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Master Thesis

# Inequality and European Integration

Convergence of living standards in the EU or motor of deregulation?







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## Abstract

The paper embeds the theories of global inequality development and European integration in the explanation of the current economic scenario in the EU. Using financial balances, it is shown that inclusive growth and declining inequality within and amongst the countries is currently hindered by the existence of macroeconomic imbalances which are supported by still existing flaws in the currency union and the rules of the Stability and Growth Pact. Austerity policy as well as the export-focus of especially Germany are playing major roles in perpetuating the multiple crisis in Southern Europe. A regression analysis approach shows mixed results indicating that the EU is neither a driver of inequality nor an absorber of globalisation pressure.

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# List of Abbreviations

CFE	Country Fixed Effects
Council	Council of the European Union
DID	Difference-in-difference
EC	European Commission
ECB	European Central Bank
ECJ	European Court of Justice
ECU	European Currency Unit
EEC	European Economic Community
ELC	Embedded Liberalism Compromise
EMU	European Economic and Monetary Union; synonymously used: Euro(zone)
EP	European Parliament
ERM	European Exchange Rate Mechanism
EU	European Union
LIO	Liberal International Order
SCM	Synthetic Control Method
SGP	Stability and Growth Pact
TFE	Time Fixed Effects

# 1 Introduction

The European Union (EU) is not only differently perceived by different layers in the society and narratives are not only varying from one country to another, but the EU is also understood and interpreted differently within and between different academic disciplines. While the within-discipline discourse may happen, between-discipline discourse much less, it remains far away from average people – citizens of the EU. It is the challenge of policymakers to bring different perspectives together and actively shape the narratives of the *raison d'être* of the EU. This means exchange beyond regions, across borders and between different professions. To make the EU ready to tackle the biggest challenges of the century, it is important to speak frankly about flaws, priorities and perspectives.

In this paper, I want to investigate beyond national, professional or cultural egos about the obvious disbalances between the European economies. Defining the economic inequality trend as a main challenge of contemporary times, I want to connect the political theory of European integration with the contemplation of the macroeconomic development of the EU and its members. I see the functioning of the EU as the necessity to be able to impact global governance to the extent that catastrophes like the climate change can be mitigated, poverty can be reduced and new levels of cooperation in various fields like energy transition, global health or cybersecurity can originate.

The globalisation speed continues to accelerate and changes everyday life of all citizen. Not only did the power of the nation-state did decrease enormously compared to the entrepreneurial spirit of private market forces, but also is the speed of change towards closer international cooperation way too slow to keep pace. The incapability of progress of governments is reflected in a long-absent rise of populism. The EU was created to increase the intergovernmental cooperation and designed a supranational democracy which is unprecedented. However, the integration process is not fulfilling the necessary pace being slowed down by the reservation of politicians towards taking courageous decisions and by manifested national egos, defence of privileges and ideological manipulation. On the example of misunderstanding and underestimating the role of the state, I want to argue that the Stability and Growth Pact (SGP) and the ignorance of the commitment towards real fiscal policy cooperation which is ultimately connected to the membership in a common currency is destroying the EU.

Through the incapability to prevent tax competition, assure common social standards and show inter-country solidarity, the EU does not decrease or oppose the global effect of rising inequality.

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The concentration of income and wealth on fewer persons and the difference between the living standards in different countries is not anymore absorbed by an international financial system in favour of inclusive growth but led by the idea of maximal liberalisation for economic processes ignoring the dysfunctionality marketisation often leads to (Simmons and Elkins, 2004). Following the neoliberal ideology, the ability to act of governments is willingly put in chains. The limitations of a budget deficit and federal debt by national constrictions and on the EU level by the Maastricht criteria and the SGP are testifying this (Koo, 2011). Additionally, Germany as the EU's most powerful economy created an unfair competitive advantage as a too powerful exporter. This financial balance problem causes inequality within states in the EU, as the pillar of national monetary policy like the revaluation of a country's currency and exchange rate correction is unavailable. The neoliberal policies around the millennium allowed wage restraints and productivity increases decoupled from the wages (Bonatti and Fracasso, 2013). As salaries are the main driver for inflation, Germany's country-specific inflation was even lower. In the post-financial crisis environment, international investments did not increase as expected. The low wages in Germany allowed their products to relatively cheaper to comparable productions. In pre-Euro time, the Deutsche Mark would increase in its value. With the common currency, the countries using the Euro as their currency are bound to the common monetary policy of the European Central Bank (ECB). Having reached the limits of monetary policy and regarding the fiscal rules of austerity in the SGP, the EU countries experience an economic and political standstill with a lack of investments, high unemployment and growing resentments against neighbouring countries and political figures and the causes and human beings which have to serve as a portrait for a lack of perspective by populist and fascist ideologues.

