efficient, “greener” and more competitive economy while inclusive growth is to be attained by the promotion of a high-employment economy which is to deliver stronger cohesion across regions. (European Commission, 2010b)

Seven flagship initiatives have been adopted to support the outlined strategy and headline targets. The headline targets and flagship initiatives have been subject to criticism for either being too conservative and path dependant (e.g. Bongardt et al., 2010) or for being too ambitious and a danger to economic growth and prosperity in Europe (e.g. Erixon, 2010).

³⁰ 20% reduction of greenhouse gas emissions (from 1990 levels) - 20% of EU energy supply from renewable sources – 20% improvement of energy efficiency.

However, both sides of the argument recognised the renewed attention by the document towards industrial policy. While Pochet (2010) argues that the “unblocking” of the industrial policy debate is one of the few positive points which the strategy has to offer to overcome the crisis, Erixon (2010) regards the return to industrial policy as “disastrous” step which endangers competition and therefore urgently needed growth. It has also to be noted that both strands of criticism agree that there are many contradictory elements and tensions within the agenda, especially in the field of industrial policy. Erixon (2010, p. 2) sees a contradiction in the overall ambition of the strategy as it

“[...] panders mainly those who believe governments can steer economies to growth and that the solution to every economic problem in Europe is stronger policy harmonisation. [...] Such views contradict key pillars of European growth experience”.

Pochet (2010) argues that the

“[...] description of growth as ‘smart’ is quite inadequate as an approach to solving a complex debate between, [...] the need for a return to growth to ensure social stability, social cohesion and a reduction in the level of debt and [...] the need for a change of paradigm [...] to avoid an increase in greenhouse gas emissions.” (Pochet, 2010, p. 143)

Despite the contradicting elements, it is important to note that the industrial policy debate has been introduced under the umbrella of sustainable growth and was therefore anchored in the environmental dimension of the Europe 2020 strategy. Both authors also agree upon the fact that “[t]he profile and extent of the new industrial policy that Europe envisions remain to be seen.” (Erixon, 2010, p. 6)

First steps towards defining the contours to the “new” industrial policy in Europe have been taken by the Commission with the release of the publication, “An integrated Industrial Policy for the Globalisation Era – Putting Competitiveness and Sustainability at the Centre Stage”. (European Commission, 2010a)

The publication stated that industry is to be at the centre of the EU’s new growth model and should be supported by an approach to industrial policy which “[...] will strengthen

EU competitiveness, provide growth and jobs, and enable the transition to a low-carbon and resource efficient economy. (European Commission, 2010a, p. 1) In order to achieve those ambitions, the Commission calls for a definition of industrial policy “in its wider sense”. First, industrial policy are those policies which affect cost, price and innovative competitiveness of industry and individual sectors. Secondly, industrial policy encompasses also the effects of all other policy fields such as transport, energy, environmental or social and consumer protection policies but also single-market and trade policies. “They are crucial components of the overall package as they can have an important influence on the cost, price and innovative competitiveness of industry.” (European Commission, 2010a, p. 4)

Regarding its orientation, the Commission characterizes “this fresh approach” to industrial policy as horizontal in its basis with sectoral applications and predicts that

“[t]he success of this new industrial policy will translate directly into increased growth and jobs and the improved international competitiveness of Europe’s industry. Moreover resource and energy use and greenhouse gas emissions should be decoupled from output growth in line with the overall ambitions of the Europe 2020 strategy.” (*European Commission, 2010a, p. 5*)

The overall line of the document does not always provide a clear direction or path for a European Industrial Policy. The basic contradictions of the Europe 2020 strategy still prevail. However it is to be noted, that the environmental dimension has been highlighted several times, including the proposal of sector specific initiatives in “[s]ectors which are most promising in meeting the other future societal challenges of climate change, health, and security (for example healthcare, environmental goods and technologies, energy supply industries and security industries)” (European Commission, 2010a, p. 23) Simultaneously, the European Commission also states that environmental regulation has to be market-based and that competition has to be remained in an undistorted manner. State Aid is only allowed in the case of “market-failures.”

