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The relationship between Foreign Direct Investment and Economic Growth

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A Qualitative Comparative Analysis for the member states of the European Union

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Preface

„Der Mensch muss das Gute und Große wollen, das Übrige hängt vom Schicksal ab."
– Alexander von Humboldt –

After exactly one year of my Master of Economic Geography at Radboud University, I am finally on the cusp of leaving university life behind me and taking the first step towards working life. The topic of this work has been following me since my early days in my Bachelor of Economics and Applied Geography. I have always been fascinated by the processes, correlations or effects of foreign direct investment in the most diverse countries, especially the influence that multinational and transnational companies have on it.

My enthusiasm for this topic comes certainly not least due to my supervisor Prof. Dr. Arnoud Lagendijk. Not only did he inspire me to think outside the box during my studies, but above all during the development of this work in the last six months he had a huge influence through his comments, thoughts and last but not least his great knowledge in the field of FDI. Thanks to him, I also came across the method of *Qualitative Comparative Analysis* used in this work. Arnoud certainly deserves much of my gratitude as he made a significant contribution to the success of this work.

Furthermore, I would like to thank my parents, who made it possible for me to realize my dreams and of course to study abroad. Add to that I want to say thank you to my girlfriend and also friends who in the last months and years had to do without me in many places, but certainly also contributed to the success of this work through their critical comments over the course of time.

Summary

The relationship between Foreign Direct Investment and Economic Growth – A Qualitative Comparative Analysis (QCA) for the member states of the European Union

Foreign Direct Investment (FDI) is one of the most important internationalization strategies for multinational and transnational corporations. However, these have also become enormously important for economies within the last decades. Inflows of direct investment are a major factor in growth, contributing to technology transfer, job creation or balance of payments improvements. Especially since the 1970s, FDI have become more important, the worldwide flows of FDI have increased more than fiftyfold. In particular, the last two decades since the turn of the millennium, especially in the course of the global financial crisis have led to ever new highs of FDI flows. Although developing countries are increasingly gaining influence over global FDI flows, especially countries in Southeast Asia, the FDI top 20 target countries are currently still dominated by 12 industrialized countries.

Although the focus in the literature in recent years has concentrated very much on the possibilities of FDI and economic growth in developing countries, the industrialized countries have moved somewhat into the background of investigations. We try to close these in parts with this study. Behind the countless motives that drive FDI, it is above all within the EU that efficiency and strategy-oriented motives for the inflows of FDI are at work. Within the EU, Belgium, France, the United Kingdom, the Netherlands, Luxemburg and, to some extent, Germany stand out, which each generate enormous inflows. But this does not necessarily lead to economic growth, as this study clearly shows.

While previous studies on this topic have focused almost exclusively on quantitative methods, regression analyzes, this study attempts a completely new approach. *Qualitative Comparative Analysis* (QCA), which originated in the social sciences, has so far received little attention especially in the economic sciences. To this end, this study should certainly make its contribution. The *QCA* combines approaches from both qualitative and quantitative approaches and allows a very precise investigation down to the state level, which regression analyzes cannot afford in contrast.

The scientific literature has shown a wide variety of results over the decades, that FDI can lead to economic growth, but also the opposite. However, it has always been important to examine certain factors that the studies have attempted to investigate in order to prove a connection between FDI and economic growth or not. For example, Balasubramanyam, Salisu, and Sapsford (1996); Blomström and Kokko (1994); Borensztein, De Gregorio, and Lee (1998) or K. H. Zhang (2001)

demonstrated that the effects of FDI are greater than simple capital accumulation, although the magnitude of a growth effect is difficult to establish. Nevertheless, that FDI can flow at all and eventually contribute to economic growth, certain developments, such as the financial system, the availability of human capital or physical infrastructure, are needed.

This study will incorporate ten individual conditions into the analysis using *QCA*. These are: taxes, human capital, size of the economy, protection of intellectual property, physical infrastructure, trade openness, financial system, per capita income, macroeconomic stability and state action.

The analysis technique is based on a Fuzzy Set Qualitative Comparative Analysis (fsQCA). *QCA* aspires to unify the best features of the variable as well as the case-centered approach. Central to this is the possibility of systematically comparing even a small number of cases. This proves to be particularly beneficial in the study of the 28 European countries. Furthermore, the technique focuses on the equifinality of conditions responsible for a particular observed result. In contrast to a monocausal explanation of FDI and economic growth in the sense of an empirical-analytical investigation, the present work determines the combinations of different conditions which are responsible for leading to the outcome. *QCA* therefore allows to analyze common and inter-causal effects of the conditions. This approach, which is unusual in view of the already published quantitative studies, is particularly suitable for a complex concept such as FDI. Accordingly, the method is also a valuable adjunct to quantitative studies to test the hypotheses and theories. In addition, the QCA method also requires a qualitative analysis of the subject. *QCA* thus offers the possibility to check the coherence of the data by identifying and analyzing so-called contradictions (cases with identical conditions but different outcomes). The further development of fuzzy sets is that their elements can assume values between 0 and 1. This bypasses the compulsion to dichotomize all variables and limits the resulting loss of information. Depending on the nature of a particular case, this is attributed to a gradual membership in a set.

In this study, we rely solely on the method of fuzzy set QCA. Thus, *QCA* is a method of analysis that attempts to identify, PC based, causal conditions of necessary and sufficient nature, which subject a considered (dichotomous) outcome to a causal analysis.

The aim of this study is to demonstrate how FDI has influenced the economic growth of the EU-28 between 2002 and 2016. FDI are defined in this work according to the OECD benchmark definition: “Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy (“direct investor“) in an entity resident in an economy other than that of the investor (“direct investment enterprise”).” (OECD, 1996, p. 7).

However, to understand the relationship between FDI and economic growth, the basis are the growth theories that have evolved over the decades: Classical, Neoclassical, and Endogenous Growth Theories, which rate the impact of FDI on economic growth differently.

Due to the fact that *QCA* has not really been used in investigations on this topic, a direct comparison with the results of scientific literature is not easily possible. However, many authors have demonstrated relationships between FDI and economic growth depending on certain factors. In contrast, we also find studies that prove the exact opposite, namely that there is no relationship between FDI and economic growth.

The EU as we know it today exists since late 1993, coming into being through the *Maastricht Treaty*. Over the decades, the common economic space of the EU-28 has become the largest in the world; even bigger than the US or China. Of course, with more than 500 million inhabitants and an economic output well over € 12 trillion, the EU certainly has a certain attraction for foreign companies wishing to invest in these countries. Although the Eastern European Member States could and still can certainly generate a certain amount of FDI inflows just after joining the EU, the industrialized nations in the western EU are the biggest recipients of FDI.

The result of our study is that countries must have some degree of openness to trade and little government intervention (necessary conditions) for FDI to lead to economic growth. Besides these, we still find very high consistency values for conditions such as a well-developed financial system, high per-capita income, and a high level of macroeconomic stability, all of which lead to outcome. All in all, we find six solution paths in the analysis of sufficient conditions. Nevertheless, it must be mentioned that, according to our analysis results, none of the six solution paths explains the outcome to a sufficient extent. Countries to which the solution paths apply are Malta, the Czech Republic, Ireland, Luxemburg, Estonia, Belgium and the Netherlands. In these countries, FDI leads to economic growth. Especially in the latter two, and Luxemburg, it is not surprising that FDI contributes to a certain extent to economic growth, because these countries have very high FDI inflows. While Ireland and Malta are also certainly not a big surprise, the appearance of the Czech Republic is a rather surprising result of our analysis, as we would expect countries like the United Kingdom, Germany or France to show up here.

In the study of the negation of the outcome, FDI does not lead to economic growth, we cannot find a necessary condition. For the study of sufficient conditions, we can state that none of the thirteen solution paths are a relevant solution terms that negate the outcome. Countries that apply to the solution paths are: Croatia, Latvia, Poland, Romania, Greece, Italy, Lithuania, Slovenia, Slovakia,

Bulgaria, Cyprus, Denmark, France, Germany, Austria, Portugal, Spain, Finland, Sweden and Estonia. It means that especially in nations that receive large sums of FDI (Germany, France, Italy or Spain), factors other than direct investment contribute to economic growth.

Zusammenfassung

Der Zusammenhang zwischen Ausländischen Direktinvestitionen und wirtschaftlichem Wachstum – Eine ‚Qualitative Comparative Analysis' (QCA) der Mitgliedsstaaten der Europäischen Union

Ausländische Direktinvestitionen (ADI) stellen eine der wesentlichsten Internationalisierungsstrategie für multi- und transnationale Unternehmen dar. Jedoch sind diese auch für Volkswirtschaften innerhalb der letzten Jahrzehnte enorm wichtig geworden. Zuflüsse von Direktinvestitionen stellen dabei einen bedeutenden Wachstumsfaktor dar, tragen sie zu einem Technologietransfer, der Schaffung von Arbeitsplätzen oder der Verbesserung der Zahlungsbilanz bei. Gerade seit den 1970er Jahren ist den ADI eine gestiegene Bedeutung zugekommen, haben sich die weltweiten Flüsse doch mehr als verfünfzigfacht. Insbesondere die letzten zwei Jahrzehnte seit der Jahrtausendwende haben insbesondere im Vorgang der weltweiten Finanzkrise zu immer neuen Höchstständen von ADI Flüssen geführt. Auch wenn Entwicklungsländer immer mehr an Einfluss an den globalen ADI Strömen gewinnen, gerade Länder in Südostasien, so sind die Top 20 Zielländer von ADI, aktuell noch, von 12 Industriestaaten dominiert.

Hat sich der Fokus in der Literatur in den letzten Jahren doch sehr stark auf die Möglichkeiten von ADI und wirtschaftlichem Wachstum in Entwicklungsländern konzentriert, so sind die Industriestaaten doch etwas in den Hintergrund von Untersuchungen gerückt. Dies soll diese Studie versuchen in Teilen zu schließen. Hinter den unzähligen Motiven die ADI treiben sind es vor allem innerhalb der EU effizienz- und Strategie orientierte Motive für die Zuflüsse von ADI. Innerhalb der EU stechen vor allem Belgien, Frankreich, das Vereinigte Königreich, die Niederlande, Luxemburg und in Teilen auch Deutschland hervor, welche jeweils enorm hohe Zuflüsse generieren können. Dass diese aber nicht zwangsläufig zu Wirtschaftswachstum führen, zeigt diese Studie deutlich auf.

Während vorangegangene Studien zu diesem Thema sich fast ausschließlich auf quantitative Methoden, Regressionsanalysen, beschränkt haben, so versucht diese Studie einen völlig neuen Ansatz. Die *Qualitative Comparative Analysis* (QCA), dem sozialwissenschaftlichen Bereich entstammend, hat bisher gerade im wirtschaftswissenschaftlichen Bereich wenig Beachtung gefunden. Hierzu soll diese Studie sicherlich ihren Beitrag leisten. Die QCA vereinigt hierbei Ansätze sowohl aus qualitativen als auch quantitativen Ansätzen und lässt eine sehr genaue Untersuchung bis hinunter auf Landesebene zu, welches Regressionsanalysen im Gegensatz nicht leisten können.

Auch die wissenschaftliche Literatur hat über die Jahrzehnte unterschiedlichste Ergebnisse aufgezeigt, zum einen, dass ADI zu wirtschaftlichem Wachstum führen können, aber auch das genaue

Gegenteil. Wichtig hierbei waren jedoch immer bestimmte Faktoren, die die Studien versucht haben zu untersuchen um einen Zusammenhang zwischen ADI und Wirtschaftswachstum nachzuweisen oder eben auch nicht. So haben nicht zuletzt beispielsweise Balasubramanyam et al. (1996); Blomström and Kokko (1994); Borensztein et al. (1998) oder auch K. H. Zhang (2001) nachgewiesen, dass die Effekte von FDI größer sind als die simpler Kapitalakkumulation, auch wenn die Größe eines Wachstumseffektes schwierig nachzuweisen ist. Damit aber letztlich ADI überhaupt fließen und schließlich zum Wirtschafwachstum beitragen können, sind gewisse Entwicklungen, beispielsweise des Finanzsystems, Vorhandensein von Humankapital oder physischer Infrastruktur von Nöten.

Diese Studie wird mit Hilfe von QCA zehn einzelne Bedingungen in die Analyse einfließen lassen. Diese sind: Steuern, Humankapital, Größe der Volkswirtschaft, Schutz von geistigem Eigentum, physische Infrastruktur, Handelsoffenheit, Finanzsystem, pro Kopf Einkommen, makroökonomische Stabilität und Handeln des Staates.

QCA ist eine neuere Analysetechnik, die Boolesche Algebra verwendet, um die Prinzipien des Vergleichs zu implementieren, die von Wissenschaftlern verwendet werden, die sich mit der qualitativen Untersuchung von makrosozialen oder mittlerweile auch makrowirtschaftswissenschaftlichen Phänomenen beschäftigen. Typischerweise untersuchen qualitativ orientierte Wissenschaftler nur wenige Fälle gleichzeitig, aber ihre Analysen sind sowohl intensiv – sie befassen sich mit vielen Aspekten von Fällen – als auch integrativ – und untersuchen, wie die verschiedenen Teile eines Falles sowohl kontextuell als auch historisch zusammenpassen. Durch die Formalisierung der Logik der qualitativen Analyse ermöglicht QCA, die Logik und empirische Intensität qualitativer Ansätze in Studien zu bringen, die mehr als eine Handvoll von Fällen umfassen - Forschungssituationen, die normalerweise die Verwendung von Variablen-orientierten, quantitativen Methoden erfordern. Boolesche Methoden des logischen Vergleichs repräsentieren jeden Fall als eine Kombination von Kausal- und Ergebnisbedingungen. Diese Kombinationen können miteinander verglichen und dann logisch durch einen Bottom-up-Prozess des paarweisen Vergleichs vereinfacht werden. Computeralgorithmen, die in den 1950er Jahren von Elektroingenieuren entwickelt wurden, bieten Techniken zur Vereinfachung dieser Art von Daten. Die Datenmatrix wird als „Wahrheitstabelle“ reformuliert und auf eine Weise reduziert, die der Minimierung von Schaltkreisen entspricht; siehe Charles Ragin: The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies. Diese Minimierungsprozeduren ahmen fallorientierte Vergleichsmethoden nach, erfüllen jedoch die kognitiv anspruchsvollste Aufgabe - Mehrfachvergleiche von Konfigurationen - durch Computeralgorithmen. Das Ziel der logischen Minimierung besteht darin,

die Informationen in der Wahrheitstabelle in Bezug auf die verschiedenen Kombinationen von Bedingungen, die ein spezifisches Ergebnis erzeugen, auf kurze Weise darzustellen.

Eine konventionelle (englisch „crisp“) Menge ist dichotom: Ein Fall ist entweder Teil („in“) oder kein Teil („out“) einer Menge. Somit ist eine konventionelle Menge vergleichbar mit einer binären Variablen mit zwei Werten, 1 („in“) und 0 („out“). Eine Fuzzy-Menge erlaubt dagegen eine Mitgliedschaft in dem Intervall zwischen 0 und 1, während die zwei qualitativen Zustände der vollen Mitgliedschaft und der vollständigen Nicht-Mitgliedschaft beibehalten werden. So kann der ‚fuzzy Datensatz‘ ‚Dinge‘ einschließen, die „vollständig“ der Menge zugehörig sind („fully in“; Fuzzy-Mitgliedschaft = 1,0), einige, die „fast vollständig“ der Menge zugehörig sind („almost fully in“; Mitgliedschaft = .90), einige, die weder „mehr drin“ noch „mehr draus“ sind („more in“ / „more out“; Zugehörigkeit = .5, auch bekannt als „crossover point“), einige, die „kaum mehr drin sind“ („barely more out than in“; Zugehörigkeit = .45), und so weiter bis zu denen, die „vollständig“ außerhalb der Menge sind („fully out“; Mitgliedschaft = 0) sind. In dieser Studie greifen wir ausschließlich auf die Methode der Fuzzy-Set QCA zurück. Vereinfacht dargestellt ist QCA also ein Analyseverfahren, welches PC gestützt, Kausalbedingungen notwendiger und hinreichender Art versucht zu identifizieren, die dabei ein betrachtetes (dichotomes) Outcome einer Kausalanalyse unterziehen.

Ziel dieser Studie ist nachzuweisen wie ADI wirtschaftliches Wachstum der EU-28 zwischen 2002 und 2016 beeinflusst haben. ADI sind dabei in dieser Arbeit gemäß der Benchmark Definition der OECD definiert: “Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy (“direct investor“) in an entity resident in an economy other than that of the investor (“direct investment enterprise”).” (OECD, 1996, p. 7).

Um aber den Zusammenhang zwischen ADI und Wirtschaftswachstum zu verstehen, liegt die Grundlage in den über die Jahrzehnte immer weiterentwickelten Wachstumstheorien: Klassische, Neoklassische und Endogenen Wachstumstheorie, welche den Einfluss von ADI auf das Wirtschaftswachstum jeweils unterschiedlich bewerten.

Aus dem Grund das QCA bisher im Rahmen von Untersuchungen zu diesem Thema nicht wirklich angewendet wurde ist ein direkter Vergleich mit den Ergebnissen der wissenschaftlichen Literatur nicht ohne weiteres möglich. Jedoch haben zahlreiche Autoren Zusammenhänge zwischen ADI und wirtschaftlichem Wachstum abhängig von bestimmten Faktoren aufzeigen können. Andererseits finden wir auch Studien, die das genaue Gegenteil beweisen, nämlich, dass es keinen Zusammenhang zwischen ADI und Wirtschaftswachstum gibt.

Die EU wie wir sie heute kennen besteht seit den späten 1993er Jahren, beschlossen durch die Verträge von Maastricht. Über die Jahrzehnte hat sich der gemeinsame Wirtschafraum der EU-28

zum größten der Welt entwickelt; noch größer als der der USA oder China. Mit seinen mehr als 500 Millionen Einwohnern und einem wirtschaftlichen Output von deutlich mehr als 12 Trillionen Euro hat die EU natürlich eine gewisse Anziehungskraft auf ausländische Unternehmen, die in diesen Ländern Investitionstätigkeiten ausüben möchten. Auch wenn die Osteuropäischen Mitgliedsstaaten sicherlich gerade nach ihrem Beitritt zur EU einen gewissen Anteil an ADI Zuflüssen generieren konnten und können, so sind es doch die Industrienationen im Westen der EU die die größten Empfänger von ADI.

Ergebnis unsere Studie ist, dass Länder eine gewisse Handelsoffenheit und geringe staatliche Eingriffe aufweisen müssen (notwendige Bedingungen), damit ADI zu Wirtschaftswachstum führen können. Neben diesen finden wir noch sehr hohe Konsistenzwerte für Bedingungen wie ein gut entwickeltes Finanzsystem, ein hohes Pro Kopf Einkommen und die ein hohes Level makroökonomischer Stabilität, die allesamt zum Outcome führen. Insgesamt finden wir im Rahmen der Analyse hinreichender Bedingungen sechs Lösungspfade, die zum Outcome führen. Nichts destotrotz muss erwähnt sein, dass gemäß unserer Analyseergebnisse keiner der sechs Lösungspfade zu einem ausreichenden Anteil das Outcome erklärt. Länder, auf die die Lösungspfade zutreffen sind Malta, die Tschechische Republik, Irland, Luxemburg, Estland, Belgien und die Niederlande. Heißt in diesen Ländern führen ADI zu wirtschaftlichem Wachstum. Gerade in den letzteren beiden und Luxemburg ist es nicht verwunderlich, dass ADI einen gewissen Teil zum Wirtschaftswachstum beitragen, haben diese Länder doch sehr hohe ADI Zuflüsse. Während Irland und Malta sicherlich auch keine große Überraschung darstellen so ist das Erscheinen der Tschechischen Republik doch schon ein eher überraschendes Ergebnis unserer Analyse, hätten wir doch erwartet, dass Länder wie das Vereinigte Königreich, Deutschland oder Frankreich beispielsweise hier auftauchen sollten.

In der Untersuchung der Negation des Outcomes, ADI führen nicht zu wirtschaftlichem Wachstum können wir keine notwendige Bedingung finden. Auch für die Untersuchung hinreichender Bedingungen können wir festhalten, dass keiner der dreizehn Lösungspfade ein relevanter Lösungsterm ist, der zur Negation des Outcomes führt. Länder, die auf die Lösungspfade zutreffen sind: Kroatien, Lettland, Polen, Rumänien, Griechenland, Italien, Litauen, Slowenien, Slowakei, Bulgarien, Zypern, Dänemark, Frankreich, Deutschland, Österreich, Portugal, Spanien, Finnland, Schweden und Estland auf. Heißt, dass gerade vor allem auch in Nationen, die große Summen an ADI erhalten, andere Faktoren als Direktinvestitionen zum Wirtschaftswachstum beitragen.

Table of contents

List of tables

List of figures

List of abbreviations

BEPS	Base erosion and profit shifting
BPO	Business Process Outsourcing
CCCTB	Common Consolidated Corporate Tax Base
CNB	Czech National Bank
CVM	Cooperation and Verification Mechanism
csQCA	Crisp-Set QCA
DKK	Danish krone
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
ECSC	European Coal and Steel Community
EEC	European Economic Community
EIU	Economist Intelligence Unit
EMEA	Europe Middle East Africa
EMS	European Monetary System
ERM	European Exchange Rate Mechanism
ESM	European Stability Mechanism
EU	European Union
EURATOM	European Atomic Energy Community
FDI	Foreign Direct Investment
fsQCA	Fuzzy-Set Qualitative Comparative Analysis
GDP	Gross Domestic Product
GNI	Gross National Income
GNP	Gross National Product
ICT	Information and communications Technology
IFDI	inward Foreign Direct Investment
IMF	International Monetary Fund
INUS	insufficient but necessary part of a condition which is itself unnecessary but sufficient for the result
IOBE	Foundation for Economic & Industrial Research
IPR	Intellectual Property Right(s)
IPRI	International Property Rights Index

MNC	Multinational Corporation/Company
MoU	Memorandum of Understanding
mvQCA	Multi Value Qualitative Comparative Analysis
OECD	Organisation for Economic Cooperation and Development
OFDI	Outward Foreign Direct Investment
PiS	Prawo i Sprawiedliwość
PPP	Public Private Partnership
PPS	Purchasing Power Standards
QCA	Qualitative Comparative Analysis
SME	Small and Medium sized enterprise
SUIN	sufficient but unnecessary part of a factor that is insufficient but necessary for the result
TNC	Transnational Corporation/Company
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UNCTAD	United Nations Conference on Trade and Development
USP	Unique selling point
VAT	Value Added Tax
WEF	World Economic Forum
Wiiw	Vienna Institute for International Economic Studies
WTO	World Trade Organization
M&A	Mergers & Acquisitions
R&D	Research & Development
fs / QCA	Abbreviation of the Qualitative Comparative Analysis Software Program developed by Charles Ragin

1 Introduction

This study deals with the relationship between Foreign Direct Investment (FDI) and economic growth, more specifically whether FDI induce economic growth during the investigation period from 2002-2016 in the 28 states of the European Union[1] (EU). Especially as part of the advancing globalization[2] FDI has become increasingly important. For companies, whether multi- or transnational (MNC[3]/TNC[4]), FDI are a key element in the internationalization strategy, and for economies FDI are an important factor in terms of growth, but also employment, balance of payments and technology transfer. Furthermore, the economic policy, whether in developed or developing countries, increasingly, deals with the topic of direct investment. While liberalizing measures are taken, at the same time actually more and more regulating tendencies become visible (United Nations Conference on Trade and Development, 2017; Zimmermann, 2008, p. 4).

Foreign Direct Investment and the possibly affected economic growth of a country requires closer scrutiny, as the global volume of FDI has increased more than fiftyfold since the end of the 1970s. Initially, investment activities were almost exclusively between developed countries, while this picture has changed within the last decades. Emerging economies, especially in the Asian region, account for an increasing share of global direct investment (already more than half of them). Nonetheless, the influence of economically developed countries is still very high. This certainly reflects in parts the latest statistics of the World Investment Report. Of the top 20 host economies[5] for FDI worldwide, 12 are developed economies[6] (United Nations Conference on Trade and Development, 2017).

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[1] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom (UK).

[2] Globalization is understood in this study as a term for the increasing emergence of global markets for goods, capital and services and the associated international integration of economies. The globalization process of the markets is driven by new technologies in communication, information and transport as well as newly developed organizational forms of operational production processes (Bundeszentrale für politische Bildung, 2017b).

[3] Maintain their own manufacturing, sales or branch operations in many countries around the world. Worldwide operations are coordinated hierarchically from their home base (Bathelt & Glückler, 2012, p. 296; Giese, Mossig, & Schröder, 2011, p. 17).

[4] Multinational companies are those companies whose home country can no longer be clearly identified or whose headquarters are associated with more than one country. In addition to production activities, coordination tasks, etc. are also decentralized controlled. What is important for such a type of company is the bundling of experiences, which have been collected in switching points worldwide and also the subsequent return to the various parts of the company. There, they are finally adapted to national as well as local conditions (Bathelt & Glückler, 2012, p. 299; Braun & Schulz, 2012, p. 184).

[5] Country which receives the FDI inflows.

[6] USA, UK, the Netherlands, Australia, Canada, Belgium, Italy, France, Luxemburg, Ireland, Sweden, Spain (United Nations Conference on Trade and Development, 2017).

While the scientific literature in recent decades has increasingly focused on what influences and effects FDI can have on developing countries, be it economic recovery and growth, technology transfer, spillover effects, job creation and so on, developed countries have been pushed into the background. However, FDI are in this context also an important contributor to the economic development. This 'gap' should be closed with this study.

Particularly within the EU, cross-border investment has increased significantly since the early 1980s. At the same time, however, the steadily growing domestic market has attracted overseas capital. Direct investments are unevenly distributed in the EU area. Above all, there seems to be a focus on countries in the core region of the EU – UK, Netherlands, Belgium, Luxemburg, France and, certainly, parts of Germany – that benefited from this inflow of capital. However, practically all countries benefit from the flows within the EU in one kind or another. These are usually characterized by an efficiency-oriented or strategy-oriented character. It is therefore no coincidence that last year's top 20 host economies for FDI included the countries mentioned above, flanked by Ireland, Italy, Sweden and Spain. Nevertheless, one must speak of a snapshot, whereby for a more accurate statement, averaged values would have to be used over a longer investigation period (Steiger, 1999, p. 230).

It will be interesting to see how the results of this study ultimately differ from one country to another with regard to the influencing factors that affect a relationship between FDI and economic growth (United Nations Conference on Trade and Development, 2017). Furthermore, the use of *Qualitative Comparative Analysis* (*QCA*) makes this study unique because this method has never been used before to research the topic at hand, be it in the field of economics or economic geography.

This study will start off with a brief introduction to the scientific and societal relevance which arises around the topic of FDI and economic growth, followed by the research objective and the main research question with its sub questions. Afterwards we will elaborate on the Theory of FDI, especially the different forms on investment and directions of flow of FDI. Further we will deal with the general motives of foreign market entry strategies. In addition, the different economic growth theories are introduced, which are essential to receive a solid understanding of how FDI are connected with economic growth in one way or another. The sixth chapter of this study explains all single conditions used for our analysis, combining it with the review of the main scientific literature on every condition. In the end this leads into the conceptual framework. As this study deals with the relationship of FDI and economic growth in the EU the seventh chapter deals with the EU in general, also deepening the understanding of the coordination of economic policies,

the Euro (€), the common internal market and commercial policy as well as putting a focus on FDI and economic growth in the EU over the last decades.

The methodology, based on *QCA,* will be introduced broadly in Chapter 8, starting with a definition of the differences between qualitative and quantitative approaches. Afterwards we elaborate in depth on the *QCA,* introduce fuzzy sets, how they are calibrated and what necessary and sufficient conditions in this context are. In addition, we explain how important consistency coverage is for the used method before ending this section with the fuzzy truth table algorithm. The chapter will be concluded with brief elaborations on the research quality, including advantages and disadvantages of the used method, as well as how the data was collected.

In Chapter 9 we will operationalize all ten conditions we use in the analysis and of course the desired outcome, to prepare the data for the fuzzy set analysis. Chapter 10 will then finally carry out the analysis and explain in the detail the occurred results, before this study ends with a final conclusion answering the main research question in Chapter 11.

2 Scientific & societal relevance

Scientific relevance

The issue of FDI is of high scientific relevance as it is one of the key factors in the economic integration of a country or economic area and therefore constitutes as an important financial source of capital investment. Furthermore, direct investments can for example contribute to promoting the transfer of technology and know-how between individual countries, which can also increase the productivity growth of an economy (OECD, 2002).

Therefore, it is often argued in the scientific literature that foreign equity can contribute to boosting a country's economic growth. These arguments are based not least on the results of the literature, in which the empirical connection between FDI and economic growth has been investigated in many different ways (Baldi & Miethe, 2015). However, it should not go unmentioned that the discussions about the contribution to growth can afford FDI, both positive and negative. One of the most frequently used research approaches in this field is found in macroeconomics. It follows the approach using macroeconomic data to find out how FDI has had an effect on an economy or on individual macroeconomic variables on average. Usually, such empirical research is about cross-sectional and panel investigations for many countries. In these analyses, the growth effects of FDI are generally rated as positive. Balasubramanyam et al. (1996); Blomström and Kokko (1994); Borensztein et al. (1998) or K. H. Zhang (2001) have shown, that these effects are greater than that of a simple capital accumulation, which among other things is reduced to technology transfer and FDI appears superior to domestic investment. Although the amount of a potential growth effect is difficult to quantify (Baldi & Miethe, 2015), the "empirical evidence for positive effects from FDI is remarkably ambiguous." (Vetter, 2014, p. 3) In order to stimulate economic growth, not only FDI inflows are sufficient. The functioning of the financial market, the general level of development, the absorptive capacity of the host country or the origin of the investment have also a major share on the impact of FDI (Vetter, 2014). As the scientific literature has shown, the influence of FDI on economic growth is crucially dependent on additional factors, like for instance the mentioned absorptive capacity.

Therefore, this study tries to examine the interplay of these numerous factors (see Chapter 6) and to provide their own contribution to the (heterogeneous) scientific discussion. Above all, the level of education of the population, including human capital (see Borensztein et al. (1998), the quality of infrastructure (see Donaubauer, Meyer, and Nunnenkamp (2014)) or the development of the financial and banking system, especially taxes and tax policy (see Alfaro, Chanda, Kalemli-Ozcan, and Sayek (2004)) are crucial for studying the relationship between FDI and economic growth.

Furthermore, often the role of trade openness – measured by the share of exports and imports on the Gross Domestic Product (GDP) – is also highlighted as having an effect (positive or negative) on growth (see Balasubramanyam et al. (1996)).
All in all, however, the results of the scientific literature suggest that FDI often act as catalyst and usually reinforce existing developments. Last but not least, studies focusing on recent developments at European level which are rather rare (see Baldi, Fichtner, and Michelsen (2014); Baldi and Miethe (2015); European Commission (2012)) have shown that the impact of FDI on GDP growth increases as a country's ability to absorb improves (Baldi & Miethe, 2015).

As presented shortly beforehand and in depth in Chapter 6 of this study, one might ask, what another study about FDI and economic growth can contribute to the scientific world? The uniqueness or even a new and innovative point in this whole field is the usage of *QCA* as a method (see Chapter 8) to investigate the relationship between FDI and economic growth. While the 'conventional studies' rely largely on regressions analysis (see explanations in Chapter 6), at least, no investigation of this type has been carried out with *QCA* as a method for the topic at hand. Solely Pajunen (2008) has used it to investigate what effects institutions (can) have on direct investment. We hope to provide new and scientifically relevant insights into how FDI affect economic growth, more precisely which factors and the combination of those are more or less important here leading to the outcome.

Societal Relevance

While direct investment is primarily the result of individualized decisions, the magnitude of capital flows is economically relevant – for the home countries of the MNC/TNC as well as for the host countries where the investments are made. Direct investment allows an efficient splitting of the value chain and a further division of labor. The resulting specialization gains and economies of scale can contribute to increasing prosperity in the participating economies. Direct investment can also help to stabilize a country's balance of payments, for example by offsetting a foreign trade deficit through FDI or, conversely, by investing in trade surpluses abroad. Industrialized countries with an aging population benefit from direct investment in the growth of developing and emerging economies and the generally higher return on investment in those markets. From the point of view of developing economies, direct investment is a capital injection that creates productive jobs for the masses of young workers who are pushing for labor markets because of demographic trends. Direct investment is also a transfer mechanism for technology and management know-how. This

raises productivity gains that can affect local businesses beyond the investing company. Such positive externalities may arise, for example, from the relationships of MNCs/TNCs with local companies in the host country or employee turnover. Finally, direct investment through so-called "intra-enterprise trade", i.e. trade flows within an MNC also improves the export possibilities of the host countries (Zimmermann, 2008, pp. 6-7).

The underlying societal relevance arises with the manifold problems and / or issues in discussions about the pros and cons of strategic policy alignment with regard to attracting FDI. If there were no spillover effects of FDI on key variables, for instance such as economic and domestic growth or employment, policy efforts, whether through tax breaks or support through the provision of specialized infrastructure, they would not be appropriate to support the domestic economy. However, if these effects prove to be effective, it may indicate a policy strategy that has already been successfully implemented but may also call for further efforts to increase the inflow of FDI (Hinrichs, 2005).

3 Research objective & research questions

Research objective of this study is to systematically and impartially examine whether FDI has an impact on economic growth in the member states of the EU for the period of 2002-2016. The focus of the analysis will be on investigating the causal link between FDI inflow and output growth in the economy, defined by several conditions (see Chapter 6 and 9).

With widely differing views on the impact of FDI on host country economic growth, this study should contribute to the lively discussion of the topic, with a clear focus on the EU. Interest in this context has greatly increased in recent years, largely because of the advancing globalization and the realization that MNCs and TNCs are playing an increasingly important role in international trade and capital accumulation. While many studies on this broad topic have been carried out over the years, the use of *QCA* in combination with this topic is unique.

The main research question for this study will therefore be:

How does Foreign Direct Investment influence economic growth in the 28-member states of the European Union?

Some sub questions are needed to answer the main research question.

i. *Are there specific conditions which appear to be necessary for the outcome?*
ii. *What is the impact / extent of Foreign Direct Investment on economic growth in the 28-member-states of the European Union?*

4 Theory of Foreign Direct Investment

The following chapter will start with the general theory on FDI and introduce this topic shortly. Therefore, also the different forms of investment and directions of flow of FDI need to be mentioned. Finally, the (general) motives of foreign market entry strategies are briefly evaluated.

FDI often also referred to as direct investment represents the second central pillar of internationalization in addition to foreign trade activity (Kutschker & Schmid, 2008).
One of the most important definitions is certainly the Benchmark Definition of the *Organisation for Economic Cooperation and Development* (OECD): "Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise")." (OECD, 1996, p. 7)
Of similar content are many other definitions of supranational organizations, such as the *International Monetary Fund* (IMF)[7], the *World Trade Organization* (WTO)[8], the *World Bank*[9], or the *United Nations Conference on Trade and Development* (UNCTAD)[10]. However, all emphasize that direct investment is primarily about influence and control, with the often-long-term investee's interest as reflected in most of the definitions above, marked by the words 'lasting interest'. In a very simplified definition, FDI can thus be presented as a long-term direct investment, which is primarily aimed at controlling and influencing and thereby transgressing national borders.
FDI have grown even faster than international trade links and document the growing importance of international activities of MNCs and TNCs, which are largely responsible for FDI and want to control the overseas acquired or established companies (Bathelt & Glückler, 2012, p. 107; Kutschker & Schmid, 2008, p. 85).
The so-called portfolio investments have to be clearly distinguished from FDI, which are carried out only from a profit motive, whereby the capital transfer takes place here through share purchase

[7] "International investment made by a resident entity in one economy (direct investor) with the objective of establishing a lasting interest in an enterprise resident in an economy other than that of the investor (direct investment enterprise)." (IMF, 2017, p. 3).
[8] "Foreign direct investment (FDI) occurs when an investor based in one country (the home country) acquires an asset in another country (the host country) with the intent to manage that asset." (WTO, 1996, Box 1)
[9] "Foreign direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy." (The World Bank, 2018d, 4. paragraph)
[10] "Foreign direct investment (FDI) is defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate)." (UNCTAD, 2007, p. 245)

(in minority shareholding). The investor does not intend to gain control and influence over the company, which is why his intentions are of short- and medium-term interest; above all, yield- or speculation oriented. A key difference between the two types of investment is that only capital is transferred in the context of portfolio investment, while in direct investment besides capital also material resources (machinery, equipment or technical knowledge) can be transferred abroad (Bathelt & Glückler, 2012, p. 107; Kulke, 2009, p. 241; Kutschker & Schmid, 2008, p. 85f.; Meckl, 2011, p. 15). However, in order to speak of a direct investment and to distinguish it from the portfolio investment, the aforementioned institutions UNCTAD, OECD, IMF etc., require at least a 10 percent stake in the company. This is because the investor gains influence in the company and can, for instance carry out management activities, which again sets FDI apart sharply form portfolio investment (OECD, 1996).

4.1 Different Forms of investment and flow directions of Foreign Direct Investment

For the differentiation of direct investments, a distinction is usually made between the flow direction, the type and the form of the investments. The direction of FDI is often differentiated between inward FDI (IFDI) and outward FDI (OFDI; outbound investment) and is also differentiated between destination and source country. Another distinction must be made for flow and stock sizes. The latter always include the cumulative direct investment stock (FDI stock), while flow sizes are in- and outflows (FDI flows) that have occurred over a certain period of time (Kutschker & Schmid, 2008, p. 93).

New forms of production organization in international networks are gaining increasing importance in the wake of globalization. In turn, the forms of organization can only be derived and understood from the strategies of the companies. An in-depth understanding of the relationship between international intra-corporate flows and FDI requires knowledge of the specific benefits that companies seek to achieve through their overseas activities and the strategies used to achieve them. In the so-called eclectic paradigm of Dunning (1988, 2000) (see also Appendix 1 and 7), empirical studies will distinguish three strategies that encourage companies to develop international activities (Bathelt & Glückler, 2012, p. 289):

These are **Mergers & Acquisitions** (M&A), which is defined as an acquisition or merger with a foreign company. Another strategy could be a **Greenfield Investment**, defined as the establishment or expansion of a foreign establishment, branch or subsidiary. The third strategy can be a **Joint Venture**. This is defined as purchasing a stake of companies to be established or already existing, mostly for the purpose of joint projects, whereby the cooperation partners often found an

independent subsidiary when founding a new business (Bathelt & Glückler, 2012, p. 107f.; Eisele, 1995, p. 12; Sai, 2014, p. 32).

4.2 Motives of foreign market entry strategies

To ultimately understand the flows of in-house trading and FDI, one must understand the characteristic benefits that a company seeks to achieve through its overseas activities, as well as the potential strategies that the company can apply to this end. The four motifs can be:

Resource-Seeking (procurement or supply-oriented motives): A goal of FDI is to tap localized resources that ensure or enhance competitiveness in production. These may be material resources – such as the deposit of raw materials – or intangible resources like a location with good physical infrastructure, high technical standards, skilled labor or the search for the 'resource' cheap, unskilled labor (Bathelt & Glückler, 2012, p. 289).

Market-Seeking (sales or demand-driven motives): Companies pursue internalization steps to develop and secure foreign markets. At first, trade ties dominate at an early stage, so that products reach their target markets through export activities. In later stages, FDI often follows, enabling the development of own distribution and production facilities in the respective target market (Bathelt & Glückler, 2012, p. 289).

Efficiency-Seeking (profit and cost-orientated motives): Beyond the development of resources and sales markets, FDI can also be implemented with the aim of increasing the efficiency of the existing production organization. Thus, the reduction of transport costs and trade barriers has contributed significantly to making the existing division of labor more cost-efficient through relocations to other countries and to deepening them there (Bathelt & Glückler, 2012, p. 289).

Strategic-Asset Seeking (strategic-motives): Finally, MNCs also use FDI to defend and secure specific location and competitive advantages or to selectively reduce the location advantages of competitors in a foreign market. Above all, such investments pursue the goal of strategic competition protection against competitors and less the direct improvement of existing operations or the development of new resources (Bathelt & Glückler, 2012, p. 289).

Important sales-driven reasons (see for the following two paragraphs Table 1) for FDI include the avoidance of import restrictions and the competitive advantages of being close to the market. In many countries, import tariffs for finished products are higher than those for primary products; Investments in the destination country and provision of services enable the circumvention of these import barriers. The creation of goods and services in the destination country can also result in competitive advantages; Regionally different buyer preferences can be better addressed by offering modifications and sales psychological reasons ('origin goodwill' = created in 'own' country) favor the sale. The sales-oriented advantages of the destination country are often offset by disadvantages of the home country. Home markets often show stagnation in demand while expansion opportunities are expected in the target market (Kulke, 2009, pp. 242-243).

Cost or sourcing related reasons for FDI are based in part on considerations of securing needed raw materials or precursors or reducing transportation costs. In particular, labor market conditions are an important factor. Labor-intensive goods production is moving to lower-wage countries to save costs, while technology-intensive production and high-quality services are selecting locations with good availability of highly skilled labor. Regionally differentiated location costs also have significance; in addition to the traditional advantages of state regional policy, like investment allowances, infrastructure development, some industrial location decisions, including the chemical industry, are also due to lower environmental protection requirements in destination countries (Kulke, 2009, pp. 242-243).

Sales-oriented reasons • Size and purchasing power of the target market • Bypassing of trade barriers • Adaption to country-specific product characteristics and market conditions • 'origin goodwill'
Cost / procurement-driven reasons • Existing raw materials and precursors • Availability of cheap labor • Availability of highly qualified workers • Lower location costs • Reduction of transport costs, lower exchange rate risks • Proximity to other suppliers / manufacturers

Table 1: Sales-oriented and cost/procurement-driven reasons for FDI

Own representation after Kulke (2009, p. 243)

5 Economic Growth Theory

When dealing with FDI and the relationship with economic growth it is essential to define what economic growth is. Therefore, the upcoming chapter introduces first of all a more general definition of economic growth. Afterwards we elaborate shortly on the different growth theories, namely the 'Classical growth theory' and the 'Neoclassical growth theory' before we immerse into the 'Endogenous growth theory'. This is needed to get an understanding of how FDI and economic growth are related to each other.

In a broader sense, growth describes the increase of an economic quantity over time, for instance in terms of enterprises[11] or households[12]. Economic growth is usually expressed as a percentage change over time in the sense of monthly, quarterly or annual growth rates. Since growth is generally regarded as a normal case, one speaks at constant economic sizes of zero growth (stagnation) and at shrinking economic size of negative growth.
The concept of growth is, in the narrower sense, related to macroeconomic variables and interpreted as a permanent, long-term, increase in real GDP. Changes in the general price level (inflation rate) during the period under review are excluded (deflating), in contrast to nominal inflation, which is not adjusted for inflation.
In order to highlight the long-term aspect of economic growth and to isolate growth from the more short-term, cyclical changes in the national product, instead of the social product of an economy actually produced, its production potential is used. Calculating the GDP per inhabitant, an increase leads to a better material supply of the population. Otherwise, if the GDP is related to the number of persons in employment, this results in a statement of their productivity (labor productivity).

Economic growth can be viewed in terms of quantity, materiality (quantitative growth) or qualitative (qualitative growth). Quantitative growth is aimed at the purely quantitative increase in aggregate output in the sense of an increase in the size of the product, e.g. GDP. In addition to the mere increase in the overall production volume, qualitative growth also includes improving people's quality of life, protecting the environment or ensuring a fair distribution of income. However, measuring qualitative growth and increasing prosperity in a society poses considerable difficulties (Polzin, Kirchner, Pollert, & Pollert, 2016).

[11] Business growth, measured by equity, value added or sales
[12] Growth in disposable income, consumption expenditure, financial wealth

5.1 Growth theories

Within the economic growth theory, the classical growth theory, the neoclassical theory, and the endogenous growth theory distinguish three major theory waves (Solow, 1994, p. 45).

5.1.1 Classical growth theory

The classical growth theory leads economic growth back to increasing use of capital or capital accumulation. Her modern formulation dates back to the work of Harrod and Domar (1939 and 1946). Developed separately in the 1930s and 1940s by the two authors, this theory-based approach is an attempt to stimulate the Keynesian theory. The Harrod-Domar model assumes that both the capital stock and the investment are in a proportional relationship to production output. The growth rate is the product of the investment rate and the marginal capital productivity, which – according to the 'heroic assumption' (Domar, 1946, p. 140) – is assumed to be constant. This makes investment a decisive economic policy. Because of the identity between investment and saving in a closed economy, higher growth requires greater austerity. Investments can be stimulated by governments through tax incentives or through the public sector and are therefore subject to political control. Overall, this model draws an optimistic picture in terms of political influence on economic growth. Problematic in this model, however, is the assumption of a constant marginal capital productivity as well as the non-endogenously explained investment ratio (Obinger, 2004, p. 21).

5.1.2 Neoclassical growth theory

In a traditional neoclassical model, as developed, inter alia, by Solow (1956)[13], decreasing marginal returns on capital and technology, presumed as exogenous, lead to the conclusion that FDI has no impact on long-term growth. Here growth is only possible through exogenous technological progress and the growth of the working population (Hinrichs, 2005).

Assuming immobile factors of production, countries with equal preferences and technologies converge on equal income levels and growth rates. If the assumption of immovable factors of production is dropped, this trend intensifies. The mobility of the factors of production gives rise not only to commodity but also to factor flows from countries with a plentiful supply of capital to countries where capital is relatively scarce and therefore relatively expensive. These factor flows compen-

[13] Put in a very simplified manner: By using labor and capital an output is generated in a production process (D. Romer, 2006).

sate for the long-term balance of capital and labor and balance factor prices. Even under the assumption of imperfectly mobile factor markets, this conclusion can apply, with perfect product markets at the same time. In this case, the further assumption come into play that goods flows are also indirect factor flows. They contain the factors required for their production, and thus in an exchange of goods indirect production factors are also exchanged, which, just like with completely mobile factors, leads to an at least partial compensation of the factor prices. Ohlin (1933)[14], one of the founding fathers of international foreign trade theory, came to this conclusion in his studies and stated "that a country tends to have a bias towards producing and exporting the commodity which uses intensively the factor with which it is relatively well-endowed." (W.-B. Zhang, 2008, p. 47) (Hinrichs, 2005)

Thus, from a neoclassical point of view, FDI have no influence on the long-term growth of a country[15], since, with the same technology, the marginal returns of capital are the same in the long term in all countries. Therefore, the transfer of capital from one country to another makes no sense and has no influence on the growth of the host country (Hinrichs, 2005, p. 92).

5.1.3 Endogenous growth theory

While neoclassical theories considered technological advances to be exogenous[16] and the accumulation of capital the primary source of growth, the 'new' or 'endogenous growth theory' that emerged in the mid and late 1980s had a different focus: acquisition of technological knowledge and its transmission. Innovation efforts in response to economic incentives are, according to this theory, the main drivers of economic success, and growth and FDI lead to non-convex growth through the integration of new inputs and technologies into the domestic production function (Hinrichs, 2005; D. Romer, 2006; Thirlwall, 2002).

Thus, the focus is less on capital accumulation per se, but more on the role of R&D efforts, externalities, the accumulation of and investment in physical and human capital and the endogeneity of technological advances to encourage economic growth (Crafts & Toniolo, 1996; Grossman & Helpman, 1991; P. M. Romer, 1990; Sun, 1998; Wei & Lui, 2001). At the micro level, Wakelin (1997) also concluded that technology possesses both, the characteristics of private and public goods. Therefore, the benefits of technical innovation can be partially absorbed. Assuming that

[14] Ohlin's book built up on his own dissertation and earlier work by Heckscher (his teacher). Therefore, this well-known model in international economics is called Heckscher-Ohlin model (W.-B. Zhang, 2008, p. 46).
[15] Only the level of income might be affected by FDI (De Mello, 1999).
[16] This is one of the reasons why economic growth could not be explained well by a neoclassical model (D. Romer, 2006).

technological diffusion is faster or easier within a country, then technological differences between countries remain (Hinrichs, 2005).

The endogeneity of technological progress, its effects on domestic growth and the role of FDI in this context make the latter an essential component of growth opportunities. The impact of FDI on domestic growth is twofold. Firstly, FDI leads to higher domestic capital accumulation and provides incentives to integrate new inputs or technologies into the domestic production function[17], thus increasing potential growth. Secondly and no less important are the effects of FDI through knowledge transfer and spillovers, 'learning by doing', innovation triggered by FDI or trade or through the training and education of the native workforce (Hinrichs, 2005; Wei & Lui, 2001).

A fundamental advantage of endogenous growth theories as compared to the neoclassical view is the assumption that the state has also an important role by influencing long-term growth through the institutional or political factors (Abbott, 2004; Hinrichs, 2005). This can be achieved both through better economic conditions for domestic companies and through measures such as political stability, balance of payments consolidation, taxation, regulation of financial markets etc. which make the country more attractive to foreign investors, thus bringing foreign capital and knowledge into the country (Barro, 1997; De Mello, 1997; Hinrichs, 2005). This interaction between political and economic measures or between domestic growth on the one hand and FDI on the other has been analyzed in more detail by Wang (1990).

He constructed a dynamic two-region model with a developed north and a less developed south, linked by perfect capital mobility. The direction of the capital movement is determined primarily by the expected return in the respective regions, which in turn depends to a considerable extent on the available human capital. Wang (1990) finally concludes that by capital movements form the developed North to the underdeveloped south will reduce the income gap in equilibrium by increasing the growth rate of human capital and increasing technological diffusion in the south. Thus, FDI for under-developed countries has the benefit of leading to higher income growth (Hinrichs, 2005; Wang, 1990).

While developed and developing countries are characterized by diverse social and economic factors which drive the performance of economic growth. Therefore, it is nearly impossible for one to create a single formula or find a pattern for a nation's economic growth. In the end, each country has to create and find their own growth strategy which leads to development and long-term growth (Commission on Growth and Development, 2008).

[17] $Y = f(K, L, D)$; as a very general endogenous growth model. "Growth (Y) is a function of capital (K), labour (L) and technological knowledge (D) or (R&D)." (Ragimana, 2012, p. 11)

So, from a neoclassical point of view, while the impact of FDI on domestic economic growth does not matter in the long run[18], the endogenous growth theory comes to a completely different conclusion, namely that FDI also fosters domestic growth (endogenously) in the long term, by increasing technological progress or human capital through spillover effects or externalities. The question of whether this relationship is one-way, from higher direct investment to higher domestic growth or even higher domestic growth to higher direct investment, remains unanswered initially (Hinrichs, 2005; Kok & Erosy, 2009).

[18] Only the output growth might be affected by FDI inflows in a neoclassical model, by an increase in productivity and the investment volume (Kok & Erosy, 2009).

6 Theory and Conceptual Framework

Most of the scientific literature dealing with the relationship of effects of FDI on economic growth (or vice versa) is very economic, often carried out by cross-country or panel studies. Nevertheless, the findings do not produce a clear picture if there is any influence between these two factors, because all in all the results are very mixed. However, in the broad empirical literature diverse channels have been identified how FDI may affect economic growth.

For the reason that *QCA* has never been used before in this context, there is no existent literature on this topic, though we will refer in this chapter to findings from the economic literature in a very broad sense.

In general, many of the cross-country studies point at a positive correlation for economic growth triggered by FDI. Most of all the level of financial market development, human capital, trade openness or per capita income determine the subsequent impact of FDI in such studies[19].

Makki and Somwaru (2004) highlighted the role of FDI as an important catalyst for economic growth, on the one hand for developing countries but also for developed countries on the other. Even if many studies and so theirs have shown a positive impact of FDI on economic growth, they emphasize that an impact, and especially its size, variegate from country to country. Everything is an interdependence of trade policies, infrastructure, macroeconomic stability, domestic investment, the level of human capital, etc.

While for instance J. Ericsson and Irandoust (2001) in their study on FDI and economic growth for the Scandinavian countries (Norway, Sweden, Finland, Denmark) found a bi-directional linkage[20] for Sweden, it was only uni-directional[21] for Norway. For Denmark and Finland their findings did not back the causality.

De Mello (1999) worked out only weak positive evidence for a correlation of FDI and economic growth, whereby the GDP was even impacted by FDI negatively in the short-term. In the long run though, trough capital stock accumulation and knowledge transfer, which embody new technologies, FDI enhances growth. This is only applicable for laggards rather than technological leaders (De Mello, 1999).

Herzer, Klasen, and Nowak-Lehmann D. (2006) evinced in their studies what weaknesses the empirical literature regarding growth-inducing effects of FDI has, whereat they underpin this statement(s) in their findings. For the predominant majority of countries, they do not find any short- or long-term growth inducing effect of FDI, due to the fact, that firstly the analysis of their time series

[19] For a short summary of the upcoming studies of FDI on economic growth see also Appendix 3.
[20] FDI affect economic growth and vice versa.
[21] FDI affect economic growth.

starts already in the early 1970s where the FDI share of GDP often was lower than one percent. Therefore, FDI did not have any serious impact on growth. Secondly several factors hinder or promote economic growth, which though differ from country to country, as also between sectors of destination and types of FDI[22]. A solution proposed by Herzer et al. (2006) is "identifying the types of FDI that might promote growth in particular circumstances, rather than presuming that a positive effect generally exists." (Herzer et al., 2006, p. 30) These findings are also in line with later studies of Herzer (2012) who found a negative impact of FDI on economic growth (on average) for developing countries, while there were large cross-country differences. According to him, differences are explained by business freedom, FDI volatility, primary export dependence and freedom from government intervention.

The critique on most of the cross-country regression studies assumes that first of all equivalent production technologies and a common economic structure are present, which also implies a parameter homogeneity of all countries studied. Therefore, some of the effects of FDI on growth vary widely across countries, as institutions, policies or production technologies also differ. Under the assumption of parameter homogeneity, the results of a cross-country regression "are not robust, due to the selection of countries" (N. R. Ericsson, Irons, & Tryon, 2001, p. 241). Furthermore, as Carkovic and Levine (2005) state, "any unobserved country-specific effect become part of the error term, which may bias the coefficient estimates" (Carkovic & Levine, 2005, p. 199).

Panel Studies[23] tried to overcome the shortcomings of cross-country studies where Carkovic and Levine (2005) studied data from 1960 to 1995 (in 5-year periods) and did not confirm any of the results shown by Alfaro et al. (2004); Balasubramanyam et al. (1996); Blomström, Lipsey, and Zejan (1992) and Borensztein et al. (1998). While using "econometric specifications that allow FDI to influence growth differently depending on national income, school attainment, domestic financial development, and openness to international trade" (Carkovic & Levine, 2005, p. 197) they did not find a positive impact of FDI on economic growth.

In this context, also Nair-Reichert and Weinhold (2001), even if they found a positive impact of FDI on economic growth on average, they showed a very disparate relationship across countries.

As described before, in the context of FDI and economic growth the empirical literature has to be treated with caution and has a couple of shortcomings. Nonetheless it seems that the majority of literature shows in general and to some extent a positive impact of FDI on economic growth in

[22] "For example, the effects of FDI in manufacturing might differ from those in extractive sectors which again might differ from FDI that is a result of privatization of state-owned enterprises." (Herzer et al., 2006, p.30)

[23] "Panel studies are a particular design of longitudinal study in which the unit of analysis is followed at specified intervals over a long period […]. The key feature of panel studies is that they collect repeated measures from the same sample at different points in time." (Laurie, 2013, 1. paragraph)

developed and developing countries. Nevertheless the interplay of many factors, as for instance the degree of openness in the economy, the human capital base or the host country per capita income, as country specifics, define in the end any impact (Herzer et al., 2006, pp. 12-13).

6.1 Taxes

Taxes are public charges that a community incurs by force of coercion in unilaterally fixed amounts and (unlike charges and contributions) without consideration by natural and legal persons in its territory. Under current tax law, unlimited state taxation and tax subordination are recognized as undisputed because of community-related norms (Pfitzer, 2018).

A corporate (income) tax is a special type of income tax for legal persons such as corporations, other associations of persons (insofar as these are not co-entrepreneurs within the meaning of the Income Tax Act) and assets. The taxable amount is the income received by the corporation within the calendar year. Determination of income follows the provisions of the Income Tax Act and the Corporation Tax Law of the respective countries and sometimes varies considerably (Dautzenberg, 2018).

For example, Ölschläger (2010) has demonstrated a stable, statistically highly significant negative correlation for the impact of direct taxes on incoming FDI. This may be due to the fact that a high level of direct taxation, in particular through income tax or corporation tax, reduces the attractiveness of an economy for investment in general, but especially from the point of view of foreign investors. Direct taxes can reduce the return on FDI and thus reduce the opportunity cost of alternative use of funds.

It therefore seems reasonable to conclude that corporation tax is an important factor in the selection of the FDI location. It can be assumed that economies with higher corporate income tax ceteris paribus lower incoming direct investment. Thus, corporate tax has a significant negative impact on the competitiveness of national economies, measured by the level of incoming direct investment (Ölschläger, 2010, p. 418).

From 2003 until 2018 the lowest corporate tax rate (on average) in the EU is to find in Cyprus with 11.56%, while the highest is to find in Malta with 35%. The EU average corporate tax rate for this time period is 23.44%. However, if one looks at the FDI inflows during that time for all EU member states it becomes clear that not only the single factor of a low corporate tax rate attracts high FDI inflows. For example, countries above the EU corporate tax rate average like the Netherlands (26.88%), Great Britain (25.56%) and even Germany (32.40%) attract the highest FDI inflows during this time, even with higher corporate tax rates (see Figure 2 and 14).

6.2 Human Capital

For Borensztein et al. (1998) the magnitude of positive FDI effects on economic growth are strongly dependent on the "stock of human capital. Thus, FDI contributes to economic growth only when a sufficient absorptive capability of the advanced technologies is available in the host economy." (Borensztein et al., 1998, p. 115) They find a "strong complementary effect between FDI and human capital, that is, the contribution of FDI to economic growth is enhanced by its interaction with the level of human capital in the host country." (Borensztein et al., 1998, p. 117)
Human capital can be defined as the performance potential of the workforce (work capacity) based on education and training. The term human capital is explained by the high financial expenditures required for the training of these skills and the earning power created by them (Klenk, 2018).
Well educated and trained workers, as well as their knowledge reception, can achieve better performance in local businesses. The quality of the workforce determines the possibilities of the economy to create new ideas and to adapt old ones. With poorly trained staff, the implementation of FDI is slow, which in turn has a negative impact on investment activities. The higher the spending on human capital (including education) in a country, the more FDI benefits it can receive. Well-trained human capital is inevitably needed, because only the human can understand, assimilate and create new knowledge (Nguyen, Duysters, Patterson, & Sander, 2009, p. 9).
Against the background of a change to ever more demanding manufacturing processes, the demands placed on personnel also increase. Since, for example, Eastern European states (with their formerly socialist state-owned companies) mostly had to work with outdated technology, while the transition to state-of-the-art technology can only be mastered with additional qualification measures, which, however, can make labor more expensive and at least productivity temporarily lower (Cluse, 1999, p. 243; European Bank for Reconstruction and Development, 1997, p. 51f.).
Even the formerly Soviet states in the Baltic region (Estonia, Latvia, Lithuania) have already recognized before the beginning of their admission to the EU (2004) the importance of the factor human capital, also for FDI and started with a consequently high investment in this factor. Since 2002, governments have invested on average around 6% of GDP[24] in education. This makes the Baltic States, in addition to the leading Nordic countries (Denmark, Finland, Sweden) in this area, leaders in Europe.
By contrast, other Eastern European countries such as Bulgaria or Slovakia have invested significantly less than 4% of their GDP in education during the same period (Eurostat, 2018b).

[24] Government expenditure on education (as % of the GDP; average from 2002 – 2016):
Estonia: 6,3%; Latvia: 5,8%; Lithuania: 5,78% (Eurostat, 2018b).

However, if human capital has a (significant) impact on the inflow of FDI and thus on economic growth, the following analysis will show. Nonetheless, it is undisputed, even according to the scientific literature, that the human capital factor is indispensable for accumulating FDI.
During the investigation period from 2006 until 2018 Finland was by far the EU country with the highest amount of human capital while Bulgaria scored to the lowest in the EU. Mostly the Scandinavian countries, as well as the Netherlands and Belgium belong to the top performers in this category. In addition, the Baltic states of Estonia and Lithuania are above the EU average in this category.

6.3 Economy Size

The economy (greek 'Oikonomia', 'property management' or 'housekeeping'), consists of facilities, machines and persons who generate and regulate supply and demand. Facilities are companies or businesses and public or private households. Machines support and replace the activities of workers, middlemen and end users in the production, transformation, consumption and distribution of goods. Likewise, extraction (of all kinds of resources), advertising (for products and services) and disposal are relevant. The aim of the economy is to secure a livelihood and, in its capitalist form, to maximize profits and enjoyment through entrepreneurial freedom, at the same time generating dependence, whether from suppliers or products, and growth, to (not necessarily desired but expectable) collapse of the system (Bendel, 2018).
In addition to indicators such as the intensity of competition or any trade barriers, market size is of key importance for determining the attractiveness of a market. The relationship between the size of a market and FDI has been for instance empirically verified and formulated in the so-called market-size hypothesis (Dunning, 1993, pp. 155-166; Jahrreiß, 1984, pp. 107-111). Economy or market size, which is manifested by the level of GDP, is therefore particularly relevant to sales-based FDI (see Chapter 4.2 and Table 1), as a higher output could realize cost savings in the context of economies of scale. Market size can be described by the number of potential purchasers or by the maximum achievable turnover and does not have to be constrained by national borders, but can also include adjacent regions or states (Cluse, 1999, p. 68f.; Jahrreiß, 1984, pp. 107-111). At the same time, in addition, market growth may justify the inflow of FDI, even if the market size would actually not justify a commitment (Autschbach, 1997, p. 60; Breinbauer & Wakounig, 2003, p. 17; Kohler, 2003).
Countries like for instance Germany, France, the UK, Italy and the like with their large domestic markets are in particular those countries in the EU which lead the rest (see Figure 16) during the investigated time period from 2008 until 2018.

6.4 Property Rights Protection

Intellectual property rights are an economic policy instrument that has long been used in developed countries to promote innovation. For a limited time, they give their owners the right to exploit an intangible good – such as knowledge – exclusively for economic purposes. In doing so they limit the dissemination of knowledge in the short term in order to reward the inventor for his expenses. All over the world, the states have gone a long way in formulating their protection legislation in order to find a socially acceptable compromise between the goals of the long-term creation of new knowledge and the rapid dissemination of existing knowledge in the shortest possible time (Liebig, 2001, p. 1).

Within the EU, since its member states are all *WTO* members, the so-called *Agreement on Trade-Related Aspects of Intellectual Property Rights* (*TRIPS*) of the *WTO* is used.

TRIPS was adopted in 1993 on the occasion of the founding of the *WTO*. It defines minimum requirements for national legal systems, as stated in the preamble, to ensure that measures and procedures for the enforcement of intellectual property rights (*IPR*) do not themselves become barriers to legitimate trade. Specifically, member states are required to comply with minimum criteria in the following areas of law: copyright, trademark and patent law, design rights, geographical indications of origin, licensing rights, protection of trade secrets and semiconductor protection (Gelbrich & Müller, 2011, p. 1411).

However, this treaty imposes only minimum standards for member states, so many states have enshrined wider rights in their jurisdiction. Thus, for instance, in all EU countries, the right of copyright expires 70 years after the death of the author (Article 1 of Directive 2006/116/EG), whereas according to Article 12 of the *TRIPS* Agreement the copyright expires 50 years after publication.

Like all other factors above and below, IPR is also seen as an important determinant of the inflow of FDI, which is essential and determines inflows. Not least Javorcik (2004) has shown for states from Eastern Europe how important IPR protection is. Does the target country only has predominantly bad or low protection, above all investments in technology-intensive sectors are influenced, which are necessarily dependent on high protection. However, in her study she also proves that generally investors are deterred as soon as protective rights are insufficiently developed. As a result, investors prefer to rely on distribution rather than local production, which greatly influences the size and composition of FDI inflows and their impact on economic growth (Javorcik, 2004). Furthermore Olofsdotter (1998) ascertained that FDI affects economic growth in a positive way,

whereas this effect is even stronger in host economies "with a higher level of institutional capability" (Olofsdotter, 1998, p. 543), like for instance bureaucratic efficiency or property rights protection.

6.5 Physical Infrastructure

The term infrastructure can be understood as all facilities which are the necessary condition for the proper functioning of economies and whose performance is not just short-term. It consists of physical, intangible and human resources, and includes the two sub-sectors of technical infrastructure (transport, utilities, energy and telecommunications) and social infrastructure (education, health system, legal system, etc.). The focus for this condition as in general for this study will be on the former one. Many infrastructures have an intermediate character, meaning that they enter the production process as a kind of precursor and thus indirectly serve to satisfy needs; see for example Hartwig (2005). Without energy supply, traffic routes or telecommunication technology, a modern, labor-based and highly specialized economy is inconceivable (Kinishita & Lu, 2006, p. 2; Nguyen et al., 2009, p. 10f.; van Suntum, Hartwig, Holznagel, Ströbele, Armbrecht et al., 2008, pp. 4-5).

Especially the area of technical infrastructure to be considered here should offer the best conditions on roads, railways, ports or air transport, so that companies can not only ship and receive their goods and services on time, but also that a flow of movement of workers for the right jobs can be guaranteed. Furthermore, the infrastructure in the field of electrical supply should be trouble-free, so that factories and companies can work unhindered. The more extensive these networks are, the more efficient, less expensive and therefore more competitive companies can fulfill their economic tasks (Cluse, 1999, p. 45; Goette, 1994, p. 193f.; Hummel, 1997, p. 136). A well-developed, modern infrastructure can also specifically promote the establishment of innovative future technologies. Infrastructure deficits, at the same time, inhibit investment since they represent an additional cost or risk factor (Dietz, Protsenko, & Vincentz, 2001, p. 17; Hummel, 1997, p. 137).

Again, as already with the factor of Human capital, the highest IPR protection is to be found in Finland, while also again Bulgaria offers the worst IPR protection in the EU (see Figure 18). Furthermore, the Scandinavian countries with the western European ones (UK, Benelux, Germany and France) offer the highest standards around IPR protection. Most of the Eastern European countries are scoring very low here, but surprisingly also states like Italy which lie significant under the EU average.

6.6 Trade openness

The foreign trade quota (trade openness) is the average of the sum of imports and exports of goods and services, measured as a share of GDP. The formula for calculation is:

$$\frac{\text{Export} + \text{Import}}{\text{GDP}} \times 100$$

Among other things, GDP is defined as the market value of all domestically produced goods and services minus intermediate consumption of other economic units. By contrast, imports and exports are based on the full value of intermediates. In modern production processes, so many intermediate products from abroad are used today that in small open economies such as Malta, Cyprus, Luxemburg and the like, the foreign trade quota can rise above 100% (Forster, Klüh, & Sauer, 2009, p. 352; Statistisches Bundesamt, 2017, p. 20).