## 2 Methodology

This paper wants to connect consciously the theories of political science with the analysis of macroeconomic variables. Besides the literature review on European integration, general statistics on income inequality are given. For providing an understanding of the current imbalances, there are detail graphs of single countries when contemplation is needed for underlining the statements in chapter 4. In chapter 5, I will conduct an empirical analysis with a specially designed panel dataset to investigate deeper on the connections between the development of inequality and other macroeconomic variables. Therefore, I will use the regression analysis technique. With a dataset of 28 EU countries and 25 non-EU countries, I will analyse the effect of accession to the EU and the two subsets Eurozone and European Exchange Rate Mechanism II (ERM II). The

membership will be regarded as the 'treatment' changing the binary variable from 0 to 1 in the corresponding countries. As the accession is for different countries in different years, I use the form of a staggered difference-in-difference (DID) analysis (Angrist and Pischke, 2009, ch. 5.2). This method is commonly used for similar problems (e.g. Callaway and Sant'Anna, 2018). An alternative approach would be the Synthetic Control Method (SCM). This more advanced technique creates a synthetic equivalent of the observations in the treatment group through matching and weighting the observations in the control groups (e.g. Billmeier and Nannicini, 2013). Campos et al. (2019) use the SCM and find that every county except Greece experienced additional growth and an increase in labour productivity after the EU accession. However, as the DID approach is more indulgent regarding missing variables, I did decide in favour of this method better supporting a large-N-large-t dataset with incompleteness in some variables (Baum, 2006). A similar approach using the SCM for the investigation on the sources of inequality development remains subject to further research.

With every study which cannot go beyond a quasi-experimental setting, the problem of the nonexistence of the counterfactual is going along. Besides the effects of EU accession, there are effects of globalisation and the transition of markets. Moreover, every country has its very distinct given institutional and fiscal setting and can implement policies around the year of accession which are completely unrelated to the membership pin the EU. Therefore, it is not possible to differentiate between policies which were demanded for joining the EU and 'voluntarily' implemented policies. Consequently, the designation of EU membership as a 'treatment' is giving a fictitious certainty about the uniformity of it (Lechner, 2011, ch. 5).

# 3 Literature overview

#### 3.1 Inequality

Primarily, inequality describes the distribution of a certain entity. Speaking about inequality in political science demands a clarification of the terms used in the later analysis as well as a description of the interconnectedness of different forms of inequality and their connectedness and reinforcement (Sen, 1995, ch. 2). The main subject of this paper is economic inequality. This could on the individual level best describes with an analysis of the distribution of wealth and income. Certainly, injustices or discrimination are omnipresent in every country. However, in the stage of late capitalism (Nullmeier, 2018) in a highly individualistic society (Bromley, 2020), mainly

possession of financial means decides on various factors. In chapter 3.1.1, I want to clarify the scope of the term *inequality* and distinguish different types as well as emphasise on the connection between those different types. Moreover, to give a better understanding of the analytical part, I try to draw a line between intra-state inequality (chapter 3.1.2) and inter-state inequality (chapter 3.1.3).

#### 3.1.1 Different types of inequality

Besides economic inequality, political and social inequality are existing, characterised by differences in race, gender, education, health, ... (Sen, 1995, ch. 9).. *De jure*, the possibility for citizens to participate in political processes is perfectly equal distributed. *De facto*, it is easier for a person to influence political decision-making when being relatively financially independent. This can reach from the security of having a safe job and time for voluntary engagement in parties or NGOs to lobbyism of individual interests. (Lancee and Van de Werfhorst, 2012) Therefore, economic power is accompanied by political power. It can be argued that too large economic inequality interferes with the democratic principle of equal rights. If the power distribution is too fixed, progressive policies might experience a standstill and citizen might lose trust in the functioning of the democratic system. Rising wealth inequality, due to accumulation of fortunes and capital revenues are boosting this process. (Rowbottom, 2010) This trend is not geographically restricted, rather an episode in the transition of capitalism.

The pace of globalisation experienced another increase when processes shifted to the internet. Digitalisation made financial flows across boarder easier than ever and money is shifted to the most profitable places. Thomas Piketty (2014) showed, that as profit rates were empirically higher than the general growth rate, a rise in inequality is inevitable. Even wealth tax like he proposes would only reduce the speed of divergence when the profit rate stays over the tax rate. Global governance lacks the controlling mechanisms and often, interventions from single national states are in the face of freedom of movement perceived as not feasible or not impactful. It is difficult to investigate data on wealth distribution, especially amongst the highest percentiles. Piketty (ibid.) was able to create ground-breaking estimations on the long-term development of wealth distribution in France and the UK, for a few more countries starting with more recent data. Besides the concentration of wealth, income development diffuses as well. While these are very connected which each other, I would plead to analyse them as separate issues. Piketty finds that empirically, there is not necessarily a strong correlation between the income- and wealth concentration within a country.