The communication also emphasises the need for a long-term policy perspective in the fields of competitiveness, climate change, energy, population aging, skills and knowledge and states, that “[...] policy measures may be needed to accompany

ongoing structural change within and across industries.” (European Commission, 2010a, p. 20)

The *second* document was published in 2012 by the Commission and was a mid-term review of the industrial policy flagship, “A Stronger European Industry for Growth and Economic Recovery” which states at the beginning:

“The strategic approach proposed in 2010 remains fully valid for achieving our longer term objectives and very good progress has been made in its implementation. However, the harsh impact of the economic crisis on several Member States, the subsequent economic stagnation in the EU and the deteriorating outlook for the global economy have given a new urgency to this Mid-term Review of the Industrial Policy” (European Commission, 2012, p. 5)

The communication emphasises again the importance of the “*real economy*” to underpin Europe’s economic recovery and states that the renewed political interest in the topic grounds in “[...] the realisation that a strong industrial base is essential for a wealthy and economically successful Europe.” Furthermore, “[...] only industry can improve economy-wide energy and resource efficiency [...] and help to provide solutions to societal challenges.” (European Commission, 2012, p. 5) It is also suggested to reverse the trend of deindustrialisation and raise the share of industry in the European GDP from 16% to 20% by 2020³¹.

Six priority action lines have been identified: advanced manufacturing technologies, key enabling technologies, bio based products, sustainable industrial and construction policy³² and raw materials, clean vehicles and smart grids. These priority areas shall contribute to economic recovery in the short- and medium-term while at the same time build necessary industrial infrastructure to facilitate the “Third Industrial Revolution”³³.

³¹ Peneder (2014) argues, that the 20% aim of reindustrialisation does not correspond with the outlaid industrial policy strategy of the European Union as increased and faster productivity growth and the higher global competitive pressures will lead to a decreasing share of industry in GDP.

³² Although mentioned in the headline, sustainable industrial policy is not further elaborated in the dedicated chapter. The construction sector and resource and energy efficiency are the dominating topics of the chapter. (see European Commission, 2012, p. 10)

³³ The term refers to a eponymous book by Jeremy Rifkin (2011). The book suggests that the triple challenge of the economic crisis, energy security and climate change can be met by technological progress.

Further, “[t]hey are all markets where new technologies are ready to deliver new products or increase productivity.” (European Commission, 2012, p. 10)

The outlined approach to industrial policy suggests to focus on improving “framework conditions” which reinforce growth potentials. It is clearly stated, that “[p]ublic intervention should create the right market environment and come up with remedies to market failures. The objective of industrial policy is to foster competitiveness [...]” (European Commission, 2012, p. 3) Still, the communication concludes, that a “proactive industrial policy approach “ is needed in order to spur reindustrialisation efforts. The four elements of (a) stimulating new investments in new technologies; (b) improving the functioning of the internal market; (c) facilitating the access to finance; and (d) improving human capital and skills; of the communication already indicate a more proactive industrial policy approach.

However, the environmental dimension which played a central role in the 2010 industrial policy communication has been dropped in favour of more conventional “sources of growth” such as investments in industrial infrastructure. The 2012 communication integrated environmental concerns in a broader category of societal challenge. “Environmental challenges” were only mentioned regarding concerns over competition and resource scarcity. Efficiency and productivity gains became the central tools for taking up this challenge.

Entitled with a powerful claim, the *third* step towards a new industrial policy for Europe has been the publication, “For a European Industrial Renaissance”. The Commission reiterated its messages from the 2012 communication. It called on member states to further integrate and mainstream industrial competitiveness into other policy areas. The reindustrialisation aim of a 20% share on industry in European GDP has also been renewed. In contrast to the preceding communications of the European Commission, this communication explicitly discussed the potential of state aid as a direct measure to promote certain industrial sectors:

“As Member States increasingly look to stimulate investment in strategic industrial areas, the Commission is modernising the State Aid Framework for R&D&I and reforming public procurement rules to create a critical mass on the demand side and improve efficiency in the allocation of resources in full respect of competition and internal market rules.”
(European Commission, 2014, p. 10)

The environmental dimension has again been limited to concerns over competitiveness which are rooted in comparatively high energy prices and the limited access to raw materials.

In parallel to the publication on industrial policy, the European Union adopted the 2030 Climate and Energy Framework which compromised three key targets:

- 40% cuts in greenhouse gas emissions (from 1990 levels);
- 27% share of renewable energy and
- 27% improvement in energy efficiency by 2030.

Only the first target is of a binding nature while the remaining two are indicative. Critics emphasized that the new framework was less ambitious than the preceding Europe 2020 framework which included two binding targets on emissions and renewables. (van Renssen, 2014) Especially business representatives, as well as certain groups within the European Commission (i.e. DG Energy) have emphasised the point that environmental regulation has to be formulated in accordance with demands from the industry and concerns over competitiveness by European businesses. (Corporate Europe Observatory & Friends of the Earth Europe, 2014)

All these communications of the European Commission have received a political answer from the European Council. (European Council, 2010, 2012, 2014) Although political messages could be read in between the lines, i.e. differences regarding the 20% reindustrialisation target between 2012 and 2014, the answers of the European Council did not reveal a clear message concerning the direction of a new European Industrial Policy. Ambroziak (2015) describes the underlying reason for this vagueness as an outcome of the sometimes extreme diverging positions of member states

regarding industrial policy. “Thus, conclusions of the Council are predominantly ‘well-balanced’ compromised texts which could be accepted by all Member States. Hence often diluted, unambitious and without a clear message to stakeholders.” (Ambroziak, 2015, p. 69) Industrial policy has been successfully granted a “renaissance” on the policy agenda of the EU but no clear form and content could be provided, much rather it has been left in a relatively openness.