Trade and FDI are the two cornerstones of the internationalization and globalization of the global economy. The common theoretical basis in the form of classical foreign trade theory is an essential aspect in the question of the mutual interactions of trade and FDI, which is why there has been great interest in a joint analysis of these two key figures including their interactions (Caves, 2007, p. 36; Markusen, 2002). From a theoretical point of view, two variants are discussed: It can be concluded from the common theoretical basis that FDI and trading are substitutes, since both key figures are derived and determined in the same way. Further, it can be argued that corporate globalization and multinationalism are both powerful, making trade and FDI complementary (Blanchard, Gaigné, & Mathieu, 2008).

Luxemburg outperforms the rest of the EU very significant during the time period 2002 until 2016 for the factor of trade openness. Italy is considered to be as the most 'closed' country with regards to trade in the EU. Mostly the smaller states of the EU score above 100% (see explanation above).

Balasubramanyam et al. (1996) found out that dependent on a specific degree of openness (trade policy which is outward oriented) and trade regimes of a country, FDI definitely can have positive effects on economic growth. Therefore, their main argument is, that the more open an economy is, the higher the volume and utilization of FDI will be.

Balasubramanyam et al. (1996) findings are in line with the early ones of Bhagwati (1978) who showed, that export-promoting countries have a positive correlation between FDI and economic growth, while import-substituting countries show a negative one.

6.7 Financial System

An efficiently strong and developed financial sector is essential nowadays, as it not only distributes the 'resources' that the population of a state has saved, but also "those entering the economy from abroad, to the entrepreneurial or investment projects with the highest expected rates of return rather than to the politically connected." (Schwab, 2016, p. 36) It is commonly said that business investment is essential to productivity. For this reason, "economies require sophisticated financial markets that can make capital available for private-sector investment from such sources as loans from a sound banking sector, well-regulated securities exchanges, venture capital, and other financial products." (Schwab, 2016, p. 36) Not only does the banking sector need to be transparent and trustworthy in order for all of these functions to be fulfilled, but a country's financial market also needs regulation (to some extent) to protect investors and other actors (in the context of FDI) in an economy (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2001, p. 4; Schwab, 2016, p. 36).

While conditions such as the per capita income, inflation rates, availability of infrastructure, available human capital or market size are considered to be quantifiable indicators, it is precisely the financial system and its quality that are not directly quantifiable indicators and require a more detailed analysis (Hemmer, Krüger, & Seith, 2006, p. 16; Sass, 2003, p. 11f.).

The relationship between economic growth, the development of the financial market and FDI can be divided into two categories according to the literature. If one follows Alfaro et al. (2004); Alfaro, Chanda, Kalemli-Ozcan, and Sayek (2010) or Hermes and Lensink (2003) growth can only be achieved through FDI if there is a well-developed financial sector. When investing abroad MNCs and TNCs need to hire skilled labor or new managers as well as buying new machines, to make use of knowledge spillovers induced by FDI; this is impossible up too difficult in financial markets which are underdeveloped.

In the second category, Bekaert, Harvey, and Lundblad (2005); Levine, Loayza, and Beck (2000); Levine and Zervos (1998) and many others point out that growth can be supported by a well-developed financial sector or market liberalization (financial market development).

Once again Finland scores in this category best (investigated from 2008 until 2018), trailed by the other Scandinavian states. The worst financial system is to be found in Greece, while many of the other EU states score around the EU average for this time.

6.8 Per capita income[25]

The standard of living in the individual states of the European Union varies greatly. In terms of GDP per capita, the margin ranges from half of the EU average in Bulgaria to two and a half times the EU average in Luxemburg. However, according to Eurostat (2018a), there is a general rapprochement between states. Comparing the years 1995 and 2016, only five out of the 28 EU countries have moved away from the average standard of living in the EU. For example, while Greece and Cyprus have fallen in comparison with 1995 and even more so since 2009, the index values of Ireland and Luxemburg already exceeded the EU average in 1995 and have continued to increase since then (Bundeszentrale für politische Bildung, 2017a).

Comparing the economic performance between countries internationally, one uses the GDP. To better compare economic performance, living standards and prosperity between countries, it makes sense to use an indicator that is independent of population size. For this, one generally considers the GDP of the states per capita. In addition, GDP per capita is converted into purchasing power standards (PPS) so that the comparison is not influenced by price differences or the purchasing power of the individual currencies (Institut Arbeit und Qualifikation der Universität Duisburg-Essen, 2018).

Countries with relatively low per capita income, all in Central and Eastern Europe, are the primary beneficiaries of industrial investment. In countries with high wages and incomes, funds are mainly used for business-related services, trade and R&D. There have been no serious shifts in recent years. However, low-income countries in the EU have been slightly upgraded as a location for R&D activities during the past years (Dreger, Schüler-Zhou, & Schüller, 2017, p. 266).

In no other European state was the GDP per capita in PPS in 2016 nearly as high as in Luxemburg, where the value of 75.100 was significantly more than two and a half times that of the EU (EU-28 = 29.100). According to Eurostat, this high figure can be partly explained by the high number of cross-border workers from Belgium, Germany and France. Within the EU, Luxemburg is trailed by Ireland (53.300), the Netherlands (37.200), Austria (37.200), Denmark (36.100), Sweden (36.000) and Germany (36.000). The lowest per capita GDP in PPS in 2016 was in Bulgaria (14.200), Romania and Croatia (16.900, 17.400), Latvia (18.800), Hungary and Greece (19.700).

In terms of GDP per capita in PPS, according to Eurostat, there is a general convergence in the standard of living in the EU. Comparing the years 1995 and 2016, among the countries whose index value was below the EU average in 1995, the rapprochement to the EU average was

[25] Per capita income and GDP per capita are used synonymously in this study.

relatively strongest in the Baltic states of Lithuania, Estonia and Latvia. This was followed by Romania, Poland, Slovakia, Bulgaria, Croatia and Hungary. At the same time, eight EU countries approached the EU index value from the other side of the scale: in Italy, France, Germany and Belgium, individual index values fell relatively sharply – in Italy even so much that Italy's index value in 1995 exceeded that of the index EU index value was lower in 2016. However, there are also countries that have moved away from the EU average, for instance in Greece, Cyprus and Portugal. Ireland and Luxemburg also moved away from Index value of the EU - however, the index values were already above the EU average in 1995 and continued to increase until 2016 (Bundeszentrale für politische Bildung, 2017a).

If the per capita income of the recipient country of FDI shows a high level, FDI will influence economic growth in a positive way, as Blomström and Kokko (1994) pointed out in their studies for Sweden. However, when focusing on developing countries Blomström et al. (1992) stated, that growth benefits from FDI are not substantial in developing countries with low income, whereas in industrialized countries (as Sweden; see above) they are. They emphasize from their findings, that, to absorb incoming new technology (through FDI) the country needs "a certain threshold level of development" (Blomström et al., 1992, p. 23).

6.9 Macroeconomic stability

The concept of macroeconomic stability cannot be defined so simply and generally. However, it is undisputed that macroeconomic stability is one of the essential points for economic growth (Schwab, 2017, p. 7), while "a stable macroeconomic environment does not drive economic growth, but it is a necessary condition to promote productivity." (World Economic Forum, 2016, 1. paragraph).

Following the view of Fischer (1993), a sustainable fiscal policy with low and predictable inflation define a stable macroeconomic framework. As he has shown in his work, these two factors increase productivity growth as well as capital accumulation. In addition, there are still a viable balance of payments, foreseeable and reasonable exchange rates and interest.

Thus, apart from the International Monetary Fund (2006), the EU also places a special focus on macroeconomic stability. This can be found in the (five) Maastricht criteria., which have to be met by every country which wants to join the EU and/or monetary union.

The criteria are:

1) The annual debt of a Member State qualified to participate may not exceed 3% and
2) the total public debt does not exceed 60 percent of its GDP;
3) the national inflation rate established by a consumer price index (HICP) established specifically for this purpose may not exceed that of the three most stable EU Member States by more than 1.5 percentage points;
4) in each of the two years prior to the audit, the relevant currency must have complied with the normal bandwidth provided for in the European Monetary System (EMS) without high tensions; in particular, the State concerned may not have devalued the bilateral central rate of its currency in the same period against the currency of a Member State;
5) the level of the long-term interest rates of the national currency concerned must not have been more than two percentage points above the corresponding level of the three most stable EU Member States for at least one year prior to the audit (Winter, 2018).

So at least one can assume here, that all countries before joining the EU had to some degree a stable macroeconomic environment. Afterwards all EU member states have to apply to the Stability and Growth Pact, as laid down in the Treaty of Amsterdam in 1997, which aims to ensure the budgetary discipline of the Member States of the European Economic and Monetary Union within the meaning of the convergence criteria (see before) (Polzin et al., 2016).

Luxemburg can be considered the most macroeconomic stable country within the EU during the investigated period from 2006 until 2018, whereas Greece offers the worst stable macroeconomic environment in the EU. While most of the Western European and Scandinavian counties perform here above the EU average, especially the Eastern European countries lie below this threshold.

Findings discovered by K. H. Zhang (2001) only showed a positive correlation for FDI on economic growth in five countries (out of 11) emphasizing that macro-economic stability or the trade regime define the magnitude for the host country in the end.

6.10 State action

The factor State action is made up by several conditions like politic, legal and institutional conditions. Significant factors in this whole framework are the following:

Political risk: This includes all political, social or administrative influences that either increase the uncertainty of investment planning or massively impair or even make current or future corporate activities impossible. These include all forms of political destabilization, such as wars or civil wars, civil unrest or overthrows, general strikes, expropriations and the like, but also massive or

unexpected policy changes that jeopardize the economic success of the investment object (Baršauskas & Schafir, 2003, p. 69f.; Cluse, 1999, p. 65; Jochem, 1999, p. 80).

The legal system and legal certainty: The direct investment object and its economic success are affected by a large number of legal branches, for example the provisions of commercial law, the law of the currency and credit system, corporate and company law, labor law and banking law, Social Law and Competition Law and Tax Law (Autschbach, 1997, pp. 38-42; Meffert & Bolz, 1994, p. 46f.). Lack of legal provisions, a lack of implementation of existing laws and an overburdened legal system have a high degree of investment inhibition. Relevant for investors (from abroad) is that in this context legal concerns are processed and enforced quickly, and no discrimination of foreign or a preference of domestic parties takes place (Autschbach, 1997, p. 151; Beyfuß, 1996, p. 13; Breinbauer & Wakounig, 2003, p. 37).

Bureaucratic obstacles and corruption: These are disadvantages that are caused by inefficient, non-transparent or lengthy bureaucracies. Furthermore, in states with a lack of legal system, excesses can be observed in terms of crime, corruption or extortion, which hinder free competition (Altmann, 2001, p. 49; Beyfuß, 1996, p. 13).

In principle, it should be noted that the political, legal and institutional framework conditions are highly relevant for foreign investors, irrespective of whether the assessments of the potential investor actually reflect the objective risks or are rather subjectively perceived reservations (Breinbauer & Wakounig, 2003, p. 12f.; Cluse, 1999, p. 65).

Denmark is during the period 2007 until 2017 considered to be the best country in the EU when it comes to the legal and political environment, while Bulgaria offers the worst one for this condition. Again, most of the Western European and Scandinavian countries perform in this condition very well, while the Eastern European countries trail the rest of the Union oftentimes very much the in general high EU average.

6.11 Linkage effects between Foreign Direct Investment influencing factors

When it comes to a linkage between the state and the financial system, Stiglitz (1993) points to mixed results in this relationship mostly on the topic of government intervention in the financial market. For him any intervention has to be carried out carefully. As for instance some good practice examples from East Asia have shown, that an active role of the government in creating and regulating the financial institutions have enhanced the stability and lead to economic growth.

Globerman and Shapiro (2002) show in their studies that there is a clear link between the state and education. They find out, that the higher the investments of the state into education are, the attractiveness for FDI rises also. Furthermore, their results show a relation between public investment

(state) and infrastructure (in their case the public health system), which can generate more or higher FDI inflows.

When it comes to taxes and a possible connection, the *OECD* states very clearly on the topic around possible tax effects on FDI and economic growth, that "the resulting increase in domestic income is shared with government through taxation of wages and profits of foreign-owned companies, and possibly other taxes on business (e.g. property tax)." (OECD, 2008, p. 1) Moreover the government tries to offer the most possible and competitive environment for taxes to attract FDI, while they have to ensure that also "an appropriate share of domestic tax is collected from multinationals." (OECD, 2008, p. 1) This leads in the end to more FDI and a higher economic growth, as studies have shown. For example, Goodspeed, Martinez-Vazquez, and Zhang (2006) have clearly worked out, that with low tax rates 'installed' by the government FDI inflows can rise and affect economic growth. However, they discovered also that the revenue has to be used wisely. In this regard infrastructural investments should be kept high to attract more investments and investors. Their findings are straight in line with them of Abu Bakar, Hadijah Che Mat, and Harun (2012) who found out for Malaysia that investments of the state into well-developed infrastructure led to higher FDI inflows. Moreover Su and Liu (2016) have demonstrated that there is a positive correlation between investments in human capital and physical infrastructure leading to higher FDI inflows affecting economic growth in the case of China.

Especially FDI inflows in high tech sectors, for example in the Netherlands, like the health sector, need a strong property rights protection, in particular the protection of intellectual property rights (IPR). According to Javorcik (2004) this is indispensable if a country wants to attract FDI in the High-Tech sector. In this field the government plays a decisive role. Because if the IPR protection is weak, foreign companies will not invest in such a sector, which in the end reduces any chances for spillover effects, higher productivity and so economic growth, as Hermes and Lensink (2003) have figured out in their studies. Furthermore the results of Falvey, Foster, and Grennaway (2006) indicate that countries with high per capita income can generate a faster growing economy (through inter alia FDI) only with powerful IPR protection.

Furthermore Li and Liu (2005) discovered in their work, that FDI inflows are very dependent on openness of trade and the market size, whereas there also an interconnection can be found. Especially small markets have to be very outward and export oriented and so these two factors mentioned before becoming very crucial for attracting FDI and generating economic growth.

Chang (2007) has worked out in his studies (for Taiwan) that high FDI inflows often come along with a higher per capita income of the country and lead to an increased output growth. Therefore, this factor is dependently linked to human capital because multinationals and domestic companies

need in this case a highly skilled labor force to ‘produce’ new products. Furthermore, he finds that trade openness with low unemployment lead to economic growth induced by FDI.

As the further mentioned findings of K. H. Zhang (2001) have shown that macroeconomic stability is indispensable, he also points to the interconnection of this factor with the government economic policies and effectiveness of their institutions which are needed to generate solid FDI inflows leading to economic growth.

7 The European Union

In the upcoming chapter and its consequent subchapters (see Figure 1) we will talk about the EU itself, how it became into being, with a focus on the coordination of the economic policies, the Euro, common internal market and the common commercial policy before concluding with working out how the FDI in the European Union is structured.

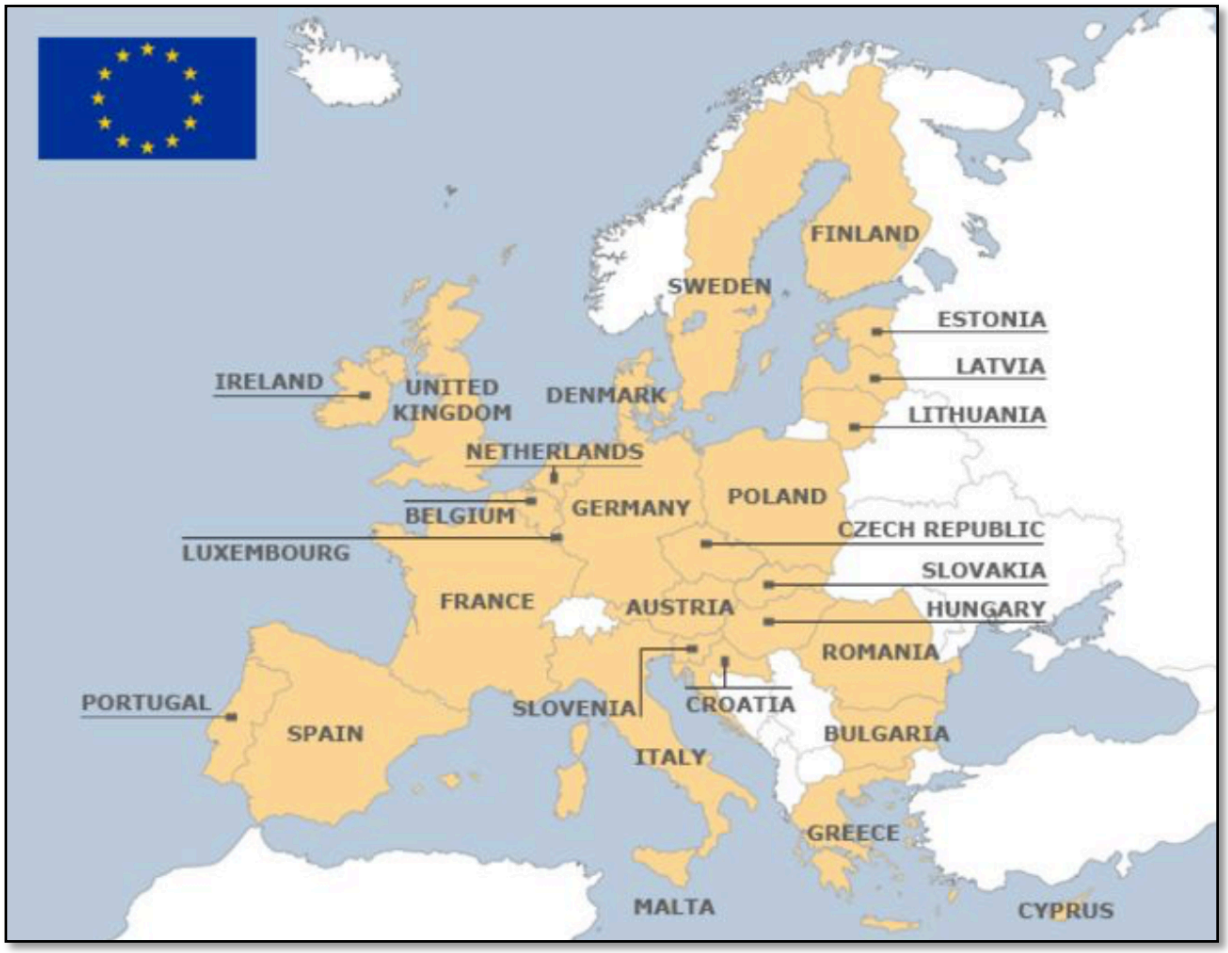


Figure 1: Map of the European Union and its 28-member states

Source: BBC (2014)

Today, the EU can look back on a long history, which will be briefly discussed here. The first step towards economic integration in Western Europe was the creation of the European Coal and Steel Community (ECSC). Founding members of the Coal and Steel Community were Belgium, the Federal Republic of Germany, France, Italy, Luxemburg and the Netherlands. The second step was the establishment of the European Economic Community (EEC) by the six-member states of the Coal and Steel Community. The EEC Treaty entered into force on 1st January 1958. Together with the EEC, the European Atomic Energy Community (EURATOM) was founded.

With the accession of Denmark, Great Britain (UK) and Ireland to the European Communities (ECSC, EEC and EURATOM) in 1973, the EC has been significantly strengthened. In linguistic usage, the European Community (EC), which has remained legally independent, prevailed. Since 1st January 1981, Greece, since 1986 Portugal and Spain have also been members of the EC. At their summit in Maastricht in December 1991, the heads of state and government of the EC member states approved the Treaty on European Union (Maastricht Treaty). With the entry into force of this treaty on 01.11.1993, the EEC was officially renamed European Community, the EEC Treaty in EC Treaty. In 1995, the EC expanded to include Finland, Austria and Sweden. In the political parlance, the name European Union (EU) has prevailed, even if content and law only the subsection of the EC is meant. The Amsterdam Treaty, adopted in June 1997 and entered into force in 1999, and the Treaty of Nice, signed in 2001, continue the reform of the EU. With the so-called eastward enlargement, ten other states joined the EU on 1st May 2004: Estonia, Latvia, Lithuania, Poland, the Czech Republic, the Slovakia, Hungary, Slovenia, Malta and Cyprus. As of 1st January 2007, the EU once again expanded to include Bulgaria and Romania and Croatia on 1st July 2013, bringing it now to 28 states.

In particular, the enlargement to 28 members has raised a number of institutional issues. Solutions can be found in the Treaty of Lisbon, to which the EU states have agreed after the 2007 failed EU constitution. This sees inter alia a reform of the size and composition of the *European Commission* (EC), a permanent President of the European Council, a strengthening of the European Parliament, a Charter of Fundamental Rights and the unanimity decision on qualified majority voting in the European Council. The ratification of the Treaty of Lisbon was completed on 1 September 2009. On June 23, 2016, the British people voted for Britain's exit from the EU, Brexit.

The objectives of the EU, some of which have already been achieved, can be described as follows: The promotion of balanced and sustainable economic and social progress, in particular by creating an area without internal borders, the European internal market, by strengthening economic and social cohesion, coordination foreign and security policy and domestic policy, and by establishing a European Economic and Monetary Union with a single currency (the Euro; €). National and regional identities should be preserved.

EU institutions are the European Commission, the European Council and the Council of Ministers and the European Parliament, which work together in the legal position, as well as the European Court of Justice and the European Court of Auditors.

The European budget, the EU's expenditure and revenue is fundamentally different from the public budgets of its members. Thus, the EU has no financial sovereignty, cannot levy its income

directly as taxes and must not go into debt. Instead, the funds are collected by the individual Member States and then made available to the EU. Own resources are composed of:

1) all customs duties and charges similar to levies imposed at the external borders of the EU on importation
2) Turnover tax revenue: Member States have to pay a percentage (2016: 0.3%) of the Value added tax (VAT) base to the Union
3) If these revenues do not reach the agreed maximum level of expenditure, the remainder will be charged by a share of Gross National Income (GNI). Since 2004, GNI own resources account for about two-thirds of revenue. Total EU own resources may not exceed 1.23% of Community GNI. On the expenditure side, the payments under the European agricultural policy and the structural policies, the expenditure of the Structural Funds, dominate (Polzin et al., 2016).

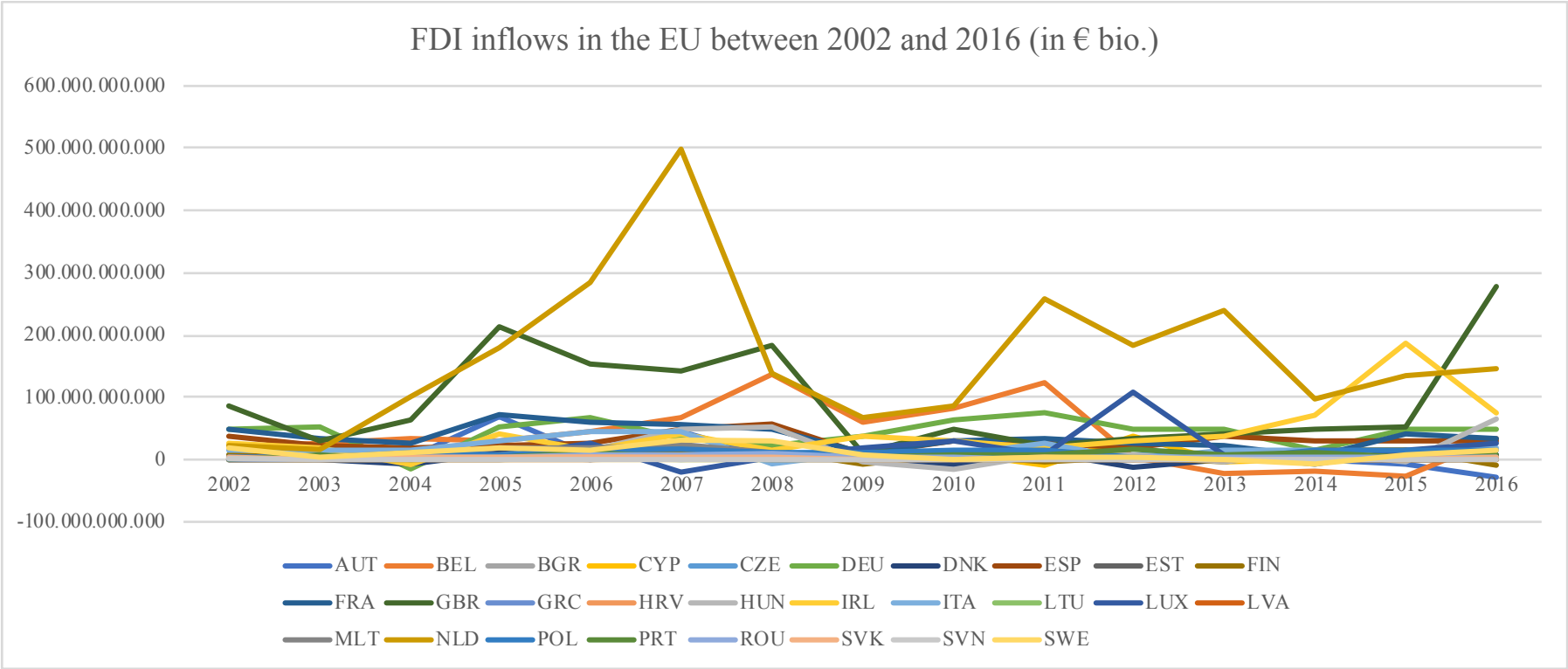
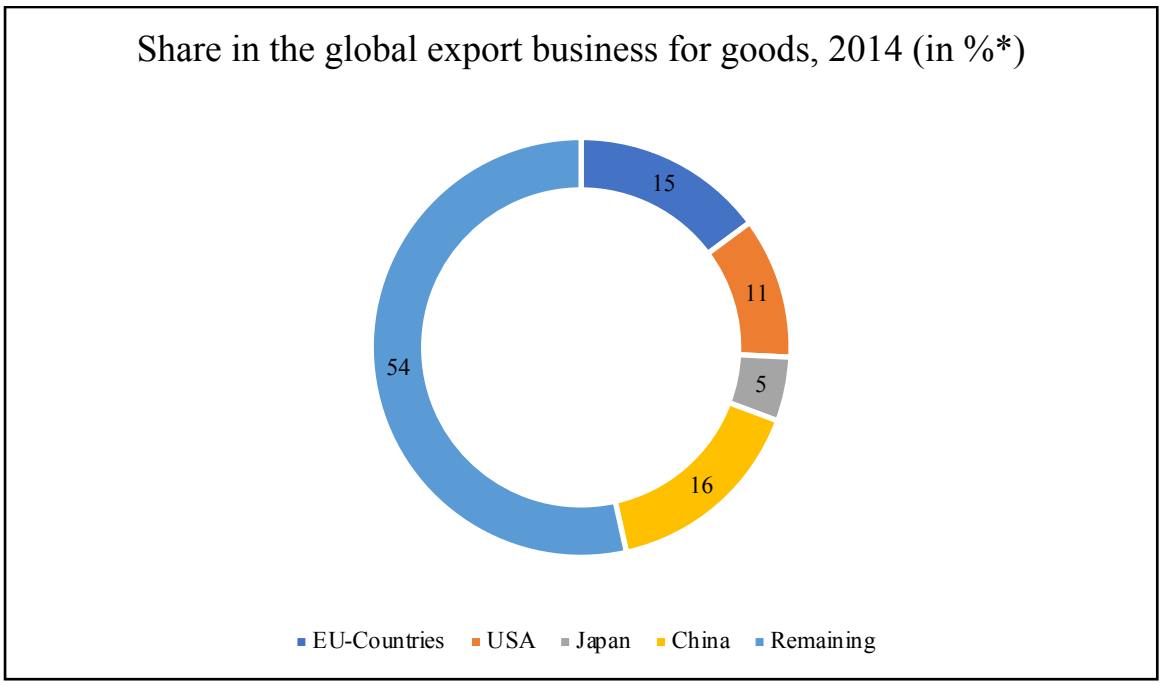


Figure 2: FDI inflows in the EU member states[26] from 2002-2016 in € Billion[27]

Own representation after The World Bank (2018b).

[26] Abbreviations: AUT (Austria), BEL (Belgium), BGR (Bulgaria), CZE (Czech Republic), CYP (Cyprus), DEU (Germany), DNK (Denmark), ESP (Spain), EST (Estonia), FIN (Finland), FRAU (France), GBR (Great Britain, UK), GRC (Greece), HRV (Croatia), HUN (Hungary), IRL (Ireland), ITA (Italy), LTU (Lithuania), LUX (Luxemburg), LVA (Latvia), MLT (Malta), NLD (Netherlands), POL (Poland), PRT (Portugal), ROU (Romania), SVK (Slovakia), SVN (Slovenia), SWE (Sweden).

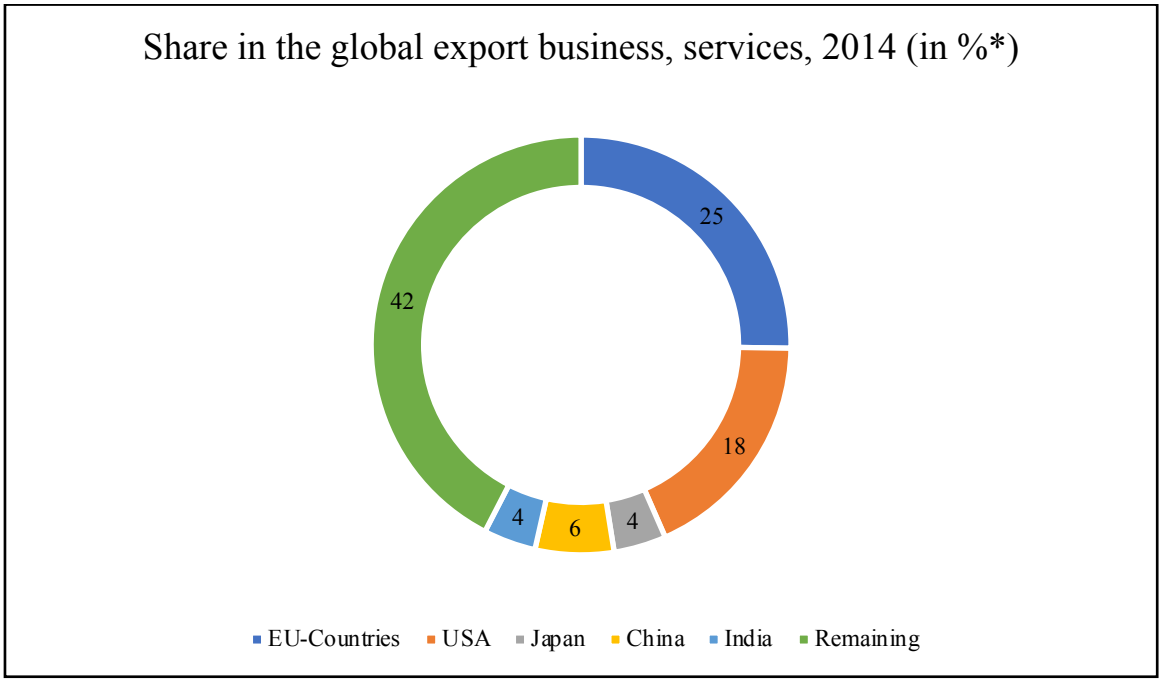
[27] While the World Bank only offered data in US-$ currency, all values have been converted into Euro (€). For this conversion the 'Euro Reference Rates of the European Central Bank Year-end balance' (Deutsche Bundesbank, 2018) has been used from 2002 until 2016. So can be guaranteed that there is no (real) bias in the results when comparing with results of Eurostat, etc.



*Values above 100% are owed to rounding errors.

Figure 3: Share in the global export business for goods in 2014 (in %)

Own representation after Bundesministerium für Wirtschaft und Energie (2018)



*Values under 100% are owed to rounding errors.

Figure 4: Share in the global export business, services, 2014 (in %)

Own representation after Bundesministerium für Wirtschaft und Energie (2018)

7.1 Coordination of economic policies

Economic policy is the responsibility of the Member States. However, due to the European single market and Economic and Monetary Union, Member States need to coordinate their economic policies more and more. The impact of the debt crisis in some countries has made this compulsion even clearer. With the *Euro Plus Pact*, the euro area countries commit to more closely coordinating their national economic policies. So that the economic conditions in the countries become comparable and thus the competitiveness of the whole euro-area increases.
With the Europe 2020 strategy, the EU has set itself ambitious goals. It aims to increase growth and employment and to prepare Europe for the path to the knowledge-based economy. Above all, debt reduction and pension and health system reforms should guarantee the long-term sustainability of public finances. Measures to revive the economy support this goal.
European economic policy aims to increase the labor force participation rate by improving education and training systems and modernizing labor markets. More spending on research and development should drive innovation. The modernization of the infrastructure also provides growth impulses. Finally, the EU is committed to reducing bureaucracy at all political levels (Presse- und Informationsamt der Bundesregierung, 2018, 1. - 3. paragraph).

7.2 The Euro

The introduction of the euro was a major breakthrough for the single market, making prices transparent in cross-border trade and for travelers within the Monetary Union. Exchange rate uncertainty and exchange costs have been eliminated, while the cost of trade has dropped.
Furthermore, the euro area has proved to be stable in the financial crisis of 2008/2009. Had the euro not existed, it would have come to extensive currency speculation, which would have hurt in particular export-oriented economies.
In the foreground the goal: The euro must be a stable currency. Strict acceptance criteria should guarantee that in the future only countries with a stable currency will participate in the monetary union, with the Statute of the European Central Bank ensuring an independent monetary policy oriented towards price stability. Arrangements for coordinating the economic policies of the Member States and the Stability and Growth Pact should ensure that no participating State leaves the stability consensus.
Contrary to the provisions, several euro countries have broken the debt rules. For instance, the debt crisis in Greece and other eurozone countries has shown that the contractual arrangements for monetary union were insufficient. With the European Stability Mechanism (ESM), the euro countries are trying to help the countries affected by budgetary emergency situations. All the

other euro countries vouch for the loans to the affected countries. The aim of this bridging aid is to provide them with the necessary time to reduce their budget deficits and debts and to bring their economy back on track for growth. This support is associated with harsh conditions of adaptation, which the EU monitors.

At the same time, the EU has set new rules to avoid such crises in the euro area countries in the future. For example, it has significantly tightened the mechanisms for monitoring stability determinations. In the so-called European Semester, the member states have to submit their budgets to the EU Commission. The Commission then makes recommendations for better budget management. In addition, sanctions against countries that violate the provisions of the Stability and Growth Pact can be speeded up. The Fiscal Treaty has committed 25 EU countries to a consistent austerity policy with a national debt brake (Presse- und Informationsamt der Bundesregierung, 2018, 4. - 8. paragraph).

7.3 Common internal market

With more than 500 million consumers and an economic output of more than 12 trillion euros, the European single market is the largest single market in the industrialized world. The internal market means for businesses and for citizens that within the EU goods, persons, services and capital can freely cross borders.

In goods traffic, the country of origin principle applies: no product satisfying the European minimum requirements and approved in one EU country may be rejected by another Member State. Living and working anywhere in the EU is a European citizenship. Nobody should be disadvantaged because of his citizenship. Rights acquired abroad – for example in the pension insurance – are not lost. Union citizens can work in their chosen profession: diplomas are mutually recognized.

Whether software companies, cleaning companies or advertising agencies – they can all offer their services in the EU without hindrance. The EU Services Directive ensures that national markets are opened up. In doing so, wage and social dumping is ruled out: the working and collective bargaining rights of the host country apply to the employed employees. Some areas, such as health services, are not covered by the Directive and will continue to be regulated by the Member States.

Citizens as well as businesses can open accounts or borrow anywhere in the EU. Capital can flow unhindered. It remains with the national tax law: Interest earned in Luxemburg must be stated in the German tax return for instance. Tax evasion and money laundering are common

to the EU Member States. But the financial markets also need common rules. A common European banking supervision and the resolution of crisis banks has been decided.
Competition in the internal market ensures a wider choice of products and services. To protect it, European law prohibits anything that affects free trade. If corporate mergers hinder competition, the EU Commission can intervene. The governments of the Member States must not interfere with the free competition of enterprises through aid. Aid based on social aspects or promoting economically disadvantaged regions is allowed. When awarding public contracts, authorities over a certain size have to offer their contracts throughout Europe to all companies (Presse- und Informationsamt der Bundesregierung, 2018, 9. - 13. paragraph).

7.4 The common commercial policy

The EU operates a common trade policy. No single member state can assert its interests as successfully as the EU can. An important objective of EU trade policy is to open outlets for European exports.
A core element of trade policy is the common customs tariff. Member States have given the EC the right to negotiate trade agreements with third countries or international organizations. The EU's competences also include the design of export policy and trade defense measures such as the prevention of unfair trading practices. In addition, the EU is involved in the development of world trade within the framework of the WTO and the UNCTAD (Presse- und Informationsamt der Bundesregierung, 2018, 14. - 15. paragraph).

7.5 Foreign Direct Investment and economic growth – A literature focus on the European Union

How is the economic growth of a country shaped by the influence of foreign investors? The endogenous growth theory (see Chapter 5.1.3) is the starting point for most theoreticians to consider the impact of FDI on economic growth. Here, the technology transfer, which takes place via spillover effects, stands in the foreground. He determines the growth rate of a country in the long term. In addition, a second channel of influence can be assumed, which has a direct effect on the economic growth of a country. The relocation of a company leads to an allocation of physical capital in the host country. Greenfield investments increase the capitalization of a country qualitatively and quantitatively more than it can be achieved through the acquisition or privatization of a company. The 'greenfield' company creates an important basis for generating economic growth through the transfer of physical capital to the host country (Neuhaus, 2006, p. 74). By comparison, the acquisition or privatization of a company has less influence since

existing capital in kind is taken over and economic growth can only be generated through follow-up investments. In contrast, the displacement of a company has clear negative effects, since existing capital is destroyed (Krüger & Ahlfeld, 2005, p. 3; Neuhaus, 2006, p. 45).

Neuhaus (2006) assumes that the countries of the 'South' have a low capital stock, which has a low quality and few variations. The inflow of FDI means an expansion of the capital stock as new products are introduced into the economy. In the countries of the North, this is not the case, since their capital stock is complicated and broad. Here only an improvement of the products would be caused by FDI (Neuhaus, 2006, p. 54f.). It is therefore initially based on the Romer model (1990), which was built on the assumption that each innovative process is followed by a new product as the final result. Only in a further 'developmental stage' can it be assumed that there will be an improvement of the product. As the reinvention of completely new products is much less important than quality improvement, they play a lesser role globally (Jurkat, 2010, p. 42; Neuhaus, 2006, p. 75).

Dunning and Lundan (2008) agree with the statement that the development of a 'developing country' into an 'industrialized state' is possible through inflows of FDI. Economic growth is one of the most important components of development. In order to achieve economic growth, it is important for an economy to absorb the spillovers of foreign companies (Dunning & Lundan, 2008, p. 317f.).

Empirical analysis examining the impact of FDI on the economic growth of an economy uses different methods and approaches. Borensztein et al. (1998) base their analysis on the Endogenous Growth Theory (New Growth Theory, see Chapter 5.1.3) to determine the impact of FDI on economic growth in developing countries. Technological progress is therefore considered to be the main determinant and determines the level of economic growth of an economy (Borensztein et al., 1998, p. 116). In a second step, they analyze further to what extent technology can be absorbed in an economy (see chapter 6.2).

Li and Liu (2005) also use the endogenous growth model in their analysis. They are investigating a total of 84 developed and developing countries. Again, technology and human capital are considered to be the two most important determinants of economic growth. They look at how FDI relates to the three factors of technology, human capital and infrastructure, and whether FDI causes economic growth in relation to the factors. Li and Liu (2005) work out that FDI combined with higher education has a positive effect on economic growth. Furthermore, technical renewals have a positive influence. However, it depends on the absorption capacity of the

technology in the country. In developed countries this is generally higher than in underdeveloped ones. Accordingly, it can also have a negative impact on economic growth (Li & Liu, 2005, p. 402). The results are generally consistent with the results of Borensztein et al. (1998). Mencinger (2003) focuses his analysis on the impact of FDI in eight Central and Eastern European countries. He considers the relationship between GDP growth and the share of FDI in GDP in the years 1994 to 2001. In contrast to Li and Liu (2005) and Borensztein et al. (1998) here, a different approach is chosen that does not focus on technology or knowledge transfer (Jurkat, 2010, p. 44).

Mencinger first correlates annual economic growth (GDP growth) with the annual growth of FDI in each country's GDP. In seven out of eight countries a negative correlation is found. In order to make a more empirically significant statement on the effects of FDI on economic growth in transition countries, in a second step, all values of the eight countries are compared with each other, so that 64 values can be assumed. Again, there is a negative correlation. It could therefore be concluded that FDI reduces economic growth in the years 1994 to 2001 (Mencinger, 2003, p. 495ff.).

Groht (2005) also uses a similar approach. The correlation between the growth rate of per capita income and FDI / GDP for the Czech Republic, Hungary and Poland in the period from 1992 to 2001 is calculated. He does not want to comment on the direct impact channels of FDI and economic growth because he does not expect any significant results. Rather, he tries to establish a temporal relationship between economic growth and FDI. According to this, the data for the growth rate of per capita income or the share of FDI in GDP are postponed (back or forth) by up to two years. Groht assumes that either an investment decision will be made due to the economic growth of a country and that it will be implemented only after a lead time of one to two years. If this were correct, then the share of FDI in GDP will rise later. Or, with the influx of FDI, the increase in economic growth can be seen within the next two years as follow-up investments are made. Thus, the per capita income increases one to two years after the investment. The validity of the results, however, Groht already in question, since the influencing factors are not manageable. For example, domestic and foreign economic activity, external linkages, interest rates, etc. have had an impact on GDP growth, while inflows of FDI have been affected by privatization, the taxation or disadvantages for businesses, the labor market corruption and political security (Groht, 2005, p. 147; Jurkat, 2010, p. 45).

The results of Groht are very heterogeneous for the three countries. It can be stated that for Hungary the influx of foreign investment influences economic growth. For Poland, however, it turns out that a two-year shift in the correlation between economic growth and the inflow of

FDI creates a medium correlation. This would mean that economic growth attracts FDI. For the Czech Republic, a parallel development of FDI and economic growth can be noted until 1995. However, the recession of 1997/98 could not be prevented by the inflow of foreign investment. There is only a very small correlation. Furthermore, a shift of the two levels of economic growth and FDI development by one to two years does not produce meaningful results (Groht, 2005, p. 148f.). Groht therefore focuses on the countries of Spain, Portugal and Greece, who have also gone through a democratic transformation process and joined the EU in 1981 and 1985. Looking at a larger period (1980 to 2001) of the three southern European countries, Groht concludes that, as in Poland, investment follows economic growth rather than pushing economic growth as expected in neoclassical theories (Groht, 2005, p. 151ff.).
Mencinger and Groht conclude that the low correlation between the inflow of FDI and economic growth is due to the privatization process and the acquisition of companies (Groht, 2005, p. 154f.). In the early years of the transformation, only a few greenfield investments were made, as the financial and administrative burden of acquiring a business was lower as part of privatization. More FDI flowed into the companies to be privatized, which was promoted and supported by the respective governments of the transition countries and the international organizations (Jurkat, 2010, p. 46). It was hoped that transnational corporations would increase employment and exports and provide higher revenue for the state in the form of tax arrears (Mencinger, 2003, p. 499). However, as mentioned above, privatizations lead to only a small amount of investment in fixed assets, as, for example, land, buildings and machinery do not have to be bought up again but are part of the acquired company. In addition, the proceeds from the privatization sales, contrary to a participation and takeover (M&A) of enterprises, either flow to the state or go to domestic salesmen, who convert however usually their profit into consumption or into imported commodity. A reinvestment in the own national economy took place only limitedly, so that it did not come to an economic growth by the assumption of the Central and Eastern European enterprises (Mencinger, 2009).

Foreign direct investment is a key factor in the economic integration of a country or economic area and is an important source of investment finance. In addition, direct investment is also likely to promote the transfer of technology and know-how between countries, and thus increase productivity growth. Against this background, many complain that the inflows of FDI into the European Union have developed cautiously in recent years. In Europe, in the 1990s, as a result of the creation of the single market and the preparation of a monetary union, strong FDI inflows, especially between European countries, had come to the fore. In the 2000s, a decline in the

international significance of the euro area as an investment location then began. Shareholdings in most of the euro area countries' inflows of direct investment have declined steadily, plunging further in the wake of the financial crisis and the debt crisis in the euro area (Baldi et al., 2014; Baldi & Miethe, 2015; UNCTAD, 2015). In particular, direct investments within the euro area from the northern member states to the southern peripheral countries have continued to decline from an already rather low level before the crisis. The capital interconnectedness between the northern and southern countries of the euro area has been relatively strong by borrowed capital and little by equity since the beginning of monetary union. The importance of Central and Eastern European countries, which have now partially joined the euro area, has remained stable until 2008, but has declined in recent years, which should be seen in the context of the somewhat stalled recovery process (Baldi & Miethe, 2015; European Bank for Reconstruction and Development, 2013). Unlike Europe, the importance of the United States as an international investment location has remained fairly stable since the beginning of the 2000s. By contrast, the emerging economies were able to significantly increase their importance as investment locations as a result of dynamic economic growth. The relative decline in the importance of the euro area as an international investment destination is therefore also likely to be related to the comparatively slow pace of economic development in Europe and improved conditions for investors in other regions of the world (Baldi & Miethe, 2015; OECD, 2018). In addition, it is often argued that the single services market in the European Union is not yet complete, which is likely to dampen cross-border investment in the sector (see, for example, (Baldi & Miethe, 2015; Baldwin, DiNino, Fontagné, De Santis, & Taglioni, 2008; Francois & Hoekman, 2010). With the gradual improvement in the euro area economy and the slowdown in emerging market economic growth, the importance of the euro area as an investment destination now seems to remain stable at historically low levels (Baldi & Miethe, 2015; Ernst & Young, 2015; UNCTAD, 2015).

8 Methodology

The methodology chapter of this study starts off with a short introduction for qualitative and quantitative approaches before we elaborate in depth on the in this study used method of *Qualitative Comparative Analysis*.

Therefore, as a starting point we introduce the method of *QCA* in general to give a better and solid understanding of how it works. Afterwards the Fuzzy-Set Qualitative Comparative Analysis will be presented with an in-depth focus on the calibration of fuzzy sets for the analysis, the necessary and sufficient conditions, where we will refer shortly how these can be pictured in a Venn-diagram or alternatively, and used in this study, the XY-Plot. Another essential point which we will elaborate on is the consistency and coverage with *fuzzy-set QCA* (fsQCA) before ending the methodology section with an explanation of how the fuzzy truth table algorithm works.

8.1 Qualitative approach

"Qualitative research, [...] covers a wide range of approaches, but by definition, none of these approaches relies on numerical measurements. Such work has tended to focus on one or a small number of cases, to use intensive interviews or depth analysis of historical materials, to be discursive in method, and to be concerned with a rounded or comprehensive account of some event or unit." (King, Keohane, & Verba, 1994, p. 4)

In macro-qualitative analyzes, especially in the area of *QCA*, since the mid-1980s, many researchers have been able to significantly influence the development in this area. First and foremost, Charles C. Ragin laid the groundwork with his standard works on the qualitative comparative approach (1987, 2000, 2008). In addition, De Meur and Berg-Schlosser (1996); Mahoney and Rueschemeyer (2003), King et al. (1994); J. E. Gerring (2001, 2005) Rihoux (2008, 2009) earned their merits. In German-speaking countries, Berg-Schlosser (1997); Berg-Schlosser and Müller-Rommel (2003); Berg-Schlosser and Quenter (1996) or Schneider and Wagemann (2007) have performed in recent years very important contributions.

8.2 Quantitative approach

"Quantitative research uses numbers and statistical methods. It tends to be based on numerical measurements of specific aspects of phenomena; it abstracts from particular instances to seek general description or to test causal hypotheses; it seeks measurements and analyses that are easily replicable by other researchers." (King et al., 1994, p. 3)

8.3 Qualitative Comparative Analysis

QCA aspires to unify the best features of the variable- as well as the case-centered approach. Central to this is the possibility of systematically comparing even a small number of cases (Rihoux & Ragin, 2009, pp. 4, 6f.). Figure 5 below shows very good where the comparative research (to which *QCA* belongs) sits in comparison to the 'classical' qualitative and quantitative research.

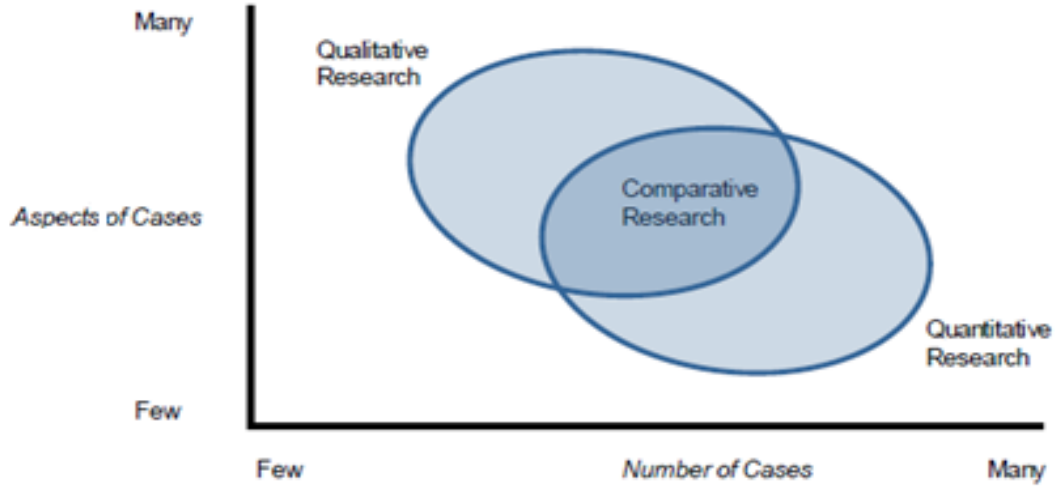


Figure 5: 'Classification' of *QCA* by comparison to qualitative- and quantitative research

Source: Ragin (1994)

QCA is a research strategy that enables comparative social research in areas of intermediate case numbers through the use of formal-logical minimization. It was decisively developed by the American social scientist Charles. C. Ragin, based on his work *'The Comparative Method'* (Ragin, 1987). Due to its special suitability, it is especially used in the macro area of empirical social research. While *QCA* is mainly and commonly used in social sciences over the past years it is not the case in the field and case of economic geography (Ragin, 1987; Swanborn, 2013). The substructure of the *QCA* is made up of data of a qualitative nature, the evaluation of which, as usual in qualitative analyzes, is embedded in an iterative process that is not completed with the evaluation of the data. In the process, the data are examined for their association with sets with the intention of modeling the phenomenon (Outcome) to be explained as the event of different combinations of characteristic conditions[28][29]. The goal is then to extract the necessary and / or sufficiently proven conditions for an outcome (Buche & Carstensen, 2009, p. 67).

[28] In *QCA*, 'explanans' are not referred to as variables, as it is the case in quantitative analysis, but as conditions or sets. These terms will be followed in this study.
[29] Ragin synonymously uses the term causal complexity. For further reading Ragin (1987, 2. chapter), and Ragin (2007) are recommended.

Although *QCA* places high demands on the individual case knowledge of the researchers, it is not a case-based, but a case-oriented approach (Berg-Schlosser & Quenter, 1996). This is made clear by the special view on the cases, which is standardized but otherwise far off from a variable-based perspective. In *QCA*, cases are always considered as configurations defined by their combination of characteristics. Nevertheless, the conditions are, not as in the statistics the variables, in the foreground. Central is the configuration as a representative of a group of cases with the same conditions and the same outcome. This is indicative of formal-logical methods (Buche & Carstensen, 2009, p. 67).

QCA is fundamentally based on Mill's methods of difference and agreement (Mill, 1865), which contain a formal-logical approach to case comparisons. In summary, the method of difference explains variance in the 'explanandum' by a difference in characteristics values of the cases. If only one feature is different in two cases with different outcomes, and all other features are the same, then this feature can be seen as a causal cause of the variance. For the method of correspondence, if for two cases with the same outcome all features except one differ, this single match is assumed to be the cause of the accordance in the outcome. As Lieberson (2005 [1992]) shows, however, these methods are associated with massive problems, partly because interactions between conditions or their interaction cannot be taken into account. Comparing *QCA* and quantitative methodology, it is important to distinguish between the original Durkheim-based and modern statistics. Durkheim contradicts in his view of causality today widely held points of view, since only the univariate statistics for him fulfill the criteria of scientificity (Ragin & Zaret, 1983). This excludes interaction effects from the outset. However, they come closest to the internalized principle of conjunctural causation[30] in *QCA*. In *QCA*, the interaction of several conditions is a central component of an investigation, which is also an estrangement from the roots in Mills methods. Another peculiarity of the *QCA* perspective on causality is the equifinality. Thus, different conditions can lead to the outcome independently (Buche & Carstensen, 2009, p. 67f.). It can result, for example, in the following solution formula:

$A + BC \rightarrow Y$

Y is the outcome and can be caused either by condition A or by condition B in combination with condition C. This property is particularly contradictory to the multivariate statistical methods that postulate an additive, linear model (Buche & Carstensen, 2009, p. 68).

QCA differs not only in terms of case numbers from the widespread research strategies. Rather, epistemological, methodological and research practical distinctions must be made. In particular, the conception of individual cases and configurations, as well as the understanding of causality

[30] Interaction of several conditions to explain a phenomenon

with the possibilities of equifinality and cyclicality make *QCA* fundamentally an independent research approach. The method also offers the possibility of asymmetric causality, that is, the possibility that a different explanation is found for the occurrence of the outcome than for its absence (Wagemann & Schneider, 2007).

Incidentally, *QCA* is not just a single method, but rather a whole 'family of techniques' (Schneider & Wagemann, 2007, p. 20), embedded in a comprehensive research strategy. Thus, in addition to the originally developed variant of the Crisp-Set QCA (*csQCA*), there are two known further developments. These were necessary above all because only binary quantities are used in the *csQCA*. In response to the accusation that his data base would be incompatible with the social science reality, the Multi Value QCA (*mvQCA*) and the Fuzzy Set QCA (*fsQCA*) were developed (Buche & Carstensen, 2009, p. 69).

In this study the method *fsQCA* will be applied.

8.4 Fuzzy-Set Qualitative Comparative Analysis

Fuzzy set QCA was developed because there may be a discrepancy between the compulsion of the dichotomized calibration (*csQCA*) and the available data. This extension allows for different gradations between membership and non-membership features. For example, this seems plausible in the oft-cited example of countries belonging to the amount of welfare states. So there are certainly a number of countries that cannot be assigned to one extreme (full membership in the amount of welfare sates) or the other (no membership) (Buche & Carstensen, 2009, pp. 81-82).

This example can also be transferred to the problem in this study whether FDI lead to growth or not. Looking at Ireland and Luxemburg, for example, one would certainly be able to assign both countries to the multitude of states where FDI leads to growth, but possibly in varying degrees, as there are qualitative differences between them in individual conditions, such as taxes or human capital, and consequently in the membership there. Such gradings can be considered with *fsQCA*, which means that both the conditions and the outcome are presented as fuzzy sets. Since the delineation of fuzzy sets to their environment is not selective, they are (except in the extremes '0' and '1') never just a member in one set. Thus, a country with a membership value of 0.75 in the set of *'FDI leads to growth'* is also too 0.25 a member in the set of *'FDI does not lead to growth'*. The value 0.5 marks the transition point or indifference point (cross over point) and serves as a qualitative anchor in addition to the two extreme points, whereby if the anchor is exceeded, it can be said to have partial membership and to fall below partial non-membership (Buche & Carstensen, 2009, p. 82).

It should be noted here that these values are not to be interpreted as probabilities for a full membership in a set, but according to Ragin (2007, p. 13f.) correspond to the assignment of a 'truth value' on the statement of a membership.

Adjectivization memberships in fuzzy sets

Fuzzy member score	***Element is …***
1	Completely included
0.9	Almost completely included
0.8	Mostly included
0.6	More included than not included
0.4	More not included than included
0.2	Mostly not included
0.1	Almost completely not included
0	Totally not included

Table 2: Adjectivization memberships in fuzzy sets

Own representation after Schneider and Wagemann (2007, p. 178) taken from Ragin (2000, p. 156).

8.5 Calibration of Fuzzy-Sets

Calibration of the fuzzy set represents a key methodological point of the *fsQCA*. Calibration establishes three points of set membership within a condition or an outcome that determines the gradual affiliation of a case: full presence (≥ 0.95), indifference point (0.50) and complete absence (≤ 0.05). This classification made by the researchers corresponds to a certain standardization of the indicators. Ragin (2008, p. 71f.) compares this process with the definition of the Celsius temperature scale, which was adapted to the state of aggregation of water (0 °C, 100 °C). The calibration of the ten explained conditions and the outcome (FDI lead to economic growth | FDI do not lead to economic growth) is done using the direct method of calibration described by Ragin (2008, p. 89). Here, a sample-internal scale is defined for each condition and for the outcome, which corresponds to the three structuring points mentioned above. Thus, with regard to the respective sample values of the conditions, three limits are drawn, by means of which the cases are classified. This is done via the logarithmic probability of the complete presence of a fuzzy set, which calculates the program fs / QCA. The final product is a slenderly scale of 0.00 to 1.00 (Good, Hurst, Willener, & Sager, 2012, p. 461; Ragin, 2008, p. 85).

8.6 Necessary and sufficient conditions

Two terms are of fundamental importance for the understanding of this method, but these can generally be regarded as basic elements of the mode of thinking in empirical-comparative studies. It is the idea of necessary and sufficient conditions. In this context, all possible conditions of a comparative research design that are hypothesized as causally can be potential necessary or sufficient conditions for the outcome[31]. The outcome thus circumscribes that state of affairs which we want to explain with the help of potential necessary or sufficient conditions, or for this connection with the causal conditions which we have more or less precisely established as hypotheses in our research questions / research design. While the use of the pervasive term 'pending variable' is not wrong, it unnecessarily adds to the fallacy that *QCA* is a purely statistical process. For this reason, in this study we usually speak of conditions instead of independent variables, since even the latter term clearly stems from the statistical tradition (Schneider & Wagemann, 2007, p. 32).

8.6.1 The Venn-diagram

In the analysis of sufficient conditions, it must be determined whether there are cases in which the conditions are present, but the outcome is not (see Figure 6). If so, then the condition can by no means be sufficient. Cases where the condition is not present need to be investigated.

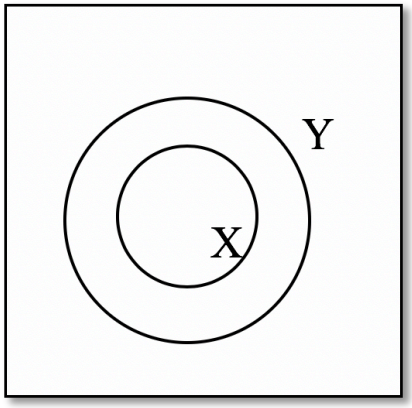


Figure 6: Venn-diagram[32] for sufficient conditions[33]

Own representation

[31] Freely translated: The phenomenon to be explained / understood.
[32] Venn diagrams are particularly well-suited for illustrating quantity-analytic relationships such as intersections, union sets, subsets and supersets. Therefore, necessary and sufficient conditions can also be mapped well with Venn diagrams, since a sufficient condition is a subset of the outcome and a necessary condition is the superset of the outcome (Schneider & Wagemann, 2007, p. 43).
[33] The Venn-diagram depicts a situation in which X can be interpreted as sufficient for Y. The circle, which represents the set of all cases with X, is completely surrounded by the circle of the set of all cases with Y. This satisfies the definition of a sufficient condition: whenever X exists, Y is also present, or all cases with X also have Y (Schneider & Wagemann, 2007, p. 36).

In the analysis of necessary conditions, it must be determined whether there are cases in which the outcome is present, but the conditions are not (see Figure 6). If so, the condition may not be necessary. Cases in which the outcome is not available need not be investigated. Thus, if there is no variance on the dependent variable, at least one analysis of necessary conditions is possible.

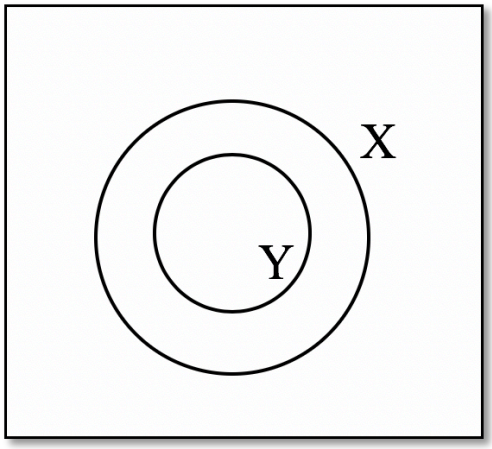


Figure 7: Venn-diagram for necessary conditions[34]

Own representation

In the analysis of simultaneously necessary and sufficient conditions, it must be determined whether there are cases in which the outcome is present, but the condition is not, or if there are cases in which the condition is present, but the outcome is not (see Figure 8). Only if both restrictions are not present it is simultaneously a necessary and sufficient condition. Such conditions are extremely rare in research reality and correspond to the perfect correlation of quantitative methods (Schneider & Wagemann, 2007, p. 43).

[34] The area that shows the set of all cases that have the outcome Y is completely enclosed by the set of all cases with X. This fulfills the logical definition of a necessary condition: whenever there are cases with Y, these cases also have X at the same time (Schneider & Wagemann, 2007, p. 39).

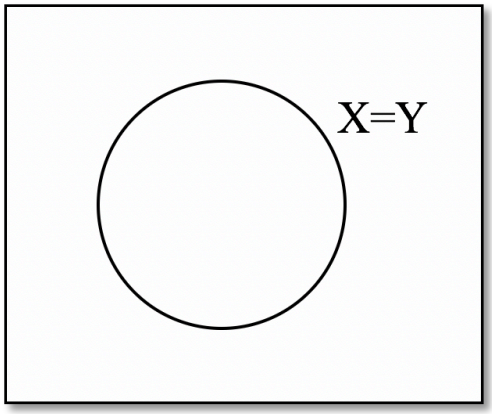


Figure 8: Venn-diagram for simultaneously necessary and sufficient conditions[35]

Own representation

The concentration on sufficient and necessary conditions then leads to the fact that with the help of *QCA* also the so-called INUS conditions can be recorded. INUS is the abbreviation of "insufficient but necessary part of a condition which is itself unnecessary but sufficient for the result" (Blatter, Janning, & Wagemann, 2007, p. 202; Goertz, 2003, p. 68; Mackie, 1974, p. 62)[36] (see Figure 9)

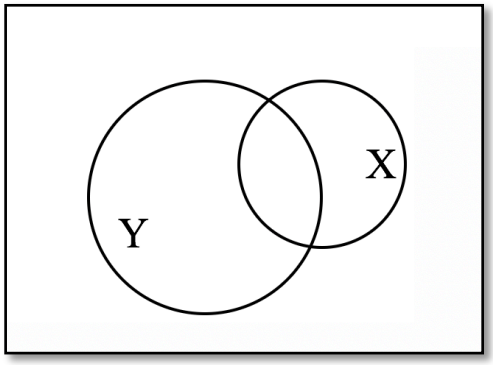


Figure 9: Venn-diagram for INUS conditions

Own representation

[35] In the form of a Venn-diagram, the presence of a condition X is expressed as both necessary and sufficient in that the two sets of X and Y are completely overlapped. This indicates that each case that has X also has Y, and, conversely, that every case that has Y also shows X at the same time (Schneider & Wagemann, 2007, p. 41).

[36] For necessary conditions, therefore, Y = 1 must / should not occur if X = 0. For sufficient explanations, however, it would be expected that if X = 1 then Y = 1 and if X = 0 then Y = 1 would conditions be possible if there were other causes / mechanisms producing Y = 1. This means that there can be different constellations that produce Y, and X is part of all these constellations (Solga, Brzinsky-Fay, Graf, Gresch, & Protsch, 2013, p. 8). "Where, on the other hand, multiple paths are found to the same outcome (as in QCA), the language of sufficiency is preferred." (J. Gerring, 2012, p. 337). In the logic of *QCA* these are so-called INUS conditions.

8.6.2 The X-Y plots

In this case, XY-Plots help to graph the relationship between a potential condition and the outcome for each case.

A condition is sufficient if all cases in the XY-Plot for this condition are at or above the main diagonal. Mathematical is valid for a sufficient condition: Fuzzy value of the sufficient condition ≤ Fuzzy value of the outcome (see Figure 10).

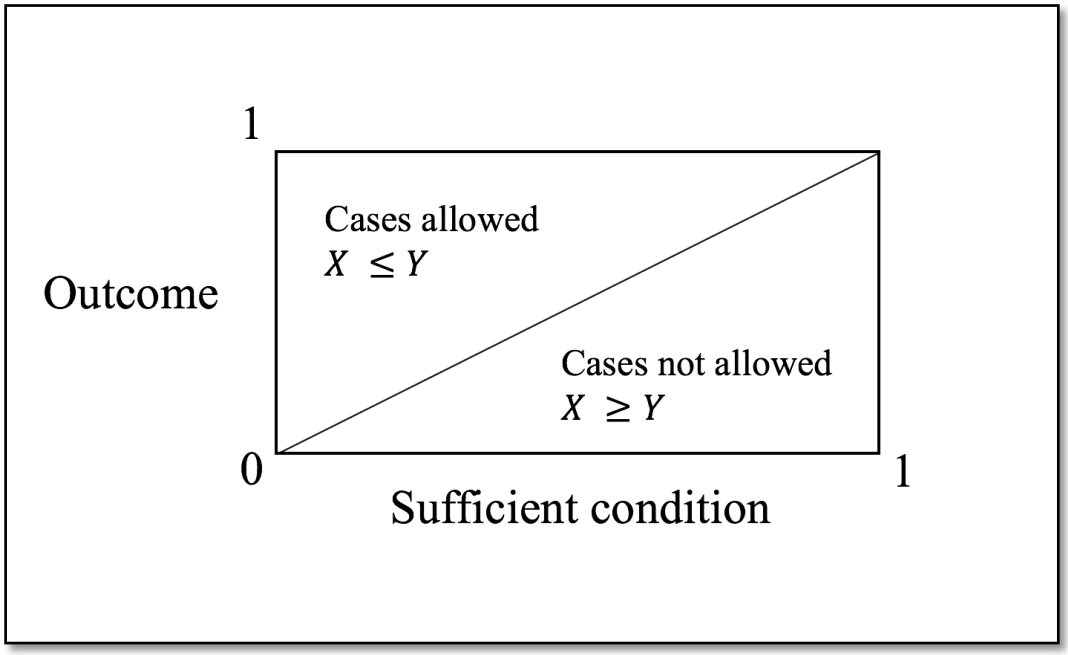


Figure 10: XY-Plot for Fuzzy-Sets – Distribution of cases for sufficient conditions

Own representation after Schneider and Wagemann (2007, p. 200)

A condition is necessary if all cases in the X-Y plot for this condition are at or below the main diagonal. Mathematical holds for a necessary condition: Fuzzy value of the necessary condition ≥ Fuzzy value of the outcome (see Figure 11).