Wealth inequality is to a large extent a result of income inequality and readjustment towards smaller variation amongst it can reduce wealth inequality, too. On the other hand, wealth acts as a source of income as interest payments and increase in value happens (Durand and Murtin, 2015). The part of the empirical analysis will investigate on income inequality. This is partly due to the lack of availability of data for a sufficient number of countries and a multi-decade time range. However, while the appropriateness of income inequality as a sheer proxy for the distribution of wealth is debatable, policy trends due to globalisation or EU policies are reflected in the income distribution as well. The contemplation of wealth distribution regards the stock which is to a large extent created and influenced by the flow of income (e.g. Milanović, 2016, ch. 2). While potential redistribution of wealth remains a challenge, labour market rules, trade regulations and redistribution policies have to assure fairness along with the distribution of income.



Figure 1: Relation and distribution of income and wealth Continuous line: Wealth share owned by highest percentile (left axis), Dashed line: Income share of highest percentile (right axis). Colour code: US: blue, FR: red, UK: orange, CN: green. Source: WID.

Figure 1 shows the share of wealth and income which is held by the top 10% for some selected countries (dependent on data availability). In France, the US and the UK, the share of the wealth of the richest decile did decline in the 1960s and 1970s. From around 1985 on, wealth inequality experienced a rise. Especially the opening-up of the Chinese economy brought increases in living standards, but they were not necessarily fairly distributed (Kanbur et al., 2017). A similar

observation can be made for the income Gini. In the other displayed countries, from the 1980s on, income inequality increases as well. In chapter 3.1.3, I will show reasons for the different levels in inequality in different countries. As the introductory paragraph in this chapter points out, the economic inequality is not existing in an empty space but in highly complex societies. Generally, every policy proposal includes distributional consequences. To analyse income inequality, it is important to analyse the functional income distribution. This and an explanation of the current labour market situation is done in chapter 3.1.2.

To underline the importance of similar economic conditions it is important to consider the longterm effects of absolute and relative poverty (Banerjee and Duflo, 2012). The latter is given if the income is below a certain percentage of the median income. The poverty rate, which is defined as 50% of the median income, of the US, is for example exceeding the one of every EU country, except Romania (OECD, 2020). If in the citizen's perception, there is a massive lack of equality of opportunities, it can have fatal consequences (Perez-Arce et al., 2016). If the *de facto* -universalism of human rights is questioned, democracy is threatened. It seems to be self-evident, that exceeding inequality leads to systemic instability in society (Stiglitz, 2013). The importance of this problem is reflected by diverging opportunities to have remarkable success in life. The OECD (2019) compares annually the influences on education and remarks constantly the rising dependence of children's education on parent's income in many developed countries. Generally, merit and the possibility to create a more economically stable situation in a household are decoupling. Atkinson and Da Voudi (2000) emphasize the importance of inclusion of people into the society and the priority social politics should have on the policy agenda. Many authors investigated in previous case studies the relationship between financial means of households or individuals and other indicators. Wilkinson and Pickett (2009) point out the mutual reinforcement of unprivileged circumstances leading to social dysfunction. Social stratification is manifested through deficits in education, health service provision and societal pressures as status competition. The individualisation of society and stigmatisation contributes to high unemployment rates and can lead to a vicious cycle of path dependencies. The focus on income is essential for overcoming these systematic flaws.

#### 3.1.2 Intra-state inequality

There are examples of different correlations between other factors and personal income. To have a more overarching welfare measurement, some authors suggest alternative indicators. Amartya Sen (1995) laid the foundation to the creation of the Human Development Index (HDI) which

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takes life expectancy and education into account. GDP measurement and especially a too narrow focus on quantitative aspects of growth are indeed problematic. Alternatives on how to measure welfare are proposed as dashboard or number indicators (Stiglitz and Sen, 2010). However, for the analysis in this paper, I will refer to a country's income as the **GDP** as what is measured – the sum of created goods and services – mirrors the financial means which can be distributed within the society and therefore, contribute importantly to the **living standard**. Firstly, because this is a common standard in the majority of economic literature, second because of the data availability for every county and for a long period, and finally because there are still many intersections with the correlations of other welfare measurements.

In this research, I want to differentiate between intra-country equality and inter-country inequality. While the first has individuals - the country's citizens - as an entity, inter-country inequality compares the country aggregates which each other. This part regards steering mechanisms and explaining factors of inequality within a country or in a closed economy scenario. Chapter 3.1.3 will analyse the inequality between nations, while here, the focus will be on the distribution within a country. Besides the absolute size of the GDP, the relative, the economic growth, has to be considered. It allows the catching-up process and relative augmentation of living standards. Therefore, growth is often claimed as one of the main political goals in policy debates (or mainstream economics: e.g. Mankiw, 2012, p. IX). While for less developed states, economic growth is important and relatively easy feasible, it is important that it takes place in an inclusive way. This means that not only one sector or the exporting branch is profiting from a boom, but that the society as a whole gains through the increase in economic performance (Darvas and Wolff, 2016, ch. 2). By contrast, in highly developed countries it is more difficult to achieve high growth rates. The narrative that everyone will be better off due to the economic growth is used to avoid the discussion about redistribution which is not supported by the wealthier and more influential upper class.