These recent debates about the form and content of a new European Industrial Policy can also be interpreted as a hegemonic struggle in the regulation of the multiple crises. Industrial policy therefore constitutes a historically contingent element of a wider mode of crisis regulation in the European Union. It also constitutes a “new” political and epistemic terrain where social and political forces react differently and often oppose each other. (Brand, 2013; Kannankulam & Georgi, 2014)

The EU’s efforts to bring back industrial policy on the political agenda must be read in a broader context of crisis which creates “moments of disjunction and relative openness”. (Jessop & Sum, 2006) This is also reflected in the policy documents and economic strategies which were published by the European Commission in response to the prevailing crisis. In a historical-materialist perspective, regulatory arrangements (including the changes thereof) are considered to have structural roots, i.e. the underlying power balances between different social forces and actors. (Wigger & Buch-Hansen, 2014)

In the next section of this thesis, I would like to turn to those “structural roots” by identifying the “subjects of steering” in this political and epistemic terrain, i.e. actors and their specific capacities, interests and rationales. However, it is important to bear in mind, that the actors themselves are the result of a concrete historical situation. (Kannankulam & Georgi, 2014)

6.1 Europe’s Fourth Industrial Policy Wave? – Conflicting Rationales

Industrial policy has been an integral part of the European Union since its beginnings after World War II. However, the historical analysis in Chapter 5 shows that its development has not been a continuous one, much rather it has been characterized by ruptures and shifts within the regulatory paradigm.

Recent debates on industrial policy are rooted in an overall regulatory paradigm which can be labelled as a neoliberal industrial policy project. This is also expressed in the horizontal and competitive nature of European Industrial Policy. The constitutive strategy of the neoliberal industrial policy project is that it is market-oriented and led by competition mechanisms. The role of the state is limited to the provision of business infrastructure (i.e., framework conditions) and the regulation of market failures.

This regulatory paradigm came under pressure due to the severe consequences of the multiple crises. The European Commission responded with the re-introduction of the ideologically loaded term “industrial policy” and a proclaimed pro-active approach to it in the Europe 2020 strategy. This created a destabilising moment for the dominant neoliberal industrial policy hegemony project as industrial policy turned into a “green project” through the inclusion of “sustainability at the centre stage” in one of the strategy’s flagship initiatives. Industrial policy was seen as a key tool to address the economic, social and environmental dimension of the crisis. The green theme was conceptualized as a new driver of growth which is simultaneously building a long-term competitive advantage while tackling environmental, social and economic problems. (Aiginger, 2012; European Commission, 2010a, 2010b)

Hence, this emerging hegemony project will be labelled as the “neoclassical *green industrial policy project*”. While it still refers to the basic principles of the neoliberal industrial policy paradigm, such as growth and competition, it further provides a more nuanced approach when it comes to the directionality of policies as well as in the identification of market failures. As outlined in [section 4.2.4](#), “neoclassical *green industrial policies*” do allow for targeted intervention, especially in strategic sectors.

This is one of the most fundamental rhetoric differences compared to the preceding neoliberal paradigm.³⁴ Blueprints for such an approach have been provided by

³⁴ The approach of identifying strategic industries was not a new idea in the field of industrial policy. Similar rationales were key driving forces behind the more interventionist industrial policy approaches of the second industrial policy wave. (see [section 4.2.2](#))

academics such as Aiginger (2012, 2014; 2006) who worked on these issues in an EU funded research project (WWWforEUROPE) and Dani Rodrick (2008, 2011, 2014).

In contrast to preceding regulatory approaches, neoclassical green industrial policies imply support for a sectoral application of industrial policy as it provides an inherent directionality towards certain sectors, technologies and products which are to increase sustainability. This led to several controversies within the academic community as the opposing views of Pochet (2010) and Erixon (2010) outlaid above shows. Proponents of the “*neoclassical green industrial policy hegemony project*” can also be found in the political factions of the European Parliament. The Friedrich-Ebert-Stiftung (2011), a foundation associated with the German Social Democratic Party (SPD), published a paper which called for an “*Ecological Industrial Policy*”. Also the Green European Foundation which is linked to the European Green Party published a booklet on “Sustainable Industrial Policy” which supported this paradigm.