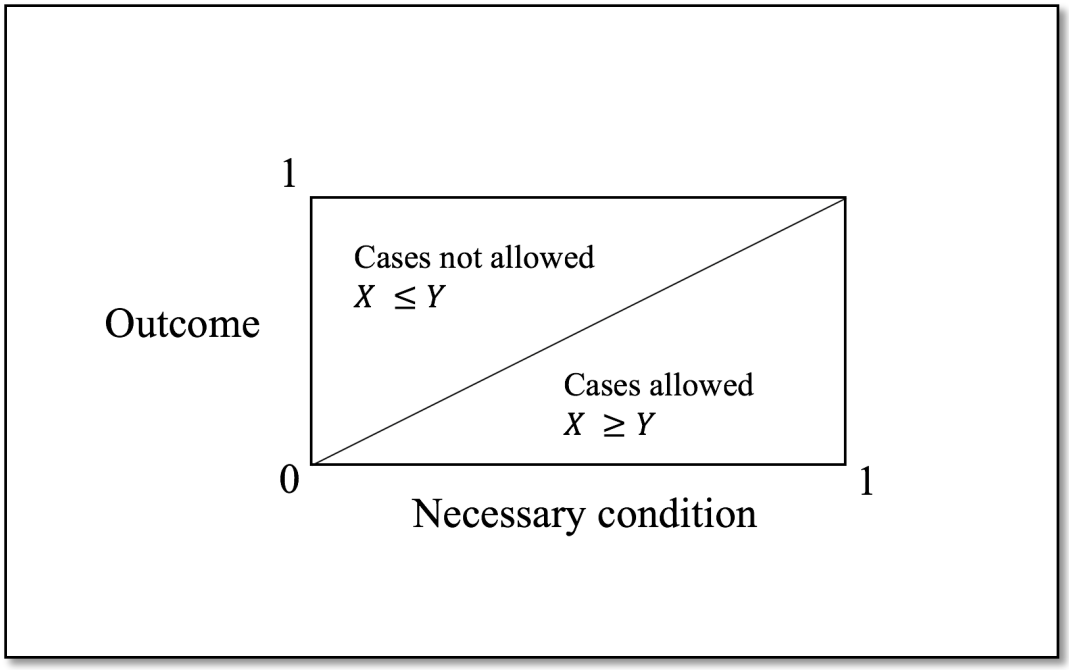


Figure 11: XY Plot for Fuzzy-Sets – Distribution of cases for necessary conditions

Own representation after Schneider and Wagemann (2007, p. 201)

A condition is at the same time sufficient and necessary if all cases in the X-Y plot are on the diagonal for this condition. Mathematical applies to a simultaneously sufficient and necessary condition: Fuzzy value of the sufficient and necessary condition = Fuzzy value of the outcome.

If we refine a condition by linking different sets through the logical AND, all cases move graphically to the left in the X-Y plot. If we coarsen a condition by excluding individual conditions from its intersection of several conditions, then cases move to the right.

8.6.3 Extension for necessary and sufficient conditions and Boolean operators

Necessary and sufficient conditions in the *fsQCA* are a suitable means of interpreting the results. Any condition where the membership value in the Outcome set is consistently less than or equal to the membership value of the condition across all investigated cases is considered necessary. A condition is sufficient if the fuzzy value of the outcome is consistently greater than or equal to the value of the condition for all cases. A detailed derivation of this situation can be found in Schneider and Wagemann (2007, p. 199f.).

Boolean operators for *fsQCA* (Buche & Carstensen, 2009, p. 84):

Addition:	A + B = max (A; B)	= max (0.2; 0.7) = 0.7
Multiplication	A * B = min (A; B)	= min (0.2; 0.7) = 0.2
Negation	a = 1-A = 1-0.2.	= 0.8

8.7 Consistency with fuzzy-set Qualitative Comparative Analysis

In fuzzy set terminology, a sufficient condition is defined by $X_i \leq Y_i$. In words, this means that the value of X is less than or equal to the value of the outcome Y for all cases.
The measure of the consistency of sufficient conditions should assume the value 1 if all cases have a lower X than Y. Expressed in a scatterplot, this means that all cases must be above the main diagonal. If this is the case, the sufficient conditions are 100% consistent. A formalization of this approach is reflected in the following formula (Ragin, 2006, p. 297).

$$\text{Consistency}_{\text{sufficient Condition}} (X_i \leq Y_i) = \frac{\Sigma\,(\min(X_i, Y_i))}{\Sigma\,(X_i)}$$

For the cases where X is less than or equal to Y, the numerator is increased by the same amount as the denominator. However, if X is greater than Y and the case is not consistent with our solution, the numerator is incremented less than the denominator, resulting in a consistency measure less than 1. The 'distance' between X_i and Y_i is considered in all cases. This results in a measure that assumes the value 1 for perfectly consistent solutions, and in which the amount of deviations for inconsistent cases flows in (Buche & Carstensen, 2009, p. 85).
Here, too, it is the other way around for necessary conditions, where $Y_i \leq X_i$. Thus, to be a necessary condition for Y, each value for the outcome Y must be below the value for the condition X. The formula for it looks like this:

$$\text{Consistency}_{\text{necessary Condition}} (Y_i \leq X_i) = \frac{\Sigma\,(\min(X_i, Y_i))}{\Sigma\,(Y_i)}$$

8.8 Coverage with fuzzy-set Qualitative Comparative Analysis

Here, the principle of equifinality can be taken into account by determining the respective empirical significance and the overlap of the individual paths leading to the output by means of raw coverage and sole coverage (Ragin, 2006, p. 304). As with consistency, the membership values for the conditions are also included in the calculation. The formula for raw coverage of sufficient conditions is:

$$\text{Coverage}_{\text{sufficient Condition}} (X_i \leq Y_i) = \frac{\Sigma(\min(X_i, Y_i))}{\Sigma(Y_i)}$$

If the total coverage for all the paths leading to the outcome is to be calculated together, then the membership of all cases in the overall expression connected by logical OR (for example A + BC + dE) is calculated and used for X (Schneider & Wagemann, 2007, p. 209f.).

The unique coverage results from the subtraction of the raw coverage of all paths, except the one of interest, from the total coverage. Again, there may be differences in overall coverage for the addition of the unique covers. In this case, this deviation indicates the overlap of the paths, i.e. to what extent configurations can be explained by both paths.

Of course, the mirror-image ratio of consistency to coverage also applies under sufficient and necessary conditions (Buche & Carstensen, 2009, p. 86). The formula for covering necessary conditions for fuzzy sets is like the formula for the consistency of sufficient conditions:

$$\text{Coverage}_{\text{necessary Condition}} (Y_i \leq X_i) = \frac{\Sigma(\min(X_i, Y_i))}{\Sigma(X_i)}$$

Raw coverage indicates which path is empirically most important. The unique coverage shows how much the individual paths overlap. The greater the value between 0 and 1, the more relevant a solution term is in explaining the outcome. High consistency values are sometimes accompanied by low coverage. This phenomenon occurs when the causal conditions are so narrow that they only include a small proportion of all cases with the corresponding declared outcomes (Ragin, 2006).

The tension between consistency and coverage of sufficient conditions

It is often the case in research practice that 100% consistently conditions have very little coverage. This condition is thus empirically irrelevant and therefore often not very informative theoretically, as it is virtually no empirical cases to which it applies sufficiently. In the case of

consistently necessary conditions with low coverage, the problem is that it applies to (almost) all cases and is therefore theoretically trivial (Schneider & Wagemann, 2007, p. 216).

8.9 Fuzzy truth table algorithm

This algorithm, developed by Ragin (2005), also makes it possible to display fuzzy membership values with the help of a truth table, thus making use of well-known algorithms to minimize them.

The concept of the truth table, which comes from formal logic, is a central element of any *QCA*. In order to perform all the necessary steps to analyze necessary and sufficient conditions, *QCA* arranges the data in the form of truth tables. At first glance, this form of data representation seems like a classical data matrix from quantitative methodology. But that is only partially true. The columns contain the variables, while the rows can only be assigned the attribute 'case' to a limited extent, as in the current table structure.

Differing from the principles of classical statistics, the lines thus show configurations (and not cases). The number of logically possible combinations is calculated with $2^{\text{number of conditions}}$. As a rule, the number of cases actually examined must not be insignificantly greater than that of the logically possible configurations (Schneider & Wagemann, 2007).

In order to begin with the analysis of the truth table, one first has to examine which lines of the truth table (ideal types) have empirical relevance. For this it is necessary to define the necessary minimum number of cases per line. This decision is up to the researcher and depends on analysis-specific characteristics, such as the number of causal conditions or the precision in the calibration of fuzzy sets (Schneider, 2006, p. 13). According to Schneider (2006), there should be at least one case per line for small to medium case numbers. The truth table reduced in this way is now examined for sufficient conditions. This is done using the consistency measure. Again, researchers decide for themselves which limit to choose in terms of consistency. Since it corresponds to the definition of a sufficient condition that it inevitably entails the outcome, in this step it is possible to assign the outcome value '1' to those lines of the truth table. The other lines are coded with the value '0'. Logical rudiments are either discontinued or encoded with a question mark. The truth table created in this way now resembles that of a *csQCA*. However, it has to be taken into account that the outcome value of 1 does not represent an 'outcome' (Schneider & Wagemann, 2007, p. 233).

8.10 Research Quality

As previous the method of *QCA* was presented at length the following subchapters will briefly elaborate on the validity/reliability and of course the generalizability of this study. Furthermore, we will present advantages and disadvantages this method has in regard to other methods, mostly regression analysis.

8.10.1 Validity and Reliability

Finally, some basic aspects of *QCA* as a research approach and method will be discussed, which were recently discussed in part within and outside the *QCA* community. One major point of criticism repeatedly concerns the question of the robustness of *QCA*, with several problem complexes concealed behind this catchword, which are closely linked to questions of validity and reliability in *QCA*. Maggetti and Levi-Faur (2013) present an overview of possible sources of error in *QCA* and strategies to tackle them, such as over-specification and mis-specification of conditions or systematic and arbitrary measurement errors. In addition, robustness checks exist for some time, which are useful especially for quantitative data and direct calibration, but to date, do not really belong to standard procedures in *QCA* (Eliason & Stryker, 2009; Ragin, 2000; Schneider & Wagemann, 2012; Skaaning, 2011). In general, the use of simulation in *QCAs* with a low case orientation[37] or a high number of cases seems to be a worthwhile strategy to test the robustness of the results in different places like case selection, calibration or in dealing with logical rudiments (Siewert, 2017, p. 293). However, simulations have to pick up on and fulfill *QCA*-inherent research logics (Hug, 2013, 2014; Krogslund, Choi, & Poertner, 2015; Krogslund & Michel, 2014; Rohlfing, 2015; Siewert, 2017, pp. 293-294; Thiem, 2014a, 2014b; Thiem, Baumgartner, & Bol, 2016).

Another hot topic is the transparency in research practice. It goes without saying that the same standards apply to *QCA* as to all method applications which, among other things, should ensure the verifiability and traceability of the analysis steps and results (Wagemann & Schneider, 2015). So, every *QCA* should openly expose and make accessible all the important data, decisions and results. This includes, for example, the raw data or at least the calibrated quantity membership values, the truth tables, all the parameters of the analysis, decisions on guideline values, theoretical assumptions and logical rudiments, as well as the report of all solution terms (Rihoux & Ragin, 2009; Schneider & Wagemann, 2010, 2012; Siewert, 2017, p. 294).

[37] ""case oriented" in the sense that they deal with a limited number of complex cases in a "configurational" way. This means that each individual case is considered as a complex combination of properties, a specific "whole" that should not be lost or obscured in the course of the analysis—this is a holistic perspective." (Berg-Schlosser, de Meur, Rihoux, & Ragin, 2009, p. 6)

8.10.2 Generalizability

External validity refers to the generalizability of results across different persons, situations, contexts, etc. External validity is thus the validity of inferences regarding the existence of the causal relationship in different persons, situations, and different measurements of variables' (Shadish, Cook, & Campbell, 2002, p. 507).

Campbell and Stanley (1963, p. 5) formulate the central points of view on internal and external validity:

"Fundamental […] is the investigation between internal validity and external validity. Internal validity is the minimal basis without which every experiment cannot be interpreted: did the independent factors in this experiment actually lead to a different result? External validity applies to the question of generalizability: on which groups of people, situations, independent variables and measurements can the effect be generalized? Both types of criteria are obviously important, although they often conflict, because characteristics that serve one may endanger the other. "

Main aspects[38] of external validity which have to be considered for this study are, if the results be transferred to other contexts, timeframe, environment, etc. and if we get the same results when using other methods of examination, such as other methods of measurement, or does the results depend on the method (Eisend & Kuß, 2017, pp. 197-198).

8.10.3 Advantages and Disadvantages of Qualitative Comparative Analysis

The advocates of *QCA* cite the following points as advantages over other qualitative as well as quantitative methods (Blatter et al., 2007; Schneider, 2006; Schneider & Wagemann, 2009):

- *QCA* is recommended if there are strong hypotheses that understand the relationship between two or more variables in the form of sufficient and / or necessary conditions or their combinations (INUS-SUIN[39] condition)[40].
- As well as the occurrence of phenomena, the non-occurrence can be analyzed separately, asymmetric causal relationships can be considered.

[38] Those will be answered in the Conclusion.

[39] SUIN: „Sufficient but unnecessary part of a factor that is insufficient but necessary for the result" (Mahoney, Kimball, & Koivu, 2009, pp. 126-127).

[40] When Berg-Schlosser and De Meur (2009, p. 28) write that "for each condition, formulate a clear hypothesis regarding its connection to the outcome; if possible, formulate this hypothesis in the form of a statement about necessity and/or sufficiency" this is the other side of Schneider and Wagemann (2012) mentioned advantage of the *QCA*. In research practice, such an exemplary approach to the selection of conditions is of course rarely. For example, Berg-Schlosser (2012) himself elsewhere - explaining the fundamental logic of the *QCA* based on Vanhanens Theory for the Development of Democracy and Lipset's Theory of Modernization - gives the individual conditions to be tested, but how they are theoretically related in the sense of necessary and sufficient conditions, to that he remains silent (Berg-Schlosser, 2012, pp. 86-104).

- In particular, the modeling of causally complex causal relationships, which is only possible to a limited extent via classical-statistical but also qualitative individual case studies, can be regarded as a merit of *QCA* (Jäckle, 2015, p. 204).

The following points are often considered as disadvantages of *QCA*:

1. By considering each combination as equally relevant to logical minimization, results may be produced that are unnecessarily complex inasmuch as much of the minimization equation would explain the excessive number of cases, possibly under much less conditions. Ultimately, this is the danger of parochialism mentioned by Sartori (1991, pp. 247-248), that is, the overvaluation of individual peculiarities of a case. In other words, *QCA* results are much more dependent on case selection than quantitative results. They can therefore be considered less robust (Jäckle, 2015).
2. Neither the strength nor significance of an effect can be specified.
3. A large part of the theoretically possible combinations should, especially if comparatively many independent variables are tested, be empirically unavailable (so-called *logical remainders*). Although there are some approaches to dealing with this problem of limited empirical diversity (Blatter et al., 2007, pp. 210-211; Schneider & Wagemann, 2012, pp. 151-165), none is ultimately convincing. The basic problem that one cannot know how an empirically unobserved combination would work ultimately remains unsolvable[41].
4. Problem of contradictory cases. Such a contradictory case occurs when the characteristics of the conditions are completely identical for two cases, but the outcome is not equal. Again, there are technical solutions (Schneider & Wagemann, 2007, pp. 116-118; 2012, pp. 120-123), but also have a certain aftertaste of ambiguity or lead to new problems[42].
5. The determination of limit values necessary for the calibration offers a starting point for active manipulation or for generating desired results (Jäckle, 2015).

[41] However, supporters of the *QCA* see this fundamentally different: "Thus the use of logical remainders by QCA is in fact a positive feature rather than a problem. Their use make it possible for researchers to find a creative solution to one of the greatest obstacles to systematic social inquiry – the problem of the limited diversity of human phenomena" (De Meur, Rihoux, & Yamasak, 2009, pp. 153-154).

[42] However, finding contradictory cases can also indicate that a critical condition has not been incorporated into the *QCA*. As a researcher, one should ask oneself the question, if there are many contradictory cases, if there are any other possible explanatory factors that should be included in the model (Jäckle, 2015, p. 205).

6. All forms of *QCA* always aim at a complete explanation of a phenomenon. As a rule, the hypotheses to be checked must therefore be deterministic in nature; a probabilistic hypothesis can hardly be tested by means of *QCA*[43] (Jäckle, 2015, pp. 205-206).

8.11 Data collection for the Qualitative Comparative Analysis

The data collection for this study represents a very crucial point, as those are needed to evaluate the several conditions. Therefore, the following subchapters will very briefly introduce the fs / QCA software used for the data analysis as also the method(s) of data provision, which can be used in such a study.

8.11.1 fs / QCA Software

Actually, all the steps of a *QCA* presented require one software, with currently fs / QCA (Ragin & Davey, 2016), Tosmana (Cronqvist, 2017), Kirq (Reichert & Runbinson, 2014), and packages for Stata (Longest & Vaisey, 2008) and R (Duşa, 2016; Huang, 2014; Medzihorsky, Oana, Quaranta, & Schneider, 2016; Thiem, 2016) various programs are available with different functionalities (Siewert, 2017, pp. 292-293). Because of its intuitive handling, the overwhelming majority of applications are still carried out with the fs / QCA program, which, in addition to the analysis of crisp and fuzzy sets, also enables the display of scatter plots and further investigations of quantity relationships (Siewert, 2017, p. 293). For this reason, in this study this software is used for carrying out the data analysis.

8.11.2 Method(s) of data provision

The data required for the statistical analysis must first be provided. This field of work is traditionally referred to as data collection. There is a great variety and number of ways to collect data. Basic and common types and methods of data collection in business practice are shown in the following overview (see Figure 12) (Meißner, 2004, p. 23).

[43] Mahoney (2008) argues, however, that variables which show in statistical analyzes "mean causal effects" (Mahoney, 2008, p. 427) can be interpreted in terms of INUS conditions. This would be helpful in that it would be better to lay the theoretical foundation for how a factor would have to be introduced in later investigations (be it *QCA* or statistical analysis) to test combinatorial causation (Mahoney, 2008, p. 428).

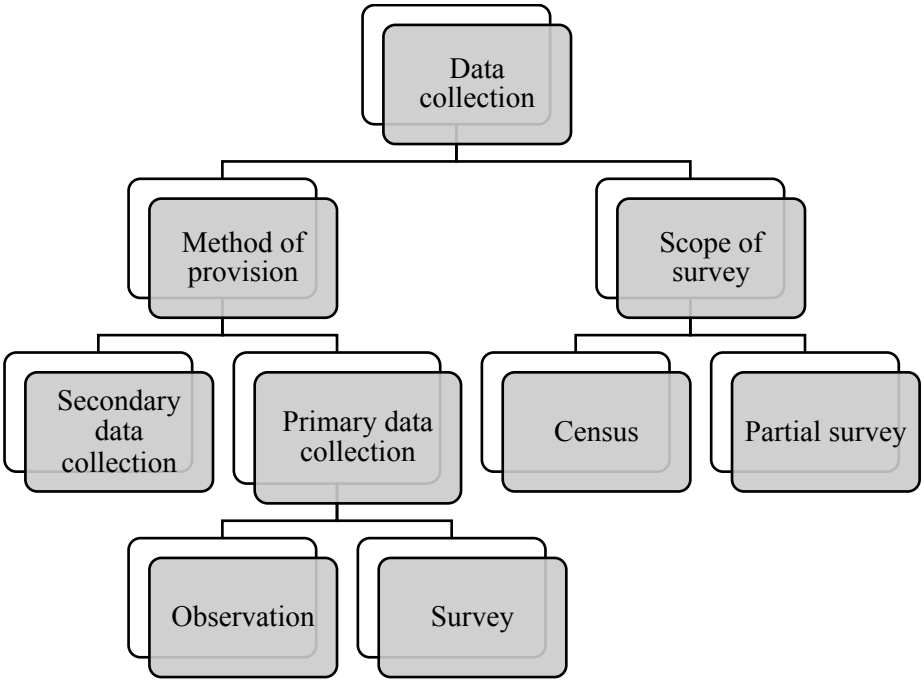


Figure 12: Different types of data collection

Own representation after Meißner (2004, p. 24)

This study is mostly based on a collection of secondary data. For the collection of those, the data sources and the suitability of the data play a central role (in this study). For economic data, sources of official, semi-official and non-official statistics are the most likely sources of data. In addition, there is now an electronically available, constantly expanding range of economic databases to obtain very specific data. The suitability of secondary data should be determined by data requirements derived from the study objectives and content.

The development of recent years has shown that secondary data improved qualitatively and quantitatively while also the use of secondary data increased in the recent years (Meißner, 2004, p. 24).

The collected data for this study has been operationalized in the following chapter and are mainly based on reliable sources like Eurostat, The World Bank or the World Economic Forum (WEF), which guarantees long time series under the same survey methods. This in the end reduces distortions of the data at hand.

9 Operationalization

After we introduced the method *QCA* in detail, more focused on the theoretical notion there, this chapter deals with the operationalization of all ten conditions and the desired outcome. This step is a crucial step before we are able to calibrate the fuzzy-set scores for every condition and the outcome. While the upcoming chapters operationalize conditions and outcome, Appendix 6 gives the whole overview with a short definition for every condition, the used source(s) and the time coverage of the data at hand.

9.1 Foreign Direct Investment leads to economic growth

To operationalize the outcome of this study, FDI lead to economic growth, we used data from the *World Development Indicators* of the World Bank. Those covered the years 2002 until 2016, showing FDI net inflows as percentage of GDP. We averaged the data at hand to have 28 single values which can be set in the data analysis for the outcome (and calibrated for the fuzzy-sets).

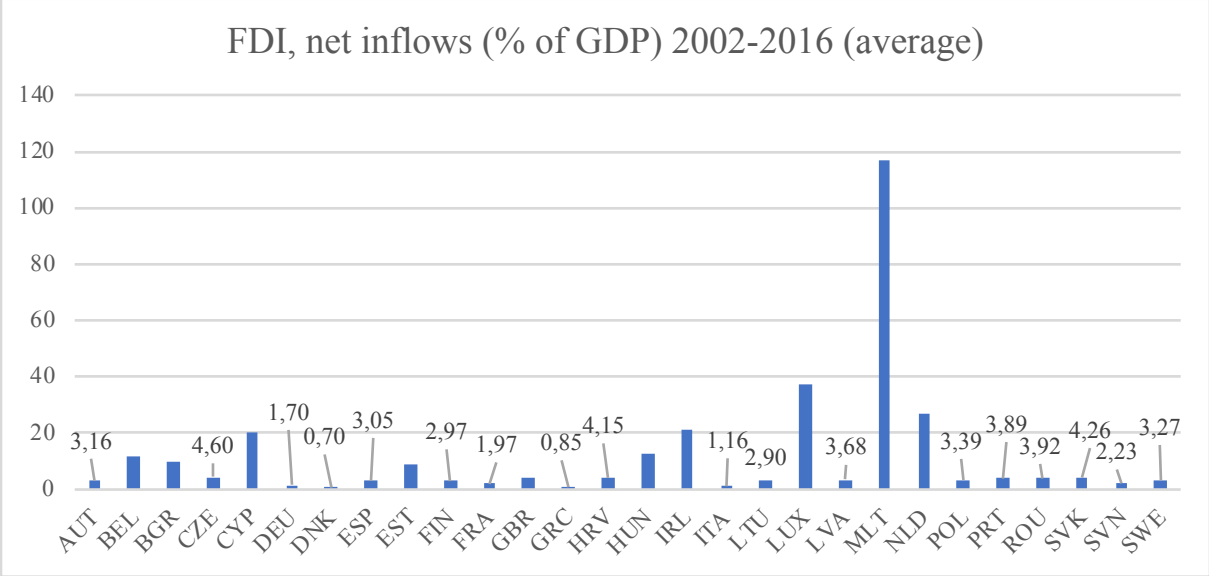


Figure 13: FDI, net inflows as % of GDP between 2002-2016 (average) in the EU

Own representation after The World Bank (2018a)

9.2 Taxes

For an accurate evaluation of this factor, a continuous time series of the company KPMG (2018) was used, which covers the corporate tax rates inter alia for the EU member states from 2003 until 2018. To be able to calibrate the condition of 'Taxes' for the *QCA* properly, the average corporate tax rate over the investigated time period has been taken; for every single European country, resulting straightforward in 28 single values (see Figure 14).

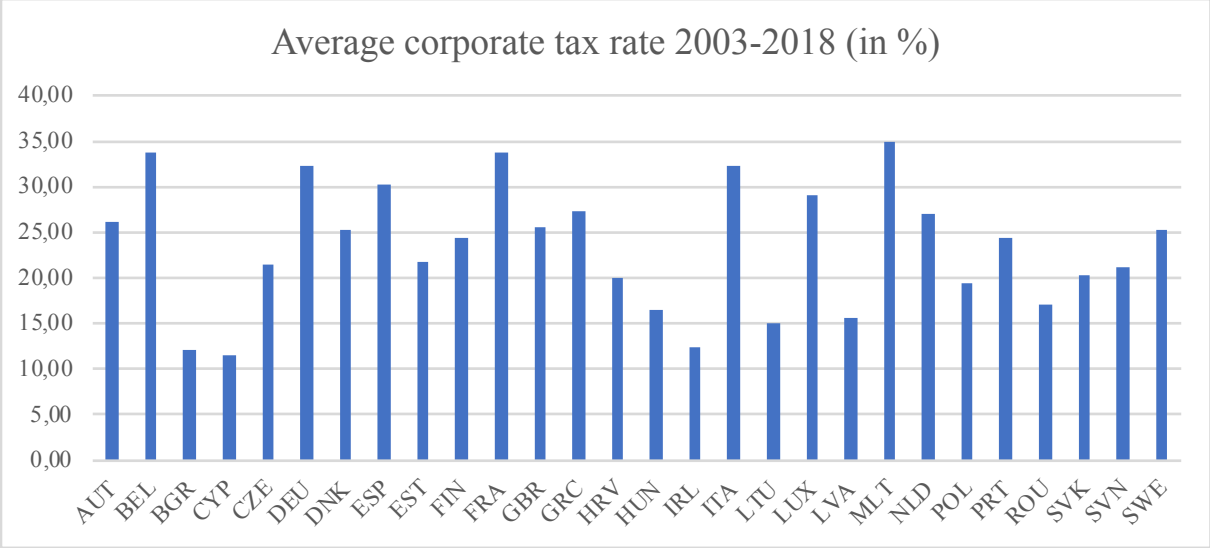
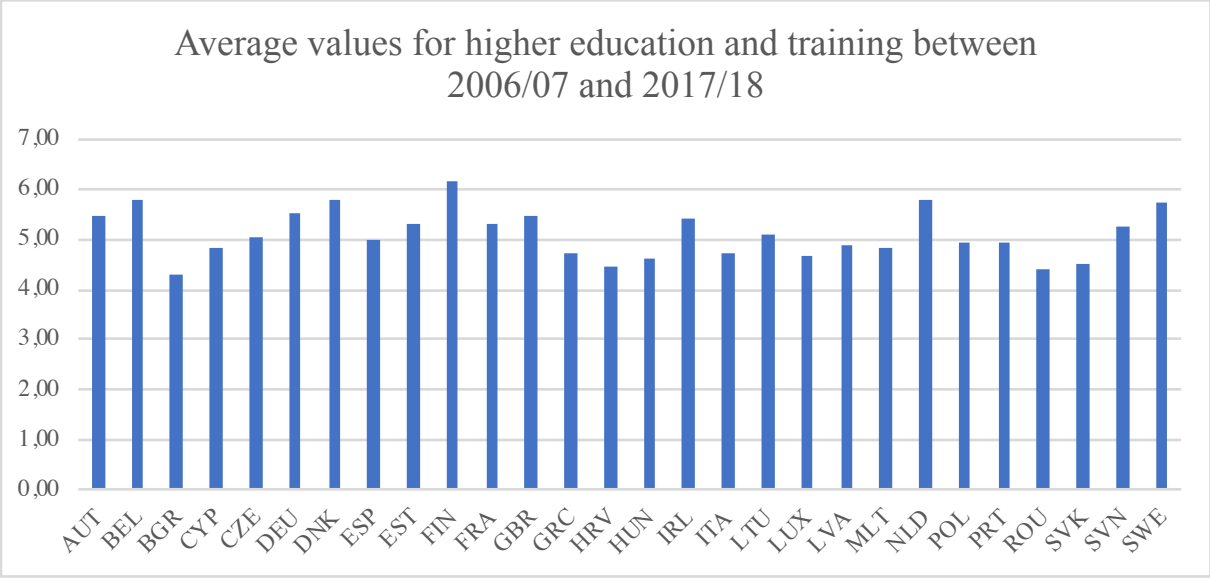


Figure 14: Average corporate tax rate (in %) for the EU states between 2003 and 2018

Own representation after KPMG (2018)

9.3 Human capital

For the assessment of the condition 'Human Capital' the main source used, were the *Global Competitiveness Reports* between 2006/2007 and 2017/2018. More precise the 5th pillar of this reports '*Higher education and training'* was assessed for each EU state through the time period. This resulted in values between 0 (worst) and 7 (best). Again, all single values between 2006/2007 and 2017/2018 have been averaged for all EU countries to generate 28 single figures (see Figure 15), which is necessary for a calibration of the *QCA*.



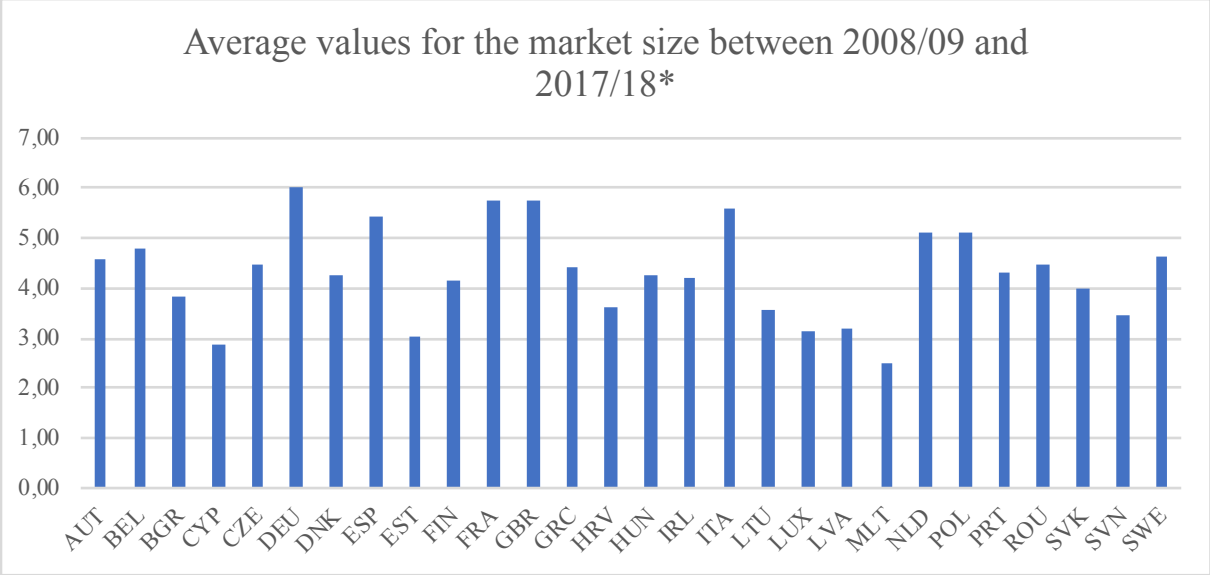
* 7.0 = Best

Figure 15: EU states average values for higher education and training between 2006/2007 and 2017/2018

Own representation after Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)

9.4 Economy size

To rate the economy size[44] of all European countries, mainly the 10th pillar ('Market size') of the Global Competitiveness Reports between 2008/2009 and 2017/2018 was used. This results values between 0 (worst) and 7 (best) for all countries. After the assessment all single values per EU state were once again averaged (resulting in 28 figures) to prepare proper numbers for the calibration of the *QCA* (see Figure 16).



* 7.0 = Best

Figure 16: EU states average values for the market size between 2008/2009 and 2017/18

Own representation after Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

[44] The terms 'economy size' and 'market size' are used synonymously in this study.

9.5 Property Rights protection

In order to be able to better assess this very extensive field with regard to the EU states in the analysis, the assessment for this factor is mainly based on the so-called *International Property Rights Index* (*IPRI*) reports between 2007 and 2017. The *IPRI* covers three main categories: *'Legal and political environment'*; *'Physical property rights'* and *'Intellectual property rights'*, with several subcategories (see Figure 17).

For assessing how strict IPR protection in an EU country is, the category *'Intellectual Property Rights IPR'* of the *IPRI* is used, which is made up of the three subcategories *'Protection of Intellectual Property Rights'*, *'Patent Protection'* and *'Copyright Protection'* (see Figure 17) which results in a scale between 0 (worst) and 10 (best protection). For the time series from 2007 until 2017 all single values for the EU member states have been averaged, in order to have 28 single values ready for the calibration of the *QCA* (see Figure 18).

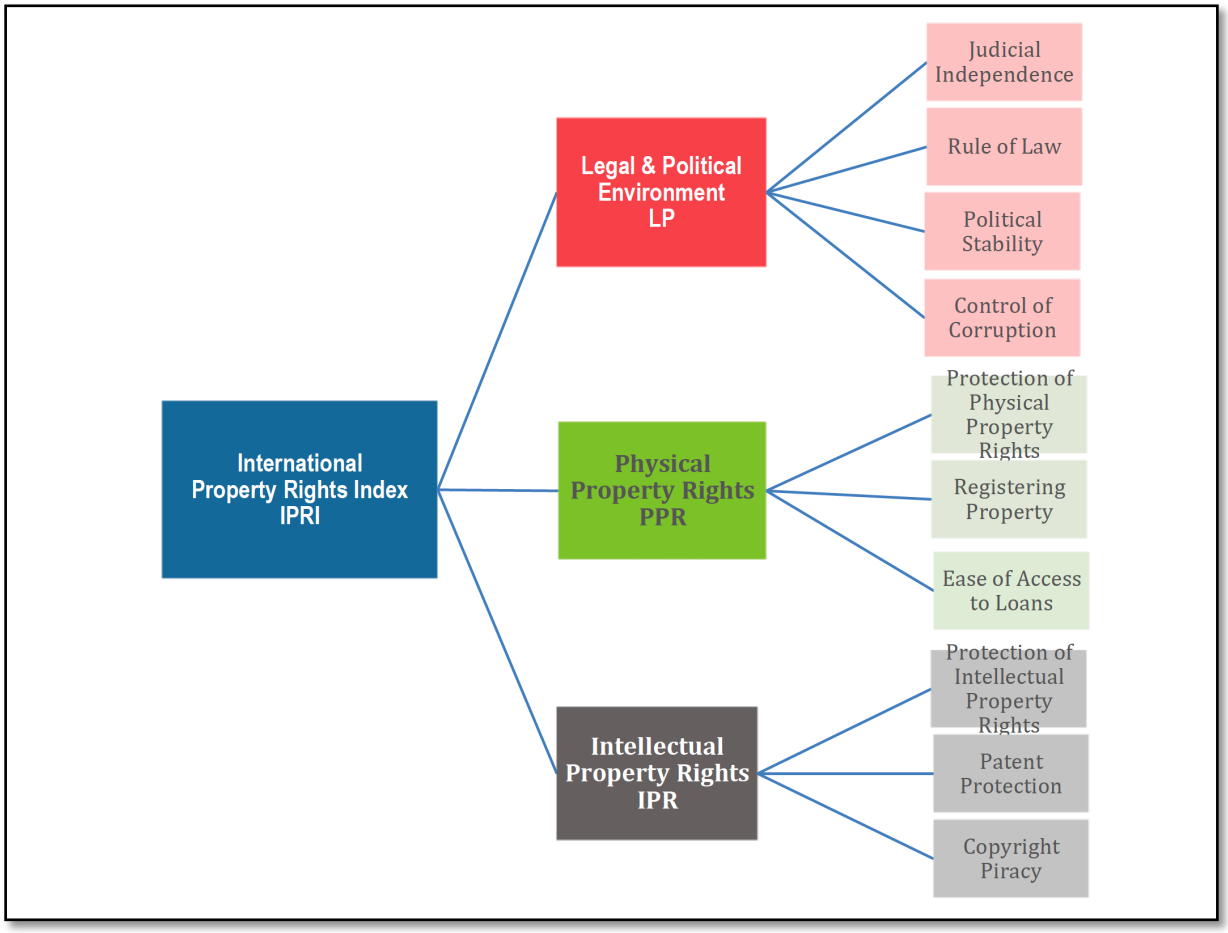
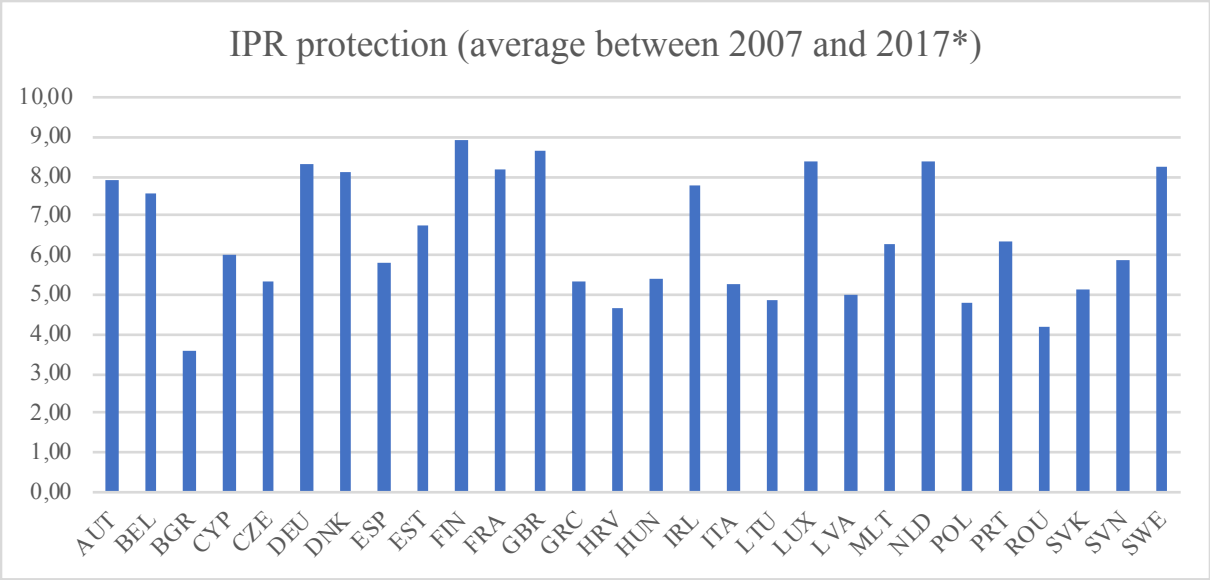


Figure 17: Structure and components of the International Property Rights Index

Source: Levy-Carciente (2017, p. 3)



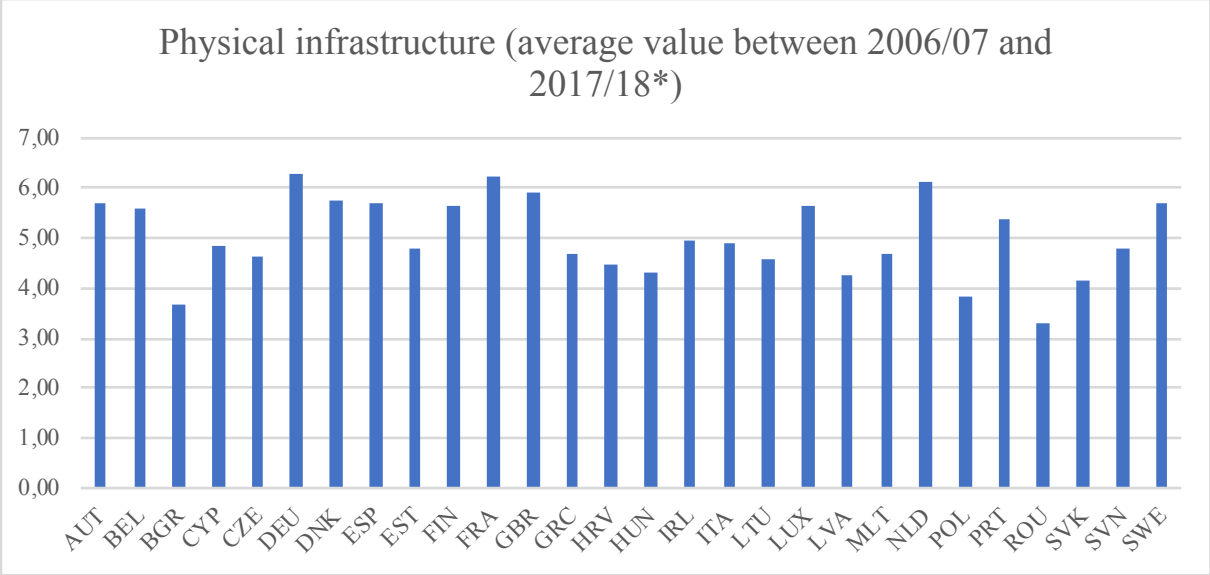
* 10.00 = Highest Protection

Figure 18: IPR protection between 2007 and 2017 (on average)

Own representation after Chandima Dedigma (2009); Di Lorenzo (2013, 2014); Falvey et al. (2006); Horst (2007); Jackson (2011); Levy-Carciente (2015, 2016, 2017); Strokova (2010); Thallam (2008); Tiwari (2012) and International Property Rights Index (2018)

9.6 Physical infrastructure

An evaluation of this factor for all European countries is mainly based on the *Global Competitiveness Reports* from 2006/2007 to 2017/2018, more precise on the 2nd pillar *'Infrastructure'*. This gives us values from 0 (worst) up to 7 (best) rating the infrastructure of a country. After assessing the single values for each country for each year, all were averaged, leading to 28 single figures for the EU, in preparation for the calibration (see Figure 19).



* 7.00 = Best

Figure 19: Physical infrastructure on average between 2006/2007 and 2017/2018

Own representation after Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)

9.7 Trade openness

To asses this factor, the *World Development Indicators* from the World Bank has been used to evaluate trade as a percentage of GDP (see formula in Chapter 6.6) from 2002 until 2016 for all 28 EU member states. To prepare this condition for the *QCA* all values at hand have been put on average for each European state, resulting in 28 single values (see Figure 20)[45].

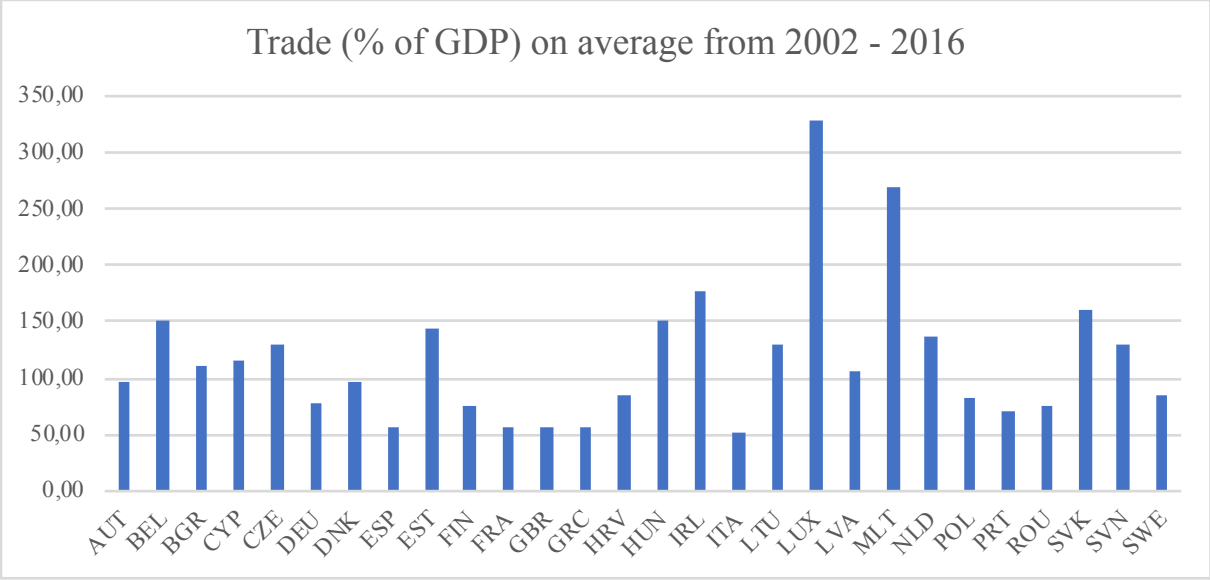


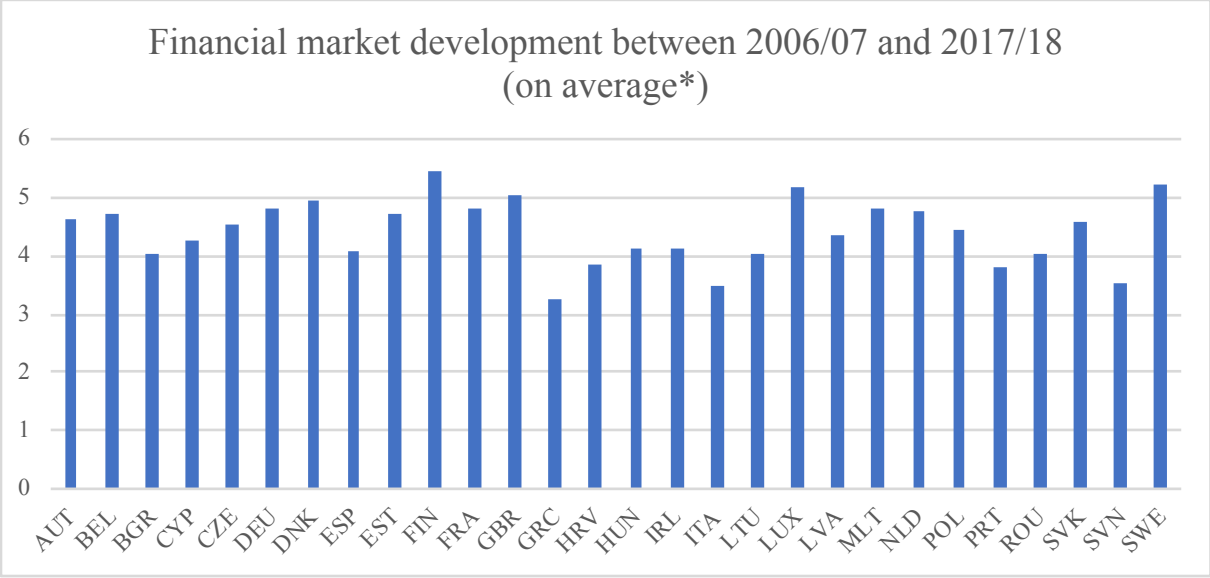
Figure 20: Trade openness (% of GDP) for the EU28 on average from 2002-2016

Own representation after The World Bank (2018c)

[45] Since only longer continuous time series for a measurement of this factor were available from the World Bank, this data is used. It may be that there are deviations from publications by Eurostat or the respective European countries. This is for the simple reason that the calculation of the World Bank is based on values in US $, whereas in the EU almost exclusively calculations are made in Euros (€).

9.8 Financial system

An evaluation of the financial system for all European countries is mainly based on the *Global Competitiveness Reports* from 2006/2007 to 2017/2018, namely on the 8th pillar *'Financial market development'*. This results in values between 0 (worst) and 7 (best), rating the financial market development. All single values for all European states were put on average leading to 28 single figures for the EU, in preparation for the calibration (see Figure 21).



* 7.00 = Best

Figure 21: Financial market development from 2006/2007 until 2017/2018 on average

Own representation after Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)

9.9 Per capita income

To evaluate the condition of GDP per capita (in PPS) better a long reaching time series by Eurostat (2000 until 2016) has been used. All the single values per country over the investigated period have then be again averaged to have a solid preparation of this condition for the *QCA* (see Figure 22).

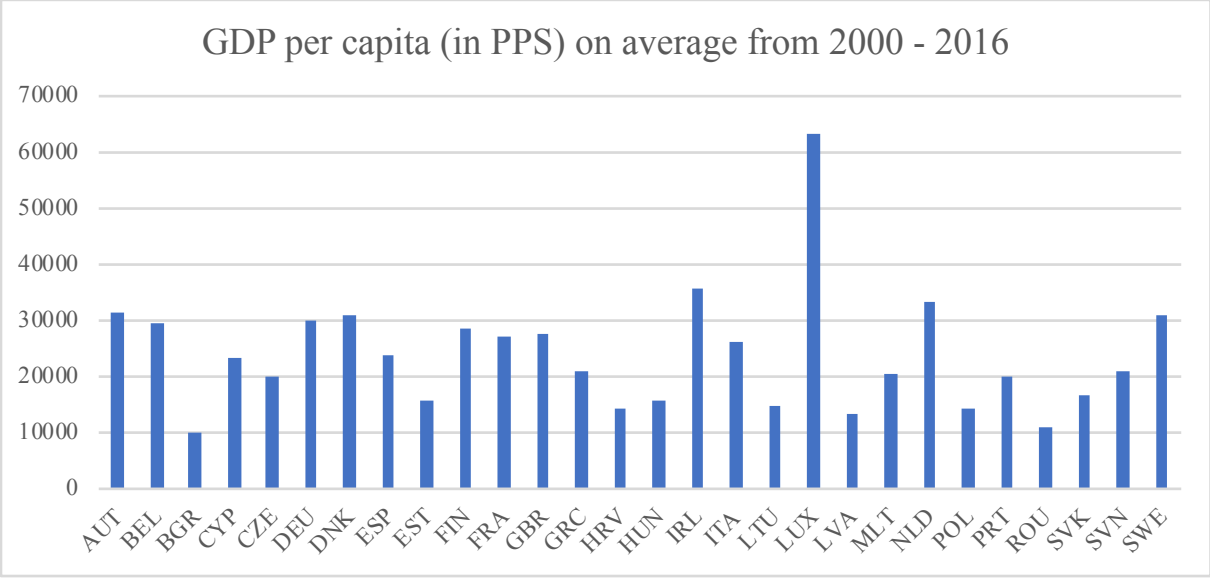


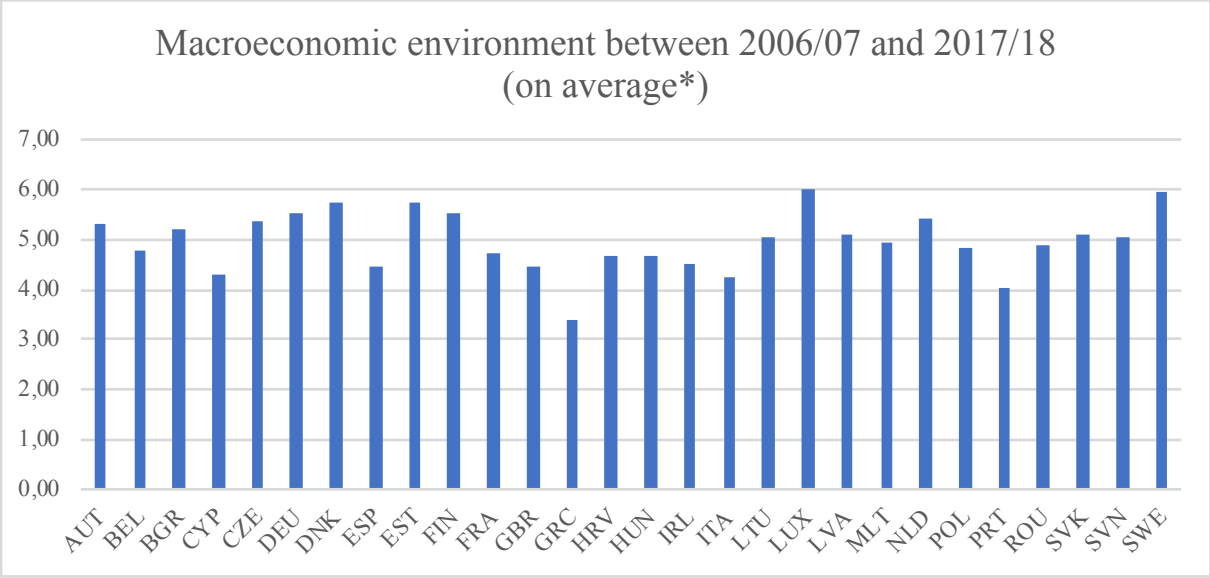
Figure 22: GDP per capita (in PPS) on average from 2000-2016

Own representation after Eurostat (2018a)

9.10 Macroeconomic stability

The assessment for macroeconomic stability for all European countries was mainly based on the 3rd pillar *'Macroeconomic Environment'* of the *Global Competitiveness Reports* from 2006/2007 to 2017/2018.

After assessing all the reports for the time series at hand we get values between 0 (worst) and 7 (best). Afterwards all single values were averaged for each EU member state, resulting in 28 single values, which are needed in preparation for the calibration of the *QCA* (see Figure 23)



* 7.00 = Best

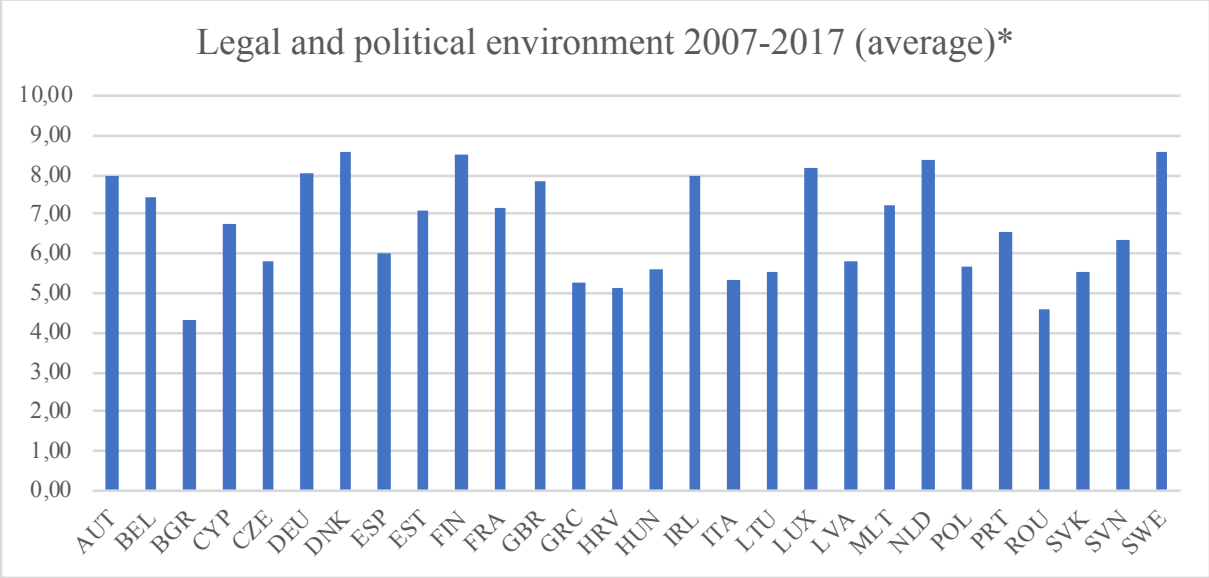
Figure 23: Macroeconomic stability between 2006/2007 and 2017/2018 on average

Own representation after Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)

9.11 State action

For the measurement of the state action the *IPRI* is used. Here especially the category *'Legal and Political Environment'* with its subcategories *'Judicial independence', 'Rule of Law'* and *'Political stability*' (see Figure 17), which together result combined into one single figure between 0 (worst) and 10 (best political and legal environment).

The data at hand for this condition cover the time period from 2007 until 2017. After assessing all single reports, the figures have been averaged, leading to 28 single figures for the EU (see Figure 24).



* 10.00 = Best legal and political environment

Figure 24: The legal and political environment between 2007 and 2017 on average

Own representation after Chandima Dedigma (2009); Di Lorenzo (2014); Horst (2007); International Property Rights Index (2018); Jackson (2011); Levy-Carciente (2015, 2016, 2017); Strokova (2010); Thallam (2008); Tiwari (2012)

9.12 Calibration of the conditions for the Fuzzy Set QCA

As already explained in Chapter 8.3 onwards the calibration for the *fsQCA* is a very crucial point before any data analysis can be carried out (please see Chapter 8 for the theoretic explanation). The following Table 3 shows the structuring points for the present analysis. They are explained below. The resulting fuzzy set scores for the conditions and the outcome are shown in Tables 14 to 24 in Appendix 4.

Outcome (1) / Conditions (2) - (11)	Minimum Threshold (0.0)	Point of indifference (0.5)	Maximum Threshold (1.0)
(1) FDI leads to economic growth	0.70%	11.46%	117.05%
(2) Taxes	35.00%	23.44%	11.56%
(3) Human capital[46]	4.30	5.11	6.14
(4) Size of economy[47]	2.51	4.31	6.01
(5) IPR protection[48]	3.55	6.46	8.88
(6) Physical infrastructure[49]	3.30	5.01	6.31
(7) Trade openness	≤ 60.00%	116.38%	≥ 250.00%
(8) Financial System[50]	3.25	4.41	5.45
(9) Per capita income	10129 (PPS)	23961 (PPS)	63282 (PPS)
(10) Macroeconomic stability[51]	3.41	4.97	6.03
(11) State action[52]	4.29	6.69	8.60

Table 3: Structuring points for the calibration of the conditions and the outcome

The assignment for the maximum threshold was made in accordance to Allen and Aldred (2013, p. 311) for the outcome (1) and the conditions (3), (4), (5), (6), (8), (9), (10) and (11). Therefore, the value of 1 was assigned to the country with the highest rate. For instance, Finland scored a value of 6.14 in the condition of human capital, so therefore this was set as the maximum threshold. The same applies for the assignment of the minimum threshold. To stay with the same example of the condition of human capital, Bulgaria had the lowest score of all European

[46] Measured in a simple numerical scale, where value 7 is best (see Table 27 in Appendix 6)
[47] For explanation see Footnote 43
[48] Measured in a simple numerical scale, where value 10 is best (see Table 27 in Appendix 6)
[49] For explanation see Footnote 43
[50] For explanation see Footnote 43
[51] For explanation see Footnote 43
[52] For explanation see Footnote 45

countries (4.30). As a result, this value was set as the minimum threshold. To determinate the point of indifference, the average of all 28 European member states was taken; the mean score of human capital for all countries in the Union is 5.11. This scheme was applied analogously for all of the aforementioned conditions and the outcome.

For the condition of taxes (2), the above explained scheme was reversed. Since the scientific literature points to this (see Chapter 9.2) that lower taxes lead to higher FDI inflows, the maximum value in this case was set at 11.56% for Cyprus, which corresponds to the lowest corporate tax rate in the EU. Similarly, the minimum value is the highest tax rate in the Union (35.00%; Malta). The point of indifference was again set as the average of all 28 states (23.44%).

Solely for the condition of trade openness (7), the simple scheme cannot be applied. This is because countries such as Luxemburg and Malta 'score' extremely high percentages in this category, well over 200%. Thus, applying the usual scheme would result in a very strong distortion of the fuzzy set scores. Countries such as the Netherlands, for example, which also have a very high level of trade openness, would then only receive fuzzy set scores of around 0.5, which, according to the 'definition' of *QCA*, probably does not contribute to the outcome. However, *QCA* allows also to integrate the researcher's own knowledge in such an assessment (especially through the indirect method), which will be used in this case. To stick with the example of the Netherlands, it is precisely their openness to trade, which, among other factors, is mentioned in numerous reports, such as the World Competitiveness Yearbooks, and which are seen as fundamental to the inflow of FDI.

As a result, all values above 250%[53] belong to the maximum threshold and all values below 60%[54] to the minimum threshold. The European average for the degree of trade openness of 116.38% was set as the point of indifference.

9.13 Calibration of the fuzzy sets in fs / QCA

In the following we will shortly describe how the calibration with the fs / QCA works. Above all, we do this in order to give a better understanding of how the individual fuzzy set values used in the upcoming analysis came into being.

First of all, we have to enter into fs / QCA the before operationalized data for each condition and each country. In Appendix 12 (see Table 29 and Figure 58) we can see how this looks like.

[53] Applies for Malta (269.93%) and Luxemburg (327.68%)

[54] Applies for France (55.68%), Greece (56.33%), Italy (52.59%), Spain (56.87%) and United Kingdom (55.84%)

The next step is the already beforehand described direct method of calibration (see Chapter 8 and 8.5), which can be carried out by fs / QCA directly. Therefore, we make use of the option *'Compute Variable'*. First of all, we have to enter the name of our *'Target variable'* which we want to create, for instance FDIGRW (FDI leads to economic growth; the outcome of our study). Afterwards from the options at hand in the menu we choose the *'calibrate(x,n1,n2,n3)'* option. For the *'x'* value we choose the calibrated condition, which is in this case FDIGROW. The terms *n1*, *n2* and *n3* stand for the minimum (n3) and maximum (n1) threshold as well as the point of indifference (n2), which we also defined beforehand (see Figure 59 in Appendix 12).

By clicking on *'OK'* fs / QCA directly calibrates a new variable which is then our fuzzy set for our outcome, FDI lead to economic growth (see red marked section in Figure 60, Appendix 12). This has to be redone afterwards for all other ten conditions (for all fuzzy set scores see Table 25 in Appendix 5 or Tables 14-24 in Appendix 4). The complete exported table from fs / QCA can be found in Appendix 12, Table 30, which shows all eleven operationalized conditions and the calibrated fuzzy set scores afterwards.

As we now have operationalized and in particular afterwards calibrated the fuzzy set scores these will now be applied in the following chapter of the data analysis. Furthermore, the previous (theoretical) chapter about the method *QCA* and its techniques will be used for the analysis.

10 Data analysis

In the empirical analysis using *fsQCA*, the question of sufficient conditions for FDI leading to economic growth or the negation of this outcome is examined. This type of analysis reflects the basic logic of the *QCA* method and is derived from Boolean algebra[55], which in turn is strongly related to set theory (Schneider & Wagemann, 2007, p. 31). In the analysis of sufficient conditions, it must be determined whether there are cases in which the condition is present, but the outcome is not: if this is the case, the condition may not be sufficient. If the condition is not present, there is no need to test further (Schneider & Wagemann, 2007, p. 43).

The upcoming analysis is based on the membership values in the fuzzy-sets (see Tables 14-24 and Table 25 for the overview in Appendix 4 and 5), which were 'designed' as followed; high membership values signify:

- FDI leads to growth (Abbreviation for Software Use: FDIGRW): High FDI net inflows as % of GDP
- Tax (TAX): A low corporate tax rate
- Human capital (HUMCAP): A high level of human capital
- Economy size (ECNSIZE): A large economy size
- IPR (IPR): A high IPR protection
- Physical infrastructure (PHYINFR): A well-developed physical infrastructure
- Trade openness (TRAOPN): A high grade of trade openness
- Financial system (FINSYS): A well-developed financial system
- GDP per capita (GDP): A high GDP per capita
- Macroeconomic stability (MACSTAB): A high level of macroeconomic stability
- State action (STATE): A low level of state intervention

10.1 Analysis of necessary conditions for the outcome

First, we test whether one (or more) of the ten conditions is necessary for the outcome to be explained; FDI lead to economic growth (FDIGRW). We can use either an X-Y plot or the *Analyze* → *Necessary Conditions* function of the fs / QCA software, both of which provide the

[55] Notation Boolean operators (Classical Set Theory)
Logical 'AND'; Symbol * e.g. A*B or AB → Y
Logical 'OR'; Symbol + e.g. A+B → Y
Negation: logical 'NOT'; Symbol ~ or lowercase letter(s) e.g. ~ A*B or aB → ~Y or y (Terletzki, 2014, p. 5)
For fuzzy sets:
'AND' = Minimum value e.g. 0.2 * 0.9 = 0.2
'OR' = Maximum value e.g. 0.2 + 0.9 = 0.9
'NOT' = 1 – original value e.g. 1 – 0.2 = 0.8 (Terletzki, 2014, p. 25)

consistency and coverage / relevance of necessary conditions (a screenshot from the output in fs / QCA can be found in Appendix 13, see Figure 61). The test of all ten conditions[56] and their negations shows that no condition is 100% consistent with the statement that it is a necessary condition for FDIGRW (see Table 4). The closest to such a data pattern are the following conditions:

The conditions' 'Trade openness' (TRAOPN) and 'State action' (STATE) each have a consistency value of 0.97 and 0.91 respectively. 'Financial system' (FINSYS, consistency value 0.89), 'GDP per capita' (GDP; 0.83), as well as 'Macroeconomic stability' (MACSTAB; 0.82) as conditions and the negation of the condition 'Economy Size' (ecnsize; 0.88) also show high consistency values. With the exception of the first two values, the latter also appear high, but for necessary conditions, one should generally apply even higher limits for consistency (Wagemann & Schneider, 2007, p. 248). It can therefore be said that 'Trade openness' and 'State action' are necessary conditions for leading to the outcome (FDIGRW). It should be pointed out that, especially with the latter condition, the coverage is to be find in 42% of all cases, which can be regarded as low, while in the case of trade openness, the coverage is 61%.

Consistency and coverage, as they will be mentioned oftentimes in the following chapters are very essential key concepts when it comes to *QCA*. "Consistency refers to the percentage of causal configurations of similar composition which result in the same outcome value. If the consistency […] is low, it is not supported by empirical evidence. Therefore, it should be considered less relevant than other configurations with higher consistency." (Roig-Tierno, Gonzalez-Cruz, & Llopis-Martinez, 2017, p. 17)

Otherwise, "coverage refers to the number of cases for which a configuration is valid. Unlike consistency, the fact that a configuration coverage is low does not imply less relevance. In cases where a result occurs through multiple causal configuration a single configuration can have low coverage but nevertheless be useful to explain a set which causes a particular outcome […]." (Roig-Tierno et al., 2017, p. 17) However, the coverage does not say anything about the theoretical relevance of a solution and, as mentioned, should only be considered in the case of sufficient consistency (Ragin, 2006).