In mainstream economics, inequality is primarily seen without a normative connotation. The market outcome is justified as a result of equilibria. The role of the state in market intervention and redistribution varies between different ideologies. While *laissez-faire* liberals would see most state activity as a distortion of the free market processes, a centrally planned economy has a lack of efficiency, entrepreneurial spirit and progress. The absence or control of the markets does not allow the price to be an indicator and a reflection of value. On the other hand, currently, many negative externalities are not priced into the market prices leading to higher total costs for the

society. Destruction of nature or insufficient social framework often leads to increasing costs for future generations, other countries along the value-adding chain or the whole society.

Generally, the welfare state increasing over time. This is why state action is often seen negatively. But with the increasing complexity of the society and higher living standards, the citizens' demands for a vast scope of state responsibility raises. This includes the expectations for a relatively equal society - at least regarding the fairness of opportunities. John Roemer (1998) writes, that for fair competition, certain equality of opportunities has to be given. On the other hand, a certain degree of inequality is wanted as it is a direct result of competition – and an incentive. Having a high set of skills and education opens, for example, new job opportunities. Generally, better-paid work is connected with higher skills and better individual performance. From this perspective, disposable income reflects personal merit and is therefore important to incentivize people for higher diligence. People with a higher propensity to save are rewarded by interest on the wealth they accumulate. Generalised, older people have higher wealth than younger people. While incentivization to work on a job which is demanding more skills and, therefore, higher precursory investment in education, should pay off more, the gap between salaries in different jobs is widening. Even market fundamentalist who would argue that setting of a minimum wage would be distortive have difficulties in explaining the height of remuneration within the managerial class. Certainly, like in other markets, the price is an important indicator of scarcity or quality. However, in the neoclassical model, the labour market is as long in the perfect equilibrium as there are no market interventions. Here, unemployment is created through welfare state elements like unemployment benefits or the intervention of setting a minimum wage. Coming from this perspective, inequality is seen as something good as the variety in income incentivises people to strive for a career to be better off.

Between the two extremes of a highly unequal and perfectly equal society, governmental decisions decide on the degree of redistribution. Factors like historical path dependency, influence groups and country-specific preferences are crucial in explaining different levels. Hall and Soskice (2001) make out two main *Varieties of Capitalism:* the liberal market economy and the social market economy. European examples for a tendency towards the first type are the UK or the Netherlands while the Scandinavian countries are examples for the latter category. Compared globally, the inequality of the primary income of EU countries and the non-EU counterpart in the sample are similar (Figure 2). However, through redistribution, the secondary income inequality is in EU countries way lower than amongst the complementing country set.



Figure 2: Higher income redistribution in EU countries Development of market- and disposable income in EU and non-EU countries in the sample over time. Source: SWIID.

To further analyse the distribution of income, it is important to emphasise at first at the **functional income distribution**. Income is distinguished by its source. Besides labour income, there is capital income which is created through interests, profit or rents. The share of labour income on total GDP is in most countries continuously declining over the last decades (Arpaia et al., 2009). Figure 3 shows the labour share in selected European countries.



Figure 3: Labour share in decline

Adjusted wage share in total economy as percentage of GDP at current factor cost. Selected countries. Source: AMECO.

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To keep incomes together and assure no exacerbating levels of inequality, income taxes are designed to be progressive (Verbist and Figari, 2014). The shift of the tax base through capital flight into tax havens is seen as a threat and hinders higher taxation. Therefore, often taxes on capital income are lower than on labour income, neutralising the progression (OECD, 2019b). While labour is the essential source of the value-adding process, capital income is gained by a minority of the population. This underlines the cruciality why changes in incomes distribution have to erupt from adequate salaries in the labour market. In contrast to neoclassical modelling, the labour market has to be accepted as more complex construction. Primarily, and speaking only in economic terms, income has a high multiplier effect. The personal salary of one individual spends in a purchase at another person and thus, stabilising the economy. Cingano (2014) shows that growth is smaller if income increases only in certain deciles. From a Keynesian perspective, redistribution towards lower incomes has another stabilising effect: the propensity to consume in this group - and thus, the multiplicator effect - is higher. While a marginal increase of disposable income amongst those with high incomes does not increase consumption, the share of the increase which is saved is much lower amongst low-income households (Hein and Stockhammer, 2011). Besides the labour market rules wages and social policies, structural and institutional setting and policies in other fields determine the level of inequality (Farole et al., 2011). The most important factor is the education level of the household head (Leitner and Stehrer, 2014). Other main factors are the employment rate and the rural-urban divide and the demographic constellation.