Support also came from business organisations such as BusinessEurope (2010) and the Alliance for a Competitive European Industry (2010). Both business organisations emphasized the need for an “integrated industrial policy” and also welcomed the turn towards more sectoral policies. However, their welcoming position has to be understood in context of crisis ridden industrial sectors in Europe’s real economy. The environmental argument for sectoral applications of industrial policy has been pushed aside whilst economic arguments for sectoral policies have been emphasised.³⁵

BusinessEurope (2011) for example stated that industrial policy instruments must be defined sector-specific but have to remain technologically neutral. This implies that the inherent “green” directionality of the “neoclassical green industrial policy project” would be made impossible. This argument was also reflected by the relaxation of state-aid rules for, e.g. car, steel, construction and ship building industries.³⁶ (Wigger & Buch-

35 In 2009 BusinessEurope called for a loosening of environmental regulations for the chemicals and automotive sector. BusinessEurope insisted that the recession “does not allow for business-as-usual attitude to regulatory policy. (EuroActiv, 2009) In 2011 Business Europe further stated that, “[i]nstead of artificially defining certain “green” sectors and technologies receiving political treatment, measures should be put in place to make the whole European industry more sustainable and more innovative. “ (BUSINESSEUROPE, 2011, p. 2)

36 State aid schemes approved for the real economy accounted for €82.5 billion in 2010 while the financial sector was granted €4.5 trillion by the same year. (Wigger & Buch-Hansen, 2014)

Hansen, 2014) This gave rise to another current, the “*new competitive industrial policy hegemony project*” in which the basic regulatory tools (e.g. directed sectoral applications of industrial policy) remained but without an explicit environmental orientation.

This strand of argument was reinforced by the European Commission (2012) and its mid-term review of industrial policy in 2012. “Sustainability” lost its centre stage while competition remained as a key concern. Just a few weeks before the publication of the European Commission, the ERT (2012) published a position paper called “*Priorities for an Integrated Industrial Policy*”. The report pledges for an integrated industrial policy concept which also accounts for the potential impact of all EU and national policy initiatives on the cost, price and innovation capacity and competitiveness of European Industries. Energy, environment, social, climate, consumer protection, health care and trade policies were explicitly named by the report. Additionally further developments of horizontal and sectoral policy initiatives were supported and were intended to be modelled after the EU’s approach for the chemical and automotive sector. Furthermore, the report calls for a reconsideration of existing competition policy schemes in order to be globally competitive, including the relaxation of state aid regulations.

The ERT also states that “[...] EU competition policy too often acts as a barrier for innovation or industry reconstruction. Therefore EU competition policy, including antitrust rules should be fully aligned with a new integrated and holistic industrial policy.” (European Roundtable of Industrialists, 2012, p. 2) The ERT’s report comprises significant similarities to the European Commission’s mid-term review. More importantly, it provided a new understanding of competitiveness in the industrial policy framework. In contrast to the “*neoclassical green industrial policy hegemony project*”, this “*competitive industrial policy hegemony project*” does not aim for a “*high-road competitiveness*” which is characterized by a green competitive advantage and a long-term perspective. Much rather it stresses the current global competitive pressures (especially from “emerging economies”) which accelerate deindustrialisation trends due to carbon leakage or lacking economies of scale. (Aiginger, 2014)

This reasoning is a key driver behind the 20 percent reindustrialisation rationale which was introduced by the European Commission in the 2012 communique. Political support for this target came from some Member States which established a group called “Friends of Industry”. The formation of this group was initiated by the governments of France, Spain and Italy. (Ambroziak, 2015) In its first joint communique which was signed by representatives from France, Spain, Italy, Greece, Bulgaria, Luxemburg, Belgium, Czech Republic and the UK, the Group stated that “[...] the Commission must examine the competitiveness gap between Europe and the advanced economies, which is due to disparities in both energy prices and commitments to reduce CO₂ emissions and produce renewable energy. (Finances.gouv.fr, 2013, p. 4)

This direction was supported by a revived ordo-liberal approach of the German Government (2013) which marginalized the ecological problems and emphasised the orientation towards global competitiveness and “security concerns” over energy prices and natural resource availability.

In the beginning of 2014, the Commission urged its member states to mainstream industry related competitiveness concerns across all policy areas and called for an “Industrial Renaissance” in Europe. (European Commission, 2014) This was fully in line with the demands raised by the ERT in 2012 and which were renewed in their “EU Industrial Renaissance” report. (European Roundtable of Industrialists, 2014). In this publication, the ERT recommends that the European Council should provide a strategic direction which sets out priorities for industrial competitiveness, growth and jobs.