To assess whether a condition can be considered sufficient for the outcome, the consistency measure is used (Ragin, 2006). The consistency increases the greater the proportion of cases that are on or above the diagonal of the XY-Plot of the fuzzy set (see Chapter 8.6.2 and 8.7).

[56] Tax, Human capital, Economy size, IPR, Physical infrastructure, Trade openness, Financial system, GDP per capita, Macroeconomic stability, State action

We recall here briefly that the more cases have a smaller or equal membership value in the condition X (tax, human capital, etc.) than in the outcome Y (FDIGRW), the greater the consistency $X \leq Y$ (Schneider & Wagemann, 2007, p. 203).

Although, because of the low consistency values (see Table 4), we would not have to go deeper into the results of the individual conditions, if we follow for instance Schneider and Wagemann (2007, 2012) or other scientific literature, however we still want to do so briefly in the context of this study. This is for the simple reason of understanding how significant or even insignificant the individual conditions are for the outcome of our analysis as the deeper analysis of the individual solution paths progresses.

10.1.1 Trade openness and state action

As mentioned earlier, the conditions 'Trade openness' and 'State action' are clearly outweighed by consistency values, of around 90% and 96% (see Table 4).

With a consistency value of 0.967552, we should expect, according to the previous explanation, that most of the countries are in the XY-Plot at or below the diagonal. This is of course the case, as Figure 41 shows.

The presence of (low) state action has a high consistency value of just over 90%. Thus, we would expect that a large number of cases (countries) must be at or below the diagonal (in the XY- Plot). As Figure 45 shows, this is the case. Only five countries above the diagonal deviate from this, while one to a maximum of two countries can still be considered to be close to it. This is also reflected in the low coverage of only 42%. Put simply, low state action results in less than half of all EU countries in the desired outcome.

Especially in terms of trade openness, our results are consistent with much of the literature (see Chapter 6.6). For example, Abu Bakar et al. (2012); Balasubramanyam et al. (1996); Chang (2007) and Li and Liu (2005) have shown that trade openness leads to increased FDI inflow, which in turn leads to higher economic growth. These and our results are however in contrast to those of Carkovic and Levine (2005), who found no positive effect of FDI on economic growth in their study for 72 developed and developing countries.

The same applies to the condition state action. The results of our analysis are also consistent with the results of, for example, Herzer (2012) and Olofsdotter (1998) as well as partly Globerman and Shapiro (2002); Goodspeed et al. (2006) or Stiglitz (1993) who all in their studies have emphasized the importance of the state (in the broadest sense), having a decisive influence on FDI and its contribution to economic growth.

10.1.2 Financial system

The condition financial system with a consistency value of 0.890855 is similar to the previously one state action. In principle, we can also check the coverage in this case, even if the scientific literature certainly recommends higher consistency values. Nevertheless, the financial system seems to be of some importance. According to this value, we expect the XY-Plot to have a large number of countries at or below the diagonal. If we look at Figure 42 we can see that around 11 countries are on, above or just below the diagonal (sufficient in this case). This roughly matches the coverage value, which shows that a well-developed financial system contributes significantly to attracting FDI in 41% of EU countries, thereby contributing to economic growth. As also the high consistency value of 89% shows in comparison with the mentioned XY-Plot, most of the cases are actually below the diagonal. These results are also in line with previous scientific studies in this area. For example, Alfaro et al. (2001, 2004, 2010); Bekaert et al. (2005); Hermes and Lensink (2003); Levine et al. (2000); Levine and Zervos (1998) and partly Stiglitz (1993) have shown that the host countries of FDI need a well-developed financial system to attract FDI which then can lead to economic growth.

However, the negation of the condition financial system (finsys) is also worth to look at. This has a consistency value of 0.697640 and can be found in almost 35% of all cases. While the financial system is significant in 41% of countries, the absence of a well-developed system in the financial sector is also responsible for FDI flowing into the country and contributing to economic growth, which contradicts most of the here cited economic literature.

10.1.3 Per capita income

Another condition of high consistency the GDP (per capita); with 0.828909. Our expectations are in line with the XY-Plot (see Figure 43), where most of the cases are below the diagonal. Depending on the point of view, there are 12 to 14 countries on, above or just below the diagonal (sufficient), which is reflected in the coverage value of almost 50%. Thus, a high GDP per capita is needed in nearly half of all EU countries to succeed in attracting FDI and driving economic growth. These results are also consistent with previous research in the scientific literature. Thus, in addition to Blomström et al. (1992), Chang (2007) also proved that a higher per capita income in the country led to an increase in FDI inflow raising economic growth.

10.1.4 Macroeconomic stability

A similar consistency value to GDP per capita also indicates the condition of macroeconomic stability in our study. This has a consistency value of 0.820059. Although it is reasonable to

assume that most of the countries (to be necessary) are at or below the diagonal, which is the case here (see Figure 44). This is also confirmed by the coverage value, stating that around 37% of the cases are sufficient. The results of our study for this condition are also in line with those of K. H. Zhang (2001), which highlights the importance of macroeconomic stability for FDI accumulation, but also has a positive impact of FDI on the economic performance only in less than half of its surveyed countries.

10.1.5 IPR

The condition IPR has a consistency value of 0.787611, which can be considered as quite low. Furthermore, this can be seen in the XY-Plot (see Figure 39). Many of the countries are well below the diagonal (necessary condition). Only about 7 countries are on, above or just below the diagonal (sufficient), which is also reflected with the coverage value of 37%. While the presence of high IPR leads to an outcome in slightly more than one third of all EU countries, it must be mentioned that with a coverage value of 32% in the negation of the condition IPR (ipr), therefore also the absence of strict IPRs leads to the outcome. Nevertheless, the former results for the outcome are consistent with those of, for example, Javorcik (2004) or Olofsdotter (1998), who have also shown in their studies that high IPR protection in FDI host countries is, firstly, enormously important for the attraction of FDI, but also inversely leads to higher economic growth.

10.1.6 Physical infrastructure

The condition of 'Physical infrastructure' has a similar consistency value to the condition described above; this is here at 0.766962, stating that most of the cases have to be under the diagonal (necessary; see Figure 40). However, here too the coverage is relatively low with 35%. Around 8 countries are in our case, above or just below the diagonal (sufficient). Interestingly, the negation of this condition (phyinfr) has similar values. For example, the presence of a well-developed physical infrastructure in around 35%, but also the absence of such in 38% of all EU countries, leads to FDI and economic growth. Abu Bakar et al. (2012); Goodspeed et al. (2006) Su and Liu (2016) have already shown that a well-developed infrastructure is essential to the outcome. Nevertheless, we can state that a well-developed infrastructure does not necessarily have to exist to attract FDI in general, which then drive economic growth.

For the remaining three conditions, the consistency values are just above or below 0.7, so that, as mentioned above, a further investigation is unnecessary anyway. Interestingly, in the negations of these three conditions (tax, humcap, and ecnsize), the consistency values are sometimes well above 0.7.

10.1.7 Taxes

We start with the negation of the condition Tax (tax), which is 0.783186. Furthermore, the presence of a high corporate tax rate in 37% of all EU countries still leads to FDI and economic growth. This contradicts, in part, the results of Goodspeed et al. (2006), who found in their study for each 47 and 37 countries that, inter alia, low taxes lead to economic growth driven by FDI. It is more difficult here to classify the results of Ölschläger (2010), who distinguished in his studies between effects of direct and indirect taxes. Indeed, only indirect taxation has had a positive impact on FDI and economic growth in his investigations. The corporate tax rate, however, is a direct tax. For this reason, our results are not consistent with the scientific literature. While there is often spoken about that low taxes drive the outcome, it is at least in the case of our investigation for the 28 EU states that higher corporate tax rates lead to the outcome.

10.1.8 Human capital

The negation of the condition 'Human capital' (humcap) has a similar value as the previous condition taxes; in this case 0.794985, while the coverage values for this condition are very similar to the previous ones. In fact, a low level of human capital is conducive in just 36% of all EU countries to the outcome we have examined; however, it should be noted that the presence of high levels of human capital is almost at the same level in the EU. Here's the coverage value at 35%. The latter results can also be found in the literature. Thus, Blomström et al. (1992) or Borensztein et al. (1998) showed already during the 1990s that a minimum level of educated human capital must be available for successful attracting FDI. However, it is extremely difficult to assess where such minimum measures can be set, or which quantitative and qualitative factors could influence the assessment of such a measure. Abu Bakar et al. (2012); Li and Liu (2005) and Su and Liu (2016) also highlighted the need for well-educated human capital to successfully attract FDI, which in turn can lead to economic growth. However, the results vary from country to country. Furthermore, some studies are often limited to only one country, making a general statement difficult. For example, if we look at the results of Carkovic and Levine (2005), our results contradict their investigations. Because both did not find in their study for 72 developed and developing countries a positive correlation between FDI and economic

growth driven by human capital. Thus, our findings indicate that both a high level of human capital and a low level of educated human capital can lead to approximately to the same degree to the outcome.

10.1.9 Economy size

Ultimately, there is still the investigation of the condition 'Economy size'. Here the negation (ecnsize) has the highest consistency of all negations with 0.877581. Furthermore, the coverage value of 42%, certainly not that high, but still shows that even a small economy can attract FDI which in turn lead to economic growth. This contradicts a little bit the findings of other authors we introduced in this study before (see Chapter 6.3). Thus, Abu Bakar et al. (2012) or Li and Liu (2005) indicate in their studies that market size plays a key role in attracting FDI, which then drives economic growth, but they owe what is the minimum size for a market.

Finally, it should be pointed out once again that according to the *QCA* literature with low consistency values, we would not have had to further examine the coverage values because it is not supported by empirical evidence. Nevertheless, we have done this to get a better insight into the different conditions and how their behavior is to the outcome. In our opinion, this is essential before we look more closely at the different solution paths (with different combinations of solutions) in order to understand in advance which conditions may be more important than others in the 28 EU member states.

In terms of necessity

Condition	***Consistency***	***Coverage***
TAX	0.682891	0.333814
tax	0.783186	0.375796
HUMCAP	0.684366	0.354469
humcap	0.794985	0.361502
ECNSIZE	0.718289	0.346866
ecnsize	0.877581	0.426218
IPR	0.787611	0.373950
ipr	0.656342	0.324344
PHYINFR	0.766962	0.350641
phyinfr	0.750737	0.386484
TRAOPN	0.967552	0.614232
traopn	0.601770	0.235566
FINSYS	0.890855	0.417704
finsys	0.697640	0.349335
GDP	0.828909	0.499112
gdp	0.759587	0.307646
MACSTAB	0.820059	0.372155
macstab	0.679941	0.352986
STATE	0.905605	0.421703
state	0.504425	0.254464

Table 4: Consistency and coverage values of necessary conditions for outcome FDIGRW

10.2 Analysis of sufficient conditions for the outcome

In this step, the sufficient conditions for the outcome FDIGRW are examined. Under the menu item in fs / QCA *Analyze* → *Truth Table Algorithm* we first specify in the opening window FDIWGRW as the 'Outcome', as well as the remaining ten conditions[57] as 'Causal Conditions' (see Figure 25).

[57] Taxes (TAX), Human capital (HUMCAP), Economy size (ECNSIZE), IPR (IPR), Physical infrastructure (PHY-INFR), Trade openness (TRAOPN), Financial system (FINSYS), GDP per capita (GDP), Macroeconomic stability (MACSTAB), State action (STATE)

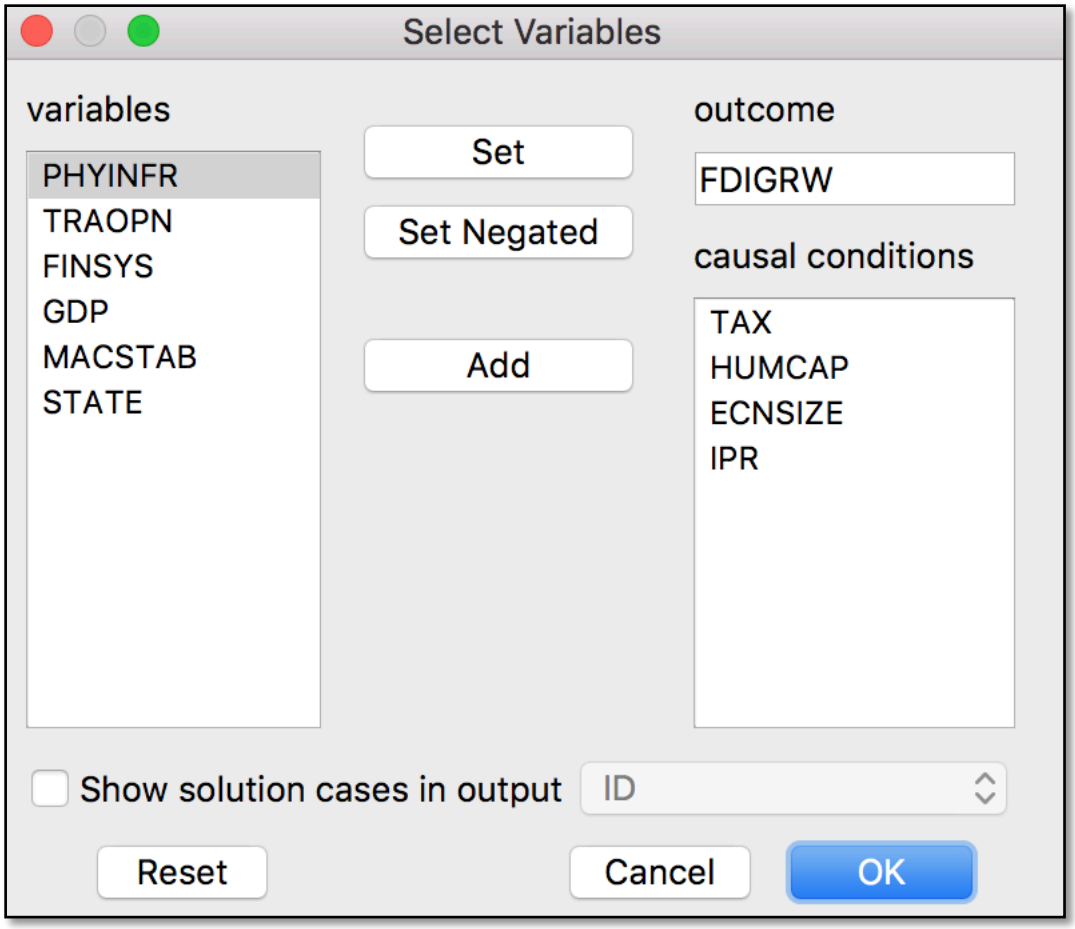


Figure 25: ‘Select Variables’ menu item in fs / QCA

After executing the command ‘OK’, a new window opens in which the fuzzy data is displayed in the form of a truth table (see Figure 26; Note this is only a section).

TAX	HUMCAP	ECNSIZE	IPR	PHYINFR	TRAOPN	FINSYS	GDP	MACSTAB	STATE	number	FDIGRW	cases	raw consist.
0	1	1	1	1	0	1	0	1	0	2 (7%)		cases	0.529851
0	1	1	1	1	0	1	1	1	1	2 (14%)		cases	0.598291
0	1	1	1	1	1	1	1	1	1	2 (21%)		cases	0.874302
1	0	0	0	0	0	0	0	0	0	1 (25%)		cases	0.50457
1	0	1	0	0	0	0	0	0	0	1 (28%)		cases	0.602678
0	0	1	0	1	0	0	0	0	0	1 (32%)		cases	0.608579
1	0	0	0	0	1	0	0	0	0	1 (35%)		cases	0.642696
1	0	1	0	0	0	1	0	0	0	1 (39%)		cases	0.682741
0	1	0	1	1	0	1	0	0	0	1 (42%)		cases	0.684713
0	1	1	1	1	0	1	0	0	0	1 (46%)		cases	0.565789
0	0	1	0	0	0	0	1	0	0	1 (50%)		cases	0.67359
1	0	0	0	0	0	0	0	1	0	1 (53%)		cases	0.521385
1	0	0	0	0	1	0	0	1	0	1 (57%)		cases	0.613139
1	1	0	0	0	1	0	0	1	0	1 (60%)		cases	0.623189
1	0	0	0	0	1	1	0	1	0	1 (64%)		cases	0.659517
0	0	0	0	0	1	1	0	0	1	1 (67%)		cases	0.900929
1	0	1	0	0	1	1	0	0	1	1 (71%)		cases	0.86859
1	0	0	0	0	0	0	1	0	1	1 (75%)		cases	0.682039
0	0	1	0	0	0	0	1	0	1	1 (78%)		cases	0.677325
1	1	0	1	0	1	0	1	0	1	1 (82%)		cases	0.821429
0	1	0	1	1	0	1	1	0	1	1 (85%)		cases	0.737463
0	0	1	0	1	0	0	0	1	1	1 (89%)		cases	0.65043
1	0	0	0	0	0	0	1	1	1	1 (92%)		cases	0.71358
1	1	0	1	0	1	1	1	1	1	1 (96%)		cases	0.8125
0	0	0	1	1	1	1	1	1	1	1 (100%)		cases	0.863874
0	0	0	0	0	0	0	0	0	0	0 (100%)		cases	
0	1	0	0	0	0	0	0	0	0	0 (100%)		cases	

Figure 26: Section of the Truth table for the outcome FDIGRW

The figure above is only a part of it since the original truth table consists of $2^{10} = 1024$ rows. The first ten columns (see Figure 26) represent the ten conditions. Column 11 (‘number’) shows the number of cases that are best described by their corresponding fuzzy values (the ideal type). Thus, for example, for row 1, we see two cases best described by the ideal type, ‘*tax HUMCAP ECNSIZE IPR PHYINFR traopn FINSYS gdp MACSTAB state*’, that means, two cases have a membership in the before mentioned ideal type, higher than 0.5. The twelfth column titled *‘FDIGRW’* is still without values, and column fourteen shows the consistency values for all truth table rows (‘raw consist.’[58]).

Following the fuzzy truth table algorithm, the missing values must now be entered in the column *‘FDIGRW’* for all empirically available ideal types. As we know, the main question with the fuzzy truth table algorithm is: Is a truth table row a sufficient condition for the outcome? This question is answered in the affirmative (that is, a value of 1 is used for *FDIGRW*) if there

[58] “Raw Consistency means that the membership score on the outcome is consistently higher than the membership score of the causal combination, weighted by the relevance of each case. The membership score of a causal combination is the minimum fuzzy score in each of the conditions. Consistency scores of less than 0.75 or even 0.8 mean that there is considerable inconsistency. […] Raw consistency is the degree to which x is a consistent subset of y, also called “inclusion.”” (Türkeli & Kemp, 2015, p. 20)

are enough cases for a truth table row, and the corresponding row has a sufficiently high consistency value for the statement to be a sufficient condition. In the present analysis, we set as a limit that the number of cases (column ‘number’) should be at least 1, and that the consistency value (column ‘raw consist.’) should be at least 0.80.

In short, all rows that have *number* > 0 and *raw consist.* > 0.80 receive the value *‘FDIGRW’* = 1, rows with *number* > 0, and *raw consist.* ≤ 0.80 get the value *‘FDIGRW’* = 0 (see Figure 27).

TAX	HUMCAP	ECNSIZE	IPR	PHYINFR	TRAOPN	FINSYS	GDP	MACSTAB	STATE	number	FDIGRW	cases	raw consist.
0	0	0	0	0	1	1	0	0	1	1	1	cases	0.900929
0	1	1	1	1	1	1	1	1	1	2	1	cases	0.874302
1	0	1	0	0	1	1	0	0	1	1	1	cases	0.86859
0	0	0	1	1	1	1	1	1	1	1	1	cases	0.863874
1	1	0	1	0	1	0	1	0	1	1	1	cases	0.821429
1	1	0	1	0	1	1	1	1	1	1	1	cases	0.8125
0	1	0	1	1	0	1	1	0	1	1	0	cases	0.737463
1	0	0	0	0	0	0	1	1	1	1	0	cases	0.71358
0	1	0	1	1	0	1	0	0	0	1	0	cases	0.684713
1	0	1	0	0	0	1	0	0	0	1	0	cases	0.682741
1	0	0	0	0	0	0	1	0	1	1	0	cases	0.682039
0	0	1	0	0	0	0	1	0	1	1	0	cases	0.677325
0	0	1	0	0	0	0	1	0	0	1	0	cases	0.67359
1	0	0	0	0	1	1	0	1	0	1	0	cases	0.659517
0	0	1	0	1	0	0	0	1	1	1	0	cases	0.65043
1	0	0	0	0	1	0	0	0	0	1	0	cases	0.642696
1	1	0	0	0	1	0	0	1	0	1	0	cases	0.623189
1	0	0	0	0	1	0	0	1	0	1	0	cases	0.613139
0	0	1	0	1	0	0	0	0	0	1	0	cases	0.608579
1	0	1	0	0	0	0	0	0	0	1	0	cases	0.602678
0	1	1	1	1	0	1	1	1	1	2	0	cases	0.598291
0	1	1	1	1	0	1	0	0	0	1	0	cases	0.565789
0	1	1	1	1	0	1	0	1	0	2	0	cases	0.529851
1	0	0	0	0	0	0	0	1	0	1	0	cases	0.521385
1	0	0	0	0	0	0	0	0	0	1	0	cases	0.50457

Reset | Cancel | Specify Analysis | Standard Analyses

Figure 27: Completed Truth table for the outcome FDIGRW

The fs / QCA program now offers two options to continue analyzing the data in the Fuzzy Truth window. Under the ‘Standard Analysis’ command, the program performs two analyzes, both of which will appear in the opening Output window. In an analysis, only Outcome 1 is defined as ‘true’ and all other output values (FDIGRW = 0) are set to ‘false’. In another analysis (‘Specify Analysis’), the outcome value 1 is again defined as true, but the logical rudiments are specified as ‘do not care’, and the computer simulates the outcomes for FDIGRW to achieve the most economical result in logically minimizing the truth table. We know that usually the first analysis specification leads to a complex solution and the second to the most economical solution. As mentioned earlier, it is good practice to do an analysis with both specifications.

We now use the function ‘Standard Analysis’ and the known output window opens. In addition to the information on the name of the data file, some descriptive statistics on the number of

rows with different outcome values, as well as the specification of the analysis, the result with associated consistency and coverage values is finally approached. The result without simplifying assumptions looks like this (see Figure 28):

```
**********************
*TRUTH TABLE ANALYSIS*
**********************

File:  /Users/christophsommer/Desktop/Radboud/Master Thesis/Thesis/Clean QCA/TEST1.csv
Model: FDIGRW = f(TAX, HUMCAP, ECNSIZE, IPR, PHYINFR, TRAOPN, FINSYS, GDP, MACSTAB, STATE)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.8125
                                                                          raw       unique
                                                                        coverage    coverage   consistency
                                                                       ----------  ----------  ----------
~TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE   0.429203    0.0265487   0.900929
TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE     0.399705    0.0486726   0.86859
TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*~FINSYS*GDP*~MACSTAB*STATE      0.40708     0.0368732   0.821429
~TAX*~HUMCAP*~ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE       0.486726    0.0752212   0.863874
TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE        0.402655    0           0.8125
~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE         0.461652    0.128319    0.874302
solution coverage: 0.809735
solution consistency: 0.783167
```

Figure 28: Solutions for the outcome FDIGRW

Solution path	*Raw coverage*[59]	*Unique coverage*[60]	*Consistency*[61]
(1) ~TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*TRAOPN*FINSYS*~GDP*~MAC-STAB*STATE	0.429203	0.0265487	0.900929
(2) TAX*~HUMCAP*ECNSIZE*~IPR*~PHY-INFR*TRAOPN*FINSYS*~GDP*~MAC-STAB*STATE	0.399705	0.0486726	0.86859
(3) TAX*HUMCAP*~ECNSIZE*IPR*~PHY-INFR*TRAOPN*~FINSYS*GDP*~MAC-STAB*STATE	0.40708	0.0368732	0.821429
(4) ~TAX*~HUMCAP*~ECNSIZE*IPR*PHY-INFR*TRAOPN*FINSYS*GDP*MAC-STAB*STATE	0.486726	0.0752212	0.863874
(5) TAX*HUMCAP*~ECNSIZE*IPR*~PHY-INFR*TRAOPN*FINSYS*GDP*MAC-STAB*STATE	0.402655	0	0.8125
(6) ~TAX*HUMCAP*ECNSIZE*IPR*PHY-INFR*TRAOPN*FINSYS*GDP*MAC-STAB*STATE	0.461652	0.128319	0.874302

Table 5: Solution paths for the outcome FDIGRW

With the chosen consistency of 0.80, also suggested by Ragin (2009, p. 121) as the threshold for the existence of the outcome *FDIGRW*, the calculation results in six paths which lead to the result *FDIGRW* (see Figure 28 and Table 5 above).

[59] "Raw coverage measures the proportion of memberships in the outcome explained by each term of the solution." (Ragin, 2017, p. 61)
[60] "Unique coverage measures the proportion of memberships in the outcome explained solely by each individual solution term (memberships that are not covered by other solution terms)." (Ragin, 2017, p. 61)
[61] "Consistency measures the degree to which membership in each solution term is a subset of the outcome." (Ragin, 2017, p. 61)

It is noticeable that the conditions ‘Trade openness’ (TRAOPN) and ‘State action’ (STATE) are present in all six configurations. These can thus be excluded and lead to the following combined solution path (see Table 6, down below).

According to this solution, countries show economic growth induced by FDI if, they have a high level of trade openness and low levels of ‘State action’ (low level of state intervention) in combination with:

1. High taxes, low level of human capital, small economic size, low IPR, low developed physical infrastructure, well-developed financial system, low GPD per capita and low levels macroeconomic stability;
2. Low taxes, low level human capital, large economic size, low IPR, low developed physical infrastructure, a well-developed financial system, low GDP per capita and low macroeconomic stability;
3. Low taxes, high levels of human capital, small economic size, high IPR, low developed physical infrastructure, low developed financial system, high GDP per capita and low macroeconomic stability;
4. High taxes, low level human capital, small economic size, high IPR, well-developed financial system, well developed physical infrastructure, high GDP per capita and high macroeconomic stability;
5. Low taxes, high level of human capital, small economic size, high IPR, low developed physical infrastructure, well-developed financial system, high GDP per capita and high macroeconomic stability;
6. High taxes, high level of human capital, large economic size, high IPR, well-developed physical infrastructure, well-developed financial system, high GDP per capita and high macroeconomic stability.

Combined solution path	Outcome	Consistency	Coverage
TRAOPN*STATE*(tax*humcap*ecnsize*ipr*phyinfr*FINSYS*gdp*macstab + TAX*humcap*ECNSIZE*ipr*phyinfr*FINSYS*gdp*mactsab + TAX*HUMCAP*ecnsize*IPR*phyinfr*finsys*GDP*macstab + tax*humcap*ecnsize*IPR*PHYINFR*FINSYS*GDP*MACSTAB + TAX*HUMCAP*ecnsize*IPR*phyinfr*FINSYS*GDP*MACSTAB + tax*HUMCAP*ECNSIZE*IPR*PHYINFR*FINSYS*GDP*MACSTAB)	FDIGRW	0.783167	0.809735

Table 6: Combined solution paths for the outcome FDIGRW

All six paths to the outcome FDIGRW have approximately the same raw coverage (between 40% and 48%, see Figure 28 and Table 5). However, the unique coverage changes significantly (see Figure 28 and Table 5). Except for the sixth path (see Table 5), the single coverage of the other paths is very low; between 0% and 7%. Only the sixth path has a single coverage of 12% (see Table 5). The highest consistency value is the to be found with the first path at 0.90, while the fifth path at 0.81 is significantly lower (see Table 5). Even the total solution term (see Table 6) – i.e. the union of all six paths – is just below the threshold with a consistency at 0.78 but covers about 81% of the outcome to be explained.

Nonetheless, the explanations given in the previous chapter on the necessary conditions have also been confirmed in the individual complex solution paths (see Table 7).
The conditions 'Trade openness' and 'State action' appear in all six solution paths. This is not surprising, since, as already mentioned, they have very high consistency values.
Furthermore, we want to have a short look at the other conditions mentioned above, which each had high consistency values.
The condition 'Financial system' can be found in five out of six solution paths, which again underlines the importance of this condition. In the case of the condition 'GDP per capita', we also find the condition in four out of six solution paths, which is also in line with the previously mentioned high consistency values and emphasizes the importance of this condition. A similar picture is also shown here for the condition 'Macroeconomic stability'. This can be found in half of all solution paths (three out of six) and thus also coincides with the previously described consistency and coverage values. The negation of the condition 'Economy size' (ecnsize) had a high consistency value. In four out of six paths, it appears and once again reaffirms our assumptions that a large economy can not necessarily accumulate more FDI, which in turn leads to economic growth.
Again, in the solution paths, the condition of 'IPR' is of tremendous importance, since it occurs in four out of six paths, which means high IPR leads to the outcome. 'Taxes' and 'Human capital' also appear in three out of six solution paths for the conditions, making a significant contribution to the outcome.

10.3 In-depth analysis

In the following, the six solution paths are examined in more detail. Specifically, in which countries of the EU these conditions are to be found. The software fs / QCA also carries out this process directly in the analysis described above. Figure 29 shows the screenshot of the

solution terms which are transferred into Table 7 for a handier use when talking about specific solution paths.

```
Cases with greater than 0.5 membership in term ~TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE: MLT (0.51,0.95)
Cases with greater than 0.5 membership in term TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE: CZE (0.53,0.56)
Cases with greater than 0.5 membership in term TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*~FINSYS*GDP*~MACSTAB*STATE: IRL (0.54,0.57)
Cases with greater than 0.5 membership in term ~TAX*~HUMCAP*~ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE: LUX (0.81,0.68)
Cases with greater than 0.5 membership in term TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE: EST (0.58,0.31)
Cases with greater than 0.5 membership in term ~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE: BEL (0.63,0.5),
  NLD (0.61,0.61)
```

Figure 29: Solution paths for the Outcome FDIGRW in combination with countries

Solution Path	***Countries***
(1) ~TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE	Malta
(2) TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE	Czech Republic
(3) TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*~FINSYS*GDP*~MACSTAB*STATE	Ireland
(4) ~TAX*~HUMCAP*~ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE	Luxemburg
(5) TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE	Estonia
(6) ~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE	Belgium; The Netherlands

Table 7: Cases with greater than 0.5 membership in solution paths for the Outcome FDIGRW

While we will have a closer look at each of the six solution paths, which lead to the outcome we try to link this to the scientific literature where possible. However, we want to briefly recall that many of the former economic studies used some kind of regression analysis or the like and therefore focused on one or only some specific conditions which might influence an outcome. In our study, due to the usage of *QCA*, we are able to include ten conditions into one analysis,

to see what combinations of conditions lead to our outcome. For this purpose, the existing scientific literature is to some degree lagging as we cannot compare and/or link all of our findings to the existing scientific literature.

We have already mentioned several times that equifinality is one of the basic characteristics of *QCA*. In general, it turns out that different paths lead to the outcome to be explained. Often it is therefore of interest to determine what contribution the individual paths make to the overall explanation. There are two points of view for this: Firstly, one can grasp the contribution of a path to the explanation of the phenomenon of interest by considering how the explanatory power would be if only the corresponding path were used as the solution term. So here we are dealing with the raw coverage through the corresponding path. Apart from that, the contribution of a path can also be designed to express how little it is superfluous, that is, how many cases it explains that are not already explained by other paths; this is the unique cover age. This type of calculation of the coverage is very useful for *QCA*, because often the same case is covered by multiple paths. The reason for this is, among other things, the historical structure of our social world (from which *QCA* originates): in some cases, all conditions favoring the outcome come together. If the individual paths do not overlap, the raw coverage corresponds to the unique coverage. But if all paths account for more or less the same cases, then they have high individual contributions to total coverage (and thus high raw coverage) but are actually almost superfluous (and thus have low unique coverage). As a consequence, the unique coverage also shows which path is empirically more important (Schneider & Wagemann, 2007, p. 91). In the following, we refer to Table 8 and Figure 30.

Without anticipating anything in advance, when we look at all six solution paths, one will notice that raw coverage and unique coverage differ considerably. While we find values between just under 40% and 48% in the case of raw coverage, the values of the unique coverage have very low percentages; these range from 0% to just 12.8%. In the case of raw coverage, this means that each of the six solution paths accounts for a certain proportion (but less than half) of our outcome. The unique coverage shows, as already mentioned, how much the individual paths overlap one another. Here, the larger the value between 0 and 1, the more relevant a solution term is in explaining the outcome. High consistency values (as in our study) sometimes go hand in hand with low coverage. This phenomenon occurs when the causal conditions are so narrow that they include only a small proportion of all cases with the corresponding declared outcomes (Good et al., 2012; Ragin, 2006). We can say from the outset that due to the very low unique coverage values (in one path even at 0) all six solution paths are almost not relevant to explain the outcome.

Finally, it should be mentioned again that the conditions 'Trade openness' and 'State action' are necessary conditions for the outcome and occur in each of the six solution paths.

10.3.1 The first solution path – Malta

~TAX~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE*
In Malta a high level of 'Trade openness' and low levels of 'State action' (low level of state intervention) in combination with: High taxes, a low level of human capital, a small economic size, low IPR, a low developed physical infrastructure, a well-developed financial system, low GPD per capita and a low level of macroeconomic stability lead to the outcome.

In the case of the first solution path, we have a raw coverage value of almost 43%. If we consider only this path isolated from all the others, he explains the outcome of this study with 43%, which is certainly not too high as a value but not too low. With a consistency of 0.90 (or 90%), this solution path has the highest of all six. Since consistency is a measure of the degree to which a condition can be called sufficient (or necessary) (Gasser & Epple, 2013, p. 58), we can conclude that the first solution path is sufficient for the outcome.
The first solution path contradicts much of the literature, also cited in this work, especially when we deal with those linking several factors influencing FDI. Goodspeed et al. (2006) have pointed out in their studies that low taxes are strongly determined by the state. We cannot prove this connection in this solution path, because here high taxes and a low level of state action occur. We also cannot confirm the studies of Abu Bakar et al. (2012), which indicate that the state and a well-developed physical infrastructure are needed to accumulate enough FDI. While we see the condition State action affirmatively (economically acting), the condition physical infrastructure is absent (low developed). This contradicts the results of the mentioned authors. Su and Liu (2016) have demonstrated in their study that there is a link between public investment in physical infrastructure and human capital. We cannot confirm this for the first solution path either. While the state level is certainly well developed, the physical infrastructure and human capital are underdeveloped, which is a contradiction, further Javorcik (2004) or Hermes and Lensink (2003) have shown how important a cooperation of the state is in connection with IPR. The higher the IPR the more FDI can be accumulated. In our case, however, the condition IPR is negated, which is therefore inconsistent. For example, in the context of IPR and high per capita income, Falvey et al. (2006) demonstrated that the interaction creates a faster-growing economy, inter alia through the FDI factor. Both conditions are negated in our solution path, which represents again a contradiction.

When it comes to demonstrating the correlation between market size and openness of trade, Li and Liu (2005) revealed, that especially small economies must be enormously outward (export) oriented, where our studies show the same results. The condition 'Trade openness' is anyway a necessary condition for the outcome, but also the negation of the condition 'Economy size' in the solution path underlines the results Li and Liu. So, small economies in particular must be very open to trade so that they can accumulate FDI, which can then drive economic growth. Similarly, the findings of Stiglitz (1993) in his investigations pointed out that the financial system is connected to the state, where the latter should not interfere too regularly. This also confirms the first solution path, which supports this result by the presence of both conditions.

While Globerman and Shapiro (2002) pointed out that high levels of government investment in education also increase foreign investment, we do not see any confirmation in our study, as the condition 'Human capital' is negated. The same applies to the study by Chang (2007), which combined high per capita income with a high level of human capital which increased inflows of FDI. In the first solution path, however, both conditions are negated and thus show the opposite leading to the outcome. Finally, K. H. Zhang (2001), who has inseparably linked macroeconomic stability with the policies of the state, the effectiveness of its institutions and so on. In the case of macroeconomic stability, in our case, there is no agreement between the two conditions and thus contradicts the results of K. H. Zhang.

Overall, the first solution path is characterized by the fact that, in addition to the necessary conditions of 'Trade openness' and 'State action', it only turns out to be 'positive' in the condition financial system. All other conditions indicate the negation of these.

Nevertheless, as mentioned at the beginning of this chapter, the unique coverage is very low with only 2.6% coverage, which means that we must admit that this solution path cannot be considered as a relevant solution term for the explanation of the outcome.

Malta as the smallest EU state (Statista, 2018) fits into the first solution path. First and foremost, it should not be surprising that Malta appears in one of the solution paths, as if we recall Figure 13, this EU state has the highest FDI net inflows as percentage of its GDP over the period from 2002 to 2016 (on average; more than 117%), which is well ahead of Luxemburg (ranked second) at around 37%.

However, if measured by FDI inflows (average, see Figure 47, Appendix 9), Malta has only a lower median size in the EU and can therefore be considered as a least important target for FDI in the EU. While between 2002 and 2016 Malta had on average FDI net inflows of just € 6.6 billion in comparison the EU average is more than € 20 billion, in the same period. Neverthe-

less, FDI lead to economic growth in Malta. The Maltese economy has developed very positively in recent years and is growing much faster than in other EU countries. One of the main reasons for this was the 'National Reform and Stability Program', which was imposed by the EC in 2012. There are also increased investments and strong private consumption. With GDP growth of + 5% in 2016, Malta was well above the EU average of 1.7% (Aussenwirtschaft Austria, 2017). For more country information, also in connection with FDI and economic growth in Malta, see Appendix 14.

10.3.2 The second solution path – Czech Republic

TAX~HUMCAP*ECNSIZE*~IPR*~PHYINFR*TRAOPN*FINSYS*~GDP*~MACSTAB*STATE*

In the Czech Republic a high level of 'Trade openness' and low levels of 'State action in combination with: Low Taxes, a low-level of human capital, a large economic size, low IPR, a low developed physical infrastructure, a well-developed financial system, low GDP per capita and a low level of macroeconomic stability lead to the outcome.

The second solution path has a raw coverage value of nearly 40%. This means that this path, isolated from all the others, explains the outcome of this study by 40%. With a consistency of more than 0.86 (or even 86%) we can conclude that second solution path is also sufficient for the outcome. In the following (as well as the other subchapters on the solution paths) we will only briefly discuss the agreement or disagreement with the economic literature, as we have already explained the respective authors and their results in detail in the previous subchapter. For more information, see Chapters 10.1.1-10.1.9, as well as the quick reference in Appendix 3 (see Table 13) for a good overview.

Our results for the second solution path coincide only with findings from authors such as Stiglitz (1993) (financial system and state), Goodspeed et al. (2006) (low taxes and state action towards this), and certainly in parts with Li and Liu (2005) (relationship between economy size and trade openness; but in our case only for large economies). For the studies of Globerman and Shapiro (2002) (state and education), Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and physical infrastructure), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (IPR and per capita income), Chang (2007) (per capita income and human capital) and K. H. Zhang (2001) (macroeconomic stability and state) we cannot find consistent results in the solution path.

In addition to trade openness and state action (necessary conditions), the financial system as well as the economic size and low taxes are once again a decisive factor in leading to the out-

come in this path. However, the unique coverage is very low with 4.8% coverage, which requires us to note that this solution path cannot be seen as a relevant solution term for explaining the outcome.

The second solution path is found within the EU only in the Czech Republic. This is surprising at first glance, as FDI net inflows have a share of 4.6% at the GDP (average of 2002-2016, see Figure 13). The situation is similar with the FDI net inflows during the same period, which amounts to an average of nearly € 6 billion (see Figure 47, Appendix 9). However, we can conclude that FDI lead to economic growth, to some degree, in the Czech Republic. For many sectors of the Czech economy, 2017 was a year of records. With economic growth of 4.5%, the Czech Republic is once again among the most powerful countries in Europe. The driving force of the boom has a broad and stable base – private consumption of households, full order books in industry, investment activity of firms, foreign demand and growing tourist flows.

The good economic situation in the individual economic sectors has a positive impact on each other (Aussenwirtschaft Austria, 2018w). For more country information, also in connection with FDI and economic growth in the Czech Republic, see Appendix 14.

10.3.3 The third solution path – Ireland

*TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*~FINSYS*GDP*~MACSTAB*STATE*

In Ireland a high level of 'Trade openness' and low levels of 'State action' (low level of state intervention) in combination with: Low taxes, a high level of human capital, a small economic size, high IPR, a low developed physical infrastructure, a low developed financial system, high GDP per capita and a low level of macroeconomic stability lead to the outcome.

The third solution path has a raw coverage value of just over 40%. Isolated from all others, he explains the outcome of this study by 40%. With a consistency of more than 0.82 (or even 82%) we can conclude for the third solution path that this is sufficient for the outcome.

The results of this solution path coincide with a whole range of results from other authors, as already presented in this work. For example, Globerman and Shapiro (2002) (State and Education), Goodspeed et al. (2006) (Taxes and State), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (per capita income and IPR), and Chang (2007) (per capita income and human capital) consistent results. Only for authors such as Stiglitz (1993) (state and financial system), Abu Bakar et al. (2012) (physical infrastructure and state), Su and Liu (2016) (human capital and physical infrastructure related to the state), and K. H. Zhang (2001) (macroeconomic stability and state) we find no agreement in this third solution path. The investigations of Li and Liu (2005) apply here only in parts, since in this solution

path in addition to the other mentioned conditions a small market size leads to the outcome, which nevertheless underlines their thesis that especially small economies should focus heavily on foreign trade and trade openness in general to achieve economic growth driven by FDI. However, with just 3.6% coverage, the unique coverage is extremely low, which leads us to conclude that this solution path cannot be seen as a relevant solution term for explaining the outcome.

The third solution term can be found in Ireland. Ireland has the fourth highest share of FDI net inflows percentage of GDP (20.01%) within the EU after Malta, Luxemburg and the Netherlands (see Figure 13). We also find this in the FDI net inflows of 2002-2016, where, on average, in Ireland around € 42 billion were invested (more than twice as much as the EU average, see Figure 47, Appendix 9). Thus, in general terms, high FDI inflows in the case of Ireland also contribute to significant economic growth. However, it contradicts former findings, especially that a well-developed financial system is needed, as this is not the case, according to our analysis. Nevertheless, we can sum up that FDI lead to economic growth in Ireland. Despite all the uncertainties surrounding Brexit, Ireland clearly exceeded its growth target for 2017: GDP grew by 7.8%, beating the record of 2016 (+ 5.1%). Experts predict growth of 4.0% for 2018 and 3.3% for 2019. The effects of Brexit and Donald Trump's policies have already been considered. Ireland's lost decade as a result of the international financial crisis is finally over. Of course, the United Kingdom's Brexit decision will have an immediate impact on Ireland, as the Irish economy is most closely linked to the UK within the EU. The Gross National Product (GNP) grew by 6.6% in 2017. In Ireland, this is generally one fifth below GDP. The GNP is regarded as a more reliable indicator of the development of the purely Irish economy, because it calculates the repatriated profits of the approximately 1,300 foreign subsidiaries from the economic performance (Aussenwirtschaft Austria, 2018i). For more country information, also in connection with FDI and economic growth in Ireland, see Appendix 14.

10.3.4 The fourth solution path – Luxemburg

~TAX~HUMCAP*~ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE*

In Luxemburg a high level of 'Trade openness' and low levels of 'State action' (low level of state intervention) in combination with: High taxes, a low level of human capital, a small economic size, high IPR, a well-developed financial system, a well-developed physical infrastructure, high GDP per capita and a high level of macroeconomic stability lead to the outcome.

With around 0.48 raw coverage (48%), the fourth solution path has the highest value of all six paths in this category and is thus close to 50%. This means that this path, isolated from all the

others, explains the outcome of this study to 48%. Furthermore, this path has a consistency measure of 0.86 (or even 86%), which means that the fourth solution path can also be described as sufficient for the outcome.

For the most part, we can also find the fourth solution path with its results covered in the literature. For example, Stiglitz (1993) (State and financial system), Abu Bakar et al. (2012) (State and physical infrastructure), Su and Liu (2016) (State (investment) in Human capital and physical infrastructure) Javorcik (2004) and Hermes and Lensink (2003) (State and IPR), Falvey et al. (2006) (IPR and high per capita income), and Li and Liu (2005) (market size and trade openness, in this case for small markets which are export oriented) as well as K. H. Zhang (2001) studies have shown similar results to this approach.

With 7.5% coverage, the unique coverage is the second highest of all six paths, but still far too small, which means that the solution path cannot be seen as a relevant solution term for explaining the outcome.

Like the previous ones, this fourth solution path is also found in just one European country, namely Luxemburg. As mentioned before, Luxemburg has the second highest FDI net inflows percentage of GDP in the EU (on average 37%, 2002-2016, see Figure 13). In contrast to the purely FDI net inflows in the same period, the state is in the midfield with an average of more than 15 billion euros (between 2002 and 2016) which is however below the EU average (see Figure 47, Appendix 9). All in all, we can thus state that FDI lead to economic growth. In terms of economic growth, small Luxemburg ranks in the European forefront: + 3.4% in 2017, according to the EC. The growth engine is the strong exports of financial services. In 2018, the Luxemburg economy is expected to grow by 3.5%, but the figures are volatile in the EU comparison (Aussenwirtschaft Austria, 2018n). For more country information, also in connection with FDI and economic growth in Luxemburg, see Appendix 14.

10.3.5 The fifth solution path – Estonia

*TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE*

In Estonia a high level of 'Trade openness' and low levels of 'State action' (low level of state intervention) in combination with: Low taxes, a high level of human capital, a small economic size, high IPR, a low developed physical infrastructure, a well-developed financial system, high GDP per capita and a high level of macroeconomic stability lead to the outcome.

With around 0.40 raw coverage (40%), the fifth solution path has one of the lowest of all six paths in this category. This means that this path, isolated from all the others, explains the outcome of this study to 40%. Furthermore, it has a consistency of 0.81 (or even 81%), which means that the fifth solution path can be described as sufficient for the outcome.

In comparison with the other authors mentioned in this study on the effects of FDI and economic growth, we find in those of Stiglitz (1993) (State and Financial Systems), Globerman and Shapiro (2002) (State and Human Capital), Goodspeed et al. (2006) (Tax and State), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (IPR and High per capita income), Chang (2007) (high per capita income and Human capital), K. H. Zhang (2001) (Macroeconomic Stability and State) confirm our findings in this solution. Only Su and Liu (2016) studies agree only in part, namely in the context of human capital and state, whereas in our case the physical infrastructure condition is negated. In the case of Li and Liu (2005), too, just as in our investigation, only small economies (in the case of the fifth solution term) show a connection leading to the outcome. Only the results of Abu Bakar et al. (2012) (physical infrastructure and state) cannot be confirmed in this path.

This path also has the lowest of all unique coverage value in all six paths, namely 0 (= 0%). Thus, the solution path cannot be considered a relevant solution term for the explanation of the outcome.

The fifth solution path is found in the EU state of Estonia with FDI net inflows more than 8% of its GDP (average between 2002 and 2016, see Figure 13). The Baltic state is one of the leaders in the European comparison. Only Malta, Luxemburg, the Netherlands, Ireland and Cyprus are still ahead of Estonia. Here it would be expected that even larger sums of FDI flow into the country. However, the opposite is the case. Only around € 1.1 billion (on average between 2002 and 2016 see Figure 47, Appendix 9) flowed into the Baltic state, while this still lies ahead of its neighbors Lithuania and Latvia, both of which had less than a billion euros of FDI net inflows (on average) in the same period. Therefore, we can say that FDI lead to economic growth in Estonia. Following a temporary slowdown in previous years, Estonia returned to the dynamic course of the past in 2017, with economic growth of + 4.9% (Aussenwirtschaft

Austria, 2018e). According to the EU Commission, Estonia reached the third strongest economic growth in the eurozone in 2017. This was caused by an investment boom, which will weaken during 2018, but together with strong foreign demand, will allow GDP to continue to grow. Slowing inflation and high wage increases fuel private consumption (Germany Trade & Invest, 2017b). For more country information, also in connection with FDI and economic growth in Estonia, see Appendix 14.

10.3.6 The sixth solution path – The Netherlands and Belgium

*~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE*

In the Netherlands and Belgium, a high level of 'Trade openness' and low levels of 'State action' (low level of state intervention) in combination with: High taxes, a high level of human capital, a large economic size, high IPR, a well-developed physical infrastructure, a well-developed financial system, high GDP per capita and a high level of macroeconomic stability lead to the outcome.

With a raw coverage of 0.46 (46%), the sixth solution path has the second highest of all six paths in this category. This means that this path, isolated from all the others, explains the outcome of this study to 46%. The consistency value of 0.87 (or even 87%) is the highest in all paths, which means that we can also call the sixth solution path sufficient for the outcome.

The sixth and last solution path shows agreement with the results of nearly all the in this study mentioned papers. For example, Stiglitz (1993) (State and financial system), Globerman and Shapiro (2002) (State and Human capital), Abu Bakar et al. (2012) (State and physical infrastructure), Su and Liu (2016) (State linkage with physical interest and human capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state,), Falvey et al. (2006) (high income and IPR), Li and Liu (2005) (market size and trade openness), Chang (2007) (per capita income and human capital) and K. H. Zhang (2001) (macroeconomic stability and state) in their respective studies show similar results for the different conditions and their links, which also coincide with our results for this solution path. Only the results of Goodspeed et al. (2006) (Tax and State) cannot be found in this path again, since contrary to their claim low taxes would accumulate FDI in this path alongside the other nine conditions there are high taxes that lead to the outcome.

Furthermore, the sixth solution path has the highest of all unique coverage values, with 0.128 (= 12.8%). Although the value of almost 13% does not change the fact that it is not really relevant as a solution term for the explanation of the outcome.

Contrary to the previous country assignments to the individual paths, we find in this path two countries to which it applies. These are the Netherlands and Belgium.

10.3.6.1 The Netherlands

For the Netherlands, FDI are of vital importance as their share in the GDP is almost 27% (between 2002 and 2016, average, see Figure 13) and at the same time the third highest in the EU after Malta and Luxemburg. In terms of FDI net inflows over the same period, the Netherlands are by far the lone front runner in the EU. Between 2002 and 2016, an average of € 163.5 billion flowed into the country (see Figure 47, Appendix 9). For comparison, the UK had about € 70 billion less (second-placed) inflows in the same period. For this reason, we can conclude that FDI lead to economic growth in the Netherlands. Economic growth in 2017 reached 3.2% in real terms and is expected to continue at 3.2% in 2018 and 2.7% in 2019. As a result, the Dutch economy will outperform Eurozone growth by 0.6% on average – the economy is booming. In the Global Competitiveness Index 2017-2018 of the WEF, the Netherlands occupy the fourth place worldwide after Switzerland, the USA and Singapore, but ahead of Germany. The Netherlands are among the innovation leaders in Europe and rank 7th worldwide in patent applications. In the long term, the highly competitive and European innovation leaders are on a stable, sustainable course with average annual real economic growth of between one and two percent by 2050 (Aussenwirtschaft Austria, 2018o). For more country information, also in connection with FDI and economic growth in the Netherlands, see Appendix 14.

10.3.6.2 Belgium

FDI net inflows in Belgium accounts for around 11.6% of GDP (2002-2016 average), putting Belgium just above the EU average of 11.46% for this period (see Figure 13). Thus, FDI have a decisive share in the economic success of the country. This is also reflected in the FDI net inflows over the same period of € 39.4 billion (on average, which is nearly twice as high as the EU average, see Figure 47, Appendix 9). To this end we can combine that FDI lead to economic growth in Belgium. Belgium is expected to see solid GDP growth of 1.8% in 2017 (after 1.7% in 2017). This is a significantly better performance than originally expected (Aussenwirtschaft Austria, 2018a). Not least thanks to its role as a logistics hub in northwestern Europe, Belgium is an open economy, with imports accounting for around 80 percent in 2016 and exports as high as 85 percent of GDP. There are, however, many re-exports. Thus, Europe's second-largest port, Antwerp, handled 214 million tons more in 2016 than Hamburg (138 million tons) and Bremen (74 million tons) combined. Thanks to the intensive economic exchange with other countries, Belgium has also weathered the international recession since mid-2008 better than many other EU states (Germany Trade & Invest, 2017a). For more country information, also in connection with FDI and economic growth in Belgium, see Appendix 14.

10.4 Trade openness and state action

As already mentioned before the conditions of trade openness and state action appear in all solution paths. Figure 30 (and Table 8) show that the solution term TRAOPN*STATE has a very high raw overage of around 87% while the consistency level of around 70% can also (in this term) be regarded as high. Those findings are in line with the findings in the scientific literature, made by Chang (2007) and Balasubramanyam et al. (1996) who also stated that trade openness is a crucial factor for FDI which can then lead to economic growth.

```
File:  /Users/christophsommer/Desktop/Radboud/Master Thesis/Thesis/Clean QCA/TEST1.csv
Model: FDIGRW = f(TAX, HUMCAP, ECNSIZE, IPR, PHYINFR, TRAOPN, FINSYS, GDP, MACSTAB, STATE)
Algorithm: Quine-McCluskey

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.8125
                    raw        unique
                  coverage    coverage   consistency
                ----------  ----------  ----------
TRAOPN*STATE     0.873156    0.873156    0.708982
solution coverage: 0.873156
solution consistency: 0.708982



Cases with greater than 0.5 membership in term TRAOPN*STATE: LUX (0.91,0.68),
  IRL (0.8,0.57), BEL (0.69,0.5), MLT (0.69,0.95),
  EST (0.65,0.31), NLD (0.61,0.61), CZE (0.53,0.56)
```

Figure 30: Parsimonious solution for TRAOPN*STATE for FDIGRW

	Raw coverage	Unique Coverage	Consistency
TRAOPN*STATE	0.873156	0.873156	0.708982
Solution coverage	0.873156		
Solution coverage	0.708982		

Table 8: Parsimonious solution for TRAOPN*STATE for FDIGRW

10.5 Analysis of necessary conditions for the negation of the outcome Foreign Direct Investment lead to economic growth

This chapter examines the non-occurrence of the outcome. That means, we specify the negation of the outcome FDIGRW – FDI does not lead to economic growth (fdigrw) – as an outcome to explain.

As with the analysis of FDIGRW, before the analysis of the sufficient conditions by means of the fuzzy truth-table algorithm it must first be determined whether one of the conditions is necessary for the negation of the outcome (fdigrw).

For this we separately analyze the ten conditions and their negations (see Figure 31 and a screenshot from fs / QCA in Appendix 13, Figure 62). The result is clear: none of the conditions

achieves a consistency value for necessary conditions, which even approaches an acceptable level (see Table 9). Thus, it can be concluded that none of the ten conditions is a necessary condition for fdigrw.

This confirms mostly our previous analysis, in which 'Trade openness' and 'State action' are at the forefront as necessary conditions for the outcome.

As already mentioned in Chapter 10.1 we would not have to do any further investigations with such low consistency values. The majority of the consistency values (condition as well as negation of these) for the conditions is in between 0.55 and 0.60. Only the conditions 'Trade openness' and 'per capita income' rank out of the ordinary here. Therefore, this chapter will briefly discuss some selected conditions.

10.5.1 Economy size

The test for the condition 'Economy size' (ECNSIZE) leading to the negation of the outcome, confirmed that of the previous ones. Let us briefly recall: There, we found out that in some 42% of all European economies, even a small size of these can lead to the outcome. Here we find the confirmation. Even though the consistency value is low at 0.622526, the coverage is very high at 94%. Put simply, a large economy does not automatically lead to the outcome. Because in 94% of all cases in this study, a large economy negates the outcome, stating that FDI does not contribute to economic growth. As previously mentioned, these results are not consistent with those quoted in this study by Abu Bakar et al. (2012) or Li and Liu (2005) which mention how crucial market size is for the accumulation of FDI. Our findings are underpinned by the XY-Plot (see Figure 50), where most of the countries lie above the diagonal. Only the in Chapter 10.3.1-10.3.6 analyzed countries which lead to the outcome in the six solution paths are to be found lying under, on or slightly above the diagonal (necessary); only Estonia is an assumption here, which will be further explained in Chapter 10.7.13.

10.5.2 Financial System

The results of the condition 'Financial system' underline our results from the previous analysis. With a consistency value of 0.603205 for the negation of this condition (finsys) we find a coverage of 94%. This means that a poorly developed financial system does not lead to the outcome and thus underlines the results of authors such as Alfaro et al. (2001, 2004, 2010); Bekaert et al. (2005); Hermes and Lensink (2003); Levine et al. (2000) or Levine and Zervos (1998). However, the condition 'FINSYS' is in line with our results from the previous analysis. With a consistency value similar to that of the negation (0.584826), we find that in 85% of all EU

countries, even a well-developed financial system does not lead to an outcome, again contradicting the most popular economic literature results, as previously mentioned. If we look at the XY-Plot in Figure 54 we see again that most of the countries are clearly above the diagonal stating that the 'Financial system' cannot be considered necessary for the negation of the outcome.

10.5.3 GDP per capita

The condition 'GDP per capita' with its consistency values deviates significantly from most in this study to the negation of the outcome. Above all, the negation of the condition (gdp) has a consistency value of 0.734213 which is high for these conditions, finding also a coverage of 93%. Means that a low per capita income in 93% of all cases does not lead to FDI and economic growth. So, we can conclude here that a high per capita income is definitely a reason for attracting (more) FDI. These results are fully in line with those already mentioned by Blomström et al. (1992) or Chang (2007), which both have demonstrated this in their studies. The XY-Plot shows that this condition cannot be considered as necessary, as most of the countries lie above the diagonal (see Figure 55).

10.5.4 Macroeconomic stability

The same applies to the condition of 'Macroeconomic Stability'. The negation of this condition (macstab) has a consistency value of 0.557964 but in 90% of all cases the outcome is negated. In other words, a non-macroeconomically stable economy leads to the negation of the outcome, which means that a low stability attracts less FDI, which can then contribute to economic growth. K. H. Zhang (2001) also showed in his studies how important macroeconomic stability is for the accumulation of FDI, which is therefore confirmed by this result. That the condition 'Macroeconomic stability' cannot be considered as a necessary condition for the negation of the outcome, can be seen in Figure 56. The XY-Plot shows that nearly all countries lie clearly above the diagonal.

10.5.5 Trade openness and State action

Finally, the two conditions 'Trade openness' and 'state action' remain, which as we have already found out, are necessary conditions for the outcome. Especially for the former condition, these results are confirmed here again. The negation of the condition (traopn) in this study has the highest consistency value of 0.805844 and results in nearly 99% coverage negating the outcome. Therefore, we can conclude that a 'trade-locked' economy can hardly attract any or

only less FDI, which then could drive economic growth. This is also underlined by Abu Bakar et al. (2012); Balasubramanyam et al. (1996); Chang (2007) and Li and Liu (2005), who have come to similar conclusions in their studies, pointing to the enormous importance of open trade for FDI. How essential 'Trade openness' is, shows the XY-Plot in Figure 41. First of all, most of the countries lie very clearly above the diagonal, which means that in this case 'Trade openness' cannot be considered as a necessary condition for the negation of the outcome.

Ultimately the condition 'State action'. Although the condition and negation of these (STATE and state) have approximately similar consistency values (0.527804 and 0.603205), the negation stands out with a very high coverage value of 95%. Means that in 95% of all cases strong government intervention will negate the outcome; holding FDI off which otherwise could drive economic growth. This is clearly in line with authors like Globerman and Shapiro (2002); Goodspeed et al. (2006); Herzer (2012); Olofsdotter (1998) and Stiglitz (1993), all of whom indicated in their results of their studies that the state has tremendous importance in accumulating FDI, as long as he does not regulate the economy too strong. As mentioned numerous times before also in this case the XY-Plot (see Figure 53) shows with most of the countries above the diagonal that in this part of the research the condition 'State action' cannot be considered as a necessary condition leading to the negation of the outcome.

We want to conclude again here, that the coverage values are very high. This means that in a majority of all cases the condition does not lead to the negation of the outcome, thus only underscoring our findings from the previous chapter and already showing that FDI, driven by the ten conditions set out here, most probably lead to economic growth in one way or another.

In terms of necessity

Condition	Consistency	Coverage
TAX	0.584354	0.894016
tax	0.564562	0.847842
HUMCAP	0.551367	0.893812
humcap	0.601791	0.856472
ECNSIZE	0.622526	0.940883
ecnsize	0.567861	0.863181
IPR	0.563148	0.836835
ipr	0.578699	0.895044
PHYINFR	0.619227	0.886042
phyinfr	0.546183	0.880030
TRAOPN	0.376060	0.747191
traopn	0.805844	0.987298
FINSYS	0.584826	0.858230
finsys	0.603205	0.945347
GDP	0.453817	0.855240
gdp	0.734213	0.930705
MACSTAB	0.601791	0.854752
macstab	0.557964	0.906585
STATE	0.527804	0.769231
state	0.603205	0.952381

Table 9: Consistency and coverage values of necessary conditions for the negation of the outcome fdigrw

10.6 Analysis of sufficient conditions for the negation of the outcome Foreign Direct Investment lead to economic growth

Finally, we want to analyze which combinations of the ten conditions can be considered sufficient for the negation of the outcome (fdigrw). Again, we use the menu item in fs / QCA *Analyze* → *Truth Table Algorithm*. When specifying the outcome, we select the variable FDIGRW and click on 'Set Negated' Thus, we explain to the computer program that we are not looking for sufficient conditions for FDIGRW, but for its negation, fdigrw. As usual, we enter the ten conditions in the 'Causal conditions' field.

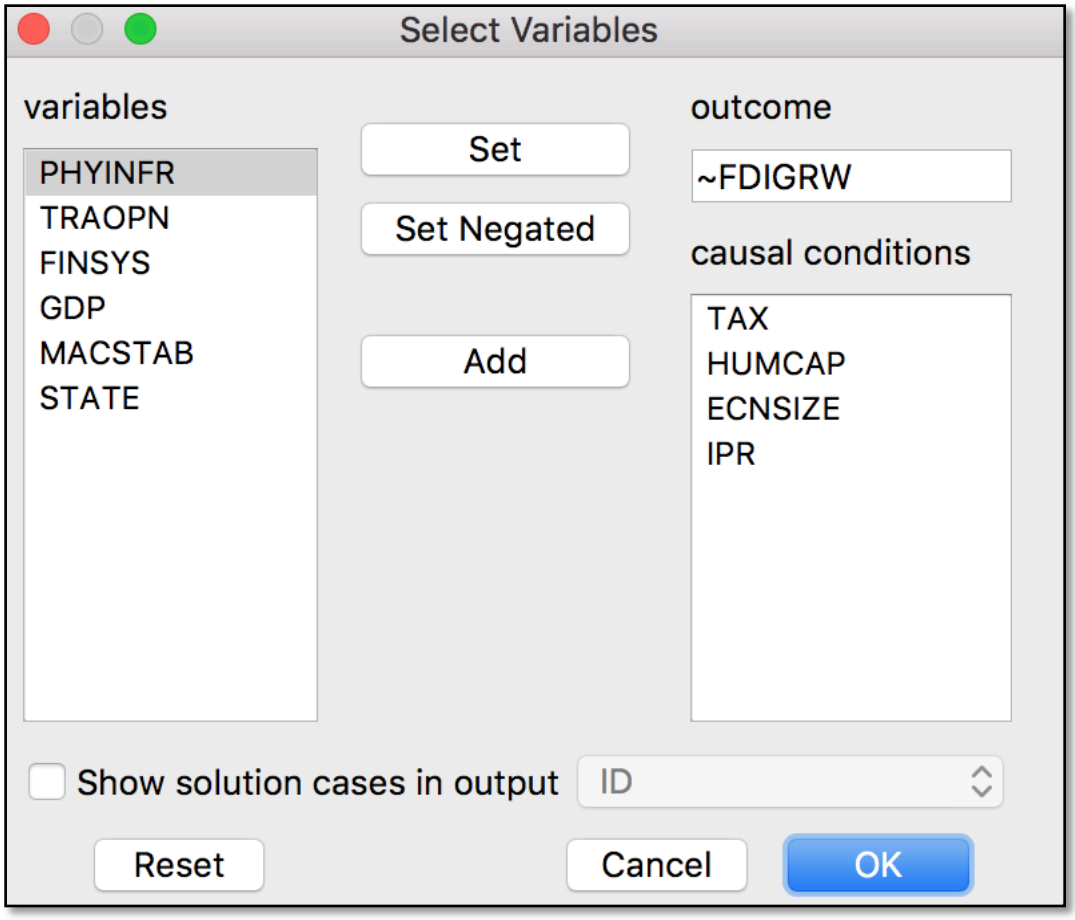


Figure 31: 'Select Variables' Menu in fs / QCA

The truth table created after executing the command ‘OK’ already contains some interesting information (see Figure 32).

TAX	HUMCAP	ECNSIZE	IPR	PHYINFR	TRAOPN	FINSYS	GDP	MACSTAB	STATE	number	~FDIGRW	cases	raw consist.
0	1	1	1	1	0	1	0	1	0	2 (7%)		cases	1
0	1	1	1	1	0	1	1	1	1	2 (14%)		cases	1
0	1	1	1	1	1	1	1	1	1	2 (21%)		cases	0.902234
1	0	0	0	0	0	0	0	0	0	1 (25%)		cases	1
1	0	1	0	0	0	0	0	0	0	1 (28%)		cases	1
0	0	1	0	1	0	0	0	0	0	1 (32%)		cases	1
1	0	1	0	0	0	1	0	0	0	1 (35%)		cases	1
0	1	0	1	1	0	1	0	0	0	1 (39%)		cases	1
0	1	1	1	1	0	1	0	0	0	1 (42%)		cases	1
0	0	1	0	0	0	0	1	0	0	1 (46%)		cases	1
1	0	0	0	0	0	0	0	1	0	1 (50%)		cases	1
1	0	0	0	0	1	0	0	1	0	1 (53%)		cases	1
1	1	0	0	0	1	0	0	1	0	1 (57%)		cases	1
1	0	0	0	0	1	1	0	1	0	1 (60%)		cases	1
1	0	0	0	0	0	0	1	0	1	1 (64%)		cases	1
0	0	1	0	0	0	0	1	0	1	1 (67%)		cases	1
0	1	0	1	1	0	1	1	0	1	1 (71%)		cases	1
0	0	1	0	1	0	0	0	1	1	1 (75%)		cases	1
1	0	0	0	0	0	0	1	1	1	1 (78%)		cases	1
1	1	0	1	0	1	1	1	1	1	1 (82%)		cases	1
1	0	0	0	0	1	0	0	0	0	1 (85%)		cases	0.995506
1	0	1	0	0	1	1	0	0	1	1 (89%)		cases	0.971154
1	1	0	1	0	1	0	1	0	1	1 (92%)		cases	0.967262
0	0	0	0	0	1	1	0	0	1	1 (96%)		cases	0.857585
0	0	0	1	1	1	1	1	1	1	1 (100%)		cases	0.798429
0	0	0	0	0	0	0	0	0	0	0 (100%)		cases	
0	1	0	0	0	0	0	0	0	0	0 (100%)		cases	

Reset | Cancel | Specify Analysis | Standard Analyses

Figure 32: Section of the Truth table for fdigrw

It is noticeable that the consistency values are very high with a few exceptions. While the highest consistency value in the analysis of FDIGRW was only 0.90, in the analysis of fdigrw all besides two rows of the truth table have a higher consistency value, 19 (out of 25) are even 100% consistent with the statement, to be a sufficient condition for fdigrw. Considering these high consistency values, we choose the consistency value 1 as the limit value for the assignment of the value 1 in the column ~FDIGRW (see Figure 33).