Simon **Kuznets** (1959) did put up the hypothesis that the development of inequality within a country changes over time. With a low average income per capita, a country's inequality is low as well. With industrialisation, income increases sharply but its distribution is rather unequal. At a later stage of development, incomes are rising and inequality declines. The hypothesis seems not to hold anymore as Figure 11 shows that the curves have very different shapes in different countries. Tam (2008) distinguishes the development of political institutions in countries and finds an effect which is not evident for the economic indicators. Kuştepeli (2006) investigates whether the accession to the EU changed the inequality development within the countries of the 2004 Eastern enlargement. Besides the inequality development within the countries, Figure 11 underlines the differences in income as well as inequality levels between the countries.

#### 3.1.3 Inter-state inequality

Generally, all mechanisms of inequality within a country, are reproduced in the contemplation of the global scale (e.g. Marx, 1848). The characteristics of countries differ very much caused by

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multiple factors and a unique course of action in history (Davies et al., 2008). The institutional setting, the stability of the political system and citizens' rights differ between countries. Many developing states are highly dependent on their relationship with others. Loans from international organisations have to be paid and the economy has to develop to produce goods competitive with others on the world market. Often, labour-intensive production processes are shifted into countries with a low wage and less worker's rights. Some of the least developed countries are dependent on the primary sector. To import technical equipment, the country has to export as well. Frequently, multinational firms exploit this situation and extract raw resources which are processed in other countries with slightly better infrastructure. To escape this development trap, the country has to overcome the catch-up process (Milanovic, 2005). As the balance of trade has to be in equilibrium in the long term, the economy has to transform to be competitive in more complex sectors of manufacturing and services if the opening-up process shall be successful. Fairer trade agreements allowing targeted protectionism of certain 'infant industries' and wages which are not increasing more rapidly than productivity would be factors supporting convergence between the different nation-states. Some countries suffer from high inflation rates while others do not have an autonomous monetary policy as they have a common currency with other countries or are pegged to another country's currency. The latter makes it difficult to steer the exchange rate and keep the currency slightly undervalued to decrease the prices for the country's exports on the world market.

However, the competitive advantages of a nation-state are not synonymous to high living standard for citizens. As international money flows are attracted by the most promising investment opportunities, countries find different responses to this challenge. Currently, instead of fair competition between enterprises, rather the competition between the countries' legal frameworks dominates. There is a competition about the lowest corporate tax rate and the least regulation of financial markets or labour rights leading to a race to the bottom of the welfare state. The lesser the corporate sector is contributing to the state's tax revenues, the more is paid by the citizens. Like capital mobility allows multinational enterprises to shift profits through for example license fees, extremely wealthy people use tax avoidance using legal loopholes and the legislations of different countries increasing the global wealth concentration (Turner and Shear, 2012, ch. 1.4).

Different parts of the population were differently affected by globalisation and increases in living standards than others. Moreover, different countries did experience relatively lower of higher growth rates in income growth, depending on various factors. The famous Elephant Chart (Lakner and Milanovic, 2013) tries to show in one graph how that not only the vast population in the least

developed countries could not profit from the globalisation of value chains, but as well lower and middle class in the advanced economies who experienced tougher competition in their field of work and stagnating real incomes (Eigure 12). The biggest dynamics within the last decades took place in Asia (Piketty, 2014).



Figure 4: Income and disposable income distribution in 2015 Red: EU countries. Green: Non-EU countries. Sources: Gini: SWIID; GDP: World Bank.

Eigure 4 shows in the horizontal axis the range of the income per capita. Despite the selection of the most developed countries in terms of GDP, the graph shows a huge range of income per capita between the states. Moreover, it is shown that there is a negative correlation between the inequality within disposable incomes and the GDP per capita. The differentiation by colour according to whether the country belongs to the EU or not indicates that the European countries have rather low levels of inequality compared to the reference countries (e.g. Stolk et al., 2011, ch. 4). In 2015, the countries with the lowest Gini coefficient for the disposable income are Slovakia and Norway with 25.3%. However, regarding the average of the two sub-sets shows that while the EU countries have in average a post-tax Gini of 30%, the non-EU countries are lying on average 10 percentage points above that. South Africa is the world's most unequal state with 58.6% while Latvia has the highest inequality within the EU with 35.5%.

#### 3.2 European Integration

The term European Integration describes the tightening of cooperation amongst European nation-states. In the following, I will especially emphasize the efforts which were made towards the *Staatenverbund* (governance platform) of EU membership. The aim was ensuring stability in the war-ridden continent and to spread prosperity through the interweaving of production chains across borders. To analyse and understand the evolvement of the integration process, the contemplation has to be made in respect to the historical circumstances, international relations and globalisation. While challenges and competences changed with every decade, the EU was always a part of the answer on the needs through the lack of global governance.