At the same time BusinessEurope and the ERT successfully introduced their interests into the 2030 climate and energy pact of the European Union. (Corporate Europe Observatory & Friends of the Earth Europe, 2014) This was also supported by parties within the European state apparatuses. Only one week after the adoption of the pact, the EU’s Energy Commissioner, Günther Oettinger, publicly questioned the achievability of the proposed 40% reduction of CO₂ emissions by 2030 and raised concerns over the competitiveness due to higher energy prices in Europe. (EuroActiv, 2014a)

BusinessEurope (2014) published a report in which it states, that “[t]he EU needs to reassess its approach to energy and climate policy in order to reverse the ‘investment leakage’ trend. [...] reduction targets must be realistic and adaptable to avoid placing the EU as an isolated front runner [...]” (BUSINESSEUROPE, 2014, p. 5) This new “*climate pragmatism*” led to a “*green policy U-Turn*” granting the “*climate pragmatism industrial policy hegemony project*” a dominant position within the industrial policy discourse. (EuroActiv, 2014b)

This kind of climate pragmatism has also found its way into the European Council and the governments of Member States. According to the Ministers of Industry the political climate has changed and “[...] environmental policies need to be considered in a broader context, which also looks at their impact on industrial activities.” (EuroActiv, 2014b) This position has been publicly supported and represented by the Governments of France, Germany and Poland.

Finally, a third current can be distinguished. The “*progressive industrial policy hegemony group*” is constituted out of a diverse set of actors. Its protagonists are civil society organisations such as Friends of the Earth Europe (FoE) or the EuroMemo Group, trade union organisations such as the European Trade Union Confederation (ETUC) and IndustryAll as well as political parties such as the German “Die Linke” its affiliated “Rosa Luxemburg Foundation” and the “Transform Europe Network”. Although this set of actors could be divided into different sections along its respective focus and implicated policy priorities, they all share a common constitutive strategy which stands in opposition to the neoliberal industrial policy projects. The criticism of this group focuses on the “new” understanding of competitiveness and the implicated “security concerns” such as energy security and natural resource access.

The progressive industrial policy hegemony group propose the themes of a “socio-ecological transformation” (Dellheim & Wolf, 2013) and a “Just Transition” as a guiding principle for Europe’s re-industrialisation efforts. A progressive industrial policy needs to address economic, social, environmental and political terms alike. (Pianta et al., 2016) Furthermore, it is stressed that no hierarchy should be established between those terms. (ETUC, 2014) In economic terms, the progressive industrial policy group criticizes current “*restrictive notion of competitiveness*” which pose the central

mechanism of “*neoliberal industrial policies*”. “*Low cost-competitiveness*” based on deregulation, social and environmental dumping and further deregulation efforts must be replaced by a different understanding of competitiveness based on (social, ecological and economical) quality including public investments which serve this purpose. Furthermore,

“[...] the role of governments will become more important in a sustainable economy. The new growth model will indeed be driven by less individual consumption of goods (so-called consumerism), and more by the search for solutions of social needs [...]” (IndustriAll, 2014, p. 2)

The aim of this “sustainable growth” model is to create high quality jobs and the reversing the trend of increased inequality within societies as well as within countries. According to Pianta et al. (2016) a successful progressive industrial policy project relies on the rethinking governance mechanisms to create public-interest economies and the organisation of a broad political and social consensus on reorganising European economies. “The results of such efforts could be crucial for the future of Europe in ending stagnation, creating new high-wage jobs where they are most needed, in greater EU cohesion and public action, in progress towards an ecological transformation of Europe, and in greater democracy in economic decision making.” (Pianta et al., 2016, p. 7)

6.2. Discussion & Process Analysis

The Euro 2020 strategy and the first Industrial Policy Communication provided a new growth strategy which was based on “*high-road competitiveness*”. In order to achieve this aim it reintroduced strategic and selective industrial policies in addition to the dominant horizontal types in order to promote “green technologies” and innovation. This “*neoclassical green industrial policy hegemony project*”, which also found support within parts of the European state apparatuses and gained additional momentum through national “green” initiatives such as the “Energiewende” in Germany. (Lütkenhorst et al., 2014; Pegels & Lütkenhorst, 2014) Furthermore, it posed a threat to the “material core” of the then dominating “*neoliberal industrial policy hegemony project*” as it challenged the persistent mode of production and consumption.