TAX	HUMCAP	ECNSIZE	IPR	PHYINFR	TRAOPN	FINSYS	GDP	MACSTAB	STATE	number	~FDIGRW	cases	raw consist.
0	1	1	1	1	0	1	0	1	0	2	1	cases	1
0	1	1	1	1	0	1	1	1	1	2	1	cases	1
1	0	0	0	0	0	0	0	0	0	1	1	cases	1
1	0	1	0	0	0	0	0	0	0	1	1	cases	1
0	0	1	0	1	0	0	0	0	0	1	1	cases	1
1	0	1	0	0	0	1	0	0	0	1	1	cases	1
0	1	0	1	1	0	1	0	0	0	1	1	cases	1
0	1	1	1	1	0	1	0	0	0	1	1	cases	1
0	0	1	0	0	0	0	1	0	0	1	1	cases	1
1	0	0	0	0	0	0	0	1	0	1	1	cases	1
1	0	0	0	0	1	0	0	1	0	1	1	cases	1
1	1	0	0	0	1	0	0	1	0	1	1	cases	1
1	0	0	0	0	1	1	0	1	0	1	1	cases	1
1	0	0	0	0	0	0	1	0	1	1	1	cases	1
0	0	1	0	0	0	0	1	0	1	1	1	cases	1
0	1	0	1	1	0	1	1	0	1	1	1	cases	1
0	0	1	0	1	0	0	0	1	1	1	1	cases	1
1	0	0	0	0	0	0	1	1	1	1	1	cases	1
1	1	0	1	0	1	1	1	1	1	1	1	cases	1
1	0	0	0	0	1	0	0	0	0	1	0	cases	0.995506
1	0	1	0	0	1	1	0	0	1	1	0	cases	0.971154
1	1	0	1	0	1	0	1	0	1	1	0	cases	0.967262
0	1	1	1	1	1	1	1	1	1	2	0	cases	0.902234
0	0	0	0	0	1	1	0	0	1	1	0	cases	0.857585
0	0	0	1	1	1	1	1	1	1	1	0	cases	0.798429

Reset | Cancel | Specify Analysis | Standard Analyses

Figure 33: Shortened and filled in truth table before analysis for fdigrw

Overall, the (specified) analysis provides 13 solution terms that lead to the negation of the outcome (fdigrw) (see Figure 34 and Table10). As we can see, all 13 sufficient conditions are 100% consistent. The values for raw coverage change and lie between 15% and 26%. The values for the unique coverage are also very low, ranging from less than 1% to around 6%, and thus contribute very little to the negation outcome (fdigrw). The overall solution term is also 100% consistent, but only with a coverage of about 66%. In the previous analysis for the outcome (FDIGRW; see Chapter 10.1, 10.2 and 10.3), the overall coverage was somewhat higher with 81%. However, the combination of high consistency values with low coverage values is not uncommon in *fsQCA* analyzes. We find with the negation of the outcome an even more complex picture than in the above analysis for the occurrence of the outcome: no condition is visible, which occurs in all solutions, and it is hardly possible to derive a unique pattern or a simplified combination, which makes the solution seem trivial. The various solutions seem to contradict each other (sometimes completely) (see Table 10, Figure 34).

Even if no condition appears in all thirteen solution paths, it is nevertheless interesting before we examine these complex paths in more detail to look briefly at which patterns may yet be recognized (derived). For this, we refer in the following to Table 28 in Appendix 11, as this

very simplified but effectively represents whether a condition is present (green marker, Yes) or negated (red marker, No) or does not appear (yellow).

At first glance, it can be ascertained that almost every condition is present or negated in the thirteen solution paths approximately halfway through. Only the condition 'Trade openness' stands out clearly different.

The terms Taxes (7x No), IPR (8x No), Physical Infrastructure (7x No) and GDP per capita (8x No) means in a simplified manner that in more than half of all solution paths (n = 13), high taxes, low IPR, poorly developed infrastructure, and low per capita income negate the outcome, which is also reflected in the previous chapters and contradicts the often-quoted literature.

For the conditions 'Human capital' (7x No), 'Economy size' (6x No) and 'State action' (7x No), the same applies as before. Low human capital, a small economic size and a strong state intervention lead to the negation of the outcome in more than half of all solution paths, whereby the cited scientific literature is largely confirmed here. However, under these conditions, the 'special case' occurs, in which the respective condition does not occur in all thirteen solution paths (marked in yellow).

For the condition 'Financial System', this is negated six times and even does not occur twice in all thirteen solution paths. Thus, in more than half of all paths, a poorly developed financial system leads to the negation of the outcome, which confirms the scientific literature (as already presented).

The condition 'Macroeconomic Stability' stands out by the fact that this condition does not occur in even three out of thirteen solution paths. In addition, the condition is negated in five paths, which in turn allows for the conclusion that in half of all cases, low macroeconomic stability negates the outcome and thus confirms the literature.

As mentioned above, the condition 'Trade openness' clearly stands out, which should not be surprising, if we recall that this is one of two necessary conditions for the outcome. The condition is negated in this part of the study in ten out of thirteen solution paths, which means that in well over two-thirds of all solution paths an economy closed to trade negates the outcome and therefore can accumulate no or little FDI, which in turn could drive economic growth. Furthermore, as mentioned earlier, these results are largely consistent with economic literature.

10.7 In-depth analysis

In the following, we want to investigate in an in-depth analysis the different solution paths, link them to the scientific literature and of course see in which countries these paths appear.

The result of the specified analysis looks like this:

```
File:  /Users/christophsommer/Desktop/Radboud/Master Thesis/Thesis/Clean QCA/TEST1.csv
Model: ~FDIGRW = f(TAX, HUMCAP, ECNSIZE, IPR, PHYINFR, TRAOPN, FINSYS, GDP, MACSTAB, STATE)
Algorithm: Quine-McCluskey

--- TRUTH TABLE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 1
Assumptions:
                                                                    raw        unique
                                                                  coverage    coverage   consistency
                                                                 ----------  ----------  ----------
TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*~GDP*~STATE   0.268143    0.0315741   1
TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~GDP*~MACSTAB*~STATE   0.215834    0.022149    1
~TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*~MACSTAB  0.18049     0.0164939   1
TAX*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~FINSYS*~GDP*MACSTAB*~STATE    0.202639    0.00895387  1
TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~GDP*MACSTAB*~STATE    0.203582    0.00989634  1
TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*STATE     0.217248    0.0320453   1
~TAX*HUMCAP*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~MACSTAB*~STATE      0.185674    0.00612634  1
~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~STATE       0.226202    0.0377003   1
~TAX*~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*~MACSTAB*~STATE  0.175778  0.0103676   1
~TAX*~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*MACSTAB*STATE  0.164467    0.0146089   1
~TAX*HUMCAP*~ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*~MACSTAB*STATE  0.159755    0.00659752  1
~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*MACSTAB*STATE  0.220547    0.0640905   1
TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE  0.158341    0.0249764   1
solution coverage: 0.667766
solution consistency: 1
```

Figure 34: Truth table solutions for fdigrw with solution paths

Solution Path	*Raw coverage*	*Unique coverage*	*Consistency*
(1) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*~GDP*~STATE	0.268143	0.0315741	1
(2) TAX*~HUMCAP*ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~GDP*~MACSTAB*~STATE	0.215834	0.022149	1
(3) ~TAX*~HUMCAP*ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*GDP*~MACSTAB	0.18049	0.0164939	1
(4) TAX*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~FIN-SYS*~GDP*MACSTAB*~STATE	0.202639	0.00895387	1
(5) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*TRAOPN*~GDP*MACSTAB*~STATE	0.203502	0.00989634	1
(6) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*GDP*STATE	0.217248	0.0320453	1
(7) ~TAX*HUMCAP*IPR*PHYINFR*~TRAOPN*FIN-SYS*~GDP*~MACSTAB*~STATE	0.185674	0.00612634	1
(8) ~TAX*HUMCAP*ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*~GDP*~STATE	0.226202	0.0377003	1
(9) ~TAX*~HUMCAP*ECNSIZE*~IPR*PHY-INFR*~TRAOPN*~FINSYS*~GDP*~MAC-STAB*~STATE	0.175778	0.0103676	1
(10) ~TAX*~HUMCAP*ECNSIZE*~IPR*PHY-INFR*~TRAOPN*~FINSYS*~GDP*MACSTAB*STATE	0.164467	0.0146089	1
(11) ~TAX*HUMCAP*~ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*GDP*~MACSTAB*STATE	0.159755	0.00659752	1
(12) ~TAX*HUMCAP*ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*GDP*MACSTAB*STATE	0.220547	0.0640905	1
(13) TAX*HUMCAP*~ECNSIZE*IPR*~PHY-INFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE	0.158341	0.0249764	1

Table 10: Different solution paths for ~FDIGRW

10.7.1 The first solution path – Croatia and Latvia

TAX~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*~GDP*~STATE*

The first solution path of the negation of the outcome has a raw coverage value of almost 26.8%, which is the highest of all thirteen solution paths. This means if we only consider this path isolated from all the others, it explains the negation of the outcome of this study to almost 27%. With a consistency value of 1 (or 100%) we can conclude that the first solution path is sufficient for the negation of the outcome. In the following (as well as the other sub-chapters on the solution paths) we will only briefly discuss the agreement or disagreement with the economic literature, as we have already explained the respective authors and their results in more detail in the previous chapters. For more information, see Chapter 10.5, as well as the 'quick reference' in the Appendix 3 (see Table 13) for a good overview.

In the first solution path, all eight conditions are negated except for the condition of 'Tax'. The condition 'Macroeconomic stability' is even completely absent in this path.

This contradicts of course in large parts the scientific literature, as already presented in this work. Thus, if we compare the results of Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and physical infrastructure / human capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (IPR and per capita income), Li and Liu (2005) (market size and trade openness), Chang (2007) (per capita income and human capital) and K. H. Zhang (2001) (macroeconomic stability and state) with our solution path we do not find any real match. Goodspeed et al. (2006) findings that low taxes are inextricably linked with the state and thus lead to FDI and economic growth are not confirmed here either. Because we have to remember that we are investigating the negation of the outcome here, it is not surprising that, low taxes, a low level of human capital, a small economic size, low IPR, a low-developed physical infrastructure, a low level trade openness, a low-developed financial system, low GDP per capita and a high level of state action (high level of state intervention) lead to the negation of the outcome, since, as so often presented in this paper, these are essential conditions that are needed to be able to accumulate FDI.

With a unique coverage of 3.1%, we can also say that this solution path cannot be seen as a relevant solution term for explaining the negation of the outcome. The first solution path can be found in Croatia and Latvia.

10.7.1.1 Croatia

During our investigation period from 2002 until 2016 we saw an average FDI inflow to Croatia of around € 1.7 billion (see Figure 47), which is far behind the EU average (€ 20.3 billion) but still high for such a small country. Around 4.15% do the FDI net inflows to Croatia add to the national GDP, which in the overall comparison with all EU member-states can also be considered more or less low (see Figure 13). Therefore, it should not be surprising that the beforehand described solution path does not lead to the outcome in Croatia. So, we can say here that other factors, besides FDI, lead to economic growth in the country.

After solid GDP growth of 3.2% in 2016, this trend continued in 2017. Growth drivers are private consumption, which benefits from higher real incomes (public sector wage increases, tax reform, strong tourist season), as well as exports, and investment (Aussenwirtschaft Austria, 2018k). For more country information, also in connection with FDI and economic growth in Croatia, see Appendix 14.

10.7.1.2 Latvia

With around € 697 million FDI inflows during 2002 and 2016 on average Latvia has the lowest ones in the whole EU (see Figure 47). However, if we have a look at the share at the GDP of the FDI net inflows those account for 3.68% (2002 until 2006 on average; see Figure 13). For this reason, we can conclude with our insights from the analysis of the first solution path that FDI do not lead to economic growth in Latvia which is also covered by our data, showing only a low direct investment inflow in combination with low proportions at their GDP.

After a comparatively moderate plus of 2% in 2016, economic growth in 2017 again reached 4.5% due to high investments, strong foreign demand and strong private consumption, the highest level in six years. Growth in excess of 3% is also expected for 2018 and subsequent years. In the previous year, the strongest economic stimulus came from investments, which jumped to + 17.5% after a few bad years. This is mainly due to the implementation of EU-funded projects under the 2014-2020 financial framework, which are now fully up and running after a delay. High demand from home and abroad as well as the recovery in the credit market also supported this trend (Aussenwirtschaft Austria, 2018l). For more country information, also in connection with FDI and economic growth in Latvia, see Appendix 14.

10.7.2 The second solution path – Poland and Romania

TAX~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~GDP*~MACSTAB*~STATE*

The second solution path for negating the outcome has a raw coverage value of around 21.5%. In other words, if we consider this path isolated from all the others, it explains the negation of

outcome by 21.5%. With a consistency value of 1 (or 100%) we can state that the second solution path is sufficient for the negation of the outcome.

In the second solution path, we see that all the other seven conditions are negated except for the condition of 'Tax' and 'Economy size'. The condition 'Financial system' does not appear in this solution term.

This term also contradicts in large parts the scientific literature. Thus if we compare the results of Stiglitz (1993) (State and Financial System), Globerman and Shapiro (2002) (State and Human Capital), Abu Bakar et al. (2012) (State and Physical Infrastructure), Su and Liu (2016) (State / Physical Infrastructure and Human Capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (IPR and per capita income), Li and Liu (2005) (market size and trade openness), Chang (2007) (per capita income and human capital), K. H. Zhang (2001) (macroeconomic stability and state) and Goodspeed et al. (2006) (tax and state) we will as well find no match in our solution path. Thus, low taxes, a low level of human capital, a large economic size, low IPR, a low developed physical infrastructure, a low level of trade openness, low GDP per capita, a low level of macroeconomic stability, a high level of state action (high level of state intervention) do not lead to the outcome, which largely coincides with the known literature; which was also presented in detail in previous chapters.

With a unique coverage of 2.2%, we can conclude that this solution path cannot be seen as a relevant solution term for explaining the negation of the outcome. The second solution path can be found in Poland and Romania.

10.7.2.1 Poland

Poland saw around € 10.7 billion of FDI inflows during 2002 and 2016 (on average), which ranks the country in the mid-field, in comparison to all other 27 EU member states (see Figure 47). Nevertheless, this is still nearly half of the EU average of all countries (€ 20.3 billion). The data also cover our analysis, that FDI in this solution path do not lead to the outcome. FDI net inflows as percentage of GDP accounted for around 3.39% during the same period (on average), which indicates that besides FDI, other factors drive the economic growth in Poland (see Figure 13).

Poland's economy grew by an impressive 4.6% in 2017. As in previous years, growth was driven primarily by strong domestic consumption and steadily rising exports, but also by renewed investment. However, external dynamics such as Brexit, the danger of trade wars, the economic situation in the rest of the EU especially Germany – the most important trading partner, as well as the trend towards the de-Europeanization of the country by the Polish government continue to be uncertain factors for the future development.

The outlook for 2018 is also very good – analysts expect a GDP increase of up to 4.8%. Investments also grew again in 2017, to a healthy 5.4%. In 2018 and 2019, economic development will once again be boosted by investment, in addition to flourishing private consumption and exports. Currently, investments in fixed assets are expected to grow by 6-7% this year and next. The pleasing fact is that Poland has established itself sustainably in the circle of the 25 largest economies in the world and is becoming increasingly important economically in the EU as well (Aussenwirtschaft Austria, 2018p). For more country information, also in connection with FDI and economic growth in Poland, see Appendix 14.

10.7.2.2 Romania

Romania ranks in the European comparison with its FDI inflows in the rear midfield of all countries. The country received during the time period 2002-2016 on average € 4.1 billion. Further 3.92% FDI net inflows as percentage of its GDP, which is only one-third of the EU average, show that in Romania other factors than FDI power economic growth (see Figures 13 and 47).

In 2017, Romania achieved economic growth of + 6.9% after 4.8% in 2016. In Q III and Q IV in particular, economic growth accelerated to 8.8% and 6.8%, albeit 90% of their growth exceeded consumption. Thus, the economy has grown since 2011; since 2013 constant with rates of over + 3%. Romania is thus the country with the highest economic growth in 2016 and 2017. Thus, for the first time in 2017, GDP was larger than Greece's, making Romania the EU's 16th largest economy, with 56% generated by services, 24% by industry, and 6% by construction and 4% of agriculture. The main reasons for the improved economy were the reduction of VAT as of 01/01/2016 from 24% to 20% and as of 01/01/2017 to 19%, which boosted consumption; a very good agricultural harvest, a generally good economic trend (above all IT & communication, science & technology, retail trade and motor vehicle sector), persistently high direct investment by foreign companies and better implementation of large infrastructure projects with EU funds. For some years now, the increasing depiction of the economic gray areas due to the low tax burden has also brought with it a certain, not clearly assessable contribution (Aussenwirtschaft Austria, 2018r). For more country information, also in connection with FDI and economic growth in Romania, see Appendix 14.

10.7.3 The third solution path – Greece and Italy

~TAX~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*~MACSTAB*

The third solution path for negating the outcome has a raw coverage value of just under 18%. This means if we consider this path isolated from all others, it explains the negation of outcome

of this study to 18%. With a consistency of 1 (or 100%), the third solution path is sufficient for the negation of the outcome, where High taxes, low level of human capital, a large economic size, low IPR, low developed physical infrastructure, a low level of trade openness, a low developed financial system, high GDP per capita and low level of macroeconomic stability lead to this.

Thus, in the third solution path, too, we find that there is little agreement with the literature, which should not be surprising since we are investigating the negation of the outcome. Thus we find no agreement with results of Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and physical infrastructure as well as human capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (IPR and per capita income) or K. H. Zhang (2001) (macroeconomic stability and state). In the case of Li and Liu (2005), who pointed out a connection between market size and openness to trade, we see here that large economies negate the outcome without openness to trade, which contradicts their results. The same applies for the results of Chang (2007) were we find no connection. While high per capita income and high human capital drove FDI and economic growth in their study, in our case there is a high per capita income but not a high level of human capital, negating the outcome in the third pathway.

With a unique coverage of 1.6%, this solution path is in any case not a relevant solution term for explaining the negation of the outcome. The third solution path can be found in Greece and Italy.

10.7.3.1 Greece

Even due to the fact that Greece was hit the hardest in the EU from the financial crisis in the late 2000s it still received not the lowest FDI inflows in the whole Union. From 2002 und till 2016 on average € 1.7 billion flow into the country, which is however very low. That FDI do and cannot lead to economic growth in Greece does also the percentage share on the GDP of the FDI net inflows show. During the same investigation period 0.85% of the GDP where made up by FDI, which is by far the lowest in all 28 member-states (see Figures 13 and 47).

The first successes of the fiscal measures and structural reforms imposed by creditors led to a turnaround in the Greek economy in 2017. An unprecedented program for a European country began, albeit belatedly. With an increase of + 1.4% compared to the previous year, the success was manifest. It was the first plus in nine years. Only in 2014 could the Greek economy grow at short notice. The upswing ended abruptly with the political change. Newly elected Prime Minister Alexis Tsipras and his Finance Minister Yanis Varoufakis had led the country, with

its confrontation policy towards creditors, to the verge of total state bankruptcy. The only way out was the rescue package laced in the summer of 2015.
A downside is the slackening of the GDP increase towards the end of the year. At the beginning of 2017, the government had forecast growth of + 2.7%.
For 2018, the government has just lowered its forecast from + 2.5% to + 2.3%. The Greek National Bank expects growth of + 2.4% in 2018 and + 2.5% in 2019. The think tank IOBE (Foundation for Economic & Industrial Research) expects + 2.1% (Aussenwirtschaft Austria, 2018h). For more country information, also in connection with FDI and economic growth in Greece, see Appendix 14.

10.7.3.2 Italy

Italy is one of the largest economies in the EU. This is surely also reflected in the high inflows between 2002 and 2016, which were on average € 17.5 billion. However, the Italia economy cannot be driven by FDI, as first of all the analysis of the third solution path have shown, but also on the other hand only 1.16% of FDI net inflows accounted to the GDP (see Figures 13 and 47). Even with those higher inflows, near to the EU average, Italy's economy might be supported by FDI to some extent, whereby most of the growth must be initiated by other factors.
The Italian economy exceeded expectations last year. GDP increased by + 1.5% in 2017 as a whole. This upward trend is expected to continue this year; for 2018, an increase of 1.4% is expected. According to the IMF, the pre-crisis level could be reached by mid-2020.
Italian companies operating internationally have long since left behind the economic crisis of recent years. Particularly innovative companies in high-tech sectors were even able to significantly increase their sales and exports compared to the pre-crisis period.
Increased domestic consumption and the improvement of the labor market continue to boost economic growth. The unemployment rate fell to 10.8% in December 2017 and the employment figures showed a positive trend in all age groups. One downer is the high youth unemployment rate, which stood at 32.2% in December 2017 (Aussenwirtschaft Austria, 2018j). For more country information, also in connection with FDI and economic growth in Italy, see Appendix 14.

10.7.4 The fourth solution path – Lithuania and Slovenia

TAX~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~FINSYS*~GDP*MACSTAB*~STATE*

The fourth solution path of the negation of the outcome has a raw coverage value of 20.2%. This means that if we only consider this path isolated from all the others, it explains the negation

of the outcome of this study to 20.2%. With a consistency of 1 (or 100%), the fourth solution path is also sufficient for the negation of the outcome.

Although we find low taxes, openness to trade and macroeconomic stability in this path, six further conditions are negated. The condition 'Human capital' is completely absent. For this reason, we can say that Low taxes, small economic size, low IPR, low developed physical infrastructure, trade openness, low developed financial system, low GDP per capita, a high level of macroeconomic stability, a high level of state action (high level of state intervention) lead to the negation of the outcome.

It does not surprise us that our results do not match with those of Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Goodspeed et al. (2006) (taxes and state), Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and human capital / physical infrastructure), Javorcik (2004) and Hermes and Lensink (2003) (IPR and State), Falvey et al. (2006) (IPR and per capita income). Since these always point to a certain degree of development or strict protection, for example, we find these conditions negated in this path again. Only for Li and Liu (2005) (Economy size and trade openness), Chang (2007) (Human capita and per capita income) and K. H. Zhang (2001) (macroeconomic stability and state), we find one of the two conditions. Nevertheless, we cannot find a match because of the absence of the others, because in our case the solution path negates the outcome.

In addition, with a unique coverage of only 0.08%, the fourth solution path can under no circumstances be considered a relevant solution term for explaining the negation of the outcome. The fourth solution path can be found in Lithuania and Slovenia.

10.7.4.1 Lithuania

That Lithuania appears in this solution path is not surprising. As Figure 13 shows, Lithuania only has a share of FDI net inflows at its GDP of 2.9% between 2002 and 2016 on average, while the EU average during that time is 11.46%. FDI net inflows during that period belong to the lowest in the whole EU, with around 774 million euros. The Baltic neighbor state Latvia lies even below € 700 million (see Figure 47, Appendix 9).

In the period 1996-2017, Lithuania achieved high economic growth of 4.32% per year on average in Europe. The country owes this to its balanced economic structure with a significant share of the manufacturing sector and a very strong transport sector, which with their high export rates remain the backbone of the Lithuanian economy

After a few weaker years, GDP grew at the best rate since 2009 in 2017, with real growth of 3.8%, according to Economist Intelligence Unit (EIU) economic research. This was due to

strong domestic demand, fueled by strong wage increases, a revival of investment and the momentum of the economy Real estate market, as well as the good foreign demand.
Lithuania's economy is dominated by the tertiary sector, which accounts for around two-thirds of GDP. The production sector accounts for almost a quarter of GDP, the construction industry around 7% and agriculture and forestry about 3% (Aussenwirtschaft Austria, 2018m). For more country information, also in connection with FDI and economic growth in Lithuania, see Appendix 14.

10.7.4.2 Slovenia

The appearance of Slovenia in this solution path can be also underpinned by several figures in this thesis. The FDI net inflows to Slovenia measured as a percentage of its GDP account up to 2.23% on average between 2002 and 2016, which is quite low (see Figure 13). Furthermore, the FDI net inflows during the same investigated period are around € 716 million (on average, see Figure 47, Appendix 9), which can be titled as one of the lowest of the EU.
The Slovenian economy actually grew by 5% in 2017, after growing again in the last quarter and rising to 6%, the strongest increase since 2007. Driven by external demand with rising exports of 10.6% compared to the previous year, which almost doubles the previous year's figures. Domestic demand also accounts for a growing share of total growth (Aussenwirtschaft Austria, 2018u). For more country information, also in connection with FDI and economic growth in Slovenia, see Appendix 14.

10.7.5 The fifth solution path – Lithuania and Slovakia

TAX~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~GDP*MACSTAB*~STATE*

The fifth solution path for negating the outcome has a raw coverage value of 20.3%. In other words, if we consider this path isolated from all the others, it explains the outcome of this study to 20.3%. With a consistency measure of 1 (or 100%), the fifth solution path, like all previous ones, is sufficient for the negation of the outcome.
If we look at the fifth solution term, we notice that it is largely the same as the fourth, except that in this case, instead of the condition 'Human capital', this time the one of the 'Financial system' is absent.
Studies by Stiglitz (1993) (State and Finance), Globerman and Shapiro (2002) (State and Human Pawn), Abu Bakar et al. (2012) (State and Physical Infrastructure), Su and Liu (2016) (State and Human capital / Physical Infrastructure) Javorcik (2004) and Hermes and Lensink (2003) (IPR and State), Falvey et al. (2006) (IPR and per capita income), Chang (2007) (per capita income and human capital) cannot find confirmation here. Only in part for Goodspeed

et al. (2006) (taxes and state), as well as K. H. Zhang (2001)(macroeconomic stability and state) we can find a partial agreement. However, one of both conditions is negated. Only for Li and Liu (2005) (Market size and trade openness) should we actually assume that they contribute to a positive outcome (since we have a small economy here that is very open to trade). In the interaction of all factors in this fifth solution path, the other conditions predominate, with which the negation of the outcome occurs. In this path Low taxes, low level of human capital, small economic size, low IPR, low developed physical infrastructure, trade openness, low GDP per capita, high level of macroeconomic stability, high level of state action (high level of state intervention) negate the outcome.

In addition, with a unique coverage of just 0.09%, the fifth solution path, like the previous fourth, can under no circumstances be considered a relevant solution term for explaining the negation of the outcome.

The fifth solution path can be found in Lithuania and Slovakia.

10.7.5.1 Lithuania

For further information please see Chapter 10.7.4.1

However, we see that Lithuania is a member of more than one solution path which can happen in *fsQCA*. This is for the reason that the two sufficient paths (4 and 5) partially overlap which is also the reason for the (very) low unique coverage. In the case of the fourth solution path we had a unique coverage of only 0.008 and in the case of this fifth solution path the unique coverage is not particularly higher with 0.009. If we take a closer look at the solution paths we see between the fourth and the fifth solution path only two conditions change. In the fourth solution path the condition 'Human capital' is not present. In the fifth solution path this condition is negated, but however here the condition 'Financial system' is absent here. Therefore, we see that besides the two mentioned conditions all the other ones are completely the same which explains why Lithuania appears in two solution paths.

10.7.5.2 Slovakia

From the first sight we did not directly expect Slovakia to appear in this solution path as the state has FDI net inflows as share of GDP of around 4.26 % (average between 2002 and 2016; see Figure 13). Furthermore, FDI net inflows in the same period vary on average around € 2.33 billion (see Figure 47, Appendix 9), which is for such a small state quite high.

The Slovak economy grew by 3.4% in 2017. The EC has increased its forecasts for GDP growth (real) in Slovakia by 0.2% each for this and next year. Currently, 4.0% is expected for 2018, and 4.2% for next year. The main reasons for this are expected additional momentum in the

dominating automotive sector, which accounts for 44% of total industry, as well as larger EU-funded infrastructure projects (Aussenwirtschaft Austria, 2018t). For more country information, also in connection with FDI and economic growth in Slovakia, see Appendix 14.

10.7.6 The sixth solution path – Bulgaria and Cyprus

TAX~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*STATE*

The sixth solution path for negating the outcome has a raw coverage value of 21.7%. This means that if we only consider this path isolated from all others, it explains the outcome of this study to 21.7%. With a consistency of 1 (or 100%), the sixth solution path, like all previous ones, is sufficient for the negation of the outcome.

In this path the conditions taxes, GDP per capita and state action are present, while six others are negated. The condition macroeconomic stability is not present. Therefore, Low Taxes, low level of human capital, small economic size, low IPR, low developed physical infrastructure, low level of trade openness, low developed financial system, high GDP per capita, low level of state action (low level of state intervention) negate the outcome.

Thus, especially with Li and Liu (2005) results on market size trade openness, this path is completely inverse. For studies by Stiglitz (1993) (State and Financial System), Globerman and Shapiro (2002) (State and Human Capital), Abu Bakar et al. (2012) (State and Physical Infrastructure), Su and Liu (2016) (State and Physical Infrastructure / Human Capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and State), we find the condition State action is also present in our solution path, which makes it at least a little bit consistent. However, the other conditions of the named authors are negated, which makes it not surprising that the outcome is negated. For Falvey et al. (2006) we also find confirmation that per capita income appears, but the condition IPR is negated. Only the studies of Goodspeed et al. (2006) (state and taxes) can be found in this sixth solution path. Nevertheless, our results show in the opposite direction, as the complete fifth path negates the outcome and thus the results of Goodspeed et al.

In addition, with a unique coverage of 3.2%, the sixth solution path cannot be seen as a relevant solution term for explaining the negation of the outcome. The sixth solution path can be found in Bulgaria and Cyprus.

10.7.6.1 Bulgaria

On the first sight the FDI inflows to Bulgaria with nearly € 3 billion are not that high (between 2002 and 2016 on average; especially in the EU comparison, see Figure 47). However, when we have a look at Figure 13, we see that almost 10% (which is near to the EU average of

11,46%) of the FDI net inflows account to the GDP in the country, and one of the highest in the EU if we do not take countries like the Netherlands, Luxemburg, Belgium or Malta for instance into account here. Therefore, we can conclude here that our analysis findings contradict the raw data, because according to those FDI have a huge impact on the economy in Bulgaria.

The Bulgarian economy grew by 3.6% in 2017, supported by strong export figures and solid domestic demand. The industry grew by 3.9% in 2017. Electronics, pharmaceuticals and metallurgy (around 20% each) and mining (over 10%) were particularly strong. The production of vehicles, food and wood, however, declined (Aussenwirtschaft Austria, 2018b). For more country information, also in connection with FDI and economic growth in Bulgaria, see Appendix 14.

10.7.6.2 Cyprus

Cyprus had only slightly higher FDI inflows between 2002 and 2016 (on average) than Bulgaria. In Cyprus it was around € 3.6 billion inflows in this time period. With over 20% FDI net inflows as percentage of the GDP (twice the EU average) in the mentioned time Furthermore it is one of the highest after the Netherlands, Luxemburg or Malta, on one level with Ireland. Therefore, also for this case in the sixth solution path the raw data contradict our findings from the prior analysis. Even with small inflows to Cyprus, FDI still add a lot the economy of the small island state (see Figures 13 and 47).

The Cypriot economy is in an impressive upswing phase. The country has finally left the crisis years 2012 - 2014 behind. The increase in economic output in 2015 developed considerable momentum. According to recent estimates, GDP should have risen by + 3.8% in 2017. This places Cyprus among the fastest growing countries in the Eurozone.

The Economist expects 3.3% growth in 2018 and the EU Commission + 3.2%. The IMF also expressed its optimism (+ 3.6%). In 2013, the organization contributed € 1 billion to the country's € 10 billion bailout program. The rating agency S & P anticipates average growth of + 2.8% over the next three years.

The upturn was driven by private consumption, exports – primarily services – and public consumption. After four years, for the first time, albeit only weakly, rising incomes and an improved labor market gave Cypriots greater confidence in the economy. As a result, private consumption increased by + 3%. A negative saving rate, however, shows that consumption was also based on existing wealth (Aussenwirtschaft Austria, 2018x). For more country information, also in connection with FDI and economic growth in Cyprus, see Appendix 14.

10.7.7 The seventh solution path – Denmark and France

*~TAX*HUMCAP*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~MACSTAB*~STATE*

The seventh solution path for negating the outcome has a raw coverage value of 18.5%. In other words, if we consider this path isolated from all others, it explains the outcome of this study with 18.5%. With a consistency score of 1 (or 100%), the seventh solution path, like all previous ones, is sufficient to negate the outcome.

The presence of well-educated human capital, high IPR, well-developed infrastructure and high taxation financial system, low openness to trade, low GPD per capita, no macroeconomic stability, high state action and the absence of the economy size condition, negates the outcome.

Even in the seventh solution path we cannot find any real agreement with the scientific literature. Our results for this approach indicate that we have to reject the results of Goodspeed et al. (2006) (State and Taxes), Li and Liu (2005) (Market size and trade openness) and K. H. Zhang (2001) (macroeconomic stability and state), Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (State and Human Capital), Abu Bakar et al. (2012) (State and Physical Infrastructure), Su and Liu (2016) (State and Physical Infrastructure / Human Capital), Javorcik (2004) and Hermes and Lensink (2003) (State and IPR), Falvey et al. (2006) (IPR and per capita income), and Chang (2007) (per capita income and human capital) which can be only found as partially fulfilled conditions that could lead to the outcome. Thus, not surprisingly, the seventh solution path leads to the negation of the outcome.

In addition, with the lowest unique coverage of just 0.06, the seventh solution path cannot be seen as a relevant solution term for explaining the negation of the outcome.

10.7.7.1 Denmark

That Denmark appears in the negation of the outcome should not be surprising when recalling Figure 13. During the investigation period from 2002 until 2016 FDI net inflows accounted on average only to 0.7% to the GDP. Already with this figure it is quite clear that FDI do not contribute much to economic growth in the Scandinavian country. This is also underpinned by the FDI inflows (on average) during the same time period, where Denmark had € 1.7 billion FDI inflows, ranking the country in the EU wide comparison, with one of the lowest shares (see Figure 47).

Denmark's economy is growing steadily and calmly. The country has left the crisis completely behind, yet, there seems to be no risk of overheating. Following an increase of 2.2% in the previous year, Danske Bank and EIU expect growth of +1.8 and + 1.4% respectively this year. The EIU has recently revised from 1.9% to 1.4%, as just under 0.4% of the previous year's

growth is attributable to a one-time sale of patents worth DKK 9 billion (approximately € 1.2 billion), the same as in the previous year. If it comes to an adjustment by *Danmarks statistics* (subsequent reduction for 2017), the EIU would raise their forecast again (Aussenwirtschaft Austria, 2018c). For more country information, also in connection with FDI and economic growth in Denmark, see Appendix 14.

10.7.7.2 France

France encountered from 2002 until 2016 on average € 36.6 billion of FDI inflows, which is significantly higher than the EU average of € 20 billion. One might expect that in one of the largest economies of the EU for this reason FDI have a strong impact on economic growth. This is not the case if we see that the FDI net inflows in the same period only account with 1.97% to the GDP (see Figures 13 and 47). Therefore, we can conclude, also in line with our findings, that in France other reasons drive the economic growth even with a huge amount of inflows.
Economic growth of + 1.8% of GDP at the end of 2017 was the first sign of an economic recovery in France, promoting a spirit of optimism for urgently needed reforms. The forecasts for the current financial year 2018 are being revised up from 1.8% to 2% real economic growth. Although this is still below the OECD average of 2.3% and below that of the EU28 value of 2.2%, the trend remains, assuming a sustained dynamic economic sentiment, rising consumer spending (+ 1.8%), decreasing unemployment and higher real wages, positive. Although unemployment is slowing down, but still falling (2017: 9.3%, 2018: 8.7%, 2019: 8.4%), new government and private sector investment initiatives for re-industrialization continue to give reason to hope that that the second most populous EU member state after Germany (66.9 million inhabitants) will become Europe's new locomotive (Aussenwirtschaft Austria, 2018g). For more country information, also in connection with FDI and economic growth in France, see Appendix 14.

10.7.8 The eighth solution path – Germany, Austria and France

*~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~STATE*

The eighth solution path of the negation of the outcome has a raw coverage value of 22.6%. This means that if we only consider this path isolated from all others, it explains the negation of the outcome of this study to 22.6%. With a consistency of 1 (or 100%), the eighth solution path is sufficient for negating the outcome.
Here we find five out of ten conditions present (human capital, economy size, IPR, physical infrastructure and financial system). The conditions 'Tax', 'Trade openness', 'GDP per capita' and 'State action' are negated. The condition 'Macroeconomic stability' does not exist.

Here, the eighth path differs only marginally from the seventh. This time the condition 'Macroeconomic stability' is not present and the condition 'Economy size' is present.
Therefore, the comparison with the literature from the previous chapter on solution path seven does not really differ. Either we do not agree with the named authors or only one of the factors is confirmed. Thus, high taxes, high levels of human capital, high IPR, well-developed physical infrastructure, low level of trade openness, low developed GDP, low GDP per capita, high level of state intervention (high level of state intervention) negate the outcome.
In addition, with a unique coverage of 3.7%, the eighth solution path cannot be considered as a relevant solution term for explaining the negation of the outcome.

10.7.8.1 Germany

Germany as the biggest economy in Europe received more than € 43 billion on average between 2002 and 2016 which is after the Netherlands and the UK the third highest amount in all 28 EU states (see Figure 47). Nevertheless, also in accordance with our findings in this analysis FDI do not lead to economic growth in Germany. This can be also seen with Figure 13, where we see that FDI net inflows account to the GDP with 1.7%, which can be considered quite low.
Real GDP in Germany grew by 1.9% in 2016 compared to the previous year. According to a forecast by the EIU, real GDP in Germany will grow by 2.5% in 2017. For the year 2018, a GDP increase of 2.3% percent is forecast.
This is due, above all, to strong foreign trade. In the first nine months of this year, German companies sold goods worth almost € 954.7 billion abroad. This is 6.3% more than in the same period of the previous year.
The German economic success also depends largely on external factors: The expansionary monetary policy of the European Central Bank, the weak euro and the low oil price stimulate the German economy. German growth could be noticeably higher in 2018 should substantial structural progress be made in the Eurozone (Aussenwirtschaft Austria, 2018d). For more country information, also in connection with FDI and economic growth in Germany, see Appendix 14.

10.7.8.2 Austria

The small Alps state Austria received nearly € 8 billion (€ 7.8 billion) FDI inflows on average between 2002 and 2016, while we can state that with 3.16% FDI net inflows as percentage of the GDP, FDI do not lead to economic growth in Austria (see Figures 13 and 47). For this reason, we can conclude that other factors drive the economic growth in the state.

Austria's GDP in 2017 rose about twice as fast as in the previous year. The cyclical upswing should continue in 2018 as well. Growth engines are primarily the industrial sectors. Order books from manufacturers are well-filled thanks to booming exports and increased equipment investment. This will also benefit imports, which are expanding faster than the economy as a whole.

After a brilliant year in 2017, with the highest economic growth in six years, the Austrian economy will remain dynamic in 2018 as well. The robust international environment is benefiting the export-oriented industry. In the US, the upturn is continuing, in the euro area the economy is brisk, and production is growing. The economy is also expanding rapidly in Central and Eastern European countries and most emerging economies (Simer, 2018). For more country information, also in connection with FDI and economic growth in Austria, see Appendix 14.

10.7.8.3 France

For further explanations please see subchapter 10.7.7.2.

As already the case in solution paths four and five we again find this time France in two solution paths (7 and 8). This is as already mentioned not an uncommon thing in *fsQCA*, that two or more solution paths partially overlap, shown also in a very low unique coverage. If we look at Table 10 again we see that the seventh solution path has a really low unique coverage of 0.006, while also the eighth solution path has not a high unique coverage with 0.03. The paths only differ with the conditions 'Economy size' and 'Macroeconomic stability'. While the latter one is absent in the eighth solution paths the former one is absent in the seventh solution path. The rest of both solution paths is completely the same and therefore explains why we find France in two solution paths of our analysis.

10.7.9 The ninth solution path – Portugal

~TAX~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*~MACSTAB*~STATE*

The ninth solution path for negating the outcome has a raw coverage value of 17.5%. In other words, if we consider this path isolated from all others, it explains the outcome of this study with 17.5%. With a consistency of 1 (or 100%), the ninth solution path is also sufficient for negating the outcome.

With the exception of two conditions (economy size and physical infrastructure), all other eight are negated. This is also reflected in the results compared to other authors. Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Goodspeed et al. (2006) (tax and state), Javorcik (2004) and Hermes and Lensink (2003) (IPR and state), Falvey et al. (2006) (per capita income and IPR), Chang (2007) (per capita income and human

capital) and K. H. Zhang (2001 (state and macroeconomic stability) are not confirmed in our analysis. The findings like those of Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and physical infrastructure / human capital), and Li and Liu (2005) (market size and trade openness) are only partially present, but not in combination. We can therefore conclude that high-tax, low-level human capital, large economic size, low IPR, well-developed physical infrastructure, low level of trade openness, low GDP, low level of macroeconomic stability, high level of state action negates the outcome.

With a unique coverage of 1%, the ninth solution path should also not be considered as a relevant solution term for explaining the negation of the outcome. The ninth solution path can be found in Portugal. The state had FDI inflows of € 6.5 billion during our investigation period from 2002 until 2016. Nevertheless, they accounted only for 3.89% to the GDP which is quite low and in line with the findings in this chapter that FDI in Portugal do not lead to economic growth (see Figures 13 and 47). Therefore, other reasons must drive economic growth in the country.

In the first three months of 2018, Portugal's economy grew by 2.1% (2.4% in the last quarter of 2017).

In the previous year (2017) Portugal had the highest economic growth in this century: + 2.7%!

In the first quarter of 2018, Portugal's exports increased by 2.9% and imports by 6.6%.

These are further gains in international trade following the significant increases in 2017, as Portugal's exports rose double-digit. The main reasons for this were cars and fuel. Together, these two product groups accounted for more than a third of export increases (Aussenwirtschaft Austria, 2018q). For more country information, also in connection with FDI and economic growth in Portugal, see Appendix 14.

10.7.10 The tenth solution path – Spain

~TAX~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*MACSTAB*STATE*

The tenth solution path of the negation of the outcome has a raw coverage value of 16.4%. In other words, if we consider this path isolated from all others, it explains the negation of the outcome of this study with 16.4%. With a consistency of 1 (or 100%), the tenth solution path is of course sufficient to denote the negation of the outcome.

In this path we find the conditions 'Economy size', 'Physical infrastructure', 'Macroeconomic stability' as well as 'State action' affirmed, while the other six conditions appear negated.

Here we can do a tripartite comparison of our results with those of the literature. For Chang (2007) (per capita income and human capital), Falvey et al. (2006) (IPR and per capita income)

as well as Javorcik (2004) and Hermes and Lensink (2003) (State and IPR), we find no ambiguity whatsoever. For authors such as Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Goodspeed et al. (2006) (taxes and state) or Li and Liu (2005) (market size and trade openness) we find again only partial matches in the tenth solution path. For K. H. Zhang (2001) (macroeconomic stability and the state), Su and Liu (2016) and Abu Bakar et al. (2012) (state and physical infrastructure) we do find the conditions in the solution path. However, their presence does not lead to the outcome but to the negation of these, since other conditions in this path probably outweigh. It can therefore be said that the combination of high taxes, low level of human capital, large economic size, low IPR, well-developed physical infrastructure, low level of trade openness, low developed financial system, low level of GDP, high level of macroeconomic Low level of state intervention does not lead to FDI and economic growth.

With a unique coverage of 1.4%, the tenth solution path should not be considered as a relevant solution term for explaining the negation of the outcome. The tenth solution path can be found in Spain. FDI inflows to the country were notable above the EU average (€ 20.3 billion) with nearly € 30 billion on average (€ 29.8 billion) between 2002 and 2016. Nevertheless, FDI do not seem to lead to economic growth, when we follow our analysis in this subchapter. Further, the FDI net inflows as percentage of the GDP with 3.05% in Spain (on average, same investigation period) show that other factors must drive the economic growth in the country (see Figures 13 and 47).

The Spanish economy has been growing steadily for three years and will continue to grow. This trend is also confirmed by the IMF. 2017 has closed with a stunning growth of 3.1%. Thus, for the third consecutive year, the Spanish economy has been growing at more than 3%, and in 2017 has again reached the pre-crisis GDP of 2008 (€ 1,164 billion). The impact of the crisis in Catalonia cannot yet be assessed. The fear that the Catalonia crisis is already having an impact on growth in 2017 has not been fulfilled. But it will certainly influence growth in 2018. According to forecasts from the IMF, this will only amount to 2.4%.

The engines of growth in 2017 were consumption and investment. Since the turnaround in private consumption in 2014, this has risen steadily; 2016 already by + 3%. In 2017, the increase was a further 2.4%. A recent study by Deloitte confirms this trend. For example, in 2017 the Spaniards spent an average of € 633 per person at Christmas. This is 3.3% more than the year before and is at the forefront in Europe. The reason for this is the improvement in pensions and, in particular, confidence in the economy (Aussenwirtschaft Austria, 2018v). For more country information, also in connection with FDI and economic growth in Spain, see Appendix 14.

10.7.11 The eleventh solution path – Finland

*~TAX*HUMCAP*~ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*~MACSTAB*STATE*

The eleventh solution path for negating the outcome has a raw coverage value of 15.9%. This means that if we consider this path isolated from all the others, it explains the outcome of this study to just nearly16%. With a consistency of 1 (or 100%), the eleventh solution path should be considered sufficient to negate the outcome.

Six out of ten conditions (human capital, IPR, physical infrastructure, financial system, GPD per capita and state action) are present while the remaining four are negated.

While the results of Goodspeed et al. (2006) (State and Tax), K. H. Zhang (2001) (State and Macroeconomic Stability) and Li and Liu (2005) (market size and trade openness) only partially or not appear in this path, the results of Stiglitz (1993) (State and Financial System), Globerman and Shapiro (2002) (State and Human Capital), Abu Bakar et al. (2012) (State and Physical Infrastructure) Su and Liu (2016) (State and Physical Infrastructure / Human Capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and State), Falvey et al. (2006) (per capita income and IPR), and Chang (2007) (per capita income and human capital) can also be found in our eleventh path, but even assuming this superiority of agreement between all these factors does not lead to an outcome in our study, which is negated. So even high taxes, high level of human capital, low economic size, high IPR, well developed physical infrastructure, low level of trade openness, high developed GDP, high GDP per capita Low level of macroeconomic stability (low level of state intervention) will not lead to FDI and economic growth in the EU.

In addition, with a unique coverage of only 0.06%, the eleventh solution path cannot be described as a relevant solution term for explaining the negation of the outcome. The eleventh solution path can be found in Finland. The Scandinavian country received on average € 5.2 billion between 2002 and 2016, which can be considered low in comparison to the other EU states. However according to this solution path FDI do not contribute to economic growth in Finland. In relation to that the FDI net inflows as percentage of the GDP with nearly 3% do not show that FDI and economic growth in Finland (see Figures 13 and 47). For this reason, other factors lead to economic growth in the country.

Although Finnish GDP has posted slight increases since 2016, actual figures have clearly exceeded forecasts. The projected result of 2.8%, which was rather cautious for 2017, was ultimately considerably exceeded with an increase of 3.3%. However, experts from different institutions come to different conclusions. For 2018, a growth of 2.3% is currently estimated. It remains exciting to see what the innovative Finns will make of it.

This growth is based on increasing order intake in the industrial and service sectors as well as the growing activity of the construction industry in the fast-growing conurbations. Private consumption was also a key driver of growth but is likely to slow in 2018 due to inflationary, slower growth in purchasing power. This will manifest itself directly in the lower growth of 2018. Investment in machinery and equipment as well as in construction projects – although these will also weaken – will continue to be the drivers of growth this year and next (Aussenwirtschaft Austria, 2018f). For more country information, also in connection with FDI and economic growth in Finland, see Appendix 14.

10.7.12 The twelfth solution path – Sweden

*~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*MACSTAB*STATE*

The twelfth solution path of the negation of the outcome has a raw coverage value of 22%. This means that if we consider this path isolated from all the others, he explains the outcome of this study by 22%. With a consistency of 1 (or 100%), the twelfth solution path, like all other eleven, must be described as sufficient for the negation of the outcome.

Except for the negation of the conditions of 'Tax' and 'Trade openness', all the other eight conditions are present in this path.

Here are theoretically the results of Stiglitz (1993) (state and financial system), Globerman and Shapiro (2002) (state and human capital), Abu Bakar et al. (2012) (state and physical infrastructure), Su and Liu (2016) (state and physical infrastructure / human capital), Javorcik (2004) and Hermes and Lensink (2003) (IPR and State), Falvey et al. (2006) (IPR and per capita income), Chang (2007) (per capita income and human capital), and K. H. Zhang (2001) (macroeconomic stability and state) consistent. Only Li and Liu (2005) (Trade Openness and Market Size), and Goodspeed et al. (2006) (State and Tax) differ in parts. Nevertheless, this path is a negation of the outcome, wherefore we cannot confirm our results even with this large number of authors and their results with our study. Even high taxes, high level of human capital, large economic size, high IPR, high developed physical infrastructure, low level of trade openness, well-developed financial system, high GDP per capita, high level of macroeconomic stability, low level of state action (low level of state intervention) lead to a negation of the outcome in the EU states.

Although the twelfth path has the highest unique coverage of 6.4%, due to this low value, this solution term is also to be considered not relevant for explaining the negation of the outcome. The twelfth solution path can be found in Sweden. The Scandinavian country received between 2002 and 2016 on average around € 10.7 billion which is around half of the average inflows to

all EU countries (€ 20.3 billion). However, with only 3.28% FDI net inflows as percentage of the GDP and the findings in this analysis and solution path we can conclude that other reasons than FDI lead to economic growth in Sweden (see Figures 13 and 47).

Thanks to good general conditions, the Swedish economy continued to outperform 2.7% in 2017, as it had originally forecast at only + 2.3%. Sweden's economists speak of sustained momentum, which will lose some of its momentum in 2018, but should continue in 2019 – again somewhat weakened. Over the years, the driving force was optimism, which motivated both Swedish consumers and entrepreneurs to spend heavily on long-term purchases or investments. The recent caution among Swedish investors and consumers will initially be offset by the high level of activity of Swedish exporters and should therefore not have a direct impact on the economy as a whole (Aussenwirtschaft Austria, 2018s). For more country information, also in connection with FDI and economic growth in Sweden, see Appendix 14.

10.7.13 The thirteenth solution path – Estonia

*TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE*

Further explanation here fore can be found in Chapter 10.3.5.

Especially the last solution path runs contrary to the expectation: with the exception of the absence of a well-developed economy size and physical infrastructure all present conditions in the sense of the theory would have to speak for FDI leading to economic growth, here however the conditions explain that FDI does not lead to economic growth. If one compares this term with the solution for the outcome FDIGRW, one notices that this appears in both solutions. The term thus explains both the outcome and its negation.

This paradoxical outcome comes from the nature of fuzzy sets: when using fuzzy sets, cases can be both a part of the outcome and the negation (Cooper & Glässer, 2011, p. 7). The truth tables show that the term has a high consistency in both cases: 0.8125 for the outcome FDIGRW and even '1' for the negation fdigrw (Tables 5 and 10). The consistency of the term is thus higher in the negation.

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Cases with greater than 0.5 membership in term TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*~GDP*~STATE: HRV (0.71,0.88),
  LVA (0.55,0.9)
Cases with greater than 0.5 membership in term TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~GDP*~MACSTAB*~STATE: POL (0.56,0.9),
  ROU (0.54,0.89)
Cases with greater than 0.5 membership in term ~TAX*~HUMCAP*ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*~MACSTAB: GRC (0.54,0.95),
  ITA (0.54,0.95)
Cases with greater than 0.5 membership in term TAX*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~FINSYS*~GDP*MACSTAB*~STATE: LTU (0.56,0.92),
  SVN (0.54,0.93)
Cases with greater than 0.5 membership in term TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*TRAOPN*~GDP*MACSTAB*~STATE: SVK (0.58,0.88),
  LTU (0.51,0.92)
Cases with greater than 0.5 membership in term TAX*~HUMCAP*~ECNSIZE*~IPR*~PHYINFR*~TRAOPN*~FINSYS*GDP*STATE: BGR (0.58,0.61),
  CYP (0.52,0.87)
Cases with greater than 0.5 membership in term ~TAX*HUMCAP*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~MACSTAB*~STATE: DNK (0.61,0.95),
  FRA (0.51,0.93)
Cases with greater than 0.5 membership in term ~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*~GDP*~STATE: DEU (0.75,0.94),
  AUT (0.62,0.91), FRA (0.51,0.93)
Cases with greater than 0.5 membership in term ~TAX*~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*~MACSTAB*~STATE: PRT (0.51,0.89)
Cases with greater than 0.5 membership in term ~TAX*~HUMCAP*ECNSIZE*~IPR*PHYINFR*~TRAOPN*~FINSYS*~GDP*MACSTAB*STATE: ESP (0.61,0.91)
Cases with greater than 0.5 membership in term ~TAX*HUMCAP*~ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*~MACSTAB*STATE: FIN (0.55,0.91)
Cases with greater than 0.5 membership in term ~TAX*HUMCAP*ECNSIZE*IPR*PHYINFR*~TRAOPN*FINSYS*GDP*MACSTAB*STATE: SWE (0.62,0.91),
  GBR (0.59,0.88)
Cases with greater than 0.5 membership in term TAX*HUMCAP*~ECNSIZE*IPR*~PHYINFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE: EST (0.58,0.69)
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Figure 35: Solution paths for the negation of the outcome in combination with countries of appearance

Solution path	***Countries***
(1) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*~GDP*~STATE	Croatia (0.71, 0.88), Latvia (0.55, 0.9)
(2) TAX*~HUMCAP*ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~GDP*~MACSTAB*~STATE	Poland (0.56, 0.9), Romania (0.54, 0.89)
(3) ~TAX*~HUMCAP*ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*GDP*~MACSTAB	Greece (0.54, 0.95), Italy (0.54, 0.95)
(4) TAX*~ECNSIZE*~IPR*~PHY-INFR*TRAOPN*~FINSYS*~GDP*MAC-STAB*~STATE	Lithuania (0.56, 0.92), Slovenia (0.54, 0.93)
(5) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*TRAOPN*~GDP*MACSTAB*~STATE	Slovakia (0.58, 0.88), Lithuania (0.51, 0.92)
(6) TAX*~HUMCAP*~ECNSIZE*~IPR*~PHY-INFR*~TRAOPN*~FINSYS*GDP*STATE	Bulgaria (0.58, 0.61), Cyprus (0.52, 0.87)
(7) ~TAX*HUMCAP*IPR*PHY-INFR*~TRAOPN*FINSYS*~GDP*~MAC-STAB*~STATE	Denmark (0.61, 0.95), France (0.51, 0.93)
(8) ~TAX*HUMCAP*ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*~GDP*~STATE	Germany (0.75, 0.94), Austria (0.62, 0.92), France (0.51, 0.93)
(9) ~TAX*~HUMCAP*ECNSIZE*~IPR*PHY-INFR*~TRAOPN*~FINSYS*~GDP*~MAC-STAB*~STATE	Portugal (0.51, 0.89)
(10) ~TAX*~HUMCAP*ECNSIZE*~IPR*PHY-INFR*~TRAOPN*~FINSYS*~GDP*MAC-STAB*STATE	Spain (0.61, 0.91)
(11) ~TAX*HUMCAP*~ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*GDP*~MAC-STAB*STATE	Finland (0.55, 0.91)
(12) ~TAX*HUMCAP*ECNSIZE*IPR*PHY-INFR*~TRAOPN*FINSYS*GDP*MAC-STAB*STATE	Sweden (0.62, 0.91)
(13) TAX*HUMCAP*~ECNSIZE*IPR*~PHY-INFR*TRAOPN*FINSYS*GDP*MACSTAB*STATE	Estonia (0.58, 0.69)

Table 11: Solution paths in combination with countries of appearance

11 Conclusion

In the previous study we tried to show 'How does Foreign Direct Investment influence economic growth in the 28-member states of the European Union?' To answer this research question, we have formulated two sub-questions in advance, which should help in the answer.
The first sub question was: 'Are there specific conditions which appear to be necessary for the outcome?'
We can definitely answer this question with yes. The result of our analysis is that necessary conditions for the outcome are the openness to trade and also the influence of the state. Added to this we found the conditions such as the financial system, per capita income and macroeconomic stability, with high consistency values also contributing significantly to FDI and economic growth, however these are not considered necessary conditions for the outcome. Our results show that especially the size of an economy is not decisive for the outcome. Both small and large economies can accumulate FDI to the same extent and thus drive economic growth. The other conditions, taxes, human capital, and IPR protection that are also used in our analysis have significantly low consistency values and therefore cannot be considered as necessary for the outcome of our study. As part of the analysis of sufficient conditions, we find six solution paths that lead to the outcome. In all, logically, the previously mentioned necessary conditions of trade openness and state action can be found again. Nevertheless, we must mention here that, according to our analysis results, none of the six solution paths explains the outcome to a sufficient extent. Countries on which the solution paths apply are Malta, the Czech Republic, Ireland, Luxemburg, Estonia, Belgium and the Netherlands. In these countries, FDI leads to economic growth. Especially in the latter two and Luxemburg, it should come as no surprise that FDI, to some extent, contribute to economic growth, as these countries have very high FDI inflows. While Ireland and Malta certainly are also not a big surprise, the emergence of the Czech Republic is rather an unexpected result of our analysis, as we would expect countries like the United Kingdom, Germany or France to show up here.
However, *QCA* can also be used to investigate the negation of the outcome, FDI does not lead to economic growth. In contrast to the previous analysis, no necessary conditions could be found here that negate the outcome. Within the analysis of sufficient conditions, we find extremely high consistency values, with some exceptions. All in all, we have thirteen solution paths that negate the outcome. However, we do not find a condition that appears in all thirteen solution paths, and it is also almost impossible to recognize a pattern that would permit a simplification of the combinations. None of the paths is thus a relevant solution term that leads to the negation of the outcome. Nevertheless, thanks to the analysis, we can assign countries to

the individual paths. In this case we find the countries: Croatia, Latvia, Poland, Romania, Greece, Italy, Lithuania, Slovenia, Slovakia, Bulgaria, Cyprus, Denmark, France, Germany, Austria, Portugal, Spain, Finland, Sweden and Estonia. It means that especially in those nations which receive large sums of FDI, Germany, France or Italy other factors than FDI contribute to economic growth.

Our second sub question was: 'What is the impact / extent of foreign direct investment on economic growth in the 28-member-states of the European Union?'

Although we have shown that FDI leads to economic growth in the designated countries, we cannot really demonstrate how strong their influence is on growth. This is certainly due in part to our analytical method *QCA*, which does not allow such a direct conclusion. However, to prove the extent we can certainly use the share of FDI net inflows in the GDP, which also served as the basis for the Outcome defined in this study.

Of course, Malta stands out clearly among all EU-28 countries. With 117% FDI net inflows as percentage of its GDP, the former one has a significant impact on the economic development of the country, which makes it very dependent on international markets. Certainly, also an influence of FDI on economic growth in Luxemburg, the Netherlands and Ireland cannot be dismissed, in which FDI net inflows as percentage of GDP take higher double-digit GDP values. In Belgium too, with 11.59% FDI net inflows as percentage of the GDP, just above the EU average, the impact of FDI on economic growth cannot be denied. However, the Czech Republic, with 4.6% FDI net inflows as a percentage of GDP, still accounts for a significant share of economic growth. In combination with the fact that these countries appear in the solution paths of the study of sufficient conditions, we can state that in all other EU-28 countries, the impact of FDI on economic growth is considered low or absent.

Thus, to answer our research question we can state that FDI is definitely driving economic growth in some specific countries of the EU-28. For this purpose, as in other work on the subject, a variety of conditions is necessary so that even FDI can flow into the target country to ultimately lead to economic growth. These are, according to our analysis, solely a high level of openness to trade and a low level of state intervention, which leads to the outcome. Nonetheless, as mentioned above, a well-developed financial system, high per capita income and a high level of macroeconomic stability are conducive to the inflow of FDI, which can then drive economic growth. However, we find only a link for seven EU-28 countries, making a general statement that FDI contributes to economic growth extremely difficult.

A transferability of our study to another context is only partially possible. Since we have disclosed the entire operationalization and the individual conditions, this study can certainly be

repeated for any other country or region by means of *fsQCA*, as long as the conditions we use are sufficiently statistically recorded. However, our results that trade openness and low government intervention attract FDI leading to economic growth is only valid for the investigation of the EU-28 applied in this work. For other countries or regions, there will almost certainly be other conditions, if any, that will be necessary lead the outcome.

In terms of generalizability, we should question whether we would obtain the same results by using other methods of examinations or whether the results depend solely on the method used. This statement must be answered with a clear no. The results of this study are solely dependent on the method *fsQCA* and could not be easily confirmed by a regression analysis, for example. Furthermore, the results of our study would deviate even if we completely remove one of the ten conditions from the analysis or put the operationalization of one of the conditions completely differently than we did in this work.

Finally, we can conclude, that a reduction of the ten conditions applied here would certainly significantly increase the existing limited diversity in this work, which should therefore also be considered as a recommendation for future studies with *fsQCA*. Because just as we have shown in this study, limited diversity is a real danger, making it almost impossible to make conclusions in the context of *fsQCA*, unless we are thinking of a simple case description. But even for a simple case description, the number of conditions used for analysis should be significantly reduced. One might consider using conditions that do not directly constitute, in the practical or theoretical sense, a central part of the explanatory framework. Here, the researchers themselves can decide whether specific conditions can be included in the analysis under a superordinate concept using a set-theoretic or quantitative approach. Furthermore, within the continuous development of *QCA*, it is also possible to carry out separate analyzes with different conditions, which corresponds to the so-called two-step approach.