#### 3.2.1 Historical development

The European Union, more precisely the predecessor institutions of the EU, were notedly created as a tool of stabilisation of the European continent through economic cooperation and increasing interconnectedness. The Paris treaty from 1952 laid not only the foundation of the coal and steel community but established as well the first EU institutions, the European Court of Justice (ECJ) and the European Parliament (EP). In 1957, the Treaty of Rome got signed, extending the cooperation on nuclear power and general economic activity within the European Economic Community (EEC). The latter organisation had the specific task to foster economic integration and a common market. The Merger Treaty (Treaty of Brussels), which was entering into fore in 1967, united the coexisting communities under the leadership of the EEC's commission and council which are the predecessor institutions of today's European Commission (EC) and European Council (Council). The Single European Act signed in 1986 outlined the steps towards a free market. It includes the 'Four Freedoms' of movement of goods, capital, services and people. The Schengen Agreement abolished border control within the Schengen Area and allowed not only easier travelling but also created freedom of movement for workers without border controls.

With the Maastricht Treaty (Treaty on European Union) which was signed in 1992, the EU's framework was set on 'Three Pillars' comprising the European Community, Foreign Policy and Justice and Home Affairs. A main point of the treaty was the creation of the European Economic and Monetary Union (EMU). Especially important for this paper are the convergence criteria which are valid in a similar form until today. In the early 2000s, the attempt to establish an EU constitution did fail after the referenda in France and the Netherlands (Moravcsik, 2006). However, till today, there the *Finality debate* around improvements of the EU institutional framework (Drulák, 2004). These proposals differ very much between countries and political

parties and while right-wing opinions are fundamentally against the EU, there is mistrust against it on within the extreme left as well. Generally, conservative actors favour the idea of a *Europe of nations* while progressive and internationalist positions often speak about the goal of reaching a federal state structure, the *United States of Europe*. (Joerges et al., 2000) With the Treaty of Lisbon, the EU appears finally as a single legal person and the institutional balance was adjusted. In the EP, there was a shift to qualitative majority voting in many policy areas and the post of the President of the Council and High Representative of the Union for Foreign Affairs and Security Policy were created.

#### 3.2.2 Convergence of living standards

The convergence criteria from the Maastricht Treaty were trying to make the economies of the countries which were aiming at closer cooperation more similar. Entering a monetary union with other states is the ultimate tie to these as the previous autonomous policy of a national central bank cannot be upheld. By contrast, in a monetary union, there is one monetary policy which has to be suitable to all member states, even if needs and preferences throughout Europe might be differing. The convergence criteria were meant as temporary guidelines which the countries had to meet in order to join the EMU. The agreements included restrictions to the national government's debts and budget deficits, on inflation, exchange rate and bond interest rate. However, the accession terms were adopted in the SGP and thus, became permanent (Brunnermeier et al., 2016, ch. 8).

While the preventive arm should ensure sufficient surveillance of each country's macroeconomic data, the corrective arm would issue instructions which have to be implemented by the states if they fail to meet the targets. The preventive arm communicates guidelines in case a country is heading forward to not reach the convergence criteria. Additionally, the EC releases country-specific recommendations within the European Semester. The program is specifically aiming at elimination of macroeconomic imbalances. Even if Zeitlin and Vanhercke (2018) argue, that this created an extension of the European politics focus on social policies, certain market mechanisms like the European coordination of wages are left out. The inclusion of the balance of trade into the EC's scoreboard is a step in the right direction. Especially Germany and the Netherlands created an unsustainably large export surplus which is paralysing the economies in Southern Europe (Bonatti and Fracasso, 2013, op. cit.). However, it is important that the range limit for exports is the same than for imports and that action within the corrective arm including penalisation is taking against countries which risk the divergence and potential breakup of the EU.

#### 3.2.3 Asymmetric integration

While there were always pro-European and anti-European movements, there was as well always well-grounded criticism to certain policies and reforms in the EU. A common accusation is the one of an existing democratic deficit. This is often attested in the missing *demos*, a European pubic. Follesdal and Hix (2006) write that different factors are hindering the creation of a distinct European commonality of people. While businesses routinely are involved in cross-border transactions, the civil society counterbalance in form of international movements and parties is lacking behind (Anheier, 2014). Even if the power of the EP did increase, the political relevance is not reaching the citizens. The absence of a common language and therefore an inclusive discourse is paired with a perceived lack of competition between parties. This is reflected in the traditionally low voter turnout rates which are below the ones of national elections. In the recent EP elections in 2019, the voter turnout rate could increase a lot to slightly over 50%, a value not reached after the 1994 elections. This is automatically creating legitimacy problems, especially in regard of the demand to increase to power of the parliament vis-à-vis the intergovernmental policymaking. The distance of the Brussels decision-making with people should have been reduced through the Spitzenkandidaten process as people get used to the faces who could be the future EC president. In the 2019 elections it failed due to some countries' reservations. This, combined with the appointment of the commissioners by appointment underlines the critics' voices arguing that much of EU policymaking is made by unelected bureaucrats. Generally, Moravcsik (2002) does not see a profound democratic deficit in the EU, but admits that there rather theoretical scenarios in which the ECB takes advantage of their powerful and independent position or the European law could undermine social policies.