Business representatives were the first to react and went into a form of “*soft opposition*”. On the one hand they broke with the pre-crisis competition imperative which almost exclusively advocated for horizontal measures and condemned a pro-active industrial policy as this would supported sectoral industrial policies and welcomed state-aid measures. The ERT (2012) made a rhetorical U-turn concerning its position towards competition policy when it stated that current forms of competition policy act as “a barrier for innovation and industrial reconstruction”. In the same publication the ERT reframed the term competition by the means of new “security concerns”. The concept of competition was no longer conceptualised as the guarantor for efficient resource allocation and as an overall performance enhancer. Instead, it has been pushed into a global context where the European economy would be disadvantage due to uncompetitive green and social regulatory frameworks. In order to ensure level global competition sustainable industrial policies have to be created against the backdrop of a global competition threat. As protectionism (e.g. trade policies) was condemned by these actors competitiveness could only be achieved through a weakening of social and environmental standards. Dellheim and Wolf (2013, p. 11) described this “[...] as a full-fledged attack on democratic, social and ecological standards, as well as on the conditions for a socially and ecologically sustainable development in global solidarity.”

The European Commission’s mid-term review of 2012 became the material condensation of the “*climate pragmatism industrial policy hegemony project*” which gained the dominant position. The 20% target for reindustrialisation replaced “sustainability at the centre stage” and an alliance of Member States began to for the group “Friends of Industry” (2013) which supported the “new” competitiveness concerns. A few weeks later the European Council (2013) followed those economic ideas which were proposed by ERT (2012) as well as by the German government (2013). This also indicates the underling structure of the relationship of forces within EU institutions.

2014 has been another decisive year as the “climate pragmatism approach” resulted in a relatively weak Europe 2030 climate and energy pact, reflecting the interests of core factions of European capital. The ERT (European Roundtable of Industrialists, 2014, p. 13) proposed that “[a]ny climate or energy policy must be adapted to ensure

that the goal to increase industry's share of EU GDP to at least 20% is respected." Environmental concern have been banned from top priorities in the context of the multiple crises. Business representatives and lobbying groups have been successfully reclaimed their position that one cannot afford "green legislation" in times of crisis into most of the concerned EU institutions. This also led to tensions within the European institutions, e.g. between the DG Energy and then DG Climate. While the former supported industry concerns over competitiveness, DG Climate represented the "high-road competitiveness" argument. (Corporate Europe Observatory & Friends of the Earth Europe, 2014) However, this ideas have been marginalized by dominant forces and concerns over new "security" issues such as "investment and carbon leakage" as well as resource and energy access have become the main argument in the regulatory paradigm.

Thus, industrial policy has been subject to several changes and ruptures since its "Renaissance" in 2010. While a "green" industrial policy counter project emerged *within* the neoliberal regulatory paradigm at the beginning of the industrial renaissance, dominating social forces were able to sustain their dominant position in the relationship of social forces (and its material core) through a revision and recalibration of dominating competitiveness paradigm. The introduction of the 20% reindustrialisation aim has to be seen as the material condensation of the regained hegemonic claim of the "climate pragmatism industrial policy project".

Other counter hegemonic projects such as the "*progressive industrial policy hegemony*" project were side-lined, also due the strategic selectivity of the EU state apparatuses. EU institutions have privileged the interests of organised capital and business factions which were compatible with the current neoliberal regulatory regime. (Wigger & Buch-Hansen, 2014)

7. Conclusions & Outlook

This thesis argues, that European industrial policy has undergone significant changes in form and content since its rejuvenation in the wake of the multiple crises.

Furthermore, the “new” industrial policy strategies have served as a means to recalibrate the neoliberal regulatory paradigm and have significantly weakened European environmental regulation efforts.

The “renaissance” of industrial policy has often been explained by the fact that countries with a strong industrial base, such as Germany, were less affected by the financial crisis. However, mere economic arguments do not sufficiently explain recent developments in the field. The historical-materialist perspective outlined in this thesis shows, that moments of crisis have “structural roots” and therefore destabilise the dominating societal power relationships. This also implies that moments of crisis produce spaces and moments of relative openness which can lead to changes of the regulatory paradigm. The rejuvenation of industrial policy has therefore to be seen as a response to a deeper, hegemonic crisis of the neoliberal regulatory paradigm. This also means that interpretations of and responses to the crisis are themselves discursively and politically mediated and the result of societal struggles, relationships of forces and their material condensation.

The drivers of destabilisation of current societal relationships of forces are not limited to the dynamics of economic crisis. They are being mutually reinforced by other moments of crisis, especially through the socio-ecological crisis. The socio-ecologic crisis does not only threaten the societal relationship of forces, it also questions their “material core” and their concrete material relationships, i.e. the dominant mode of production and consumption.