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Appendix 1: Main theories, elements and representatives on Foreign Direct Investment

Theory	***Key elements***	***Main representatives***
Market imperfection or monopolistic competition	A company, which places FDI, has to have a monopolistic advantage, to compete with national companies in the host country.	Hymer (1976), Kindleberger (1969), Caves (1971)
International product cycles	A product is introduced and is gaining in sales volume in a country that has the ability to introduce new products. First of all, globalization in the actual sales market takes place through exports and ultimately through FDI.	Vernon (1966, 1971, 1974), Wells (1968, 1969)
National market arbitrage	The appearance of FDI can be explained through advantages at the raising of capital by foreign companies compared to domestic ones.	Aliber (1970)
Internalization	'The function of a market costs'. To get a higher return on an investment a company that makes FDI will control its production and marketing through a vertically integrated corporate structure.	Coase (1937), Williamson (1975), Buckley and Casson (1976), Rugman (1981), Teece (1981)
Eclectic Theory	FDI occur when multinationals benefit from ownership, geographical circumstances or internalization (combines location, internalization and market imperfection theories).	Dunning (1979, 1980, 1988, 1993)

Table 12: Main theories, key elements and representatives on FDI

Source: Own presentation after Hinrichs (2005)

Appendix 2: XY-Plots for the outcome with every condition

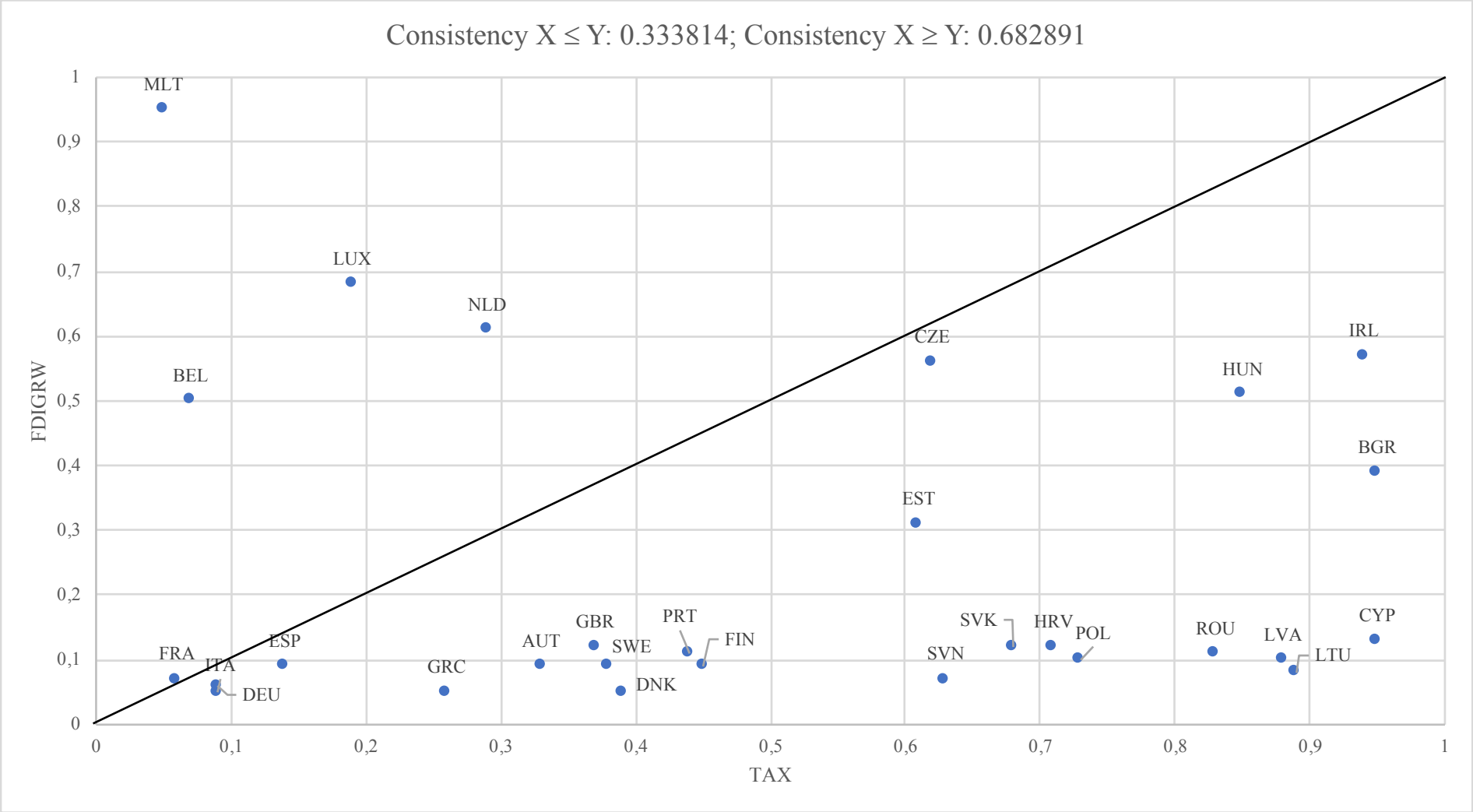

Figure 36: XY-Plot for the condition 'Tax'

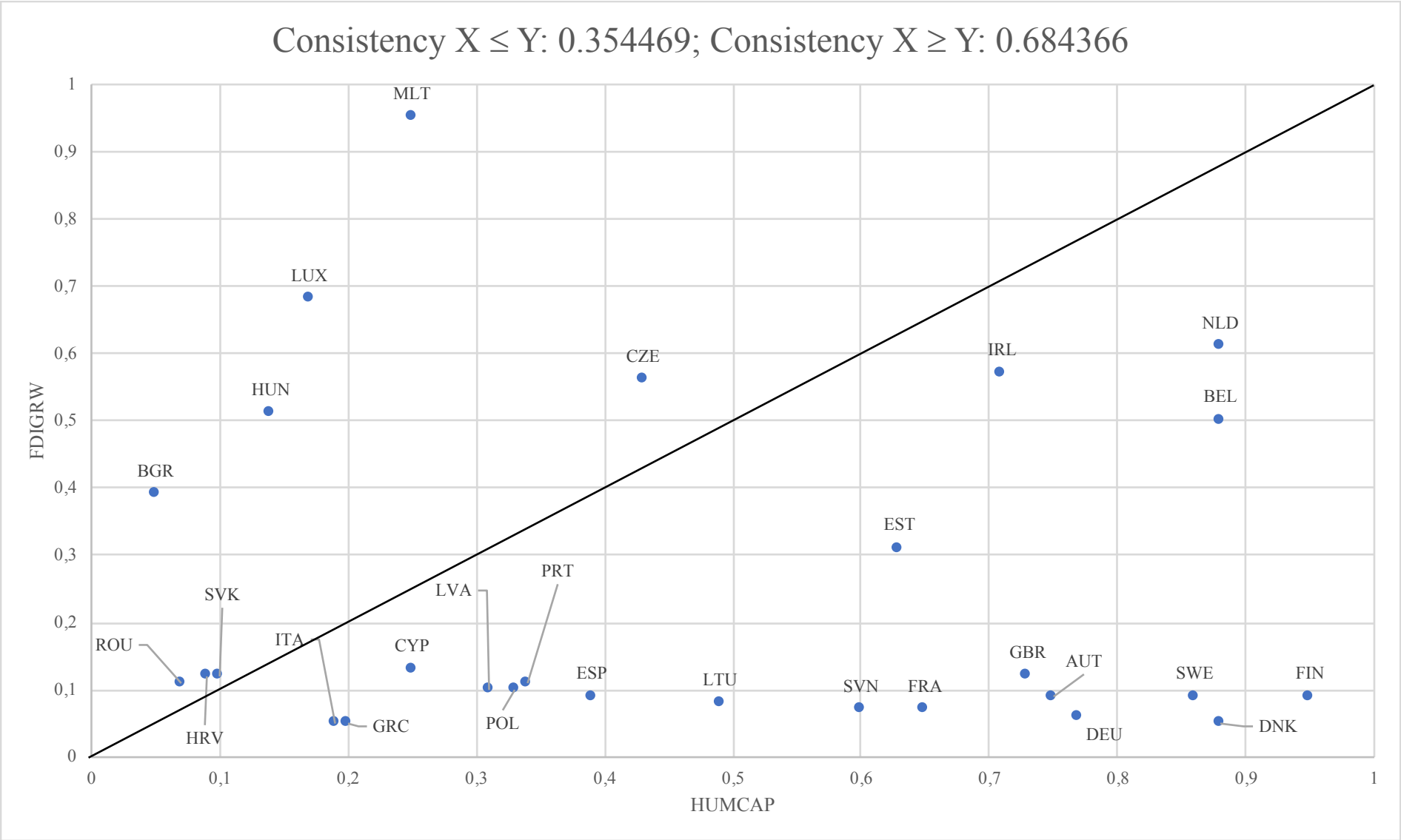

Figure 37: XY-Plot for the condition ‘Human capital’

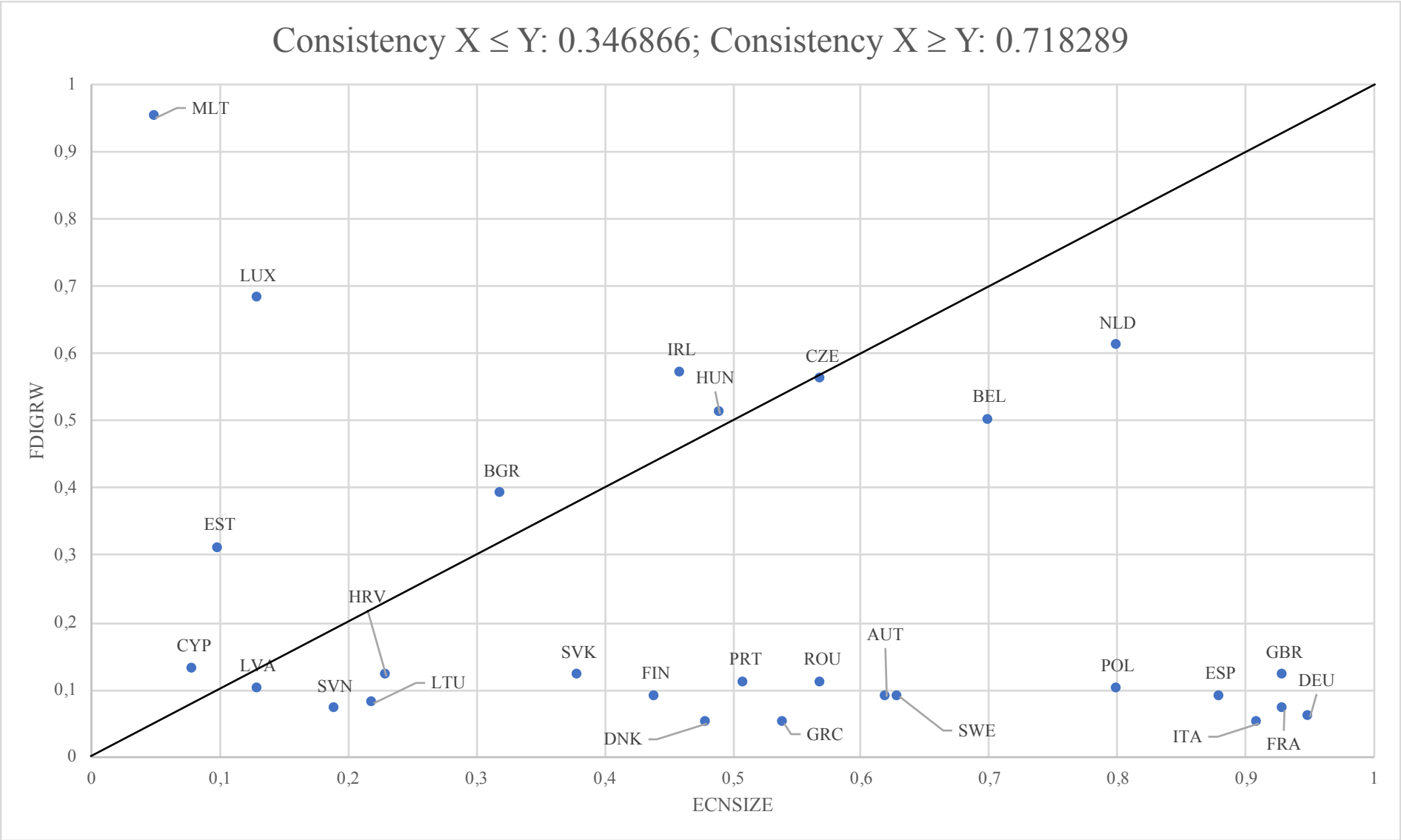

Figure 38: XY-Plot for the condition ‘Economy Size’

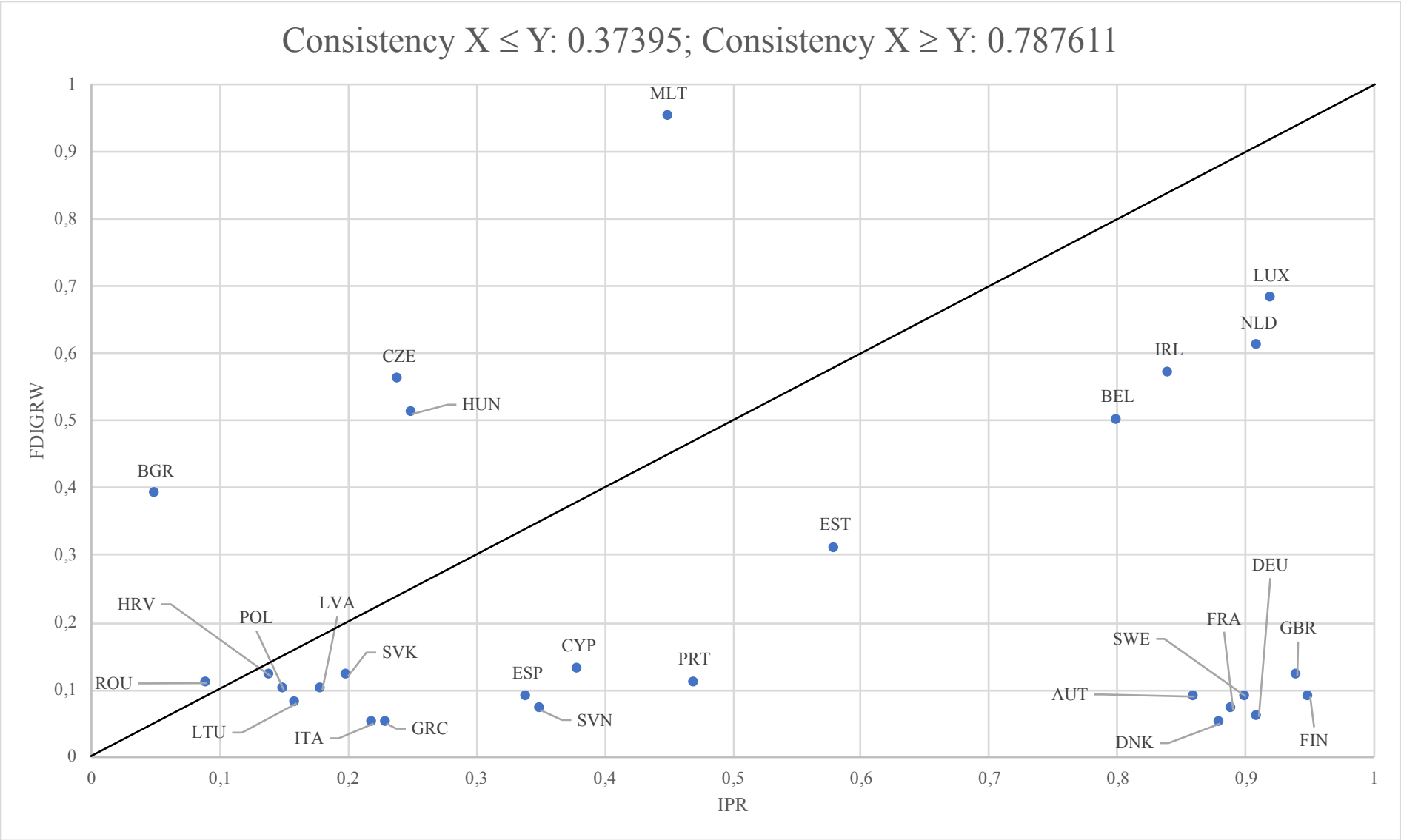

Figure 39: XY-Plot for the condition ‘IPR’

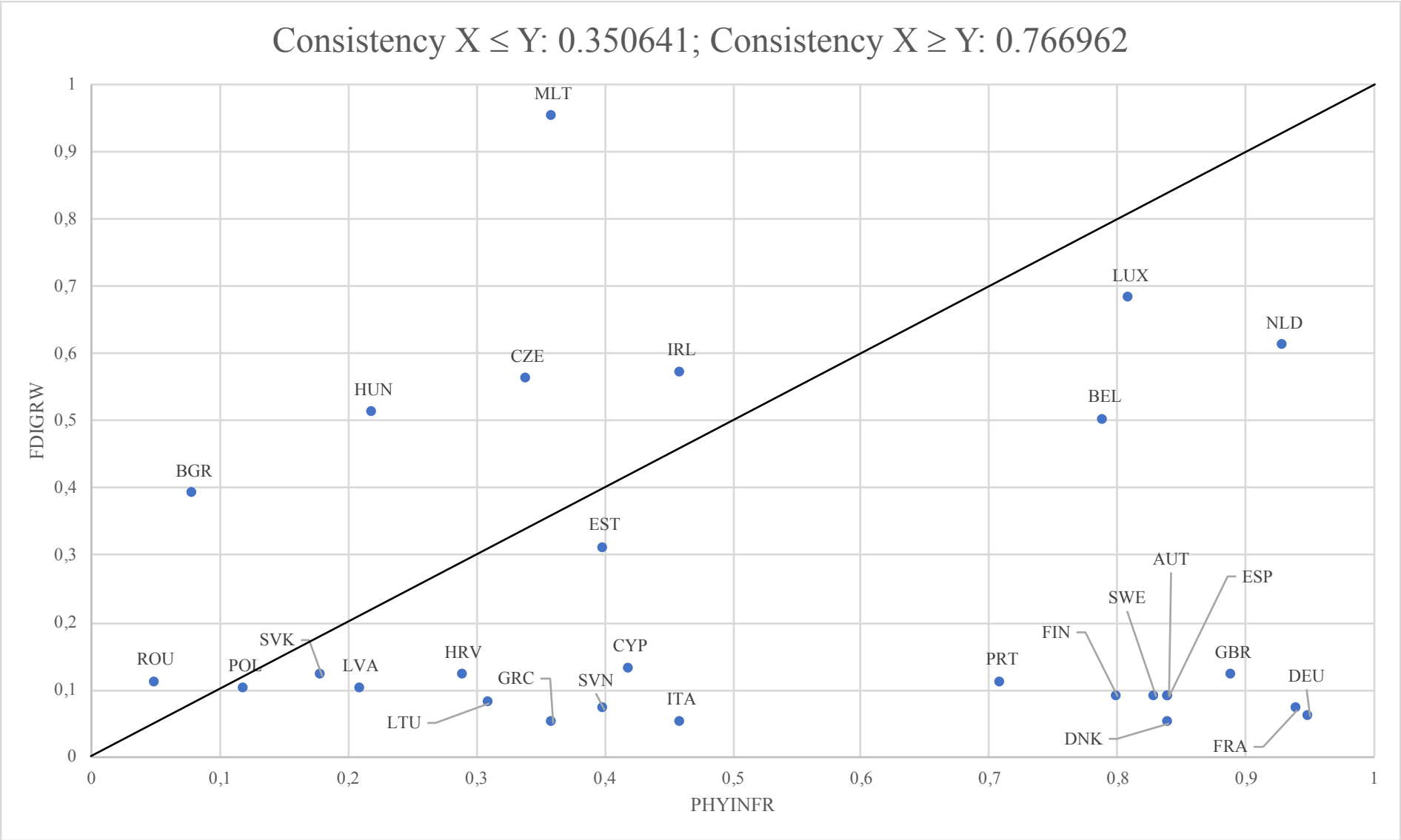

Figure 40: XY-Plot for the condition ‘Physical infrastructure’

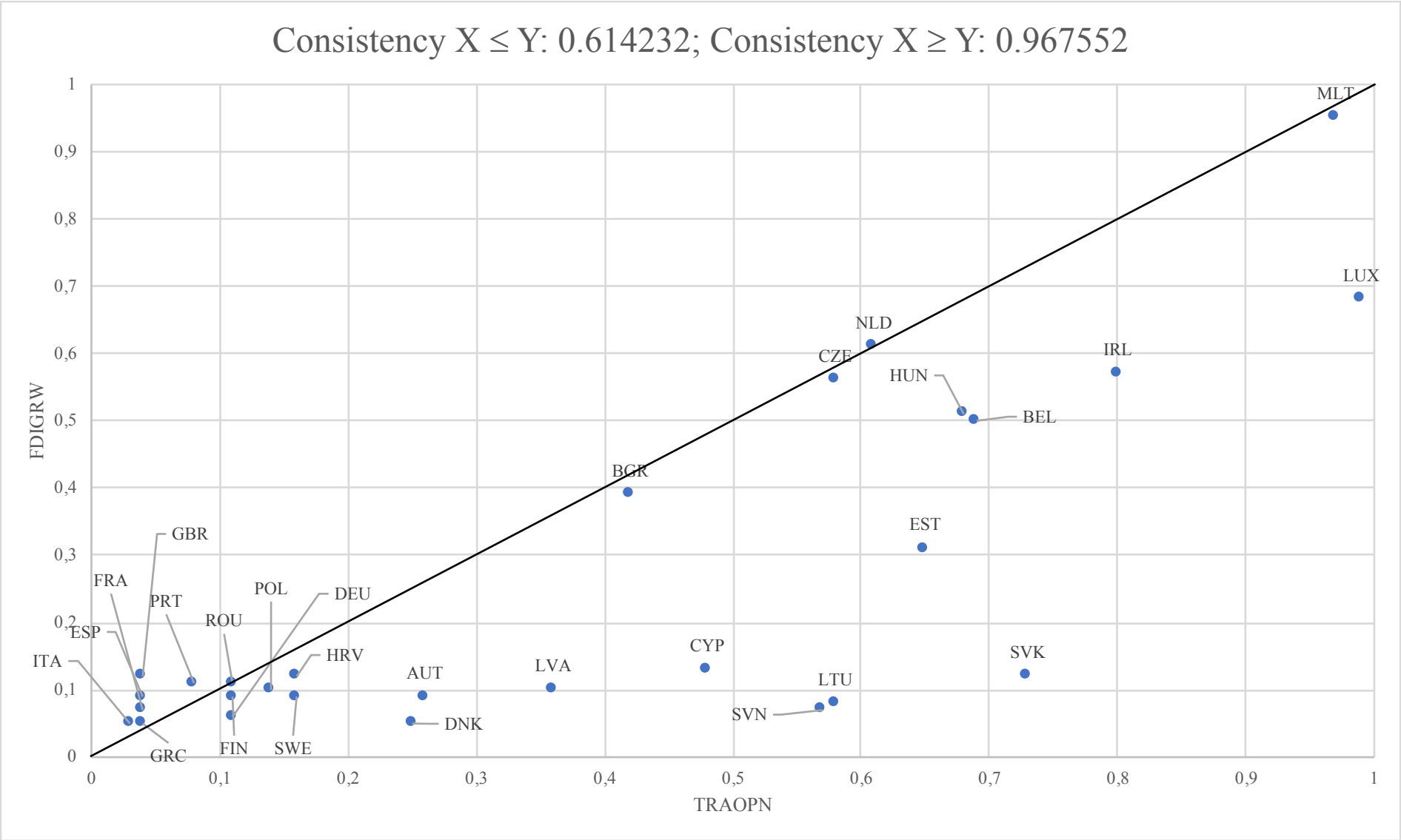

Figure 41: XY-Plot for the condition ‘Trade openness’

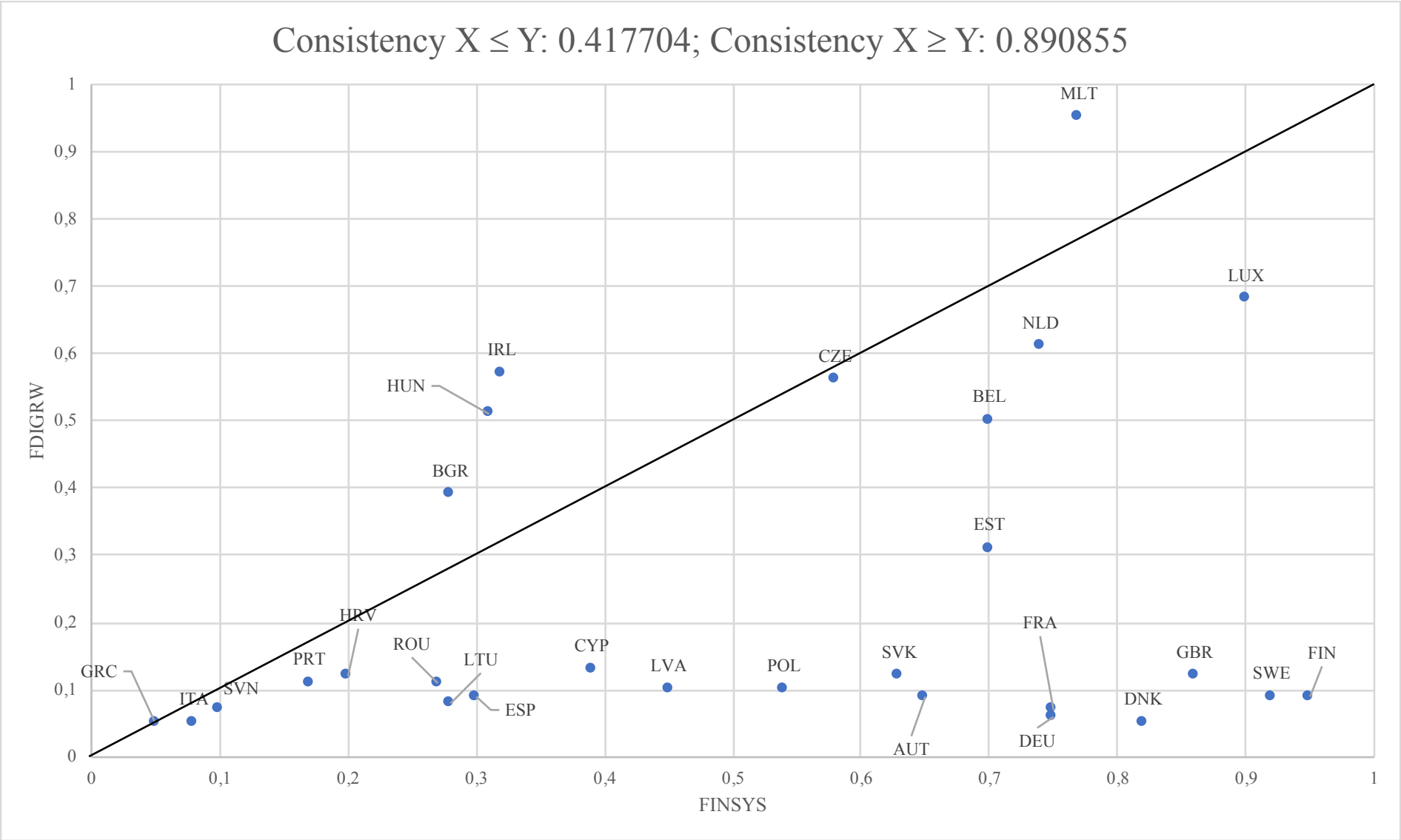

Figure 42: XY-Plot for the condition ‘Financial System’

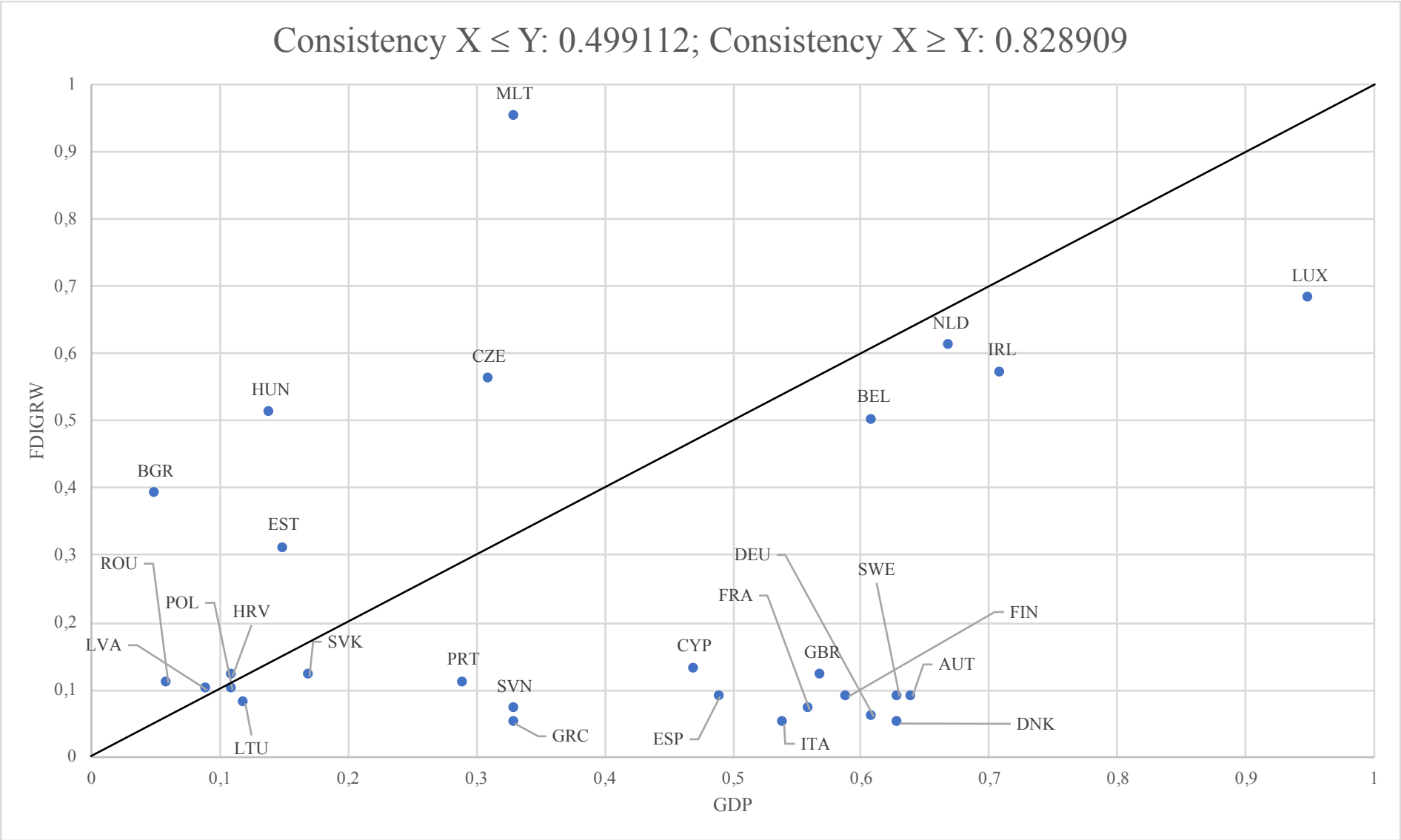

Figure 43: XY-Plot for the condition ‘GDP per capita’

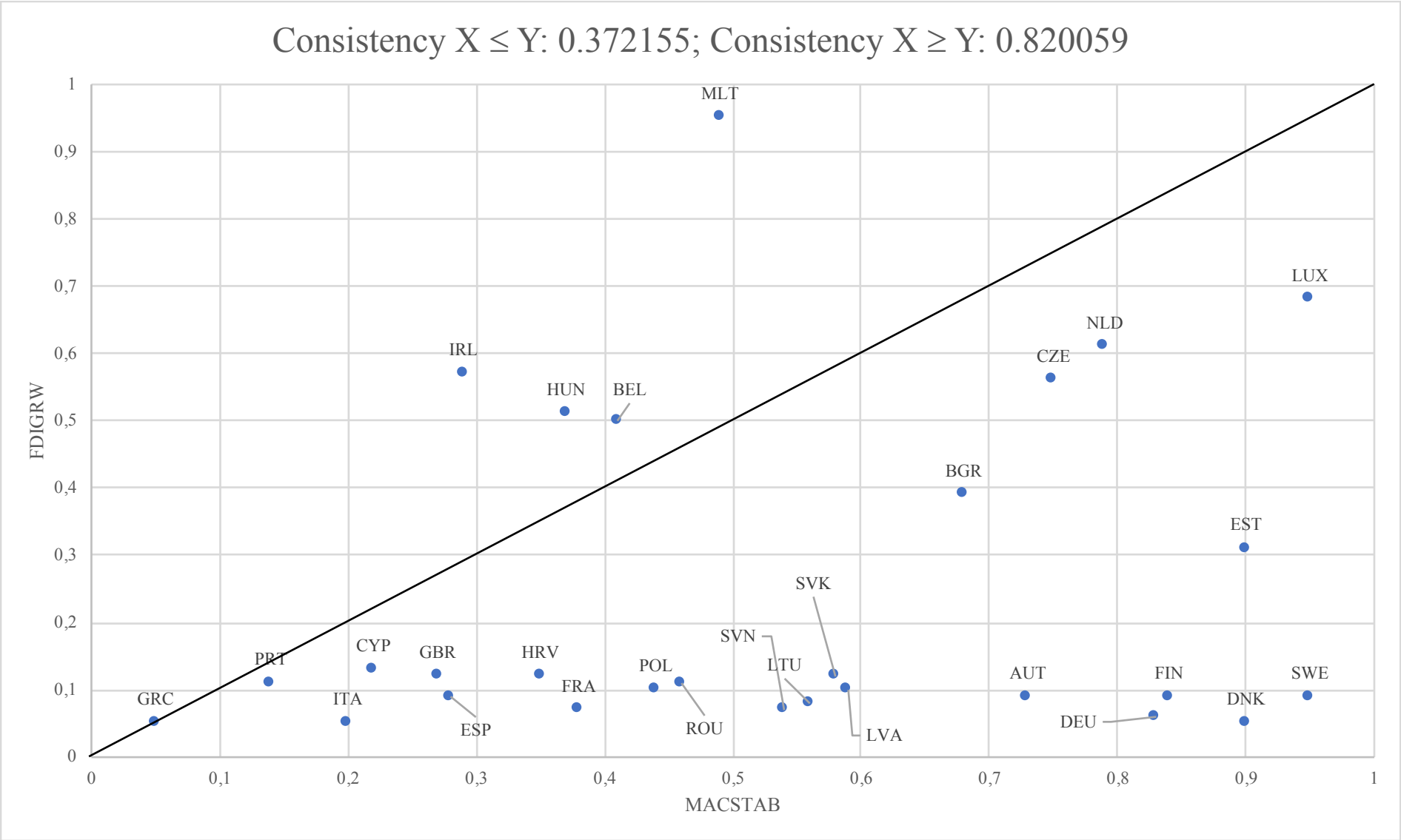

Figure 44: XY-Plot for the condition ‘Macroeconomic stability’

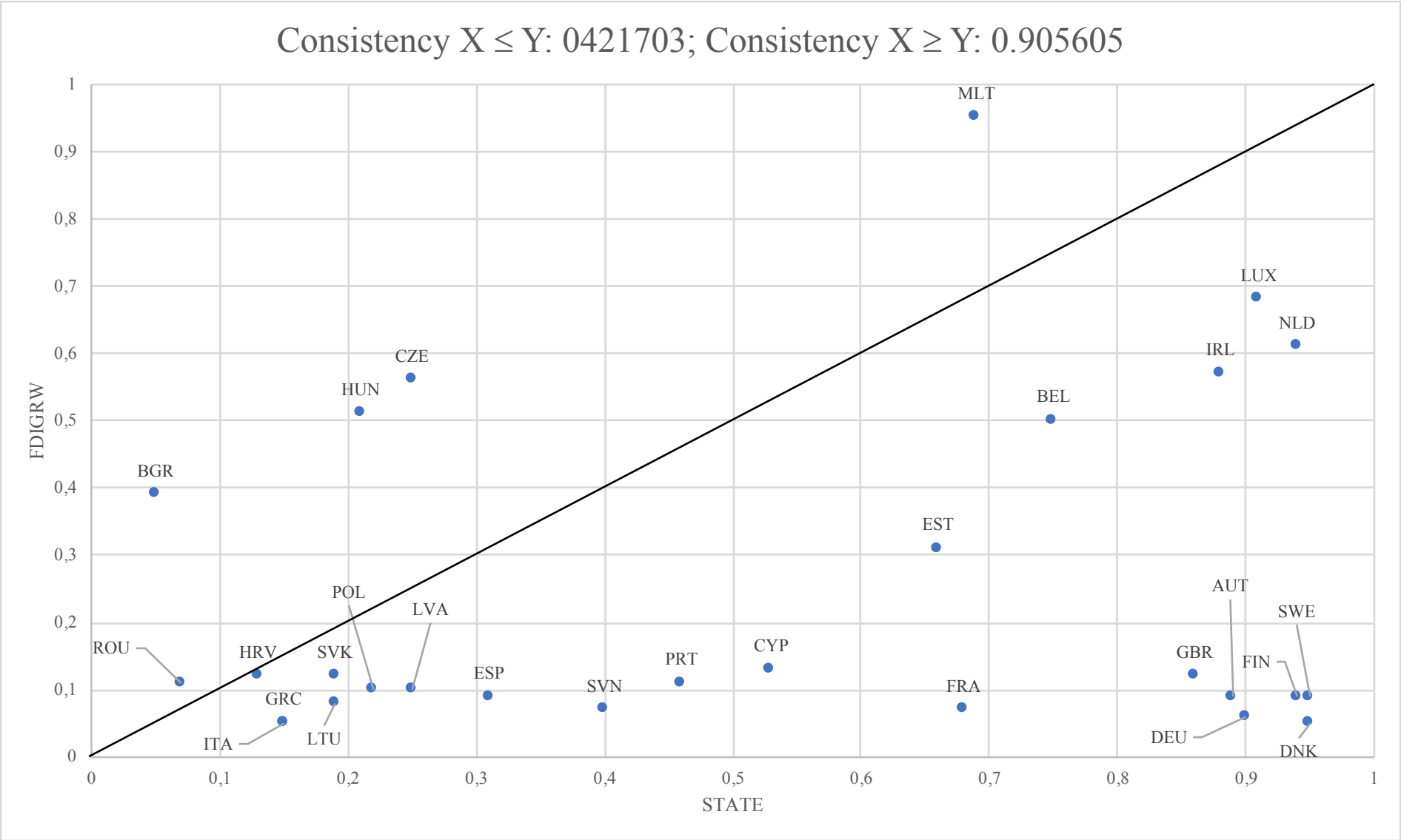

Figure 45: XY-Plot for the condition ‘State action’

Appendix 3: Effects of Foreign Direct Investment and economic growth

Author(s)	***+ / - / 0***	***Countries / Time***	***Comments***
Blomström and Kokko (1994)	+	Sweden	
Blomström et al. (1992)	+ / -	78 developing countries / 1960-1985	Positive effect of FDI in high-income countries; negative in low-income countries; to absorb new technology 'threshold' level of development needed
Balasubramanyam et al. (1996)	+	46 developing countries / 1970-1985	Trade policy should be outward oriented; the more open the economy, the higher the volume and utilization of FDI
Bhagwati (1978)	+		FDI have a positive growth effect in export-promoting countries
Borensztein et al. (1998)	+	69 developing countries / 1970-1989	Minimum stock of human capital is needed; sufficient absorptive capacity defines effects
Olofsdotter (1998)	+	50 developed and developing countries / 1980s and 1990s	The stronger the level of institutional capability e.g. bureaucratic efficiency or property rights protection
De Mello (1999)	+ (weak)	32 developed and developing countries / 1970-1990	GDP is impacted by FDI negatively in the short-term; capital stock accumulation and knowledge transfer embody new technologies; applicable for laggards

K. H. Zhang (2001)	+	11 developing countries (East Asia and Latin America) / 1957-1997	positive correlation only in five countries; macroeconomic stability, … define the magnitude for host country
J. Ericsson and Irandoust (2001)	+ / 0	Norway, Sweden, Finland, Denmark	bi-directional linkage for Sweden; uni-directional for Norway; findings for Denmark and Finland do not back causality
Alfaro et al. (2004)	+	49 countries / 1980-1995 & 71 countries (1975-1995)	local financial markets need a certain level of development
Makki and Somwaru (2004)	+	66 developing countries / 1971-2000	
Herzer et al. (2006)	0	28 countries / 1970-2003	Neither short- nor long-term effect on growth through FDI
Herzer (2012)	- (on average)	44 developing countries / 1970-2005	large cross-country differences; explained by business freedom, FDI volatility, freedom from government intervention, …
Carkovic and Levine (2005)	0 / -	72 developed and developing countries / 1960-1995	No positive effect of FDI on economic growth, neither for trade openness nor human capital
Nair-Reichert and Weinhold (2001)	+ (on average)	24 developing countries / 1971-1995	disparate relationship across countries
Ölschläger (2010)	+ for indirect taxes - for direct taxes	/	The author makes a general distinction between direct and indirect taxes. The latter ones have an influence on FDI and

			economic growth as well as GDP per capita
Javorcik (2004)	/	Lithuania	For multinationals IPR protection is highly valued. The more protection the more inflows
Hermes and Lensink (2003)	+	67 less developed countries	When financial system is sufficiently developed, then the effects are significant; tight IPR protection 'produces' spillover effects, higher productivity → economic growth
Bekaert et al. (2005); Levine et al. (2000); Levine and Zervos (1998)	+ (on average)	Various large N-samples; developed and less developed countries	Growth is (in general) supported by a well-developed financial sector / market liberalization (financial market development)
Stiglitz (1993)	0	/	Government and financial markets are connected, which by implication attract higher FDI (when well developed)
Globerman and Shapiro (2002)	+	Developed and developing countries	Economic growth, which can be driven by FDI, is highly dependable on the governance structure (whole political environment)
Goodspeed et al. (2006)	+ (on average)	47 countries / 37 countries	Low taxes, low corruption and good infrastructure attract more FDI and lead to economic growth

Abu Bakar et al. (2012)	+	Malaysia (1970-2010)	Significant effect (positive) on FDI and growth through physical infrastructure; also, human capital, trade openness and market size play a significant role
Su and Liu (2016)	+	China	Well-developed human capital and physical infrastructure lead to higher FDI inflows affecting economic growth
Li and Liu (2005)	0	84 countries (1970-1999)	Economic growth is directly promoted by FDI; also, interaction terms are important, especially human capital but also trade openness and market size corelate
Chang (2007)	+	Taiwan	higher per capita income of the country leads to an increased output growth (induced by FDI); highly skilled labor force needed; trade openness with low unemployment lead to economic growth (induced by FDI)

Table 13: Positive (+), negative (-) and neutral (0) effects of FDI on economic growth in the scientific literature

Appendix 4: Fuzzy set scores for every single condition

Country	***FDIGROW***	***FDIGROW (fuzzy set)***
AUT	3.16	0.09
BEL	11.59	0.5
BGR	9.79	0.39
CZE	4.60	0.13
CYP	20.01	0.56
DEU	1.70	0.06
DNK	0.70	0.05
ESP	3.05	0.09
EST	8.61	0.31
FIN	2.97	0.09
FRA	1.97	0.07
GBR	4.45	0.12
GRC	0.85	0.05
HRV	4.15	0.12
HUN	12.70	0.51
IRL	20.78	0.57
ITA	1.16	0.05
LTU	2.90	0.08
LUX	37.23	0.68
LVA	3.68	0.1
MLT	117.05	0.95
NLD	26.87	0.61
POL	3.39	0.1
PRT	3.89	0.11
ROU	3.92	0.11
SVK	4.26	0.12
SVN	2.23	0.07
SWE	3.27	0.09

Table 14: Fuzzy Set score for FDI leading to economic growth (FDIGRW)

Country	*TAXES*	*TAXES (fuzzy set)*
AUT	26.13	0.33
BEL	33.68	0.07
BGR	12.06	0.95
CYP	11.56	0.95
CZE	21.56	0.62
DEU	32.40	0.09
DNK	25.22	0.39
ESP	30.34	0.14
EST	21.75	0.61
FIN	24.25	0.45
FRA	33.78	0.06
GBR	25.56	0.37
GRC	27.38	0.26
HRV	19.88	0.71
HUN	16.56	0.85
IRL	12.50	0.94
ITA	32.37	0.09
LTU	15.00	0.89
LUX	29.05	0.19
LVA	15.56	0.88
MLT	35.00	0.05
NLD	26.88	0.29
POL	19.50	0.73
PRT	24.34	0.44
ROU	17.13	0.83
SVK	20.44	0.68
SVN	21.25	0.63
SWE	25.25	0.38

Table 15: Fuzzy Set score for Taxes

Country	*HUMANCAP*	*HUMANCAP (fuzzy set)*
AUT	5.48	0.75
BEL	5.79	0.88
BGR	4.30	0.05
CYP	4.82	0.25
CZE	5.03	0.43
DEU	5.53	0.77
DNK	5.81	0.88
ESP	4.99	0.39
EST	5.30	0.63
FIN	6.14	0.95
FRA	5.33	0.65
GBR	5.45	0.73
GRC	4.73	0.2
HRV	4.48	0.09
HUN	4.62	0.14
IRL	5.41	0.71
ITA	4.71	0.19
LTU	5.10	0.49
LUX	4.69	0.17
LVA	4.89	0.31
MLT	4.82	0.25
NLD	5.79	0.88
POL	4.92	0.33
PRT	4.93	0.34
ROU	4.42	0.07
SVK	4.51	0.1
SVN	5.25	0.6
SWE	5.73	0.86

Table 16: Fuzzy Set scores for Human capital

Country	*ECNSIZE*	*ECNSIZE (fuzzy set)*
AUT	4.59	0.62
BEL	4.79	0.7
BGR	3.86	0.32
CYP	2.86	0.08
CZE	4.48	0.57
DEU	6.01	0.95
DNK	4.25	0.48
ESP	5.45	0.88
EST	3.02	0.1
FIN	4.17	0.44
FRA	5.75	0.93
GBR	5.78	0.93
GRC	4.40	0.54
HRV	3.60	0.23
HUN	4.28	0.49
IRL	4.22	0.46
ITA	5.62	0.91
LTU	3.55	0.22
LUX	3.16	0.13
LVA	3.17	0.13
MLT	2.51	0.05
NLD	5.09	0.8
POL	5.11	0.8
PRT	4.33	0.51
ROU	4.47	0.57
SVK	4.01	0.38
SVN	3.44	0.19
SWE	4.62	0.63

Table 17: Fuzzy set scores for the size of economy

Country	*IPRPROTEC*	*IPRPROTEC (fuzzy set)*
AUT	7.91	0.86
BEL	7.58	0.8
BGR	3.55	0.05
CYP	5.98	0.38
CZE	5.33	0.24
DEU	8.30	0.91
DNK	8.09	0.88
ESP	5.82	0.34
EST	6.72	0.58
FIN	8.88	0.95
FRA	8.15	0.89
GBR	8.64	0.94
GRC	5.31	0.23
HRV	4.68	0.14
HUN	5.38	0.25
IRL	7.79	0.84
ITA	5.26	0.22
LTU	4.85	0.16
LUX	8.40	0.92
LVA	4.99	0.18
MLT	6.25	0.45
NLD	8.36	0.91
POL	4.77	0.15
PRT	6.35	0.47
ROU	4.20	0.09
SVK	5.12	0.2
SVN	5.87	0.35
SWE	8.25	0.9

Table 18: Fuzzy Set scores for IPR protection

Country	*PHYINFR*	*PHYINFR (fuzzy set)*
AUT	5.72	0.84
BEL	5.59	0.79
BGR	3.65	0.08
CYP	4.82	0.42
CZE	4.62	0.34
DEU	6.31	0.95
DNK	5.74	0.84
ESP	5.72	0.84
EST	4.79	0.4
FIN	5.62	0.8
FRA	6.24	0.94
GBR	5.92	0.89
GRC	4.67	0.36
HRV	4.49	0.29
HUN	4.30	0.22
IRL	4.93	0.46
ITA	4.91	0.46
LTU	4.56	0.31
LUX	5.65	0.81
LVA	4.25	0.21
MLT	4.67	0.36
NLD	6.10	0.93
POL	3.85	0.12
PRT	5.39	0.71
ROU	3.30	0.05
SVK	4.13	0.18
SVN	4.78	0.4
SWE	5.69	0.83

Table 19: Fuzzy Set scores for physical infrastructure

Country	*TRAOPN*	*TRAOPN (fuzzy set)*
AUT	97.05	0.26
BEL	151.33	0.69
BGR	110.52	0.42
CYP	114.87	0.48
CZE	129.86	0.58
DEU	77.06	0.11
DNK	95.87	0.25
ESP	56.87	0.04
EST	143.92	0.65
FIN	76.14	0.11
FRA	55.68	0.04
GBR	55.84	0.04
GRC	56.33	0.04
HRV	84.99	0.16
HUN	150.51	0.68
IRL	176.92	0.8
ITA	52.59	0.03
LTU	130.42	0.58
LUX	327.68	0.99
LVA	105.42	0.36
MLT	269.93	0.97
NLD	136.00	0.61
POL	81.71	0.14
PRT	70.13	0.08
ROU	76.33	0.11
SVK	160.58	0.73
SVN	129.11	0.57
SWE	84.99	0.16

Table 20: Fuzzy Set scores for Trade openness

Country	*FINSYS*	*FINSYS (fuzzy set)*
AUT	4.63	0.65
BEL	4.70	0.7
BGR	4.05	0.28
CYP	4.24	0.39
CZE	4.52	0.58
DEU	4.79	0.75
DNK	4.94	0.82
ESP	4.09	0.3
EST	4.70	0.7
FIN	5.45	0.95
FRA	4.79	0.75
GBR	5.03	0.86
GRC	3.25	0.05
HRV	3.87	0.2
HUN	4.10	0.31
IRL	4.11	0.32
ITA	3.48	0.08
LTU	4.05	0.28
LUX	5.19	0.9
LVA	4.34	0.45
MLT	4.83	0.77
NLD	4.77	0.74
POL	4.46	0.54
PRT	3.80	0.17
ROU	4.03	0.27
SVK	4.59	0.63
SVN	3.54	0.1
SWE	5.24	0.92

Table 21: Fuzzy Set scores for the financial system

Country	*GDP*	*GDP (fuzzy set)*
AUT	31653	0.64
BEL	29665	0.61
BGR	10129	0.05
CYP	23376	0.47
CZE	20206	0.31
DEU	29935	0.61
DNK	31124	0.63
ESP	23812	0.49
EST	15947	0.15
FIN	28565	0.59
FRA	27029	0.56
GBR	27600	0.57
GRC	20735	0.33
HRV	14282	0.11
HUN	15647	0.14
IRL	35635	0.71
ITA	26182	0.54
LTU	14876	0.12
LUX	63282	0.95
LVA	13353	0.09
MLT	20694	0.33
NLD	33247	0.67
POL	14400	0.11
PRT	19794	0.29
ROU	11147	0.06
SVK	16765	0.17
SVN	20747	0.33
SWE	31065	0.63

Table 22: Fuzzy Set scores for the GDP p. C.

Country	*MACSTAB*	*MACSTAB (fuzzy set)*
AUT	5.32	0.73
BEL	4.79	0.41
BGR	5.23	0.68
CYP	4.30	0.22
CZE	5.35	0.75
DEU	5.54	0.83
DNK	5.75	0.9
ESP	4.48	0.28
EST	5.76	0.9
FIN	5.55	0.84
FRA	4.72	0.38
GBR	4.45	0.27
GRC	3.41	0.05
HRV	4.65	0.35
HUN	4.69	0.37
IRL	4.50	0.29
ITA	4.26	0.2
LTU	5.05	0.56
LUX	6.03	0.95
LVA	5.10	0.59
MLT	4.94	0.49
NLD	5.44	0.79
POL	4.84	0.44
PRT	4.03	0.14
ROU	4.88	0.46
SVK	5.08	0.58
SVN	5.02	0.54
SWE	5.98	0.95

Table 23: Fuzzy Set scores for the macroeconomic stability

Country	***STATE***	***STATE (fuzzy set)***
AUT	7.99	0.89
BEL	7.40	0.75
BGR	4.29	0.05
CYP	6.76	0.53
CZE	5.82	0.25
DEU	8.07	0.9
DNK	8.60	0.95
ESP	6.04	0.31
EST	7.11	0.66
FIN	8.49	0.94
FRA	7.17	0.68
GBR	7.82	0.86
GRC	5.30	0.15
HRV	5.14	0.13
HUN	5.63	0.21
IRL	7.96	0.88
ITA	5.32	0.15
LTU	5.54	0.19
LUX	8.20	0.91
LVA	5.80	0.25
MLT	7.20	0.69
NLD	8.39	0.94
POL	5.67	0.22
PRT	6.55	0.46
ROU	4.59	0.07
SVK	5.52	0.19
SVN	6.38	0.4
SWE	8.56	0.95

Table 24: Fuzzy Set scores for the condition state action

Appendix 5: Fuzzy set scores for all 28 EU states in the ten conditions and the outcome

Case	Tax	Human Capital	Economy size	Conditions IPR	Physical infrastruc-ture	Trade openness	Financial system	GDP	Macroeco-nomic stability	State action	Outcome FDIGRW
AUT	0.33	0.75	0.62	0.86	0.84	0.26	0.65	0.64	0.73	0.89	0.09
BEL	0.07	0.88	0.7	0.8	0.79	0.69	0.7	0.61	0.41	0.75	0.5
BGR	0.95	0.05	0.32	0.05	0.08	0.42	0.28	0.05	0.68	0.05	0.39
CYP	0.95	0.25	0.08	0.38	0.42	0.48	0.39	0.47	0.22	0.53	0.13
CZE	0.62	0.43	0.57	0.24	0.34	0.58	0.58	0.31	0.75	0.25	0.56
DEU	0.09	0.77	0.95	0.91	0.95	0.11	0.75	0.61	0.83	0.9	0.06
DNK	0.39	0.88	0.48	0.88	0.84	0.25	0.82	0.63	0.9	0.95	0.05
ESP	0.14	0.39	0.88	0.34	0.84	0.04	0.3	0.49	0.28	0.31	0.09
EST	0.61	0.63	0.1	0.58	0.4	0.65	0.7	0.15	0.9	0.66	0.31
FIN	0.45	0.95	0.44	0.95	0.8	0.11	0.95	0.59	0.84	0.94	0.09
FRA	0.06	0.65	0.93	0.89	0.94	0.04	0.75	0.56	0.38	0.68	0.07
GBR	0.37	0.73	0.93	0.94	0.89	0.04	0.86	0.57	0.27	0.86	0.12
GRC	0.26	0.2	0.54	0.23	0.36	0.04	0.05	0.33	0.05	0.15	0.05
HRV	0.71	0.09	0.23	0.14	0.29	0.16	0.2	0.11	0.35	0.13	0.12
HUN	0.85	0.14	0.49	0.25	0.22	0.68	0.31	0.14	0.37	0.21	0.51

IRL	0.94	0.71	0.46	0.84	0.46	0.8	0.32	0.71	0.29	0.88	0.57
ITA	0.09	0.19	0.91	0.22	0.46	0.03	0.08	0.54	0.2	0.15	0.05
LTU	0.89	0.49	0.22	0.16	0.31	0.58	0.28	0.12	0.56	0.19	0.08
LUX	0.19	0.17	0.13	0.92	0.81	0.99	0.9	0.95	0.95	0.91	0.68
LVA	0.88	0.31	0.13	0.18	0.21	0.36	0.45	0.09	0.59	0.25	0.1
MLT	0.05	0.25	0.05	0.45	0.36	0.97	0.77	0.33	0.49	0.69	0.95
NLD	0.29	0.88	0.8	0.91	0.93	0.61	0.74	0.67	0.79	0.94	0.61
POL	0.73	0.33	0.8	0.15	0.12	0.14	0.54	0.11	0.44	0.22	0.1
PRT	0.44	0.34	0.51	0.47	0.71	0.08	0.17	0.29	0.14	0.46	0.11
ROU	0.83	0.07	0.57	0.09	0.05	0.11	0.27	0.06	0.46	0.07	0.11
SVK	0.68	0.1	0.38	0.2	0.18	0.73	0.63	0.17	0.58	0.19	0.12
SVN	0.63	0.6	0.19	0.35	0.4	0.57	0.1	0.33	0.54	0.4	0.07
SWE	0.38	0.86	0.63	0.9	0.83	0.16	0.92	0.63	0.95	0.95	0.09

Table 25: Fuzzy Set scores for all 28 EU member states in the ten conditions and the outcome.

Own representation

Appendix 6: Definition, used sources and data coverage for the Qualitative Comparative Analysis assessment

Outcome	*Definition*	*Source(s) used*	*Years of data coverage*
FDI leads to growth | FDI does not lead to growth	FDI, net inflows as percentage of GDP	World Development Indicators → The World Bank (2018a)	2002 – 2016

Table 26: Used data for defining the outcome

Conditions	*Definition*	*Source(s) used*	*Years of data coverage*
Taxes/Taxation policies	Corporate Tax rate in percent	KPMG (2018)	2003 – 2018
Human capital	Higher education and training[62] with values between 1 (worst) and 7 (best)	The Global Competitiveness Reports; 5th Pillar: Higher education and training → Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)	2006/2007 – 2017/2018
Economy size	Market size[63] with values between 1 (worst) and 7 (best)	The Global Competitiveness Reports; 10th Pillar: Market Size → Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)	2006/2007 – 2017/2018

[62] This pillar consists of the following eight sub categories which are all valued between 1 (worst) and 7 (best). The average of all those categories results then in the overall category higher education and training.
Secondary education enrollment rate (gross %); Tertiary education enrollment rate (gross %); Quality of the education system (Executive Opinion Survey); Quality of math and science education (Executive Opinion Survey); Quality of management schools (Executive Opinion Survey); Internet access in schools (Executive Opinion Survey); Local availability of specialized training services (Executive Opinion Survey); Extent of staff training (Executive Opinion Survey).
[63] This pillar consists of the following four sub categories which are all valued between 1 (worst) and 7 (best). The average of all those categories results then in the overall category of market size.
Domestic market size index ("Sum of gross domestic product plus value of imports of goods and services, minus value of exports of goods and services, normalized on a 1-7 (best) scale" (Schwab, 2017, p. 349); Foreign market size index ("Value of exports of goods and services, normalized on a 1-7 (best) scale" (Schwab, 2017, p. 349); GDP (PPP) ("Gross domestic product valued at purchasing power parity in billions of international dollars" (Schwab, 2017); Exports as percentage of GDP ("Exports of goods and services as a percentage of gross domestic product" (Schwab, 2017, p. 349).

Property rights protection	IPR protection[64] with values between 0 (worst) and 10 (best)	Single *International Property Rights Index* reports → Chandima Dedigma (2009); Di Lorenzo (2014); Horst (2007); Jackson (2011); Levy-Carciente (2015, 2016, 2017); Strokova (2010); Thallam (2008); Tiwari (2012) & International Property Rights Index (2018)	2007 – 2017
Physical infra-structure	Infrastructure[65] with values between 1 (worst) and 7 (best)	The Global Competitiveness Reports; 2nd pillar: Infrastructure → Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006) → *Global Competitiveness Reports 2006-2018*	2006/2007 – 2007/2018
Trade openness	Trade (sum of imports and exports) measured as a share (%) of GDP	World Development Indicators → The World Bank (2018c)	2002 – 2016
Financial system	Financial market development[66] with values between 1 (worst) and 7 (best)	The Global Competitiveness Reports; 8th Pillar: Financial market development → Porter and Schwab (2008); Schwab	2008/2009 – 2017/2018

[64] The category of IPR protection in the reports consists of three sub categories (*'Protection of Intellectual Property Rights'*, *'Patent Protection'* and *'Copyright Protection')* which are all valued between 0 (worst) and 10 (best). The average of all three is then the result of the whole category.

[65] This pillar consists of the following nine sub categories which are all valued between 1 (worst) and 7 (best). The average of all those categories results then in the overall category infrastructure.
Quality of overall infrastructure (Executive Opinion Survey); Quality of roads (Executive Opinion Survey); Quality of railroad infrastructure (Executive Opinion Survey); Quality of port infrastructure (Executive Opinion Survey); Quality of air transport infrastructure (Executive Opinion Survey); Available airline seats kilometer ("Airline seat kilometers (in millions) available on all flights (domestic and international service) originating in country per week (year average)") (Schwab, 2017, p. 343); Quality of electricity supply (Executive Opinion Survey); Mobile-cellular telephone subscriptions ("Number of mobile-cellular telephone subscriptions per 100 population") (Schwab, 2017, p. 343); Fixed-telephone lines ("Number of fixed-telephone lines per 100 population") (Schwab, 2017, p. 343).

[66] This pillar consists of the following eight sub categories which are all valued between 1 (worst) and 7 (best). The average of all those categories results then in the overall category financial market development.
Availability of financial services (Executive Opinion Survey); Affordability of financial services (Executive Opinion Survey); Financing through local equity market (Executive Opinion Survey), Ease of access to loans (Executive Opinion Survey); Venture capital availability (Executive Opinion Survey); Soundness of banks (Executive Opinion Survey); Regulation of securities exchanges (Executive Opinion Survey); Legal rights index ("Degree of legal protection of borrowers' and lenders' rights on a 0-12 (best) scale") (Schwab, 2017, p. 348).

		(2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)	
Per capita income	GDP per capita in PPS	Eurostat (2018a)	2000 – 2016
Macroeconomic stability	Macroeconomic environment[67] with values between 1 (worst) and 7 (best)	The Global Competitiveness Reports; 3rd Pillar: Macroeconomic environment → Porter and Schwab (2008); Schwab (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Schwab and Porter (2006)	2006/2007 – 2017/2018
State action	Legal and political environment with values between 0 (worst) and 10 (best)	Single *International Property Rights Index* reports (Chandima Dedigma, 2009; Di Lorenzo, 2014; Horst, 2007; Jackson, 2011; Levy-Carciente, 2015, 2016, 2017; Strokova, 2010; Thallam, 2008; Tiwari, 2012) & International Property Rights Index (2018)	2007 – 2017

Table 27: Used data sources for defining the conditions.

[67] This pillar consists of the following five sub categories which are all valued between 1 (worst) and 7 (best). The average of all those categories results then in the overall category macroeconomic environment.
Government budget balance ("General government budget balance as a percentage of GDP") (Schwab, 2017, p. 344); Gross national savings ("Gross national savings as a percentage of GDP") (Schwab, 2017, p. 344); Inflation ("Annual percent change in consumer price index (year average)") (Schwab, 2017, p. 344); Government debt ("Gross general government debt as a percentage of GDP") (Schwab, 2017, p. 344); Country credit rating ("Institutional Investor's Country Ratings TM assessing the probability of sovereign debt fault on a 0-100 (lowest probability) scale") (Schwab, 2017, p. 344).

Appendix 7: Determinants of Foreign Direct Investment

Until the beginning of the 1960s most brought forward classical and neo-classical models for international trade, dealt primarily with the question of the place of production and less with questions of ownership and the organization of production.

Following the adoption of perfect markets without transaction costs, simple one-product companies and the assumption that production factors are nationally mobile but not internationally, companies have been considered as simple profit maximizers whose decisions are limited to determining the optimal output and minimum costs.

If one drops the assumption of a perfect market and allows imperfection on the factor and goods markets and thus the existence of transaction costs, then the question of 'where' to produce also includes the 'how', particularly the establishment of alternative ownership or organizational structures with a view of maximizing profitability of global activities.

The following essential theories should give a short overview about the development in the last decades (Hinrichs, 2005).

Monopolistic competition (S. Hymer, 1976)

Hymer (1976) was one of the first to explain why multinational companies are opening or buying their production facilities overseas. He argued that FDI is (at least partially) a response to the imperfections of cross-border capital and currency markets.

1. By taking over the control of a foreign company, the investing company tries to reduce competition and thus increase its profit through, for example, collusion.

According to Hymer, was the existence by multinationals motivated by monopolistic reasons, among other things, to separate markets and avoid competition between entities (Hinrichs, 2005; Hymer, 1976, p. 67).

2. The investing company has specific advantages which it can exploits with its production in the host country. These advantages can arise, for instance, through organizational know-how, increasing economies of scale, superior technology, production processes, patents or managerial skills (Hinrichs, 2005; Hymer, 1976).

Precisely these mentioned company-specific advantages that cause companies to produce a specific product directly on the foreseen foreign market. The motivation for FDI are therefore the profits that come from a direct control as well as the management of the foreign company.

Hymer concluded that, in particular, market imperfections, such as product differentiation, patented technologies or other know-how that incur higher transaction costs, inducing companies to prefer FDI to licensing or exporting, and Kindleberger stated 'in a world of perfect competition for goods and factors direct investment is not existent.' (Hinrichs, 2005; Kindleberger, 1969, p. 13).

Comparative Advantages (R. E. Caves, 1971)

While for Kindleberger and Hymer to explain FDI, a non-specified benefit of the foreign company is enough compared to domestic competitors, Caves proceeds and makes further restrictions. According to his view, FDI are mostly found in a few industries of developed countries, which also have certain market structures in both, the country of origin and destination. If a company is persuaded by its business-specific advantages to prefer FDI over licensing or export for its products, two conditions must inevitably be met (Caves, 1971).

On the one hand, the advantage must have the characteristics of a quasi-public good within the company. This means that, for example, once acquired knowledge about a new product or more efficient production processes, which has a positive net return, can be implemented in other markets without the initial costs that have led the to its acquisition. On the other hand, the achievable return resulting from the specific benefit must at least partly stem from the choice of a domestic location.

The basic hypothesis, that a company can only operate and produce abroad successfully if it has advantages over domestic competitors and if these advantages are greater than the disadvantages resulting from production abroad and thus favor direct investment over export or licensing remains unchanged (Johnson, 1970). In general, however, this is the main reason for production on-site, while here is the broader insistence on Hymer and Kindleberger, that there is a conditional complementarity between local production and local product sales.

This occurs especially in industries with strong or far advanced product differentiation which transforms a formerly homogenous market into a heterogenic and thus imperfect market with additional quasi-monopoly returns (Hinrichs, 2005).

International product cycles (R. Vernon, 1966)

According to the production cycle theory developed by R. Vernon, direct investment is rather secondary. For him comparative advantages are less important than the timing of an innovation, possible economies of scale, and the impact of trade uncertainty. In this way he attempts to explain why capital from highly developed industrialized countries does not flow more quickly into less developed economies, which does not mean, conversely, that in the course of time, comparative advantages of location do not play a decisive role. His theory is general based on four assumptions:

1. Knowledge about available technologies is limited
2. Products are subject to changes in their production and marketing over time
3. Production processes change over time
4. Tastes can be differentiated according to income and products can be standardized for different income levels.

The basic assumption of this theory, however, is the difference between the knowledge of a particular technology or the like and its application and, consequently, the different ability to innovate.

A product cycle and its chronological sequence is divided into three stages:

1. Innovation
2. Maturation
3. Standardization

Innovation: The product is hardly standardized at this stage, whereby the production process must be made very flexible. At this time, the communication between companies and customers must be very effective and intensive. This means in general, that the production will remain in the motherland sometime after the innovation.

Maturation: Only as time goes by, and as demand for the product increases at home and abroad, as well as when some standardization has taken place and mass production begins, the relative cost of production and economies of scale do become more important at this stage of maturation. For a company, its innovation advantage is melting, with the innovator's market share threatened by increasing domestic and foreign competition. Therefore, a shift of production takes place into less developed countries, especially since cheaper labor are increasingly a possibility of cost reduction. However, as long as the marginal costs of production including transport costs are lower than the costs of production abroad, the foreign market will continue to be served by domestic exports.

Standardization: In the last phase of the cycle, standardization, market conditions are known, production techniques are sophisticated and technological innovation is barely taking place. However, competitive and cost pressures continue to increase, and production costs are determined by comparative advantages. As a result, these advantages can shift production from a country with a high proportion of skilled labor to countries with low-skilled labor, but also much cheaper ones. At this stage, the willingness of the company to relocate its production or parts of them abroad and thus to invest directly in foreign countries increases (Vernon, 1966).

Initial shortcomings of this theory, e.g. the sole inclusion of unit labor costs was subsequently attributed, by Vernon himself, but also evolved and expanded by others such as Hirsch. Nonetheless, the application of this theory is limited to a few specific, highly innovative products and generally excludes industrial innovation (Hinrichs, 2005; Hirsch, 1967; Vernon, 1971, 1974). Thus, Vernon also pointed out in his theory that it is a 'conscious simplification of reality' without claiming to be full-fledged apprehension of the 'complex, sociological, political and idiosyncratic factors' which influence the investment decisions (Vernon, 1971, p. 65f.).

National market arbitrage (R. Z. Aliber, 1970)

While Hymer argued primarily about market imperfection and the resulting higher income inflows, Aliber focused on the different capacities of domestic and foreign companies in raising capital, arguing that the structure of FDI can be explained by the existence of different currency areas.

Underlying this approach is that some currencies are stronger or more stable than others and the market holding the weaker currency calls for a certain risk premium, because a further devaluation will completely offset any returns in the local currency of the host country after conversion into the currency of

the home country. Companies from currency areas with strong currencies are thus generally expected to incur lower capital costs than companies from currency areas with weak currencies. In other words, the higher the direct investment made and the greater the risk premium or the weaker the local currency, the higher the comparative advantage for the foreign investor compared to domestic companies Aliber (1970) and Buckley and Casson (1976) drew a parallel to the theory of FDI of Hymer (1976) and Kindleberger (1969) as Aliber's theory of national market arbitrage also has a unique advantage over domestic competitors in the investment decision. However, the benefits provided here are less company-specific than valid for all companies in a particular currency area. This would mean that countries and / or currency areas with weak or depreciating currencies will have higher inflows of FDI, whereas countries or currency areas with strong or appreciating currencies are more likely to experience outflows of capital.

Studies and experiences in the USA, Germany, France or Great Britain from the 1960s underpin this hypothesis (Kohlhagen, 1977; Logue & Willet, 1970). It should be noted, however, that the cited studies saw the currency appreciation or devaluation as more of a driver for choosing the timing of an investment than the main reason for the investment itself. Similarly, the theory was able to predict relatively well the expansion of multinationals beginning after World War II, and partly also the direction of FDI between currency areas but failed to explain capital flows within and between different currency areas (Hinrichs, 2005).

Internalization (R. H. Coase, 1937; P. J. Buckley & M. C. Casson, 1976)

In all of the previously explained approaches from explaining the mere existence to predicting the direction of FDI, one of the basic assumptions was that markets are imperfect.