More distinct critique which is embedded in the academic discourse is the disbalance of integration. Fritz Scharpf (2010) sees the EU in line with the policies of the LIO and a focus on the aspects of economic liberalisation. The aim of creating new markets surpasses the attempts on improving the welfare state and ensuring social coherence by far. He distinguishes between positive and negative integration. Negative integration focuses on removing the obstacles in law seen as barriers to trade. This was pushed on by the European Court of Justice who ensured the consistent market liberalisation and competition policies. By contrast, positive integration takes place when new regulation is adapted which is actively intervening in the markets. As the creation of new legislation is more imposed to resistances of specific national interests, there is a disbalance between market creating and market shaping strategies. As the latter is dominating, Scharpf (ibid.) even defines European economies as a distinct phenomenon in the varieties-of-capitalism framework. The Europeanisation is transforming the rather social market economy to more liberal market economies. Besides the asymmetry of negative and positive integration, Scharpf (2014) points out the priority of monetary integration before political integration as another argument underlining the theory of a persisting democratic deficit. In contrast, by neofunctionalist theory, the founding of the EMU should have act as a booster for integration in all other areas via spill-over effects. The disbalanced process of integration is tried to be described by different effects. Genschel et al. (2011) see in the harmonisation of standards and reduction of trade barriers the **integration effect**. Giving the case of tax competition, they argue that the **enlargement effect** additionally lowering the influence of a single nation state in preserving interests. On the other side, there is the states' incentive to create a common standard, the **coordination effect**, and the **judicialization effect** through the ruling of the ECJ on whether competencies are in the hand of the EU or the national governments. In this differentiation, the convergence criteria would fall most likely under the coordination effects.

Sometimes, the intergovernmentalism itself is seen as democratic deficit. As national elections focus on internal politics, there is not always a clear mandate of the government in EU politics. Even if it is clearly the task of governments to represent their citizens in international affairs, the special character of EU membership has to be underlined. The other EU countries cannot be seen as negotiators like any other country as there are some competencies which got shifted to the EU level. Generally, European Integration suffers of the reluctance of national states to give up on certain policy areas and transfer responsibilities to the EU level. For example, till today the EU does not have fiscal autonomy. Instead, there is not only a resistance against the increase of the EU budget but as well a tax competition between the different member states creating a race to the bottom (ibid.). As the influence of governments compared to parliaments grew on the nation level, there was as well a power shift amongst the EU institutions towards the Council and away from the supranational institutions (Zimmermann and Dür, 2012). Especially after the financial crisis from 2008, quick solutions were needed and the Eurogroup and Euro Summits gained power. The negotiation rounds did underline the already previously existing power positions of the most powerful economies Germany and France who insisted on austerity measures in Greece and debt repayment to prevent national banks from bankruptcy (e.g. Corell and Herzog, 2011). While intergovernmentalism implies the chance that willing national governments propose in cooperation progressive policies for the EU, suggestions can be blocked by national interests, even if the countries who would profit of a change are in majority - in absolute numbers or even in population size (Bellamy, 2016). The following chapter argues, that Germany exposes the EU to highly destructive macroeconomic imbalances to maintain its relative advantage.

### 4 Macroeconomic imbalances

#### 4.1 Financial balances

To explain the dynamics between the different macroeconomic aggregates of a country, it is important to regard the financial balances. They follow the logic that the sum of debts is equal to the sum of assets. Firstly, the total GDP is divided into private consumption, corporate investment, government expenditures and export (i). The result is the most cited formula in economic textbooks (e.g. Blanchard, 2017):

$$Y = C + I + G + (X - M) \tag{i}$$

Instead of following the neoclassical model of assuming that savings have to equal investments, postkeynesian economist Marc Lavoie (2014) defines savings as the remainder of the production minus consumption and taxes (ii).

$$S = Y - T - C \tag{ii}$$

Through equalising these equations, the formula (iii) can be rewritten in the balance presentation (iv). The savings/income-perspective is combined with two other views which **all together** have to settle (Godley and Cripps, 1983).

$$S + T + C = I + G + X - M \tag{iii}$$

$$(S - I) + (T - G) + (X - M) = 0$$
 (iv)