The Europe 2020 strategy and its reintroduction of a “pro-active” industrial policy are conceptualised by this thesis as a material condensation of the broader hegemonic crisis. The strategy created a kind of “relative openness” in which different interpretations and responses to the crisis could emerge and has resulted in a process of searching. This becomes evident in the varied receptions among the academic community, as well as in public institutions, of the Europe 2020 strategy and the subsequent Industrial Policy Communications. While one side interpreted the return of

industrial policy as a sign of an economic and ideological backward step towards characteristics of the first industrial policy wave such as interventionism and protectionism, others welcomed it and saw it as a promising instrument to deliver a new path of (green) economic growth. Additionally, temporary interventionist measures such as massive bail outs in the financial sector, nationalisations of banks, and the relaxation of the state aid regime as well as the direct financial support for troubled industries indicated a reorganisation of the regulatory paradigm.

In this situation of relative openness, a counter-project the *“neoclassical green industrial policy hegemony project”* was formed. It was aiming for a socio-ecological re-regulation within the dominant neoliberal regulatory paradigm in which public intervention into the market is allowed in order to create a “high-road competitiveness” of European industries. Ecological ambition and social investments are not seen as costs, but as important drivers of competitiveness. Hence, this type of competitiveness is dependent on high ecological and social standards which, in the long-term, should lead to a *“green competitive advantage”*. Strategic and selective “industrial policies” by public authorities are considered to be essential in order to create new “green” markets, “green” growth paths and “green” jobs. Even though actors of the *“neoclassical green industrial policy hegemony project”* have distanced themselves from the “traditional” industrial policy approach of the first wave, similarities can be found. Public institutions regain the power to actively shape and create the economic market according to social and ecological objectives. However, typical neoclassical elements, such as a rather narrow understanding of competitiveness and the emphasis efficiency gains, prevailed.

The dominant actors of the “pre-crisis neoliberal regulatory paradigm” were put under pressure by this approach, as it implied a recalibration of the societal relationships of power. Actors such as business representatives, but also parts of the European state apparatuses, positioned themselves in what could be described as a *“soft opposition”*. In this position, they welcomed some of the claims which were made by the *“neoclassical green industrial policy hegemony project”*, such as for example the demand for a reorientation of the dominant competitiveness paradigm. Furthermore, it also advocated for a more nuanced approach concerning current industrial policies which are mainly horizontal in nature and led by competition. However, the claims of the *“climate pragmatism industrial policy hegemony project”* are based on a different

underlying rational. In this perspective competitiveness is not created by establishing a “green” and strategic competitive advantage, much rather it demands adjustment efforts towards the competitive advantages of foreign economic actors. Ambitious ecological and social standards are not considered to be *enablers* of economic growth, on the contrary they are seen as *barriers* to ensure competitiveness in a globalised economic system. The “*climate pragmatism industrial policy hegemony project*” therefore challenges the “*high-road strategy*” of the “*neoclassical green industrial policy hegemony project*” and pleads for a “*low-road strategy*” without ambitious ecological and social ambitions. The only environmental aspects of the “*low-road strategy*” are demands for investments in measures to increase energy and resource efficiency in order to secure long-term energy and resource access and supply.

The 2012 industrial policy communication of the Commission is to be read as the material condensation of those demands. In contrast to the 2010 Europe 2020 strategy and the corresponding industrial policy strategy, “sustainability” has been banned from the “centre stage” and replaced by a *20% reindustrialisation target*. Private actors, such as business representatives and lobbying groups, but also coalitions of EU member states, have started to promote and support this target publicly. Furthermore a narrative was created, which can be best described as a kind of “climate pragmatism” that put ecological and social demands on hold in order to “safeguard” Europe’s economic competitiveness.

2014 has been a decisive year for the hegemonic struggle within the strategic site of industrial policy. The Commission has adopted new environmental targets for 2030 and simultaneously published its report on the “Industrial Renaissance of Europe“. This report included almost all demands raised by the “climate pragmatism industrial policy hegemony project”. Diverging positions also became visible within the institutions of the European state apparatuses and materialised themselves in the conflicting area of new environmental targets and renewed reindustrialisation aims. While some fractions argued that Europe’s economy cannot afford “green policies” in times of crisis, others saw them as the central instrument for emerging from the crisis.

The current model of European industrial policy can therefore be best described as a low-road strategy which tries to “safeguard” competitiveness by horizontal and sectoral

policies, suppressing ambitious environmental and social standards. The less ambitious Europe 2030 environmental targets are the outcome of these processes. Recent statements regarding their industrial strategy from important member states such as Germany, France, and the UK indicate that the “climate pragmatism industrial policy hegemony project” has become a “hegemonic project” for now.