However, this entails transaction costs, which in themselves explain both, FDI and the existence of a multinational enterprise itself. Coase argued as one of the first on the subject around 1937 that "the main reason why it is profitable to establish a firm would seem that there is a cost of using the price mechanism. The most obvious cots of organizing production through the price mechanism is that of discovering what the relevant prices are." (Coase, 1937, p. 390). If a company operates across borders, transaction costs, some of which also exist on the domestic market, continue to increase. These include, inter alia, information costs, viz. to for instance identify potential buyers, conduct negotiations and determine the willingness to pay and thus the price of the product. Furthermore, there may be costs for certain non-market and administratively-substituted transactions. In order to minimize these transaction costs, it is sometimes advisable to combine the different activities of one sector under one enterprise, so to say to transfer external market activities to an internal market, to internalize them. However, in line with this conclusion, it is by no means assumed that companies are more efficient than markets because they make better use of market mechanisms, but because they apply a completely different method of organization, which Williamson (1975) called 'Hierarchy' in his general 'transaction cost theory'. This internalization does not allow the company to avoid the market, but only to replace a number of market

transactions with a single employment relationship between the parent company and the foreign branch. Because of the nature of internalization, Buckley and Casson (1976) referred to markets for semi-finished goods and tried to explain why there are cost differences between companies and markets in carrying out identical transactions. They identified five main reasons for the advantage of internalizing certain activities.

1. The various activities that are carried out by the market occur with a time lag and the 'Futures' markets that are necessary for the coordination do not exist.
2. An efficient use of an advantage in a semi-finished product requires price discrimination that is not possible in the market.
3. A bilateral concentration of market power leads to unmanageable or unstable negotiation options.
4. Sellers and buyers do not have the same knowledge about the type or value of the product.
5. Interventions by the government, e.g. through ad valorem duties or restrictions on the movement of capital.

To summarize, companies tend to build and use an internal organizational hierarchy when intra-company transactions cost less than external market transactions or when external markets do not exist.
In order to leverage and coordinate activities bets, related to the company's technological knowledge or know-how and to include foreign sales markets, the company will internalize these activities through FDI in order to control and maximize the returns of this knowledge (Teece, 1981). Hereby the company achieves an increases control and planning possibility of the product itself as well as the securing of possible inputs or intermediate products (Hinrichs, 2005).

Eclectic Theory (J. H. Dunning, 1979)

To unite the previous mentioned different approaches to one theory, Dunning (1979)combined three of the main theories for explaining FDI to what he called an 'eclectic' approach.
The basis of his approach was again the assumption of imperfect markets, which leads companies to invest abroad in order to either better exploit the market potential, to secure production inputs or to exploit a comparative advantage over the competitor (Dunning, 1977). However, the starting point for the development of this eclectic approach was not the theory of FDI, but rather the of multinationals which arises as a logical consequence of the classical business theory. If a company produces successfully, further expansion and spread across local and geographical borders can be seen and the emergence of a multinational company is the result. Thus, the theory of FDI is ultimately seen as part of the theory of multinationals. Dunning brought the theory of monopolistic competition, the theory of national market arbitrage, and the theory of internalization together, trying to explain why companies prefer foreign production over a domestic one (Dunning, 1981). The enterprise must have an overall advantage over the domestic competitors

1. It must be more favorable for the enterprise to exercise control over these benefits themselves, rather than by e.g. licensing to local companies.
2. Exploiting these benefits in conjunction with some input factors outside the home country must be profitable, otherwise foreign markets can be fully served by exports.

The larger these company-specific benefits minus all the disadvantages of production abroad, the greater the incentive to exploit these benefits themselves rather than serving the overseas market through exports or licensing.

In view of the above made three assumptions, according to the proponents of the eclectic theory, all kinds of international production, not just FDI per se, can be explained. The limitations of previous theories regarding certain countries or their level of development, or industrial sectors, are 'removed' here. Nonetheless, these benefits may shift from country to country over time, resulting in some dynamism in global investment developments. No venture can have a permanent advantage over its competitors since there are in principle no restrictions on the other companies to acquire these benefits as well. According to Dunning, there are three reasons why the here described approach can be seen as eclectic. First, as mentioned above, it is made up of the main theories that have emerged in recent decades for the declaration of FDI. Otherwise, it is valid for all types of FDI and ultimately covers all possibilities of foreign business activities, viz. FDI, exports and licensing. The two last-mentioned approaches to internalization and the eclectic theory reflect the two main strands of current theoretical literature. The eclectic theory emphasizes the need for companies to have monopolistic advantages in order to compete with their domestic counterparts. On the other side are the proponents of Coase's viewpoint explain the existence of businesses through transaction costs that make the firm prefer ownership and control over production to the cost of settlement over the market. The former theory is based primarily on property rights, viz. the generation of values, which are partly internalized, but the latter focus more on the cost advantages or the cost-benefit analysis of internalization different processes. The basic question in which these two approaches differ in principle is whether that market failure that leads to FDI, is conditional to imperfect markets or excessive transaction costs (Hinrichs, 2005).

Appendix 8: Conceptual framework

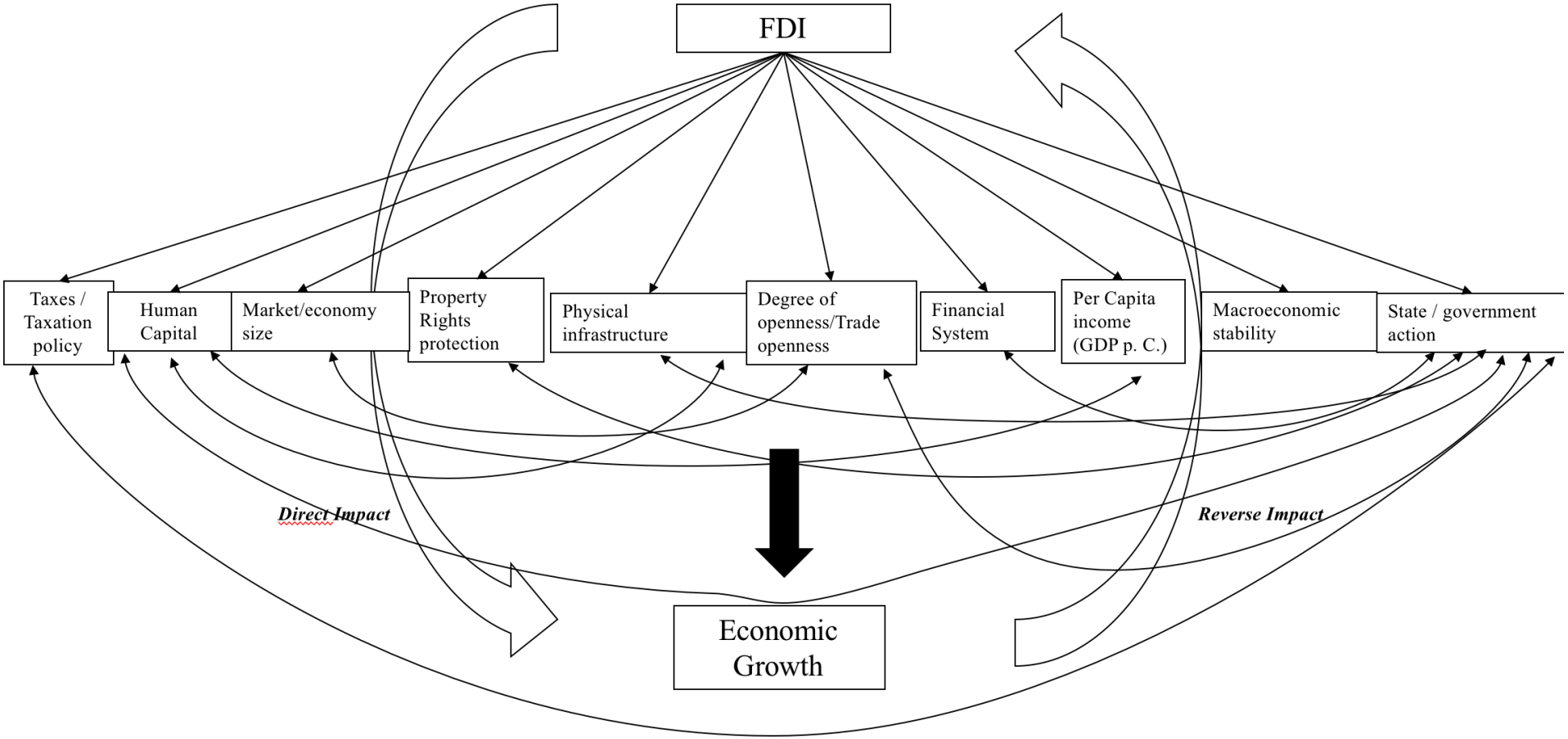

Figure 46: Framework

Appendix 9: Foreign Direct Investment net inflows on average between 2002 and 2016

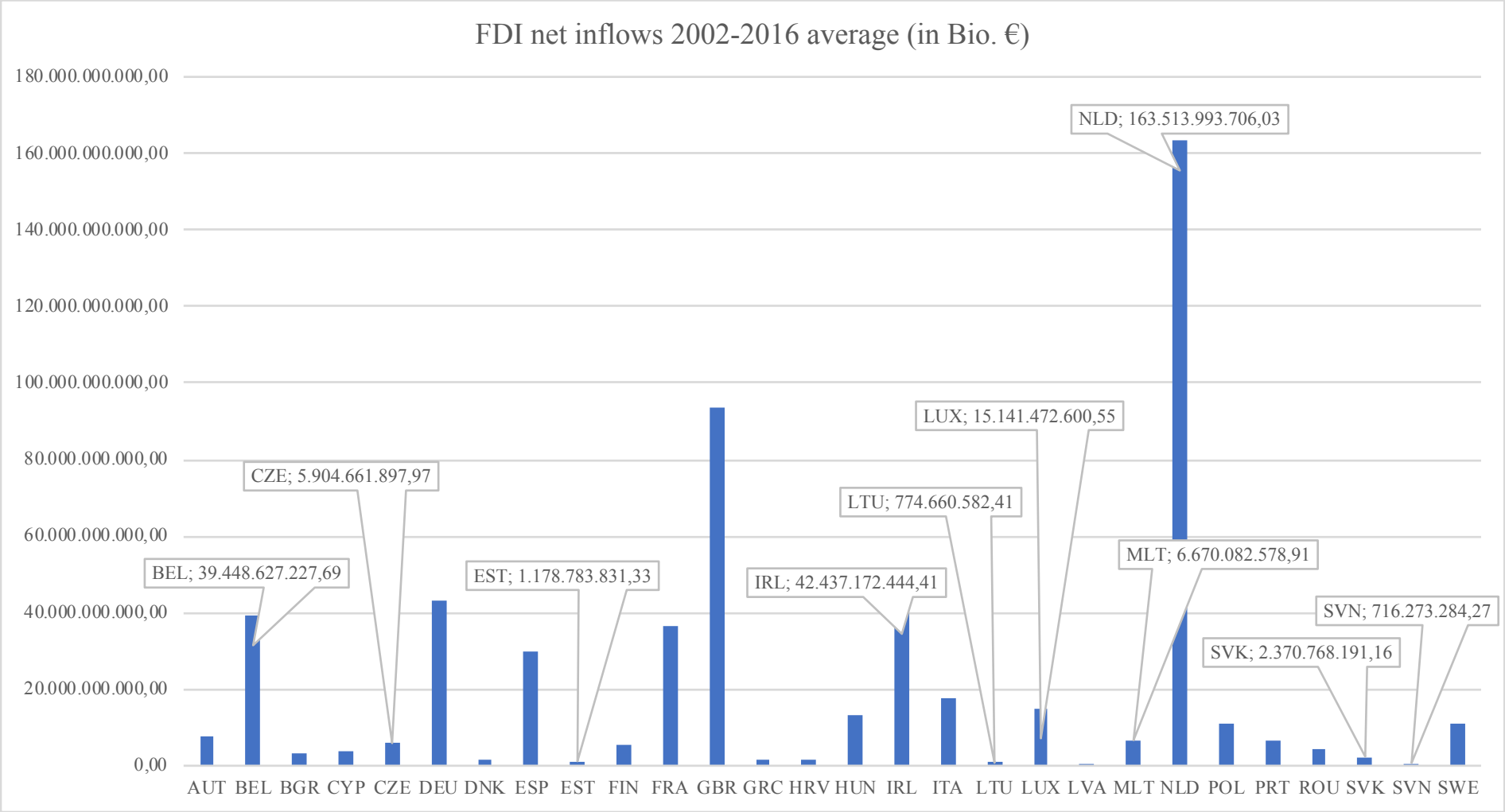

Figure 47: FDI net inflows to the EU-28 on average between 2002 and 2016

Appendix 10: XY-Plots for the negation of the outcome with every condition

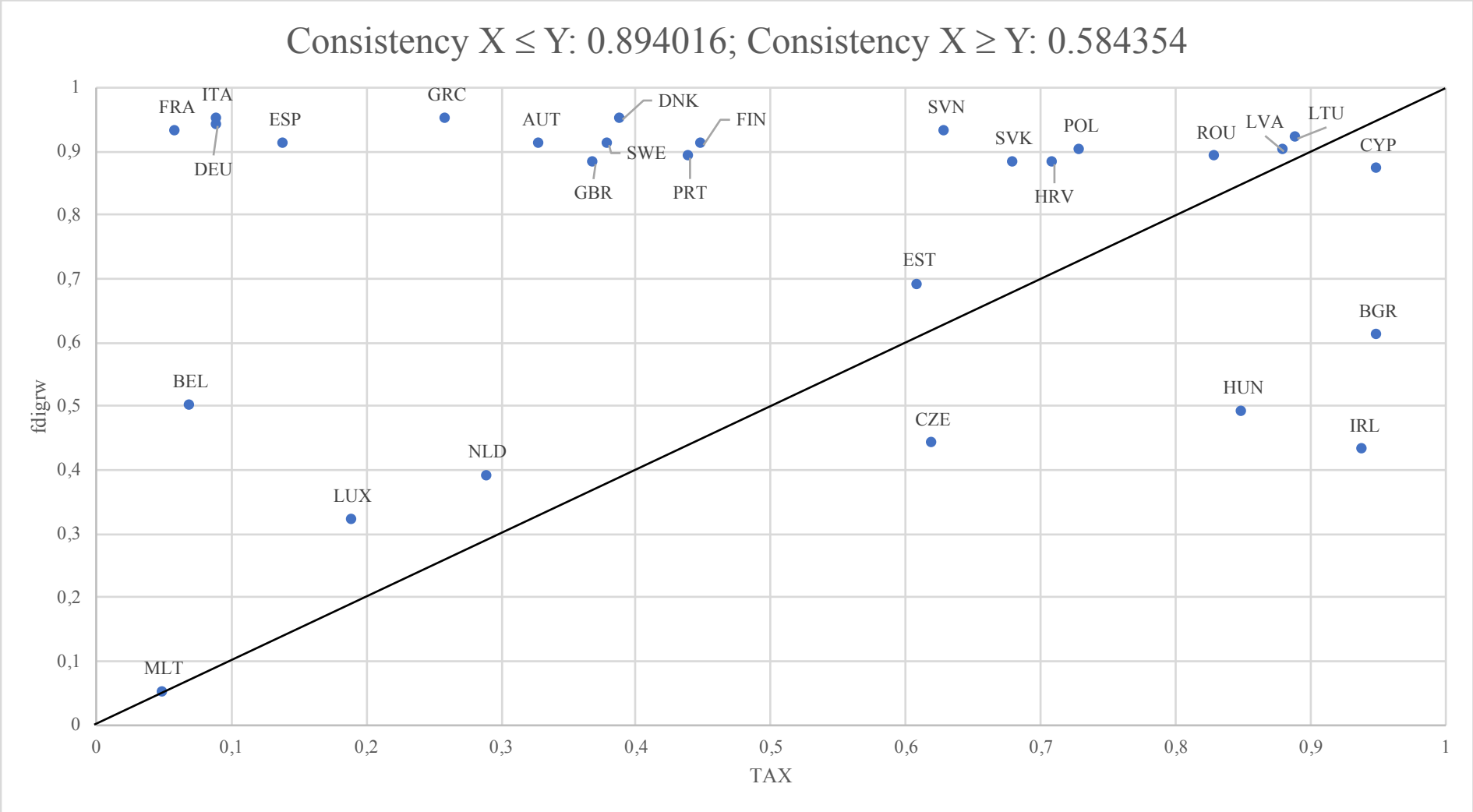

Figure 48: XY-Plot for the condition 'Tax'

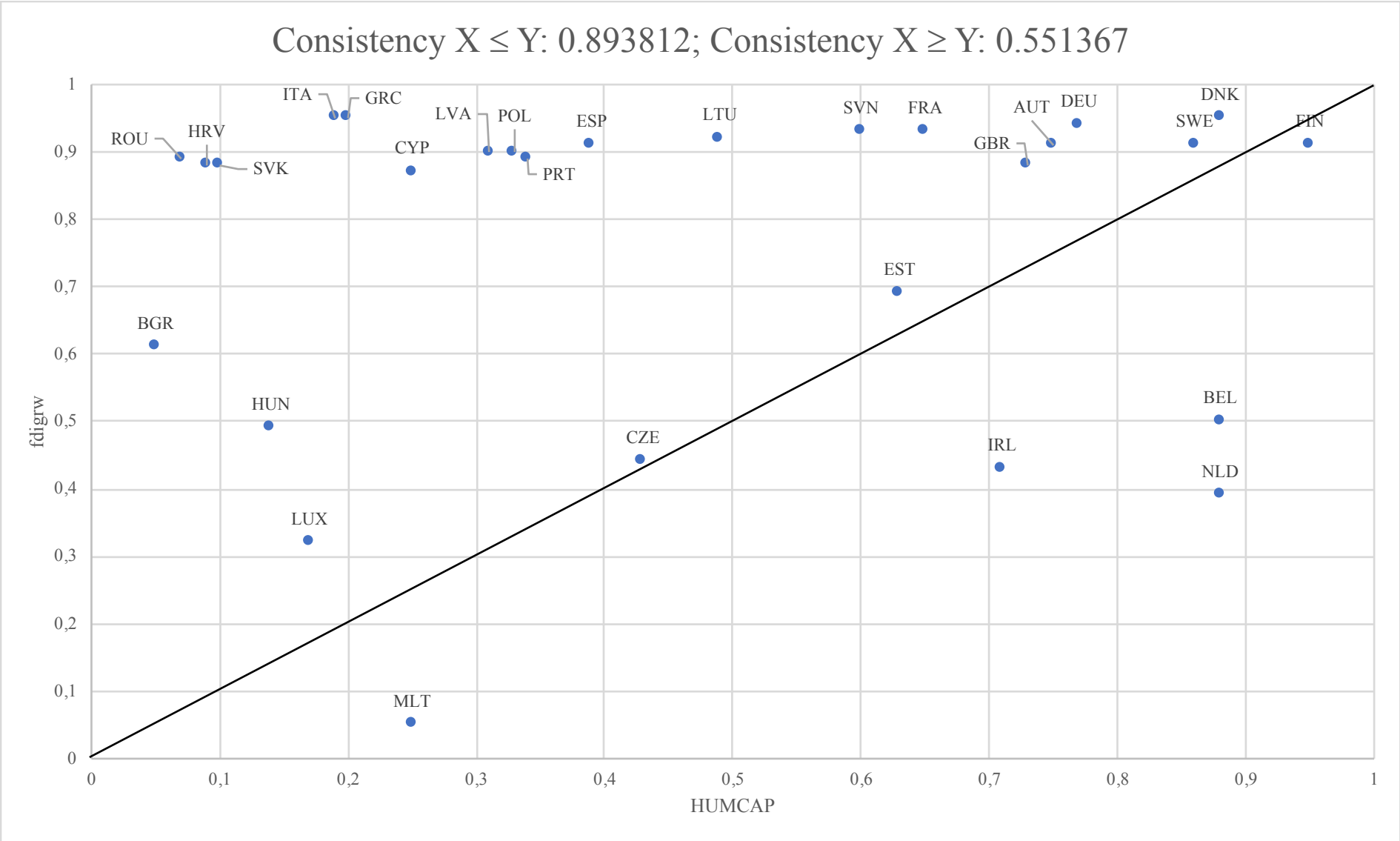

Figure 49: XY-Plot for the condition ‘Human Capital’

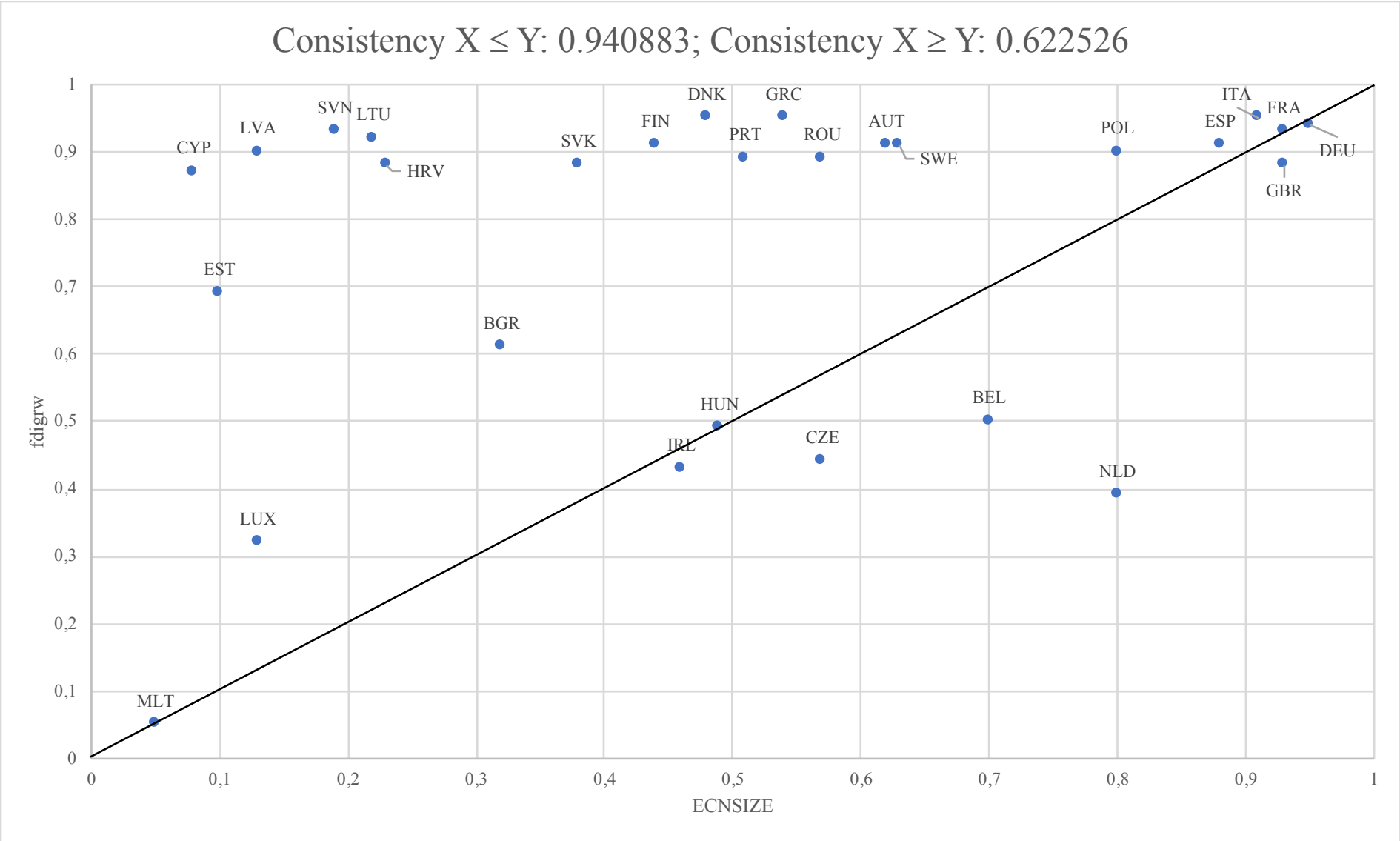

Figure 50: XY-Plot for the condition ‘Economy Size’

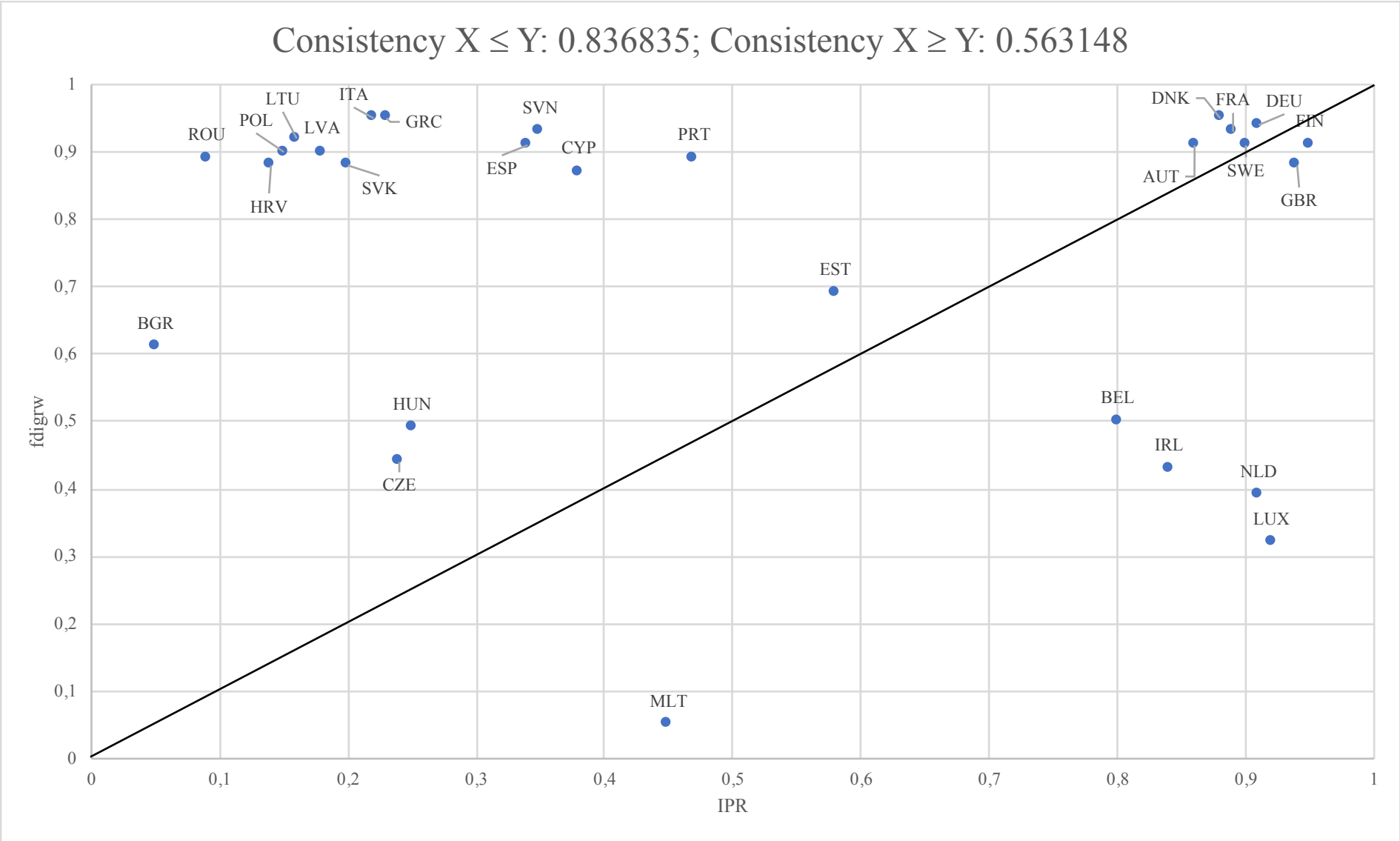

Figure 51: XY-Plot for the condition ‘IPR’

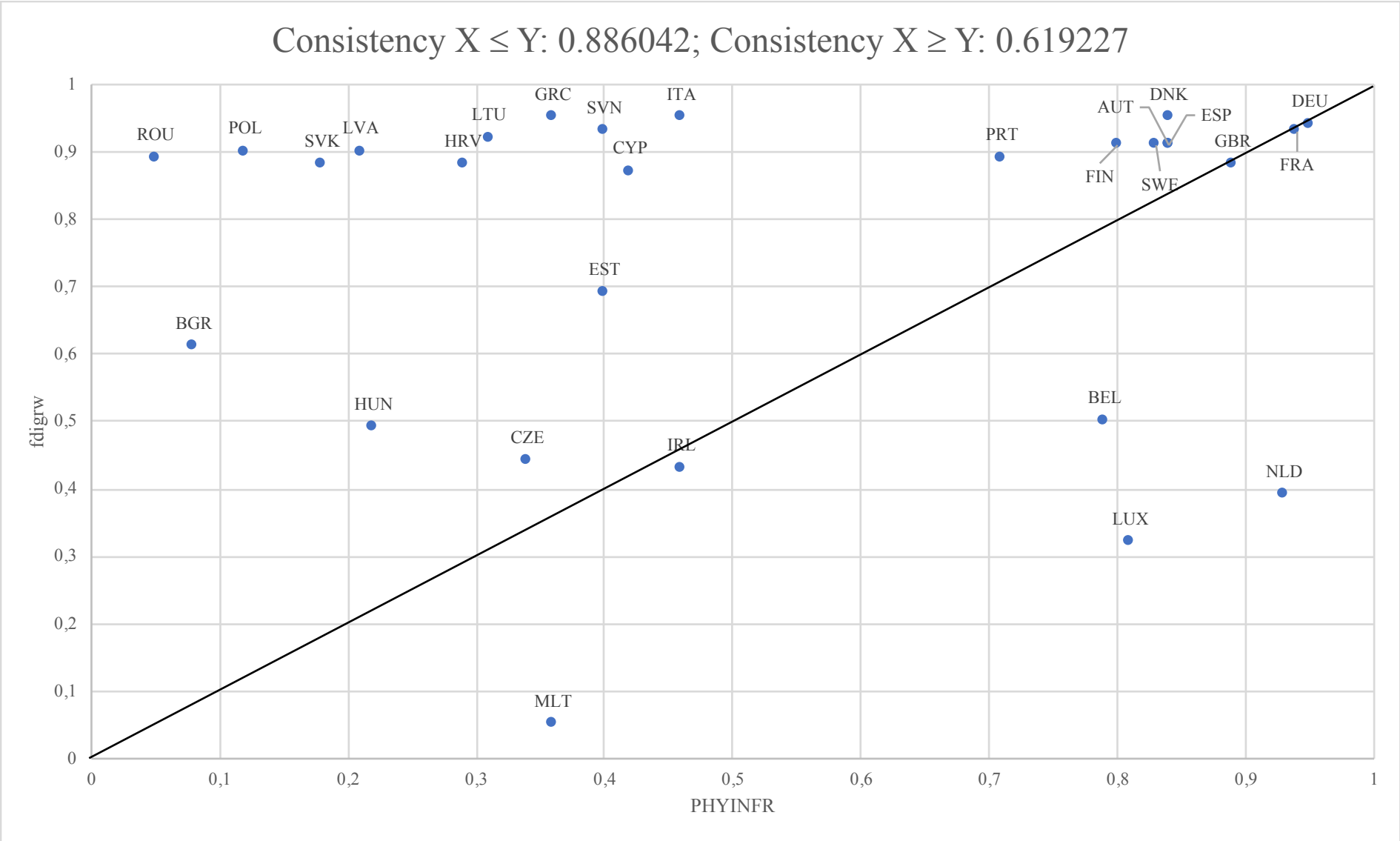

Figure 52: XY-Plot for the condition ‘Physical Infrastructure’

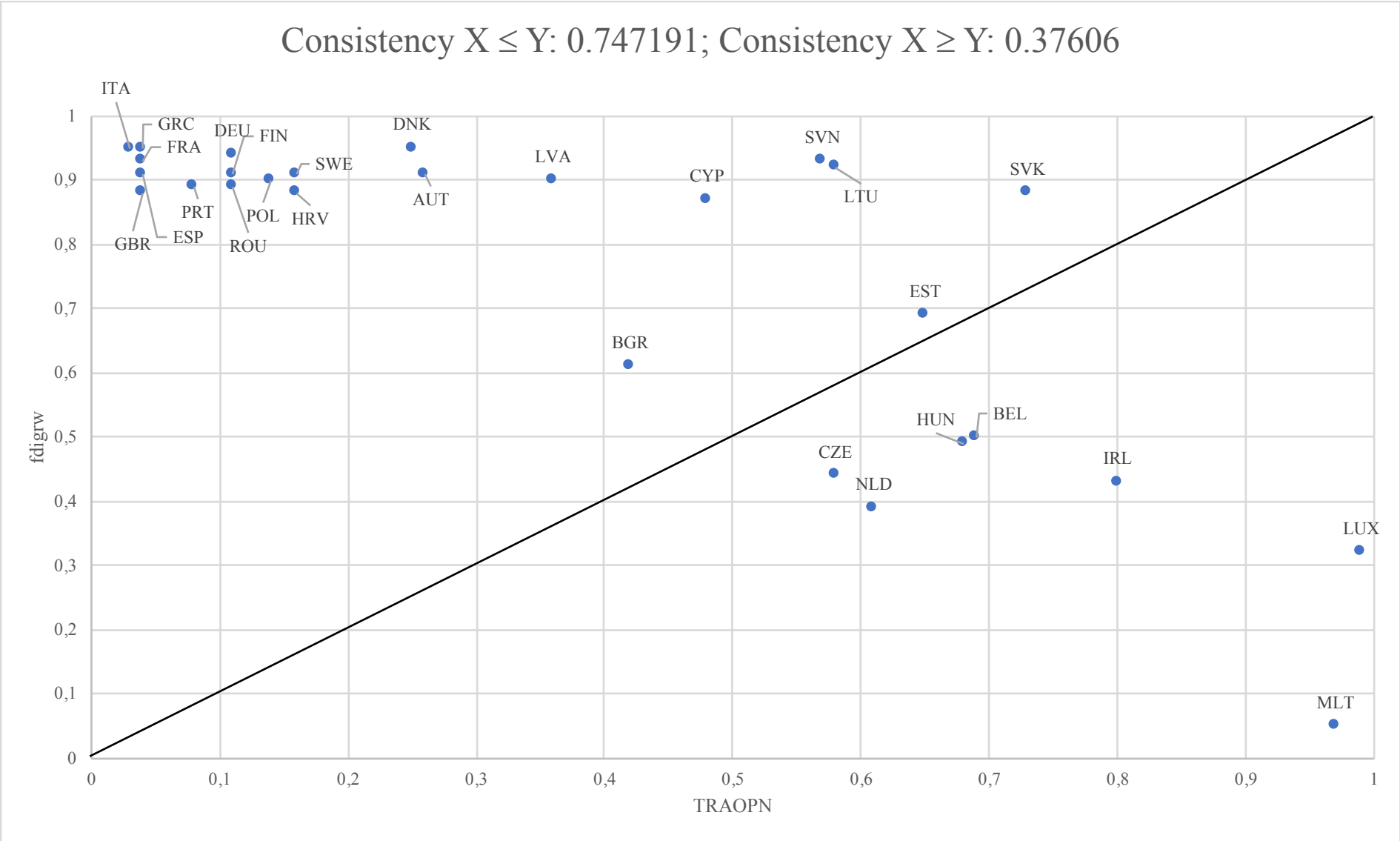

Figure 53: XY-Plot for the condition ‘Trade Openness’

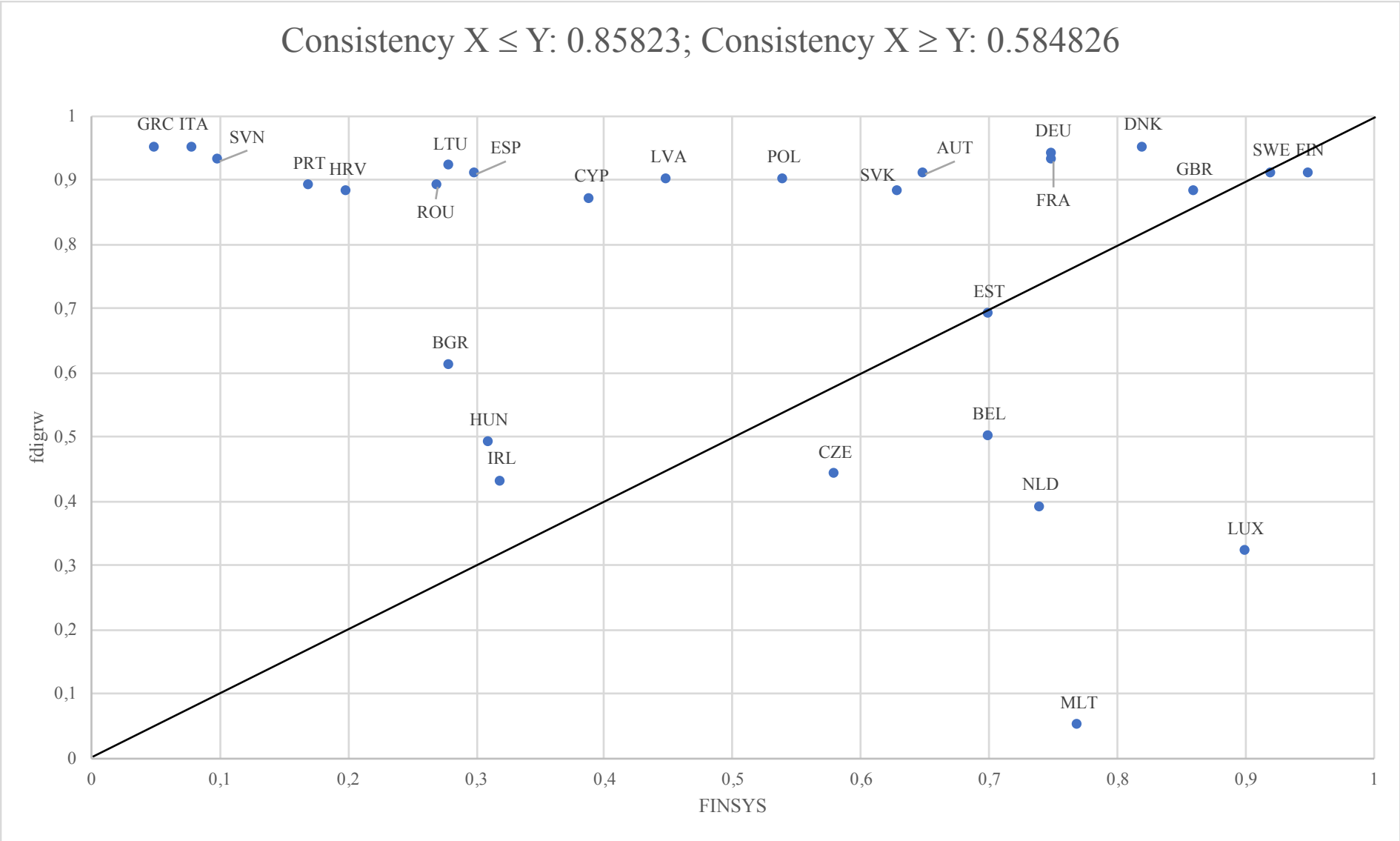

Figure 54: XY-Plot for the condition ‘Financial System’

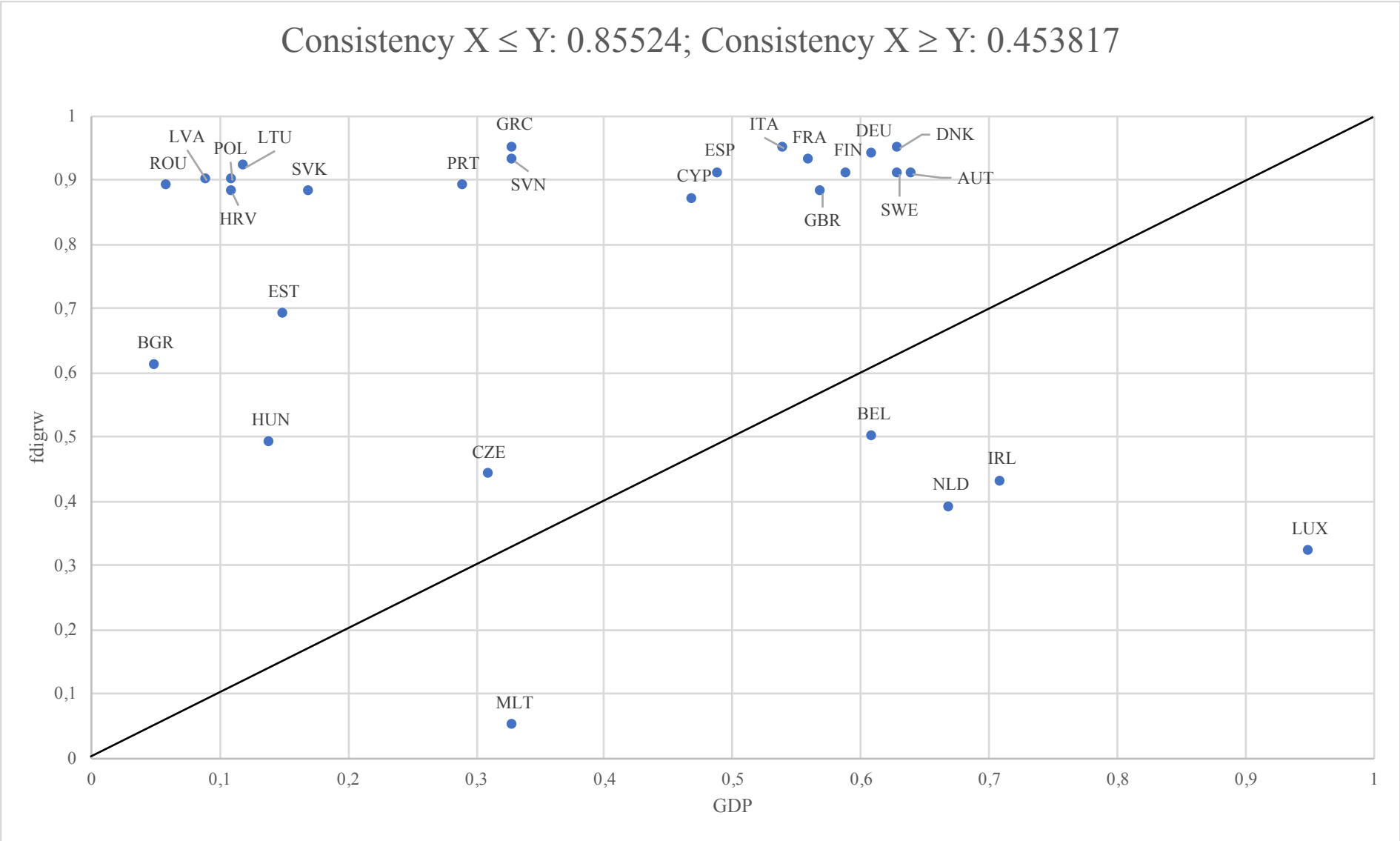

Figure 55: XY-Plot for the condition ‘GDP per capita’

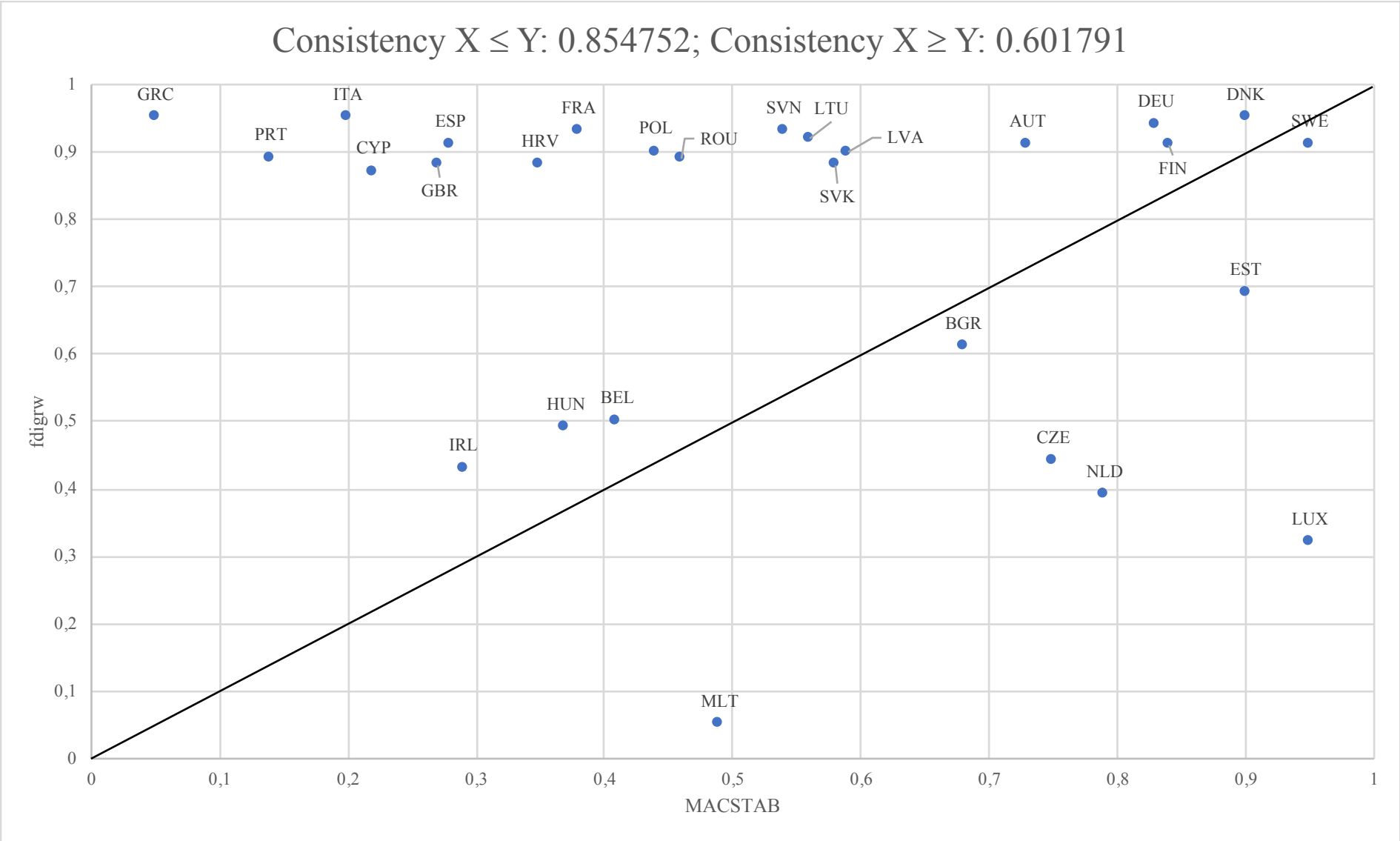

Figure 56: XY-Plot for the condition ‘Macroeconomic Stability’

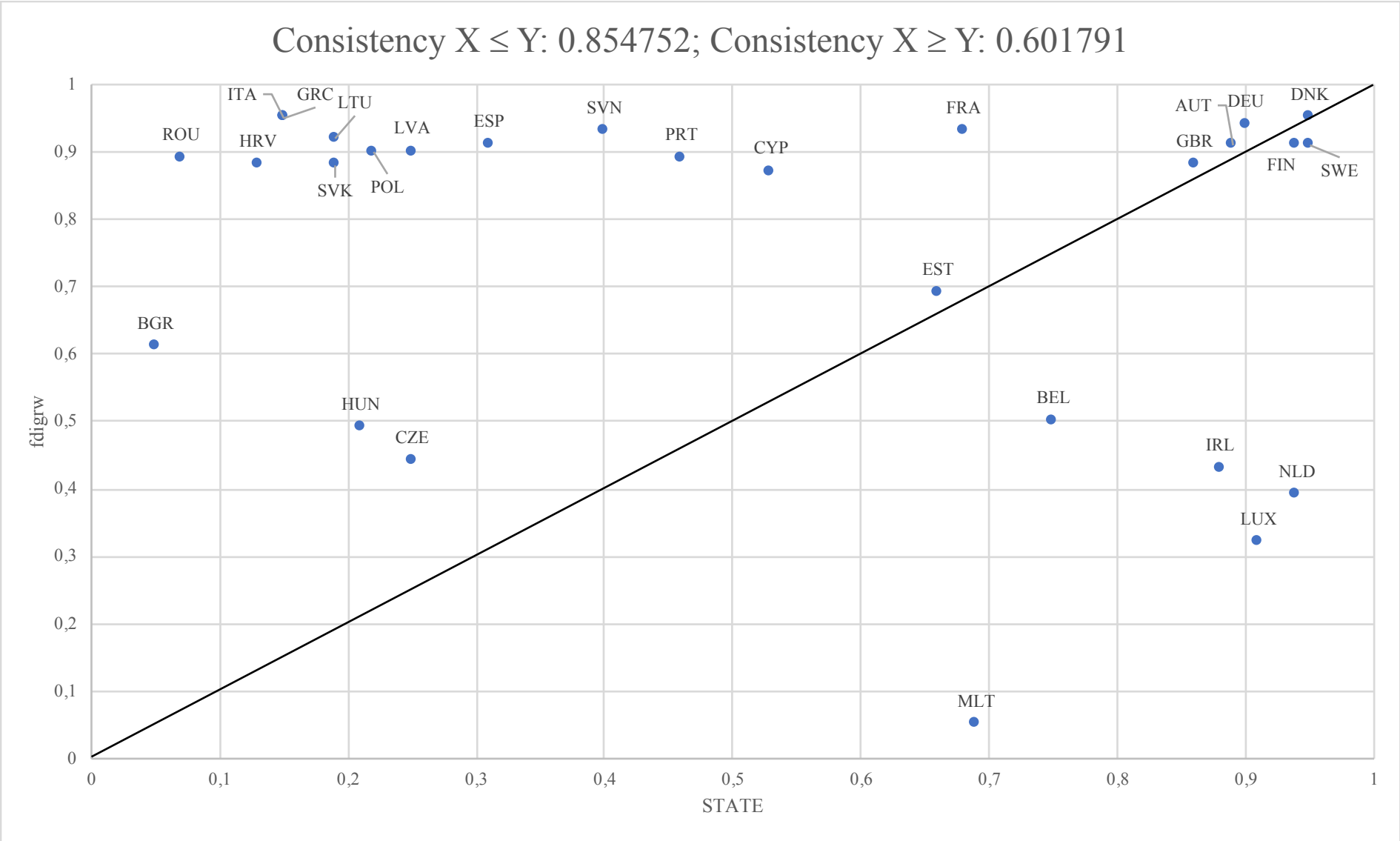

Figure 57: XY-Plot for the condition ‘State Action’

Appendix 11: Simplified overview for the negation of the outcome

Solution Path	*Tax*	*Human Capital*	*Economy Size*	*IPR*	*Physical Infra-structure*	*Trade openness*	*Financial System*	*GDP per capita*	*Macroeconomic stability*	*State action*
1	Yes	No	No	No	No	No	No	No		No
2	Yes	No	Yes	No	No	No		No	No	No
3	No	No	Yes	No	No	No	No	Yes	No	
4	Yes		No	No	No	Yes	No	No	Yes	No
5	Yes	No	No	No	No	Yes		No	Yes	No
6	Yes	No	No	No	No	No	No	Yes		Yes
7	No	Yes		Yes	Yes	No	Yes	No	No	No
8	No	Yes	Yes	Yes	Yes	No	Yes	No		No
9	No	No	Yes	No	Yes	No	No	No	No	No
10	No	No	Yes	No	Yes	No	No	No	Yes	Yes
11	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
12	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
13	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes

Table 28: Simplified overview for the negation of the outcome and the different solution paths

Yes (Green): Condition present; No (Red): Condition Negated; Yellow: Condition not present

Appendix 12: Set up for calibrating the fuzzy sets

ID	FDIGROW	TAXES	IPR-PRO	GDPpC	TRADE	SIZE	Phys	Fin	Sta	MACRO	HUM
AUT	3.16	26.13	7.91	31653	97.05	4.59	5.72	4.63	7.99	5.32	5.48
BEL	11.59	33.68	7.58	29665	151.33	4.79	5.59	4.7	7.4	4.79	5.79
BGR	9.79	12.06	3.55	10129	110.52	3.86	3.65	4.05	4.29	5.23	4.3
CYP	4.6	11.56	5.98	23376	114.87	2.86	4.82	4.24	6.76	4.3	4.82
CZE	20.01	21.56	5.33	20206	129.86	4.48	4.62	4.52	5.82	5.35	5.03
DEU	1.7	32.4	8.3	29935	77.06	6.01	6.31	4.79	8.07	5.54	5.53
DNK	0.7	25.22	8.09	31124	95.87	4.25	5.74	4.94	8.6	5.75	5.81
ESP	3.05	30.34	5.82	23812	56.87	5.45	5.72	4.09	6.04	4.48	4.99
EST	8.61	21.75	6.72	15947	143.92	3.02	4.79	4.7	7.11	5.76	5.3
FIN	2.97	24.25	8.88	28565	76.14	4.17	5.62	5.45	8.49	5.55	6.14
FRA	1.97	33.78	8.15	27029	55.68	5.75	6.24	4.79	7.17	4.72	5.33
GBR	4.45	25.56	8.64	27600	55.84	5.78	5.92	5.03	7.82	4.45	5.45
GRC	0.85	27.38	5.31	20735	56.33	4.4	4.67	3.25	5.3	3.41	4.73
HRV	4.15	19.88	4.68	14282	84.99	3.6	4.49	3.87	5.14	4.65	4.48
HUN	12.7	16.56	5.38	15647	150.51	4.28	4.3	4.1	5.63	4.69	4.62
IRL	20.78	12.5	7.79	35635	176.92	4.22	4.93	4.11	7.96	4.5	5.41
ITA	1.16	32.37	5.26	26182	52.59	5.62	4.91	3.48	5.32	4.26	4.71
LTU	2.9	15	4.85	14876	130.42	3.55	4.56	4.05	5.54	5.05	5.1
LUX	37.23	29.05	8.4	63282	327.68	3.16	5.65	5.19	8.2	6.03	4.69
LVA	3.68	15.56	4.99	13353	105.42	3.17	4.25	4.34	5.8	5.1	4.89
MLT	117.05	35	6.25	20694	269.93	2.51	4.67	4.83	7.2	4.94	4.82
NLD	26.87	26.88	8.36	33247	136	5.09	6.1	4.77	8.39	5.44	5.79
POL	3.39	19.5	4.77	14400	81.71	5.11	3.85	4.46	5.67	4.84	4.92
PRT	3.89	24.34	6.35	19794	70.13	4.33	5.39	3.8	6.55	4.03	4.93
ROU	3.92	17.13	4.2	11147	76.33	4.47	3.3	4.03	4.59	4.88	4.42

SVK	4.26	20.44	5.12	16765	160.58	4.01	4.13	4.59	5.52	5.08	4.51
SVN	2.23	21.25	5.87	20747	129.11	3.44	4.78	3.54	6.38	5.02	5.25
SWE	3.27	25.25	8.25	31065	84.99	4.62	5.69	5.24	8.56	5.98	5.73

Table 29: Set up for the calibration of the fuzzy sets

fsqca

ID	FDIGROW	TAXES	IPRPRO	GDPpC	TRADE	SIZE	Phys	Fin	Sta	MACRO	HUM
AUT	3.16	26.13	7.91	31653	97.05	4.59	5.72	4.63	7.99	5.32	5.48
BEL	11.59	33.68	7.58	29665	151.33	4.79	5.59	4.7	7.4	4.79	5.79
BGR	9.79	12.06	3.55	10129	110.52	3.86	3.65	4.05	4.29	5.23	4.3
CYP	4.6	11.56	5.98	23376	114.87	2.86	4.82	4.24	6.76	4.3	4.82
CZE	20.01	21.56	5.33	20206	129.86	4.48	4.62	4.52	5.82	5.35	5.03
DEU	1.7	32.4	8.3	29935	77.06	6.01	6.31	4.79	8.07	5.54	5.53
DNK	0.7	25.22	8.09	31124	95.87	4.25	5.74	4.94	8.6	5.75	5.81
ESP	3.05	30.34	5.82	23812	56.87	5.45	5.72	4.09	6.04	4.48	4.99
EST	8.61	21.75	6.72	15947	143.92	3.02	4.79	4.7	7.11	5.76	5.3
FIN	2.97	24.25	8.88	28565	76.14	4.17	5.62	5.45	8.49	5.55	6.14
FRA	1.97	33.78	8.15	27029	55.68	5.75	6.24	4.79	7.17	4.72	5.33
GBR	4.45	25.56	8.64	27600	55.84	5.78	5.92	5.03	7.82	4.45	5.45

Figure 58: Screenshot from a section in fs / QCA setting up the calibration of fuzzy sets

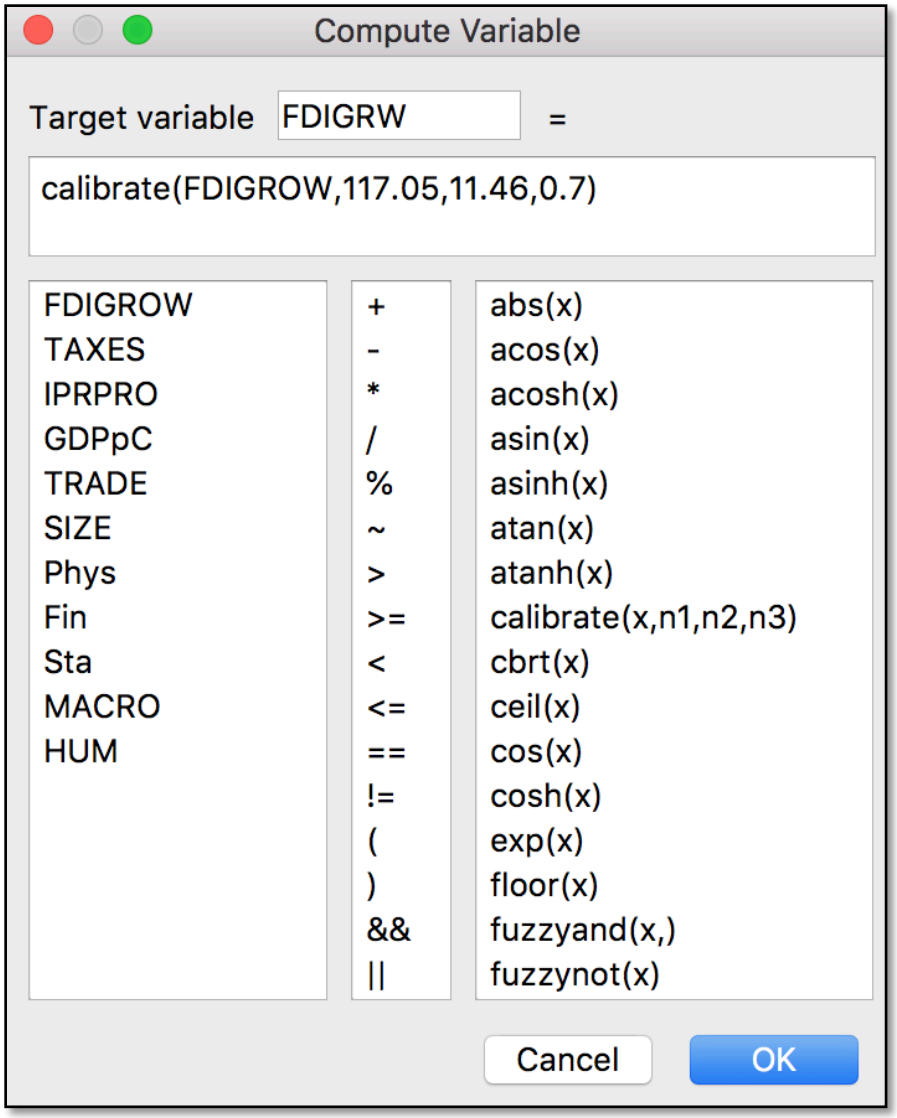

Figure 59: ‘Compute variable’ option in fs / QCA

fsqca

ID	FDIGROW	TAXES	IPRPRO	GDPpC	TRADE	SIZE	Phys	Fin	Sta	MACRO	HUM	FDIGRW
AUT	3.16	26.13	7.91	31653	97.05	4.59	5.72	4.63	7.99	5.32	5.48	0.09
BEL	11.59	33.68	7.58	29665	151.33	4.79	5.59	4.7	7.4	4.79	5.79	0.50
BGR	9.79	12.06	3.55	10129	110.52	3.86	3.65	4.05	4.29	5.23	4.3	0.39
CYP	4.6	11.56	5.98	23376	114.87	2.86	4.82	4.24	6.76	4.3	4.82	0.13
CZE	20.01	21.56	5.33	20206	129.86	4.48	4.62	4.52	5.82	5.35	5.03	0.56
DEU	1.7	32.4	8.3	29935	77.06	6.01	6.31	4.79	8.07	5.54	5.53	0.06
DNK	0.7	25.22	8.09	31124	95.87	4.25	5.74	4.94	8.6	5.75	5.81	0.05
ESP	3.05	30.34	5.82	23812	56.87	5.45	5.72	4.09	6.04	4.48	4.99	0.09
EST	8.61	21.75	6.72	15947	143.92	3.02	4.79	4.7	7.11	5.76	5.3	0.31
FIN	2.97	24.25	8.88	28565	76.14	4.17	5.62	5.45	8.49	5.55	6.14	0.09
FRA	1.97	33.78	8.15	27029	55.68	5.75	6.24	4.79	7.17	4.72	5.33	0.07
GBR	4.45	25.56	8.64	27600	55.84	5.78	5.92	5.03	7.82	4.45	5.45	0.12

Figure 60: Section of the calibration of fuzzy sets in fs / QCA; with newly computed variable

ID	FDIGROW	TAXES	IPR-PRO	GDPpC	TRADE	SIZE	Phys	Fin	Sta	MACRO	HUM	FDIGRW	TAX	HUMCAP	ECN-SIZE	IPR	PHY-INFR	TRA-OPN	FIN-SYS	GDP	MACS-TAB	STATE
AUT	3.16	26.13	7.91	31653	97.05	4.59	5.72	4.63	7.99	5.32	5.48	0.09	0.33	0.75	0.62	0.86	0.84	0.26	0.65	0.64	0.73	0.89
BEL	11.59	33.68	7.58	29665	151.33	4.79	5.59	4.7	7.4	4.79	5.79	0.50	0.07	0.88	0.70	0.80	0.79	0.69	0.70	0.61	0.41	0.75
BGR	9.79	12.06	3.55	10129	110.52	3.86	3.65	4.05	4.29	5.23	4.3	0.39	0.95	0.05	0.32	0.05	0.08	0.42	0.28	0.05	0.68	0.05
CYP	4.6	11.56	5.98	23376	114.87	2.86	4.82	4.24	6.76	4.3	4.82	0.13	0.95	0.25	0.08	0.38	0.42	0.48	0.39	0.47	0.22	0.53
CZE	20.01	21.56	5.33	20206	129.86	4.48	4.62	4.52	5.82	5.35	5.03	0.56	0.62	0.43	0.57	0.24	0.34	0.58	0.58	0.31	0.75	0.25
DEU	1.7	32.4	8.3	29935	77.06	6.01	6.31	4.79	8.07	5.54	5.53	0.06	0.09	0.77	0.95	0.91	0.95	0.11	0.75	0.61	0.83	0.90
DNK	0.7	25.22	8.09	31124	95.87	4.25	5.74	4.94	8.6	5.75	5.81	0.05	0.39	0.88	0.48	0.88	0.84	0.25	0.82	0.63	0.90	0.95

ESP	3.05	30.34	5.82	23812	56.87	5.45	5.72	4.09	6.04	4.48	4.99	0.09	0.14	0.39	0.88	0.34	0.84	0.04	0.30	0.49	0.28	0.31
EST	8.61	21.75	6.72	15947	143.92	3.02	4.79	4.7	7.11	5.76	5.3	0.31	0.61	0.63	0.10	0.58	0.40	0.65	0.70	0.15	0.90	0.66
FIN	2.97	24.25	8.88	28565	76.14	4.17	5.62	5.45	8.49	5.55	6.14	0.09	0.45	0.95	0.44	0.95	0.80	0.11	0.95	0.59	0.84	0.94
FRA	1.97	33.78	8.15	27029	55.68	5.75	6.24	4.79	7.17	4.72	5.33	0.07	0.06	0.65	0.93	0.89	0.94	0.04	0.75	0.56	0.38	0.68
GBR	4.45	25.56	8.64	27600	55.84	5.78	5.92	5.03	7.82	4.45	5.45	0.12	0.37	0.73	0.93	0.94	0.89	0.04	0.86	0.57	0.27	0.86
GRC	0.85	27.38	5.31	20735	56.33	4.4	4.67	3.25	5.3	3.41	4.73	0.05	0.26	0.20	0.54	0.23	0.36	0.04	0.05	0.33	0.05	0.15
HRV	4.15	19.88	4.68	14282	84.99	3.6	4.49	3.87	5.14	4.65	4.48	0.12	0.71	0.09	0.23	0.14	0.29	0.16	0.20	0.11	0.35	0.13
HUN	12.7	16.56	5.38	15647	150.51	4.28	4.3	4.1	5.63	4.69	4.62	0.51	0.85	0.14	0.49	0.25	0.22	0.68	0.31	0.14	0.37	0.21
IRL	20.78	12.5	7.79	35635	176.92	4.22	4.93	4.11	7.96	4.5	5.41	0.57	0.94	0.71	0.46	0.84	0.46	0.80	0.32	0.71	0.29	0.88
ITA	1.16	32.37	5.26	26182	52.59	5.62	4.91	3.48	5.32	4.26	4.71	0.05	0.09	0.19	0.91	0.22	0.46	0.03	0.08	0.54	0.20	0.15
LTU	2.9	15	4.85	14876	130.42	3.55	4.56	4.05	5.54	5.05	5.1	0.08	0.89	0.49	0.22	0.16	0.31	0.58	0.28	0.12	0.56	0.19
LUX	37.23	29.05	8.4	63282	327.68	3.16	5.65	5.19	8.2	6.03	4.69	0.68	0.19	0.17	0.13	0.92	0.81	0.99	0.90	0.95	0.95	0.91
LVA	3.68	15.56	4.99	13353	105.42	3.17	4.25	4.34	5.8	5.1	4.89	0.10	0.88	0.31	0.13	0.18	0.21	0.36	0.45	0.09	0.59	0.25
MLT	117.05	35	6.25	20694	269.93	2.51	4.67	4.83	7.2	4.94	4.82	0.95	0.05	0.25	0.05	0.45	0.36	0.97	0.77	0.33	0.49	0.69
NLD	26.87	26.88	8.36	33247	136	5.09	6.1	4.77	8.39	5.44	5.79	0.61	0.29	0.88	0.80	0.91	0.93	0.61	0.74	0.67	0.79	0.94
POL	3.39	19.5	4.77	14400	81.71	5.11	3.85	4.46	5.67	4.84	4.92	0.10	0.73	0.33	0.80	0.15	0.12	0.14	0.54	0.11	0.44	0.22
PRT	3.89	24.34	6.35	19794	70.13	4.33	5.39	3.8	6.55	4.03	4.93	0.11	0.44	0.34	0.51	0.47	0.71	0.08	0.17	0.29	0.14	0.46
ROU	3.92	17.13	4.2	11147	76.33	4.47	3.3	4.03	4.59	4.88	4.42	0.11	0.83	0.07	0.57	0.09	0.05	0.11	0.27	0.06	0.46	0.07
SVK	4.26	20.44	5.12	16765	160.58	4.01	4.13	4.59	5.52	5.08	4.51	0.12	0.68	0.10	0.38	0.20	0.18	0.73	0.63	0.17	0.58	0.19
SVN	2.23	21.25	5.87	20747	129.11	3.44	4.78	3.54	6.38	5.02	5.25	0.07	0.63	0.60	0.19	0.35	0.40	0.57	0.10	0.33	0.54	0.40
SWE	3.27	25.25	8.25	31065	84.99	4.62	5.69	5.24	8.56	5.98	5.73	0.09	0.38	0.86	0.63	0.90	0.83	0.16	0.92	0.63	0.95	0.95

Table 30: Complete overview of operationalized conditions and the calibrated fuzzy sets; exported from fs / QCA

Appendix 13: Analysis in fs / QCA for necessary conditions for the outcome and the negation of the outcome

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Analysis of Necessary Conditions

Outcome variable: FDIGRW

Conditions tested:
           Consistency    Coverage
TAX        0.682891       0.333814
~TAX       0.783186       0.375796
HUMCAP     0.684366       0.354469
~HUMCAP    0.794985       0.361502
ECNSIZE    0.718289       0.346866
~ECNSIZE   0.877581       0.426218
IPR        0.787611       0.373950
~IPR       0.656342       0.324344
PHYINFR    0.766962       0.350641
~PHYINFR   0.750737       0.386484
TRAOPN     0.967552       0.614232
~TRAOPN    0.601770       0.235566
FINSYS     0.890855       0.417704
~FINSYS    0.697640       0.349335
GDP        0.733038       0.441385
~GDP       0.766962       0.310633
MACSTAB    0.856932       0.388889
~MACSTAB   0.690265       0.358346
STATE      0.815634       0.379808
~STATE     0.623894       0.314732
```

Figure 61: Analysis of Necessary Conditions for the outcome variable FDIGRW

```
Analysis of Necessary Conditions

Outcome variable: ~FDIGRW

Conditions tested:
           Consistency     Coverage
TAX        0.584354        0.894016
~TAX       0.564562        0.847842
HUMCAP     0.551367        0.893812
~HUMCAP    0.601791        0.856472
ECNSIZE    0.622526        0.940883
~ECNSIZE   0.567861        0.863181
IPR        0.563148        0.836835
~IPR       0.578699        0.895044
PHYINFR    0.619227        0.886042
~PHYINFR   0.546183        0.880030
TRAOPN     0.376060        0.747191
~TRAOPN    0.805844        0.987298
FINSYS     0.584826        0.858230
~FINSYS    0.603205        0.945347
GDP        0.456173        0.859680
~GDP       0.703582        0.891876
MACSTAB    0.605090        0.859438
~MACSTAB   0.569746        0.925727
STATE      0.565975        0.824863
~STATE     0.574458        0.906994
```

Figure 62: Analysis of Necessary Conditions for the outcome variable ~FDIGRW (fdigrw)

Appendix 14: Country profiles

Country profile Malta

Malta has a very open import and export dependent market economy. Global economic developments are particularly noticeable due to this openness and the small size of the economy. Since the beginning of FDI in Malta in the 1960s, the Maltese economy has undergone a continuous structural change. Malta's economy is based in particular on the areas of high-quality production and service. These include in particular tourism, financial services, online gambling, the pharmaceutical industry, information and communications technology (ICT) and aircraft maintenance. In addition, Malta wants to establish itself as a location for biotechnology and creative industries. In addition, the maritime industry is to be expanded even more (Auswärtiges Amt, 2017b).

Since the accession of the Mediterranean island to the EU in 2004, and especially since its accession to the Eurozone, the internationally oriented financial services sector has become increasingly important. The clear legislation and tax advantages for international companies and investors make Malta a preferred location for financial and insurance companies. This sector accounts for nearly 20% of GDP and employs 4.8% of the workforce in 2015 (approximately 8,800). The government has set itself the goal of increasing the GDP share of this sector to 25% over the next few years. Leading the industry is the fund industry with 580 funds and more than 100 asset management companies. Malta has a stable banking sector with conservative institutions and a high equity ratio.

Malta, the self-proclaimed European 'capital city' of iGaming (interactive gaming), is evolving more and more into a worldwide paradise of e-gambling due to the lack of state gambling monopoly and the possibility to operate betting servers from abroad. According to the Malta Gaming Authority, 269 online gambling and betting companies operate in the IT and software sector. The gambling sector creates about 8,000 direct jobs and brought the state 2016 tax revenues worth € 55 million.

Connected industries include IT infrastructure, digital media, multilingual call centers and back office structures, as well as training centers such as HP, CISCO and Microsoft. With the Digital Malta Program – a strategy for digitizing the country from 2014 to 2020 – Malta is setting new standards for eGovernment and Digital Citizen.

In 2016, FDI in Malta amounted to € 160 billion, of which 98% was in the financial and insurance sectors. Low labor costs, the strategic location in the Mediterranean, and economic, political and social stability make Malta an interesting location for foreign companies (Aussenwirtschaft Austria, 2017).

Country profile Czech Republic

The country is not only traditionally characterized by a strong industry (share of industry in GDP: 28% – making it a leader among EU countries), but today is a modern industrial location, which supplies all over the world, especially in the EU and to Germany. These markets require top products with top components

Cars "Made in Czech Republic" are popular both domestically and abroad – exports rose by 5% and domestic sales by 7%. The largest car manufacturers of the country are Škoda Auto, a subsidiary of Volkswagen, and Hyundai, a South Korean automobile manufacturer, making the Czech Republic a very popular location for FDI (in the automotive sector), also making a significant contribution to the economy.

Economic experts see the major shortage of (qualified) workers as a danger for the Czech economy in the upcoming years. Some companies already have to reject orders because they can no longer process them. Wage increases, and extraordinary benefits are currently one of the few ways in which employers can keep the scarce workforce or recruit new ones.

The government is trying to counteract the shortage of staff: The statutory minimum wage has been increased again – since 2018 it is about € 480 per month.

According to the *Czech National Bank* (CNB), the total FDI in the Czech Republic amounts to € 107.1 billion – the top investors are the Netherlands (share: 24%), Austria (13.4%), Germany (12.9%) and Luxemburg (12.2%), these four countries together account for 63% of FDI (Aussenwirtschaft Austria, 2018w).

Country profile Ireland

Ireland's economy is export-oriented and open to foreign investors. The country therefore profited greatly from globalization and its membership of the EU.

A long boom since the 1990s, with high growth rates, steep per capita income growth and a sharp decline in unemployment, was followed by a deep recession, triggered by the financial crisis of 2008. In the meantime, Ireland was on the "bailout" of the EU and the IMF, however the country has largely recovered from the financial crisis and left the EU / IMF program in 2013 as well (Auswärtiges Amt, 2018e).

The country is characterized by strong economic growth, growth in private consumption, investment, export of goods and services, and direct investment in Ireland combined with declining unemployment and stable prices. The exchange of services is developing very dynamically, thanks to the numerous multinational companies that operate their headquarters in Ireland for sales in EMEA (Europe Middle East Africa).

However, the uncertainty surrounding the external factors, and Brexit in particular, is giving the Irish a big headache. Because of the strong economic, political and not least emotional interdependence of the two countries, Brexit will have an impact on Ireland in many ways.

Even in the long term, the government plans until 2040 investments in the infrastructure of the country of € 116 billion. As a matter of principle, in the framework of 'Project Ireland 2040', the cities and areas outside of Dublin are to receive increased support through investments in house building, transport infrastructure, schools, universities and the health system.

Ireland has become the location for the European headquarters of hundreds of multinationals during the last decades. These account for more than 70% of Ireland's exports and have chosen Ireland as the location, mainly because of its membership of the EU and the Eurozone.

Finally, the Irish corporate taxation model regularly attracts media attention. The corporate tax rate of 12.5% is a sacred cow for Ireland, as well as some tax avoidance practice. So, after the end of the 'Double Irish', a new practice called 'Single Malt' emerged, taking advantage of the loophole that Ireland does not have a double taxation treaty with many countries. Ireland continues to enjoy the confidence of multinational corporations that are investing or expanding their presence. There are currently more than 1,300 subsidiaries of international companies. Ireland fears the introduction of the *Common Consolidated Corporate Tax Base* (CCCTB), as experts predict that revenues from corporation tax (around € 8 billion in 2017) will fall by more than half. Overall, the Treasury takes in € 51 billion in taxes per year. But even the introduction of the Digital Tax would have a negative impact on Ireland as a location for FDI (Aussenwirtschaft Austria, 2018i).

Country profile Luxemburg

Luxemburg's GDP per capita of 92,900 € (2016) is by far the highest in the EU. In 2016, economic growth was 42%. The financial center (fund industry, banks, insurance companies) dominates the economic life of Luxemburg – in 2016 it accounted for 27.2% of GDP. Among the euro member states only Germany, Luxemburg and the Netherlands have a AAA rating. All major Luxemburg banks have passed the ECB (European Central Bank) stress test in October 2014 with very good results.

The government supports the bio- and environmental technologies, health technologies, logistics, ICT, culture and creative industries sectors in order to put the Luxemburg economy on a broader footing and to make structural change more successful.

Luxemburg has a diversified middle-class economy, which is an important economic backbone. The standard of living and the wage level in Luxemburg are high. Wages and pensions are linked to the cost of living index and are adjusted at regular intervals. Wage disputes are rare (Auswärtiges Amt, 2018h).

Due to the difficult environment (low interest rates, higher costs, stronger regulation of the financial sector, digitization), the banking sector is facing tough times. This also affected the number of bank employees, which has declined in recent years. Restructuring and consolidation are not leaving the Luxemburg banking center without a trace.

Luxemburg is a center for private wealth management among the world's leading wealth management centers. In total there are 88 insurance companies and 207 reinsurers in Luxemburg, many of which are subsidiaries of multinational corporations.

Over the years, Luxemburg has become Europe's largest and world's second largest fund center after the US. The Internet giant Google has already bought a 34-hectare site in Bissen for a data center, but the final decision is still pending. At least the US tire manufacturer Goodyear wants to open a new location in Dudelange.

An important project of the government was the tax reform, which came into force on 1 January 2017. Key elements include: lowering the corporate income tax rate, limiting the loss carryforward, deferred depreciation, incentives for investment and hiring unemployed, favoring green service vehicles and mandatory electronic tax filing.

As a leading financial center, the Grand Duchy also has good cards in hand when it comes to attracting economic and financial players to the Luxemburg location. Luxemburg is particularly convincing in its corporate client business, asset management and associated companies.

Since the *Luxleaks* affair, the government faces a major challenge, as Luxemburg's image as a tax haven should be shaken off. As part of the OECD's BEPS Action Plan and the EU Anti-Tax Avoidance Directive, the tax legislation in Luxemburg has been tightened and some loopholes previously exploited by international corporations closed. Although Luxemburg is no longer on the black list of the OECD but is still in the sights of the EC because of its "aggressive tax policy". In the context of EU tax harmonization, the EU Commission proposes a common base, which would be the de facto death of Luxemburg's tax havens.

With effect from 1 January 2017, the tax reform of the government came into effect, which is meant to relieve both private individuals and companies (via the reduction in corporation tax). Overall, tax relief of around half a billion euros per year is mentioned. As far as companies are concerned, the government had in mind the new international tax rules and the competitiveness of Luxemburg.
In 2018, the public sector will therefore invest € 2.4 billion. One of the main concerns of the government is the expansion of public transport. Mobility is crucial for Luxemburg, given the large number of commuters who arrive by their own vehicle every day. In addition to mobility, education and public buildings are also priorities (Aussenwirtschaft Austria, 2018n).

Country profile Estonia

As a small economy, Estonia is extremely export-oriented and dependent: exports of goods and services together reach over 80% of GDP, and service exports alone account for around a quarter of GDP.

Foreign direct investment remains a very important stabilizing factor for the Estonian economy. The FDI stock in 2016 amounted to approximately 83% of GDP. This development is also seen as a success of the tax system (since 1.1.2000 reinvested profits are not taxed). However, the limited availability of qualified professionals could cause problems within the next years. Sweden (26%) and Finland (25%) were the main investors in 2016. This is followed by the Netherlands, Lithuania, Russia and Latvia. More than 80% of direct investment comes from EU countries. The most important investments were made in the banking, insurance, real estate, wholesale, retail and manufacturing industries.

In terms of economic policy, the stated goals of the National Budget Strategy 2018-2021 are the reduction of high-income differentials, the stimulation of economic growth, the stopping of population outflow and security issues. Measures include a slight tax progression rather than the flat-tax, a softening of the extreme budget discipline through longer calculation periods and a few new charges.

Therefore, it is an important goal of the government to create framework conditions for Estonia to remain attractive for highly qualified manpower in the production, service and IT sectors and thus move away from the low-wage production, which is already declining anyway. Software products such as Skype (invented in Estonia) are intended to fully justify Estonia, which is already very connected, to the name “e-Estonia”. All around such leading companies, a dynamic network of start-ups and spin-offs has developed. Furthermore in positioning itself as a competitive, innovative country, Estonia is quite successful – not only compared to its Baltic neighbors. (Aussenwirtschaft Austria, 2018e).

Country profile The Netherlands

According to the statistics for investment, foreign investment in the Netherlands grew by 10% in 2016. The Amsterdam-Rotterdam metropolitan area is one of the top destinations for foreign investors and even achieves second place in terms of the number of projects. Based on the average value of the projects, the Netherlands occupy fourth place in the global comparison. Among the largest investors in the Netherlands are many multinational corporations. The ICT, logistics and production sectors in particular are attracting investment. Well-known companies like Microsoft, Cisco, Interxion, Infosys, Huawei, Oracle, Intel, IBM, Verizon and Google are investing here. But also, in other sectors, many companies use the Netherlands as a gateway to Europe for logistics or e-commerce projects. For example, Coca-Cola, Danone and Medtronic expanded in 2016 alongside Google and Oracle.

The Netherlands – one of the few AAA countries – shows however some weaknesses its strong economic dependency on the European economy, the risks associated with Brexit, the aging population, the high dependence of households and banks on the real estate sector and high health expenditure. On the plus side are the port activities of Rotterdam (the largest logistics hub in Europe), the first port of Europe, the good competitive indicators, the high quality of the infrastructure, the wide spread of exports, the trade surplus and the high savings of households, whose net financial assets reach 200% of GDP (Aussenwirtschaft Austria, 2018o).

Country profile Belgium

In the Belgian economy, the services sector dominated in 2017 at around 77%. Despite the great industrial tradition of the country, the manufacturing industry represents only about 17% of GDP. The most important economic sectors in Belgium are the pharmaceutical, chemical and food industries. The share of the construction sector is about 5% of GDP, while that of the agricultural sector is 0.7% (Auswärtiges Amt, 2018a).

According to the Logistics Performance Index published by the World Bank, Belgium is the world's sixth-largest logistics country after Germany, Luxemburg, Sweden, the Netherlands and Singapore.

The automotive industry continues to play an important role in Belgium, although vehicle assembly has declined in recent years. However, both Volvo and Audi invest in production lines for new models at their production sites in Belgium. Since the beginning of 2018, Audi and Volvo made massive investment for new production lines. Investments are also made at Volvo Trucks and at the production site of the truck-builder DAF. Belgium ranks third in the EU after Spain and Slovakia in terms of car production per employee, with almost 13 vehicles.

Belgium, as a small, open economy with close economic ties to the United Kingdom (in 2016 8.9% of all Belgian goods exports to the United Kingdom), will be more affected by Brexit than other EU countries. If a "hard Brexit" comes, studies assume a loss of 42,000 jobs and 2.5 percentage points in GDP growth for Belgium.

Big losers in Brexit are likely to be the textile and frozen foods industry in the West Flanders province and the port of Zeebrugge, where 45% of the goods handled are connected to Britain.

The Belgian government will strengthen Belgium's position as a business hub in combination with growth, guaranteed jobs and competitiveness. Reduction in corporate income tax came into force at the beginning of 2018, lowering the cost for small and medium-sized companies from 25% to 20% and for large companies from 34% to 29% (Aussenwirtschaft Austria, 2018a).

Country profile Lithuania

Since 01.01.2015 Lithuania is member of the Eurozone. The population's approval of the euro is over 70%. The price trend shows a mixed picture: While services have become more expensive, some food prices have fallen slightly (Auswärtiges Amt, 2018g).

Lithuania's unemployment rate has been steadily declining. However, this is not only due to the creation of new jobs, but also to the continued emigration to other countries (Northern) European countries. In addition, the positive values mask partly persistent problems of structural unemployment and, especially in rural areas, skills shortages. The lack of practice-oriented vocational training plays an important role here.

Lithuania has seen a significant increase in labor productivity in the EU comparison. While it stood at 50% of the EU average in 2004, it now reaches around 76%. However, this trend has been halted by recent wage increases in recent years – productivity growth has not kept pace with wage growth. As a result, the modernization of machinery and production methods continues to require a great deal of catching up, which Lithuania is well aware of.

Lithuania is still widely considered a producer of simple technologies and consumer goods. In view of the decreasing competitiveness in this segment due to the wage increases, therefore, strong attention must be paid to technology-intensive production and research in order to be able to respond to developments in the country – wage increases and demographic decline – in a future-oriented manner.

The geostrategic location makes Lithuania a hub between East and West with great potential for the future. Competitiveness has been consistently increased. It is therefore only natural that Lithuania has landed many prestigious reference projects, including companies such as Hella, Continental, Festo, Barclays Bank, Western Union, IBM, Cogent Communications, Heidelberg Cement, Indorama or Graanul Invest (Aussenwirtschaft Austria, 2018m).

Country profile Slovenia

The Slovenian economy continues to be burdened by the restructuring of banks and the highly indebted corporate sector. The self-imposed bank bailout in December 2013 resulted in an increased budget deficit and an increase in debt. Both, however, have passed their peak (Auswärtiges Amt, 2017f).

For instance, Slovenia has been working hard to land a million-dollar investment from Magna. The Austrian automobile giant builds a paint shop in the industrial area Hoče-Slivnica. In the long term, 4,000 jobs will be created. Over the next five years, 1,000 people are to be employed and over € 100 million invested. In return for the promise of Magna, the Slovenian government has promised € 18.6 million in subsidies.

Furthermore, the Slovenian parliament passed a new investment promotion law in mid-February, which aims to further promote investment growth. One key feature will be the equality of foreign and domestic investors as well as the expropriation of real estate for strategic investments. Mainly government support will be provided through repayable funds, guarantees and subsidies.

In 2016, Slovenia had FDI totaling € 12.9 billion, an increase of 11.5% compared to 2015. Furthermore, important structural reforms concerning the banking sector, the judiciary and the administrative apparatus of the state are revealed (Aussenwirtschaft Austria, 2018u).

Country profile Slovakia

Slovakia is a highly industrialized and highly export-oriented economy. The export share of GDP is over 90 percent, of which 80 percent to other EU Member States. The share of industry and construction is about 35 percent of gross domestic product; The service sector accounts for more than 60 percent, while the share of agriculture has long been around 3 percent.

The industrial focus is on the diversified automotive industry as well as in the fields of electronics, metalworking and mechanical engineering. The major foreign concerns Volkswagen, PSA Peugeot / Citroën and Hyundai / Kia play a leading role in Slovak vehicle manufacturing. Jaguar Land Rover is the fourth international carmaker to build a plant in Slovakia. In 2016, more than 1 million new automobiles were produced; This is the world's highest car production per capita (Auswärtiges Amt, 2018k). Automotive is more than ever the most important pillar of the Slovak economy and responsible for 44% of industrial production and 40% of industrial exports. Around a quarter of a million jobs depend on it. With the planned investment by Jaguar Land Rover, Slovakia will be able to match its absolute production capacity with that of the Czech Republic.

Shared service centers are becoming an increasingly important economic factor in Slovakia. After the automotive industry, they are the second pillar of the Slovak economy. In terms of growth, the industry is in first place. Most shared service centers are located in Bratislava and Kosice. IBM, T-Systems, AT & T, HP, Henkel and Amazon are among the largest foreign investors in this sector. In 2016, there were 62 such centers with more than 31,000 employees.

The shortage of skilled workers is getting worse. There is a shortage of workers in almost all areas. Especially in the technical professions and in the IT sector, this leads to an increase in salaries and wages. But also, workers with a lower qualification, such as Motorists or warehouse workers are urgently sought.

According to the Vienna Institute for International Economic Studies (wiiw), foreign investment in Slovakia reached a total value of € 40.1 billion in 2016. About a fifth (19.5%) of these come from the Netherlands, followed by Austrian (15.7%) and German (11.3%) investments.

Jaguar Land Rover builds the first production facility on mainland Europe in Nitra for around € 1.4 billion. The aim is to create 2,800 direct jobs as a first step. From 2018, the first cars to roll off the line. But some experts expect a delay. With the fourth automobile producer, Slovakia is consolidating its international position as an automotive nation. At the same time, however, an increase in labor costs is expected around the Nitra region. Experts estimate that the start of production could boost industrial growth by 4-5 percentage points (Aussenwirtschaft Austria, 2018t).

Country profile Croatia

Strengthening the economy and improving the investment climate through structural reforms have been major themes of Croatian politics for years. Since joining the EU on 1 July 2013, Croatia is experiencing a moderate upturn. After six years of recession, economic growth since 2015 has been positive. Reform steps have already been initiated in several sectors of the economy in recent years, which the EU Commission has launched in the form of country-specific recommendations in the context of the European Semester's voting process, including reforms and privatization of state-owned enterprises, labor market reforms and measures to reduce arrears in the EU entire economic cycle. Reform areas of the current government are following a tax reform, administrative relief for companies, public administration, public procurement and waste management (Auswärtiges Amt, 2018f).

With approx. 25% of GDP (contribution in the wider sense) tourism is the most important economic activity in Croatia. VAT tourism revenues were already twice as high as in 2016 in the first 11 months, not only due to the increase in the number of tourists, but also due to the effects of the tax reform, which has brought VAT rates for most tourist services lifted from 13% to 25%.

According to the Croatian National Bank, total FDI at the end of the third quarter of 2017 amounted to approx. € 32 billion. In the first three quarters of 2017, Croatia's FDI increased by € 1.2 billion. Investors continue to find a difficult investment climate due to Croatia's unclear attitude towards foreign investors (especially at regional / local level), burdensome bureaucracy, frequent legal changes, etc.

Massive reform is still needed in the administrative field (land registers, approval procedures, cooperation between authorities), in the fight against corruption, in the judiciary (excessive length of proceedings, law enforcement), in legislation (unclear and partially retroactively enacted laws, missing regulations, etc.), in the education, health and pension system as well as in employment law. Privatizations are also coming soon. The number of majority-owned companies rose from 1,045 to 1,149 between 2008 and 2017. The efficiency of most of these companies is low.

Croatia has been a full member of the EU since 1 July 2013. In preparation of the targeted EURO (€) introduction, the Croatian government wants to join the ERM 2 by 2020. The good economy should be used to achieve the required stability criteria (Aussenwirtschaft Austria, 2018k).

Country profile Latvia

The Latvian economy has been on a clear growth path for years. From 1996-2017, the average rate of increase was 4.19%, according to Latvian statistics. The small country, which is highly dependent on external factors, experienced considerable ups and downs: a record + 14.1% in the overheated pre-crisis phase (1st quarter 2007) was followed by a low of -16.1% in the 3rd quarter of 2009. But thanks to the intervention of the IMF and the EU, as well as its own consistent consolidation course, Latvia's economy soon recovered.

Just five years after the strongest crisis year, the introduction of the EURO took place at the beginning of 2014. The associated easing of payments and the loss of price risk in turn stimulated the Latvian economy.

Latvia's foreign trade has suffered significantly since 2014 in Russia – first the recession, then the EU sanctions. However, the high losses in Russia's exports could be made up for the good part in Western Europe and overseas, partly by improving the quality of their own production. Nevertheless, with a share of 9% Russia is still the most important non-EU partner in freight transport and plays a central role in the important transport and logistics sector.

Thanks to the recovery on foreign markets, rising export and import prices and strong domestic demand, Latvia's foreign trade developed very positively in 2017 with + 10% in exports and + 14.5% in imports. However, even with a high degree of development in the digitization of the economy (one of the highest in Europe) it still leaves a certain amount of non-transparency, e.g. contracting, corruption and a still-widespread black economy, which still exceeds 20% of GDP.

An important expression of Latvia's economic and economic success was its admission to the OECD in May 2016. This is also important for the further development of the country, in addition to gaining prestige, since it now has direct access to experts and experience the OECD has.

Above all, this refers to the comprehensive tax reform that came into effect after a long tug-of-war and political compromise on 1.1.2018: On the one hand, measures to promote competitiveness and growth have caused social costs and worsened income differentials. A major goal of tax reform is the elimination of these inequalities. On the other hand, the investment climate should also be promoted by encouraging companies, e.g. relieve the corporate income tax on reinvested profits and reorganize the small business taxation system.

The OECD and the IMF are calling for a consistent continuation of the reform path so that Latvia can sustain the high growth rates in the long term. Persistent demographic decline and falling unemployment result in a limited supply of skilled labor, and the resulting upward pressure on wages raises labor costs and burdens competitiveness of Latvian products. Therefore, targeted measures to strengthen innovation and further reforms in the education and social security system are required.

A specifically Baltic problem is the large population drain that continues. While at the beginning of the millennium, between 15,000 and 20,000 Latvians left the country each year, this number rose to just under 40,000 in the wake of the financial crisis and has returned to around 20,000 a year in recent years.

There is no significant reversal of this number of emigrants. For the first time in 2015, the population dropped below 2 million. The exodus of mainly young people also increases the problem of the aging population.

This decline in population and the concomitant shortage of skilled labor are among the most important risk factors for the Latvian economy.

The focus of investment is shifting from pure infrastructure projects to promoting private investment and supporting health, education and social services.

The logistics industry is also in the focus of investment activity in general. Latvia is geographically located at the crossroads of trade routes between the north and south, west and east.

Latvia continues to be a good place to invest, also with a view to the neighboring Russian and Scandinavian markets. According to a study by SEB Bank, the volume of FDI has increased six-fold since 2000 to approximately € 13.5 billion. Investments in selected areas of technology (biotechnology, metal processing) are particularly suitable.

There are special business opportunities in the areas supported by EU projects: infrastructure development with a focus on the transport sector, environmental protection, health care and energy supply (renewable energy).

(Aussenwirtschaft Austria, 2018l).

Country profile Poland

Since the beginning of the transformation in 1990, Poland's economy has undergone an impressive development. EU accession in 2004 has once again positively stimulated this trend. Gross value added is now 60 per cent in the services sector, 23.4 per cent in industry (excluding construction) and 2.3 per cent in agriculture. About 70 percent of the added value comes from the private sector. Three out of four employees work in the private sector.

Important Polish industries with a long tradition are the food industry, the energy sector, mining and the metallurgical industry, followed by mechanical engineering, electrical engineering / electronics, vehicle construction and the textile and clothing industry. In the electrical industry, Poland is the largest assembly site for household electrical appliances in Europe (Auswärtiges Amt, 2017d).

The sole government of the national conservative party Prawo i Sprawiedliwość[68] (PiS) has been in office for almost three years now. The PiS wants to subject the country to a profound "good change" and the prosperity of the Poles and others, through comprehensive social programs, steps towards re-industrialization and a reduction in the dependence of the economy on foreign capital. At first, there was a certain amount of skepticism in business circles about the government's numerous, often controversial, economic and social policy initiatives. As a result, investment in 2016 fell sharply by -7.9%. For the full year 2017, however, the Polish economy achieved the best result in ten years, growing at 4.6% twice as fast as the German economy.

According to a World Bank report, Poland has grown from a middle-income country into a high-wage country within just 15 years. So far only South Korea has succeeded. However, the pay gap (Gini coefficient) has not widened, and once much more lagging regions have been able to catch up in terms of wealth.

Positive for growth in 2017, as in previous years, there was the generation of an active balance in foreign trade: while exports amounted to almost € 204 billion in the whole of 2017, imports amounted to just over € 203 billion. For the third year in a row, Poland thus achieved a – in the meantime low – foreign trade surplus of around € 0.4 billion in 2017.

Healthy GDP growth was largely driven by rising domestic consumption in recent years. After + 3.1% in 2015 and + 3.9% in 2016, household consumption increased by + 4.8% in 2017. Household expenditure accounts for 61% of Polish GDP.

Prime Minister Morawiecki wants to focus his government work on three pillars: safe families, decent work and affordable housing. Accordingly, the PiS government is pursuing an economic policy that includes certain nationalist (keyword "re-polonization"), statist (the state plays an important role in the economy), and socialist (support of the poorer sections of the population).

Apart from democratic concerns, some of the concrete measures implemented are also problematic from an economic point of view. Other initiatives, however, could also have a positive impact on economic

[68] Freely translated: Law and Justice

development. From an economic perspective, criticizes the following legal niches. Since February 2016, there has been a new bank levy, according to which all financial institutions whose assets exceed PLN 4 billion have to pay 0.44% tax on assets. In addition, an extra sales tax introduced in 2016 for large retail chains with 0.8% and 1.4%, respectively, after the EC qualified the tax as unlawful covert aid and prohibited its application. In general, the government's willingness to influence the Constitutional and ordinary courts, the media, education and civil society (not just in Brussels) is a source of concern. The disputed judicial reform was continued: amendments to the National Judicial Council and the Supreme Court were passed in December 2017. This means inter alia a stronger parliamentary voice and political influence in the appointment of judges.

According to experts, positive effects on economic growth and social cohesion have been supported by the 500 Plus social program, which has been supporting families with two or more children since 2016 at PLN 500 per month per child.

Above all, the plan for the responsible development of the economy adopted in February 2017 (the so-called "Morawiecki Plan") has the potential to further advance the Polish economy in the years to come, including measures to reindustrialize and support innovative companies and start-ups (e.g. electromobility), international expansion and the establishment of a development fund for the targeted promotion of priorities. Furthermore, as of 1.1.2017, the corporate tax CIT for small companies (with incomes of < € 1.2 million per year and startups), was reduced from 19% to 15%, with a further reduction to 9%, and a new law, which extends support opportunities and benefits for Special Economic Zones throughout the country, came into effect in June 2018.

Poland has absorbed a large proportion of FDI from Central and Eastern Europe since the change of system in 1989, and in particular since its accession to the EU on 1.5.2004. In total, foreign companies invested around € 176 billion at the end of 2016. Germany, the Netherlands, France, Spain and the UK are among the largest direct investors.

Foreign investment spans all areas, in the past, for example, major investments were made with financial services providers. In industry, investments focused on the automotive industry, telecommunications, construction, household appliances and electronics. For some time, more and more Business Process Outsourcing (BPO) centers have been established in Poland.

Poland will receive EU funding from the Cohesion Fund in the amount of € 82.5 billion available. In total, 25% of all EU funds go to Poland. The country is thus by far the largest recipient of EU funding, with payments accounting for around 2% (around 50%) of Polish GDP growth. The focus is mainly on projects in the areas of infrastructure and environment, smart development, R & D, digitization (Aussenwirtschaft Austria, 2018p).

Country profile Romania

With the end of the Ceausescu dictatorship, the Romanian economy and especially the industry was in a desolate condition. Not least thanks to the support of international donors such as the IMF and the World Bank as well as the EU, Romania has been able to revive its economy in recent years. Nevertheless, with 57% of the average EU per capita income, Romania remains the second poorest country in the EU (Auswärtiges Amt, 2017e).

Investments in Romania rose sharply again from 2011 at + 14.6% for the first time since the crisis hit in 2009, were negative in 2012/2013 and rose sharply for the first time in 2014 and 2015 (+ 7.7%), a clear turnaround. In 2016, investments were down slightly at - 1.8%, but in 2017 they rose again sharply by 5.2%. However, Romania needs structural reforms in order to create long-term sustainable economic growth. Above all, the new Social Democratic government should try to boost growth in terms of investment and less consumption.

For instance, Romania has still major delays in the upgrading of motorways and the rehabilitation of railways, although there has been some progress in recent years. There are currently 748 km of highways available throughout the country; To strengthen the economy a multiple of it would have to exist. The modernization of state railways and the promotion of Danube shipping are important projects for the coming years, where massive investments were made.

The black economy has reached around 28% of GDP in Romania, according to official sources. Efforts are also being made to tax these economic activities, which would mean massive budgetary relief for Romania. Good approaches here are the tax cuts.

Romania is a very attractive market with around 19.5 million inhabitants with very strong economic momentum and strong domestic demand in the medium term. However, Romania has lost around 10% of its population since 2002. In addition to the western and central regions, the Black Sea region with the port Constanta continues to gain in importance. There are a large number of Romanians leaving the country looking for better paid jobs, especially in the Romance-speaking countries of the EU.

The accession of Romania to Schengen, as well as Bulgaria, is strongly debated, but is still delayed and fails because of resistance from some EU countries, such as the Netherlands and Germany. A positive decision is currently not foreseeable, there may be a gradual opening of the borders, in the first step of the borders at the airports and later only on the roads.

Since the accession of Romania to the EU on 1 January 2007, the EC has undertaken under the Cooperation and Verification Mechanism (CVM) to assist the Romanian authorities in addressing the shortcomings of the judiciary and the fight against corruption, and to make regular progress check. Despite some improvements, not all of the Commission's recommendations have yet been implemented, particularly with regard to the responsibilities and accountability of the authorities, which could delay the completion of the CVM process and undermine Romania's independent Presidency of the Council in 2019.

Due to the strong foreign ties, the high presence of foreign banks and the intensive foreign trade activity, Romania is very dependent on the economy of its most important export markets Germany, Italy and France as well as the situation in the banking sector of Austria, Italy, Greece, Cyprus etc. (Aussenwirtschaft Austria, 2018r)

Country profile Greece

The tourism sector has become the "heavy industry" of the country in recent years. At the beginning of the crisis in 2010, the share of GDP was still slightly over 15%. In 2017, this value was already almost 20%. In 2018, another increase is likely. The World Travel & Tourism Council expects an average growth rate of + 4.6% by 2027. Thus, the GDP contribution in ten years would be € 55 billion.

The banking sector was rescued by a re-capitalization in the fall of 2015 but is severely affected by bad loans. The allocation of much-needed funds to the economy hardly works and under strict conditions.

By the end of February, a major condition was implemented with delay – the approval of the urban development project Hellenikon. Overcoming the already legendary bureaucratic hurdles in the potentially largest construction project in Europe also opened the way for the creation of 90,000 jobs.

It is also intended to reach an agreement by June on the further flanking process. On 20 August 2018 ends the third aid program. For the time after the memorandum, the question should be clarified whether Greece will receive further debt relief. It is particularly advocated by the IMF. The institution does not consider the country's debt burden 178% of GDP to be sustainable in the long term. Greece also needs to develop a development plan or growth strategy. Above all, it is unclear how the arrangements beyond the Memorandum of Understanding[69] (MoU) should be monitored.

It is alarming that some of the politically difficult projects were postponed until after the parliamentary elections in the autumn of 2019. Premature new elections – to leave the spoiling to the polls leading opposition party Nea Dimokratia – cannot be completely ruled out.

The Greek government is confident that the country will be able to finance itself from August 2018 on its own. For political reasons alone – parliamentary elections will take place in the autumn of 2019 – according to the government, there should be a "clean exit" – no memoranda, no aid. However, loans from the ESM cost Greece just 1% (Aussenwirtschaft Austria, 2018h).

[69] Agreement in principle. This can be bilateral or multilateral.

Country profile Italy

Italy is the second largest industrial nation in Europe after Germany. Around 28% of employees work in this sector, which generates nearly a quarter of the total value added. The reduction in corporate taxes at the beginning of 2017 has given the industrial sector a positive impetus.

According to statistics office, the approximately 200,000 Italian companies active in export (= 4% of all companies) generated foreign deliveries of € 411 billion and imports of € 369 billion from January to November 2017.

The public debt of the euro area's third largest economy remains at record levels, reaching € 2,256.1 billion in December 2017. Italy's debt is still the second largest in the Eurozone after Greece.

Overall, consumer confidence and the business climate developed significantly positively in the first three quarters of 2017. Higher economic growth and the improvement of the labor market coupled with lower prices (for example for energy) are driving private consumption further.

The export industry is an important driver of the Italian economy and guarantees the presence of "Made in Italy" on world markets.

The ambitious Italia 4.0 project aims to make Europe's second-largest industrialized country digital. Italy still has a lot of catching up to do in terms of digital infrastructure, and many industrial plants need to be brought up to date technologically. In order to increase the innovative power and competitiveness of Italian production companies, public funding of € 20 billion is planned for digitization from 2017-2020.

Among other things, Italian companies are benefiting from mega depreciations of 140% and 250% for intelligent machinery and equipment and can avail themselves of incentives such as tax credits for private investment in R & D.

Italy as one of the most popular tourist destinations is experiencing a new boom. Depending on the region, the statistics report up to double-digit growth rates in the number of foreign visitors and corresponding increases in consumer spending. Italians are also traveling more in their own country. The tourism sector's turnover reached € 186.1 billion in 2016 (11.1% of GDP) and is expected to grow by 2.4% in 2017.

With a kind of "Marshall Plan for the South", the financing of large-scale infrastructure projects, the government wants to revive the economy in southern Italy. This suffers even more from the effects of the crisis, including high unemployment (Aussenwirtschaft Austria, 2018j).

Country profile Bulgaria

By the end of the 1990s, Bulgaria was an example of largely unsuccessful transformation in politics and the economy. Since the beginning of the millennium and especially since the EU membership in 2007, the country has experienced a general upward trend. However, corruption and inefficient administration, a weak judicial system and oligarchic structures are weakening the investment climate and economic opportunities.

Bulgaria's economy is concentrated mainly in the south of the country. The most developed regions are Sofia, Plovdiv, Burgas, Stara Zagora and in northeastern Bulgaria Varna. The region of Northwestern Bulgaria is the economically least developed region of the country. The service sector is the mainstay of the Bulgarian economy with 67.3% of GDP. Bulgaria has the lowest GDP per capita (€ 6,630, EU € 28,000, GDP growth in 2017 was 3,8%) and one of the highest poverty rates (21,8%) within the EU. Foreign trade in 2017 increased by more than 10% to € 57 billion. Germany, as the largest trading partner, has a share of more than € 7 billion with an almost balanced balance sheet.

However, according to the EC, low labor market participation and bad qualifications continue to point to considerable structural challenges for the labor market and education policy. High income disparities also shapes the picture. Bulgaria has the lowest wage and labor costs per hour in the EU (€ 4.40, according to Eurostat figures for 2016). Emigration and a shrinking working-age population present an additional long-term risk to the growth potential of the economy. However the good foreign language skills of the population combined with the low wage level make Bulgaria an attractive outsourcing location for customer service centers, call centers and IT services (Auswärtiges Amt, 2018b).

The flow of FDI weakened in 2017 compared to the previous year by a further 12% to € 950 million.

In 2018, projects worth € 2 billion will be allocated to the design and construction of roads. The renewal of the water supply will generate just under € 1.2 billion by 2020, and the waste sector € 288 million. Railway construction (€ 673 million EU subsidies) and "Intermodality and sustainable urban transport" (subway, Tram, buses, € 425 million).

The recently adopted new concession law will – as the Bulgarian government hopes – attract private investors to invest in infrastructure projects under Public Private Partnership (PPP) agreements. Private investment will be particularly important for the period after 2020, when EU funding expires. The law implements an EU directive. The first application is the concession of the airport Plovdiv.

He was awarded in April 2018 for 35 years to a consortium of the Chinese company "Hainan" and the Bulgarian "Plovdiv Airport Invest" (registered in the Netherlands). The concessionaire undertakes to make investments amounting to € 79 million (refurbishment, new facilities). The Hainan Group manages 14 airlines with more than 1,250 aircraft in China and serves 13 airports with over 1,000 domestic and international lines. A concessionaire is also being sought for Sofia Airport.

Czech electricity network operator CEZ, which, like the Austrian company EVN, serves a part of the Bulgarian network – including Sofia and a little more than one third of the country's electricity customers – has announced that it will sale its business in Bulgaria by € 320 million to the company "Inerkom".

Inerkom recently had an annual turnover of € 25 million and is expected to buy CEZ with a turnover of approximately € 1 billion.

An anti-corruption law was adopted at the end of 2017, which now puts together the anti-corruption competence in a single authority, which, it criticizes, does not have sufficient powers and its leadership is determined by the parliamentary majority. The EC had stated in a report in November 2017 that Bulgaria is only partially fulfilling its obligations to reform the judiciary and fight corruption.

In Bulgaria, as in all other EU Member States, the General Data Protection Regulation will come into force in May 2018. The use and protection of personal data will be more stringent and penalties for breaches of the rules will be significantly increased (up to 4% annual turnover or € 20 million). Foreign investors in sensitive competitive positions fear the politically motivated abuse of these norms (Aussenwirtschaft Austria, 2018b).

Country profile Cyprus

The economic constitution of the Republic of Cyprus is a liberal market economy. In the wake of the financial crisis, the country seeks to improve its European and international competitiveness and, as an EU member in the Eastern Mediterranean, to develop economic relations with the countries of the Middle East. As a result of the crisis in the Cypriot banking sector, between 2013 and 2016, Cyprus has been provided with funding through an ESM / IMF adjustment and reform program of € 10 billion. Due to the good economic development, only about € 7.2 billion were withdrawn from Cyprus and Cyprus was able to leave the program in March 2016. The most important economic activity in Cyprus is the service industry, consisting mainly of tourism, financial and business services (together accounting for 80% of economic output). The tourism industry is the most important source of income for the country's economy and has enjoyed an uninterrupted boom in recent years. In 2014, compared to 2014 with 2.4 million tourists, almost 3 million tourists visited the island.

In the field of financial services, Cyprus remains an interesting location, not least due to the attractive tax legislation. The banking sector and related sectors such as consultancy and commercial law firms, but also the real estate sector, continue to be of major importance to the Cypriot economy.

The "Country of Citizenship" program brought Cyprus some € 300 million in revenue in 2013. Basic conditions for a permanent right of residence for third-country nationals are the purchase of a private home worth at least € 300,000 and bank deposits of at least € 30,000 in a Cypriot bank for at least 3 years. Most of the applicants are from Russia and China.(Auswärtiges Amt, 2018l).

The export of services rose significantly thanks to a new tourism record. The sector saw another boom year after 2016. The positive development of the tourism sector has also had a positive impact on other sectors such as construction, trade, transport and food.

For instance, in the coastal city of Limassol, the gaming corporation Melco International Development, headquartered in Hong Kong, the US firm Hard Rock Cafe and the Cypriot company CNS Group (Cyprus Phassouri) are planning to build a combined casino and hotel complex. The construction costs are estimated at € 550 million. The mega-project should be completed in 2022. Sales are estimated at € 700 million. It is hoped to welcome 300,000 visitors annually. The target group includes guests from Russia, Israel, the Arab Emirates, but also China. The potential government revenues are estimated at around € 450 million. Added to this would be license income in the millions (Aussenwirtschaft Austria, 2018x).

Country profile Denmark

The economic structure of Denmark is characterized by a large number of often medium-sized industrial and service companies, which are often highly specialized and technologically in the top class. Examples include Novo Nordisk, Bang & Olufsen, Vestas, Danfoss, Ecco, Lego and Rockwool. Traditionally, Denmark also has major companies in the shipping industry (A.P. Møller - Mærsk), in the food sector (Arla) and in the brewing industry (Carlsberg). In addition, mechanical and plant engineering, the pharmaceutical industry, the tourism industry and the food industry play a special role. Danish agriculture is export-oriented. The public sector is very important due to its extensive social system and employs more than 30% of the working population (Auswärtiges Amt, 2018c).

Risks exist for Denmark especially in view of protectionist tendencies in the important US market and possible trade conflicts. Brexit is burdening its relations with the important trading partner UK. And the shortage of labor is now pushing some companies to their limits. The shortage of workers is becoming more and more acute. In particular the construction industry recently complained of difficulties in finding qualified workers.

Since the beginning of the year, the Danes have finally become more eager to spend, even after the long-awaited upturn in consumption in 2017 did not materialize. Private consumption will be a strong driver of GDP this year. Low unemployment, low inflation and associated real wage growth, low interest rates, dynamic real estate prices and strong consumer confidence support this.

A tax reform was – also due to lack of majorities – less ambitious than originally planned. It includes some relief for employees, a significant reduction in the taxation of new cars and an incentive system for pension savings. A package of measures for companies aims to strengthen Danish companies and boost the investment and innovation climate. The 22 measures include inter alia the promotion of entrepreneurship and investment in equities, a digitization strategy, reduction of bridge toll and tax cuts for R & D.

Denmark's capital in particular places itself internationally as an attractive location for the establishment of companies, organizations and conferences. Greater Copenhagen was honored by the Financial Times for its FDI strategy in 2018 and was already able to record the establishment of the Nordic HQ of Japanese pharmaceutical giant Daiichi Sankyo this year.

Denmark is one of the most competitive and digitally advanced countries in the world, an innovation leader and an attractive FDI location for IT investments. Google already has two locations in Aarhus and Copenhagen and bought land in Jutland – possibly for a data center. Apple announced the construction of a second data center (after a 35,000m^2 data center in Viborg) and Facebook also built a center on Funen. IBM operates a 250-strong Innovation Center for Big Data, Cognitive Computing and Digitization in Copenhagen. Unique selling points (USP) are the talent pool, the high degree of digitization and the openness to new solutions ("innovation lab"). For data centers, access to green energy and a cool climate are also crucial factors, while conversely, Facebook's data center will provide district heating in Fünen with waste heat for heating. For this purpose, a new heat pump plant will be built.

Investment promotion is also part of the new economic-diplomatic strategy presented by the government in March 2018. The fact that Denmark is one of the most competitive countries in the world is illustrated by international rankings. In particular, the rankings mention the good and transparent institutional and social framework, first-class higher education and good conditions for technological progress and innovation. Labor market flexibility and the high percentage of women in the labor market are praised as well as green solutions, work motivation and social responsibility.

Of course, one does not want to rest on one's laurels. Denmark should continue to be a technology and digital front runner and be even nimble. In the spring of 2018, the Danish government therefore presented a "technology pact" in order to give Danish and Danes greater technical and digital skills in cooperation with companies, training and research institutions, and to equip them for the challenges of a high-tech and digital future. As part of this, Google, in cooperation with Copenhagen, has opened a learning center to promote the digital literacy of the population in the trendy district of Nørrebro (Aussenwirtschaft Austria, 2018c).

Country profile France

Alongside Germany, France is the most important industrialized country in Europe and the sixth largest economy in the world. The French economy is modern and diversified and is strongly influenced by state economic and industrial policy. State involvement is demonstrated, among other things, by support for industrial development, the promotion of innovation and research, as well as the direct involvement of the state in numerous companies (État actionnaire).

The most important achievers in the French economy and foreign trade are the large companies of the CAC 40 index, which are internationally successful and also interesting for foreign investors. More than 50 percent of CAC 40's shares are foreign-owned. The sector of small and medium-sized enterprises, despite great political efforts compared to Germany, is less present in both its total number of companies and its international competitiveness (Auswärtiges Amt, 2017a).

The last year newly elected government wants to implement essential reforms within the next years. Four cornerstones characterize the chosen path of reform:

1. Liberalization: Deregulation of the inflexible labor market. Already in September 2017, this was capped as termination costs, bargaining was introduced at company level rather than at industrial and collective agreement level and the general easing of the grounds for termination was enforced. The partial privatization of state-owned enterprises and the decentralization of France will continue.
2. Fiscal reforms: the reduction of corporation tax from the current 33% to 25%, fundamental investment incentive and signal to foreign companies, the reduction of the individual tax burden.
3. Reducing bureaucracy: developing e-government, creating a more flexible and central social security / health insurance system, increasing efficiency and productivity.
4. Labor and social policy: reorganizing apprenticeship training, streamlining unemployment benefits and introducing a 'flexicurity' "Model according to Scandinavian pattern".

The goals of the government include the moralization of politics, the liberalization of the labor market and the streamlining or partial privatization of state-owned enterprises as well as the decentralization of France. This entails the creation of a more flexible and efficient welfare / health insurance system and increased efficiency. The proclaimed reform plans must lead to a significant strengthening of economic growth without stifling it.

This is also reflected in the feeling of the French corporate landscape, in higher expenditure on private consumption and in urgently needed new investments by companies. The resurgent domestic demand is contributing to an increase in the production of consumer goods and the important indicator of new housing and new vehicle purchases. Expected tax cuts and job creation measures will also have a positive impact on consumer behavior. An income and trade tax reform expected for the financial year 2018/19 will further boost the economy.

France's foreign trade has so far lacked a strategic export culture for small and medium sized enterprises (SME). Therefore, seven new export lighthouse industries have been identified: 1. Health, 2. Agricul-

tural Products, 3. Tourism, 4. Creative Industries, 5. Sustainability and Smart Cities, 6. New technologies and 7. Renewable energies. Above all, it is the French aviation industry, the chemical industry, the mechanical engineering industry and the automotive industry that are driving this development. Exports in the luxury segment continue to perform well (leather goods, cosmetics, etc.) and in the pharma industry.

Thanks to Brexit, Paris displaces the financial capital of London from its top investment position. Paris is followed by London, Berlin and Frankfurt. In 2017, France was able to generate € 43 billion in FDI (+ 30% compared to 2016). A trend that will continue until 2022. The country ranks among the top destinations in the world directly behind the US, and China with € 729 billion in foreign investment stocks worldwide. It is to be expected that the exit of the latter from the EU will increasingly focus on competitiveness as well as the increasing attractiveness of France as an investment location. The so far very high investment flows from China to France fell sharply in the first quarter of 2017. A normal trend, as Chinese total investment fell by 48.8% to € 17.66 billion worldwide.

The French Prime Minister, Edouard Philippe, said strengthening France's attractiveness to the financial industry was a major concern. It is hoped that another influx – most recently the addition to the European Agency, EBA, the European Banking Authority or the more than 5,000 employees of HSBC, Goldman Sachs and Bank of America, which will be moving from London to Paris – is already on the way United Kingdom and Gibraltar European Union membership referendum. This shows the strategic character of the Paris region in international groups that invest in French and European markets. Most FDI investment (21% of projects) comes from the US. Due to the increase in German (+ 35%) and Italian (+ 24%) investments, 50% of FDIs are already coming from European investors.

The gradual reduction in corporation tax from 33.33% to 28% introduced in 2017 for SMEs (up to a maximum of € 75,000, - profit), which will subsequently apply to all companies from 2020 onwards, is bearing fruit (Aussenwirtschaft Austria, 2018g).

Country profile Germany

Germany is the largest economy in the EU and therefore one of the key players for the politics, the economy and the like for the whole Union. As the fifth largest economy in the world Germany belongs to one of the leading exporter nations in terms of household equipment, chemicals, vehicles and machinery offering foreign investors a labor force which is highly skilled (CIA World Factbook, 2018).

The strong export surplus of Germany – the world's largest – is being criticized internationally. The IMF warned that part of the surplus should be invested domestically to sustainably secure growth.

A worse development is possible if the protectionist rhetoric of the US president also follows deeds or the Brexit negotiations get out of hand. Nor should the effects of a possible reversal of European monetary policy be underestimated.

East Germany, even 27 years after reunification, has not yet fully caught up with the West. According to the Federal Government's annual report on the state of German unity, average GDP per capita in Eastern Germany in 2016 was 73.2% of the Western German level, which represents only a small increase to 2015.

According to the Federal Employment Agency, there is no nationwide shortage of skilled workers in Germany. Nevertheless, there are significant bottlenecks in individual regions and sectors, especially in the IT, construction and health sectors, which slows down the growth of the sectors concerned. The Federal Government puts a focus on the vocational integration of persons with a migration background: The German labor market benefits from immigration, especially from the south and east of Europe, but also by highly qualified people from the Arab world.

In digitization, Germany is ranked in the middle in European comparison. This can be deduced from the ECs Digital Economy and Society Index 2017, according to which Germany ranks 11th among all EU member states. While Germany plays in the top league in online trade and electronic business processes, Germany is lagging behind in terms of eGovernment, open data and cloud services.

According to a survey conducted by the Federation of German Industries, the main reason for the inhibited digitization of the German economy is for the majority of companies the so-called "digital illiterates", i.e. workers with a lack of or lack of IT skills, followed by interface problems and security concerns. Just over 10% of the companies surveyed see no further application possibilities for digital processes. Germany's companies are finding it increasingly difficult to recruit personnel from the fields of mathematics, computer science, natural sciences and technology (MINT[70]).

As a result of the planned tax reform in the US, an appreciation of the dollar is to be expected. According to the German Bundesbank, inflationary tendencies would then spread to other countries as well. Price increases in the USA and the associated reduction in purchasing power could reduce demand for German imports.

[70] MINT is the German abbreviation for subjects related to science, technology, engineering and mathematics. The English acronym for this is STEM.

Should a tough Brexit with import tariffs and a permanently weak pound actually occur, then, according to a study by Deloitte, due to tariff and currency-related higher prices, up to 18,000 jobs could be lost in the German auto industry. The United Kingdom is, after Germany, the most important market for German car makers (Aussenwirtschaft Austria, 2018d).

Country profile Austria

With GDP per capita of € 39,990, Austria is one of the wealthiest countries in the EU. Total GDP is nominally € 350 billion. Of this, agriculture, forestry and fisheries account for 1.2 percent, manufacturing, mining, energy and water supply and construction 28 percent, and market and market services 70.7 percent. In tourism, which, in contrast to many other countries, takes place year-round, there were a total of 141 million overnight stays in 2016. The high proportion of industry in Austria by international standards is characterized by highly developed mechanical engineering, numerous automotive suppliers as well as a number of large medium-sized companies that are highly specialized and in their segment are in part world market leaders (Auswärtiges Amt, 2017c).

It is expected that production and employment in Austria will increase. The capacity utilization reaches maximum values. Equipment investment is expected to increase significantly in 2018 as well. In addition, private consumption supports the growth of the Austrian economy.

By the middle of 2018, the economic boom has been reached. In the course of the second half of the year, a gradual slowdown in the global economy should also dampen growth in Austria slightly. The slowdown in export momentum will impact investment in equipment, especially in 2019. However, due to high capacity utilization, investment will remain high for some time to come. Consumer spending continues to grow moderately. As a result, they will not be able to give much impetus to the economy this year and next. While GDP will continue to expand very strongly in the first half of 2018, it will weaken as the year progresses.

Both positive and negative economic risks can change forecasts in both directions. On the negative side, the consequences above all threaten the consequences of the intensified trade policy discussion with the USA. In addition, the political situation in Italy, as a major trading partner, does not build confidence. On the credit side, Austrian companies expect good business from the increase in public investment agreed in the coalition agreement of the German government.

Due to the anticipated weakening of the export economy, investments are likely to decline in the second half of the year. From 2019, they should then move back to the level of GDP expansion (Simer, 2018).

Country profile Portugal

The business location of Portugal is increasingly leaving the years of the economic and financial crisis behind. Confidence-building means that the EU has been able to stop the excessive deficit procedure that has been pending against Portugal since 2009 in June 2017. Rising exports, the unemployment rate below the EU average, booming tourism with double-digit growth rates, robust but subdued domestic demand, and the profile as a "new" location for the digital economy in Europe are good news. However, the Portuguese economy continues to be constrained by a high, albeit declining, debt ratio. The country's external debt also remains high, although Portugal benefits from the ECB's monetary policy and pre-payments of more expensive IMF loans. The country has been receiving loans totaling € 78 billion from the EU and the IMF over a three-year period since May 2011 in return for structural reforms (liberalization of labor law, judicial reform, privatization of state-owned enterprises, strengthening of financial administration, tax reform, reduction of civil service jobs). This so-called troika program was successfully implemented by Portugal until mid-2014. Despite good forecasts, Portugal will probably not be able to reach the pre-crisis level of its overall economic performance until 2019.

The real estate sector is developing dynamically, as well as agriculture with double-digit growth rates, especially in the cultivation of organic products, including wine, olive and almond cultivation. Old industrial areas such as shoe production as well as the textile sector have been revitalized and are helping to increase exports. In addition, automotive exports, exports of tires, plastics and pharmaceutical products, mainly produced by German companies in Portugal, are responsible for export successes (Auswärtiges Amt, 2018i).

For example, the new T-Roc model, which will be produced at the Volkswagen plant in Palmela south of Lisbon, has made a significant contribution to export growth since the third quarter of 2017. During this period, the Autoeuropa plant produced 32,921 cars for export, nearly 20,000 more than in the same period of the previous year (+ 153%).

Consumers in Portugal are as positive about the future as they have been since the turn of the millennium. This is mainly due to the continuously falling unemployment figures and a general positive assessment of the economic situation and is consistent with an increase in retail sales (Aussenwirtschaft Austria, 2018q).

Country profile Spain

Despite the anticipated uncertainty resulting from the crisis in Catalonia, foreign investment in Spain more than doubled in 2017 to + 140% and exceeded the 50 billion mark. Foreign investment, which in turn is a barometer of confidence in the Spanish economy, accounts for 36% of total investment in 2017. A total of 126 billion was invested in the Spanish economy in 2017. The most important regions are Madrid, Catalonia and the Basque Country.

Since the highest level of unemployment in February 2013, 2 million new jobs have been made good by the 3.3 million jobs lost by the crisis. In 2015 and 2016 alone, when GDP rose by 3.2%, almost 1 million new jobs were created. In the last 12 months, 644,000 new jobs have been created. The government's goal is to have 20 million workers in Spain by the end of the legislature. That would be 2 million new jobs. For 2018, 431,000 new jobs are expected. The serious problem remains high youth unemployment of 40%. With the result of rising household sizes and heavy strain on the family network.

The GDP share of the automotive sector is around 10%. Spain is the second-largest car manufacturer in Europe and ranks 8th in a global comparison. In 2017, 2.848 million vehicles were produced in the 17 car factories. Unfortunately, this is a decline of 1.5%, which should again be attributed to Brexit. At present, eight automotive groups (Ford, Opel, Iveco, Mercedes-Benz, Nissan, PSA Peugeot Citroen, Renault and Volkswagen-Seat-Audi) are producing in Spain.

In 2016, Spain also produced equipment and components for the automotive industry valued at € 34 billion (provisional figures for 2017 show an increase of 7% to € 36 billion), as well as 1.92mio. engines and 1,73 million transmissions.

A good 84% of the vehicles manufactured in Spain are exported. Of the 2.8 million vehicles produced in Spain, 2.4 million were exported. In terms of components, the export quota amounts to almost 60% or more than 80%, if one adds the components in the vehicles exported from Spain. € 19 out of € 100 generated in export come from the automotive sector.

Fashion chains from Spain are present in the city centers all over the world. Only a few countries are so successful in the fashion industry worldwide. Spanish corporations such as Inditex (Zara), Mango and Desigual made healthy profits despite the economic crisis and successfully expanded abroad. The Spanish textile market is the fifth largest in Europe and domestic chains dominate.

Spain is the fifth most important medical technology market in Europe. The great need for medical-technical care can not only be explained by the high life expectancy of the Spaniards, second only to Japan. The economic recovery, which has led public health spending to rise again since 2014, high import dependency, acute need for renewal of diagnostic imaging equipment, and a strong private health sector, which accounts for more than 30% of healthcare, offer excellent market opportunities.

The tourism industry accounts for more than 11% of economic output and employs more than 2.6 million people (13% of the working population), and the trend is rising. In 2010, the GDP share of tourism was 5.9%. Spain closed 2017 with a record attendance of more than 82 million international tourists (+ 9.3%). For 2018, a further increase is expected.

The basis of the successful anti-crisis strategy was and is:

- Strict budget control and fiscal consolidation.
- Strengthening European integration, with a focus on banking union, common monetary policy and coordination of fiscal policy.
- labor market reform and pension reform.
- Tax reforms including action against tax evasion and fraud.

Spain has thus made an impressive catching up behind. Behind this, however, hide some unsolved problems. The upswing was largely due to the fact that nearly a decade had seen production and jobs lost in large quantities. However, in order for Spain's economy to grow sustainably, it is essential to improve or change its competitiveness and corporate structure.

In order to generate sustainable economic growth, Spain needs not only new jobs but also those that generate added value, i.e. high-quality jobs in order to increase competitiveness. However, the current political constellation linked to the Catalan independence movement has blocked any initiative by the government in parliament. The political blockade is so strong that not even the budget for 2018 can be approved at this time.

Problematic for Spain are the temporary employment contracts, which cause a high rotation and complicate the further training of the workforce. It therefore needs reform for better employment contracts and conditions. Investment in human capital and training is needed to reduce unemployment in the longer term and sustainably.

The number of illegal workers and illegal business is still very high in Spain. In 2017, around 18% of GDP is said to have been generated by the tax authorities. The year before, this value was still 18.2%. Among the euro countries, only Italy is ahead of Spain with more than 20%. The Spanish government is constantly working on new concepts to get this shadow economy under control, but it has not succeeded so far (Aussenwirtschaft Austria, 2018v).

Country profile Finland

Finland's economy benefited above-average from globalization in the past but was also more affected by the global economic crisis than other industrialized countries. The reasons for this were the high export dependence of the Finnish economy and the high share of capital goods in exports. About 70 percent of exports fall on the wood and paper industry, the chemical industry and the metal and electrical industries.

Finland experienced the worst recession since the banking and economic crisis of the early 1990s. The economic downturn led to a decline in GDP of 8.3 percent, the largest decline in any OECD country. GDP growth was 2.7% in 2017 and the unemployment rate was 8.5%. Although the Finnish economy continues to recover (EC forecast for 2018: 2.8%), the central tasks for the government remain fiscal consolidation and comprehensive structural reforms to improve the economic situation over the long term. A first step towards consolidation was the agreement on a "competitiveness treaty" between the collective bargaining partners at the beginning of 2016 (Auswärtiges Amt, 2018d).

Within Finland, there is a significant internal migration to the larger cities – in addition to the metropolitan region of Helsinki / Espoo / Vantaa, these are mainly Tampere, Oulu and Turku, which will create new neighborhoods with up to 30,000 inhabitants over the next ten years. Their planning focuses on two aspects: a good mix of living and working places as well as the best possible use of modern technologies – keyword "Smart City". There is a willingness to apply both Finnish and foreign technologies or to try them out for the first time in practice.

Despite all this overall positive outlook, in the long term, despite higher tax revenues and lower spending on the unemployed, Finland will face the risk of rising public debt due to its aging society.

The implementation of important reforms, inter alia in the form of the "competitiveness treaty" is becoming increasingly difficult. First, important areas such as transport, construction and the food industry were removed from the agreement. In these sectors, however, new collective agreements were signed at the end of 2016, which took over parts of the "competitiveness treaty".

Finland's strong integration with Russia, in comparison with most other EU countries, means that the problems of its eastern neighbor are also putting a significant strain on the Finnish economy. Even before the political problems surrounding the Ukraine crisis, the economic recession in Russia made itself felt strongly.

Finland is interesting for Asian investors in some areas: Chinese companies are leading investors in two major pulp industry projects, while a commodity wholesaler from Singapore is investing in the Terrafame operation, which operates a nickel and zinc mine in northern Finland. The capacities of Finnish IT and software specialists are increasingly being discovered by Asian corporations alongside large American companies.

The economy of Finland is dominated to a large extent by a relatively small number of large corporations, especially for foreign trade. The share of the ten largest Finnish companies in total Finnish export

is 30%. The 100 largest Finnish companies even account for 70% of Finnish export deliveries. By contrast, the share of SMEs is only approx. 15%.

Nevertheless, the current and foreseeable developments show that Finland still has a good economic position in Europe. The leadership of the country is aware of the current structural problems as well as the possibilities of the country as a bridge to the east. Even if things are not running smoothly at the moment, the overall interest is not lost sight of. The fact that the quiet Finnish approach does not make abilities and achievements instantly visible is also used by the Finns to their own advantage (Aussenwirtschaft Austria, 2018f).

Country profile Sweden

The Swedish economy is strongly export-oriented and characterized by some large, globally oriented companies such as ABB, AstraZeneca, Electrolux, Ericsson, H&M, IKEA, SKF or Volvo. The spectrum of internationally efficient sectors ranges from the wood, pulp and paper industry, the processing industry (vehicles, electrical engineering, pharmaceutical and defense technology) to information technology, biotechnology and renewable energies.

Structural strengths of the Swedish economy are high labor market participation (women), education levels of the population, a high willingness to invest in human capital, R & D and the moderate taxation of companies. Their weaknesses are a relatively high level of hidden unemployment as a result of a high number of long-term sick leave and early retirees, as well as youth unemployment, and a comparatively high level of prices (Auswärtiges Amt, 2018j).

It has been noted with great satisfaction that Volvo Passenger Cars' largest foreign investment to date has been made in the US (South Carolina) rather than in some of its competitors in Mexico. That behind Volvo Car with the Shanghai Geely Zhaoyuan Int. Investment as a Chinese majority owner is only one aspect of the globalized (car) market, which makes the use of traditional measures less effective. However, another aspect is currently giving Swedish investors much more headaches: at the end of 2017, Geely bought a share package from the Volvo Group, primarily as a truck manufacturer, and then launched its European shopping tour at the beginning of February 2018 on Volvo's competitor, Mercedes Truck. The shock among the Swedish players is deep and there is still confusion about the actual objective of the so far highly esteemed Chinese investor in Sweden.

In general, the Swedish automotive industry is in a very positive phase, characterized by innovative solutions in the field of autonomous driving and electric drive concepts. For example, the world's largest practical test for autonomous cars has now started in the western Swedish city of Gothenburg. In northern Sweden, even without a chauffeur, trucks drive through mine stations, and in central Sweden there is an extensive field test with electric overhead contact line for hybrid trucks.

Sweden is a huge country, at the same time the population is just over ten million, so Sweden has a lot of space and distances are huge. In the interplay with local technology companies – such as Ericsson – this has led early to the development of an excellent infrastructure for remote communication or in the wake of the Internet. A side effect is inter alia the rapid shift of retailers to online platforms. Another effect is the rapid increase in digital solutions in the services sector, primarily financial services – such as cashless payments, but also primary care.

Although Sweden is not in the European forefront with real economic growth of 2.4% forecast for this year, it is expected that it will continue to develop favorably in the coming years, with an increase of 2% and more (Aussenwirtschaft Austria, 2018s).