This means that the societal power relationships which were destabilised through the dynamics of the multiple crises as well as by counter- industrial policy hegemony projects, could be stabilised by the current hegemonic powers. The EU state apparatuses, as a “second-order condensation of societal power relations”, played a key role in securing the interests of corporate capital and large investors. However, not only the societal relationship of forces could be secured; the “climate pragmatism” narrative also secured the “material core”, i.e. the dominant mode of production and consumption.

Finally, between 2010 and 2014, industrial policy could be redefined by dominating societal powers. As the historical development of industrial policy shows, content and form of industrial policy are heavily reliant on the dominating regulatory paradigm. This implies that industrial policy in itself is a strategic field of social struggle and is therefore inherently contested.

However, it has to be emphasised that the current industrial policy model only addresses one crisis dimension of the multiple crises, i.e. the economic crisis. The socio-ecological moments of crisis remain, and are even reinforced by the current unsustainable modes of production and consumption. Thus, the causal powers of that crisis moment will continue to take on their own agency and will further create new moments of crisis, which will also reach the remaining aspects of the multiple crises. The socio-ecological crisis therefore continues to be a destabilising element of current societal-power relationships and will continue to create open spaces for counter-hegemonic projects. We might currently be in a situation where “[...]the old is dying but the new cannot be borne yet.” (Gramsci, 2001, p. 176)

7.1. Explicit Answers to the Research Question

How did European industrial policy strategies evolve in terms of form, content and content since its proclaimed “renaissance” in the context of the multiple crises?

Table 2: Overview of Hegemony Projects and their Respective Form and Content

	<i>Content</i>	<i>Form</i>
<i>Pre-crisis neoliberal hegemonic project</i>	• minimum government interference • horizontal in nature with sectoral applications • “narrow” competition focus with emphasis on global free trade • provision of framework conditions	• limited influence of political decision makers
<i>Neoclassical Green industrial policy hegemony project</i>	• pro-active approach to industrial policy • horizontal and sectoral policies • competitiveness based on “public interest” criteria – high road strategy“ • ecological and social standards are drivers of competitiveness • building green competitive advantage	• higher influence of political decision makers through ambitious environmental and social regulation
<i>Climate Pragmatism Project</i>	• horizontal and sectoral policies • competitiveness based on “private interest” criteria – “low road strategy” • ecological and social standards are barriers to competition • “climate pragmatism” • resource and energy efficiency • adapting to global competitive advantage (race to the bottom)	• higher influence of political decision makers through the provision of state aid for strategic sectors

Source: Authors own elaborations

Further, is its “renaissance” a sign of a broader regulatory change which also affects Europe’s environmental regulation?

A regulatory change within the dominating neoliberal regulatory paradigm has occurred. These “new” industrial policy strategies aim at lowering economic and social standards in order to safeguard the international competitiveness of European producers.

H1: The “Renaissance of Industrial Policy” has to be seen as an outcome of hegemonic crisis of the neoliberal capitalist regime. Thus, the underlying balances between social forces are questioned.

The “Renaissance of Industrial Policy” can be read as an outcome of a broader destabilising moment of the dominating societal power relationships, triggered by the dynamics of the multiple crises. At the beginnings of the crisis, several developments, such as state intervention and state aid, as well as more ambitious environmental regulations, created the space for counter-hegemony projects.

H2: Through the introduction of industrial policy and the integration of environmental regulation, European state apparatuses try to regain political power in the regulatory paradigm.

This is only partially correct, as the European Union itself can be characterised as a secondary condensation of societal power relationships. Thus, it mainly (although not completely) underlies the dominant forces, i.e. private and corporate capital.

H3: The arising contradictions in the realm of European industrial policy indicate that the process of search for new hegemonic projects is contested. Hence, industrial policy serves as a strategic field of hegemonic struggle between different hegemony projects.

As the history and varieties of definitions and rationales for show that industrial policy has always been contested. The contradictory elements, e.g. environmental targets versus reindustrialisation, of the European industrial policy strategies indicate, that the contestation continues.

H4: As a consequence of the broader hegemonic crisis of neoliberalism, its “material core” and its mode of production have come under pressure.

The hegemonic crisis of neoliberalism is not limited to the economic sphere. Moreover, the economic crisis and other moments of crisis, such as the socio-ecological crisis, are mutually reinforcing. This means that the “material core”, i.e. “the imperial mode of living” itself, is a major cause for the neoliberal hegemonic project to be crisis-prone.

H5: Environmental regulation therefore constitutes a key area of economic governance and industrial policy.

Current economic strategies, whether they are “green” or “business as usual” models are highly dependent on environmental regulations. While green strategies depend on environmental regulations because they can shape and create new markets and therefore new paths for growth, “business as usual” models depend on environmental regulations because they can create “barriers” to their competition paradigm.

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