The balances can be distinguished similarly showing the changes in the distribution of assets between the sectors. For example, given a balanced state budget and a net-zero balance of trade, the increase of wealth in of private households through increased savings has to be reflected by the corporate sector making debt through lending money for investments. This presentation allows underlining the importance of a fiscal stimulus in times of lacking investment despite a prime rate zero (Koo, 2014). Alternatively, it would be possible to keep the balance of trade in a disbalance. In the case of an export surplus, households, households and the government sector are able to save **at the same time**. In the EU, the described scenario is currently represented by Germany or the Netherlands. Germany is since years a huge export surplus in relative and especially in absolute terms and therefore, distorts the balance among the countries in the EU. Eigure 5 shows the financial balances for Germany. Eigure 13 provides an overview of the other countries' balances.



Figure 5: Financial Balances of Germany

Net savings of different sectors. The export surplus is portrayed inverted to underline the balance functioning. Sources: OECD.

#### 4.2 Budget deficit aversion

The visualisation of the balance formula distinguished between corporate savings and household savings. Remembering the neoclassic simplification, this two have to be perfectly balanced out (Blanchard, 2017, ch. 5). The graph indicates, that in Germany, the corporate sector is saving money constantly for more than a decade. Traditionally, households are savers on a high level. Additionally, the idea that the state should have a balanced budget gained popularity (Potrafke et al., 2016). The narrative is driven by the ideology that with high federal debt, an inter-generational conflict would arise. The inheritance of debt to the future generation is portrayed as a *per se* negative. At this point it has to be made clear, that the contrary is not true either: To take massive credits and to postpone imposing taxes into the future does not testify the leadership to manage the distributional challenges of directing the money into the segments where it is beneficial for the society. With the logic of the equality of the sum of all debts with the sum of all assets, the narrative of the inheritance of government debts to future generation discloses its flaws of ignoring that the same is valid for assets (Turner, 2016, pt. 2). Therefore, a discussion about existing and perpetuating distributional policies becomes inevitable.

The demand for a more active role of the state regarding budget expenditure is of course challenged with concerns. Firstly, the phenomenon of crowding out which is often referred to: The state is pushing private actors out of the market. While it could be discussed if this is something fundamentally negative, there are many sectors where the vast majority of people would benefit from public good provision via public companies. Important examples are health, education or transport. But advocates for the crowding-out theory combine their concern with the second argument: Inflation. The government can either take credits out give out new bonds respectively or increase the taxes. The latter is taking existing money out of the economy where it would be spent or invested, too. On the other hand, government deficits can increase the interest rates on the markets and therefore, not only the interest the state is paying, but as well the interest for other private actors (Mankiw, 2012, ch. 34). Currently, the reality is far away from that.

Regarding the current behaviour of the corporate sector who is a net saver, higher costs for borrowing would not be harmful to enterprises. Moreover, the movement would go through the whole markets and prices would increase as well. In German debates, the anger about ECB policy, low interest rates and the supposed 'expropriation of savers' is present. Especially amongst the elder generation who were used to high interest rates, this narrative is repeated. Though, it has to be admitted, that inflation rates were higher as well. On the other hand, there is a particular German aversion to inflation having its roots in the repeatedly reminded history of hyperinflation around 1920. As mentioned previously, there are good reasons that states should not accumulate a giant mountain of federal debts. But if this activity goes into an unsustainable sphere, the country would directly have to pay higher interest on their additional bonds as the supply got heavily extended. Moreover, one of the most important papers recommending a limit of federal debt not exceeding 60% of the country's GDP turned out as having flaws (Herndon et al., 2014). More recent estimations see still 90% indebtedness as unproblematic and Japan created more than 230% in trying to tackle its deflationary tendencies. Certainly, the message of limiting government spending and keep the scope of the states' actions limited comes from an ideological perspective of extreme economic liberalism and from actors who represent those, who are relatively well off in the current setting of the system.

#### 4.3 Export fetishism and wage restraint

Regarding the financial balances from Figure 5, it is important to point out the development of the last decade, that in Germany, the households, the corporate sector and the government are net savers. This is due to the foreign countries who are taking debt for Germany to buy the products.



Figure 6: Germany's trade imbalance

Net trade in goods and services. In million USD. Selected countries. Source: OECD.

Commonly, an export surplus is seen as rather positive and often, Germany is boasting about it. However, as the export surplus makes up a huge share of the GDP and is persisting over many years, the EU's biggest economy brings the whole EU and especially the EMU in a disbalance. The German way can be seen as a success story of competitiveness of the economy. However, I want to argue that it is the opposite and a highly dishonest move for a country which is in a currency union (e.g. Arestis, 2011). Instead of competitive advantage of the German products or firms, it is German politics which created the foundation of the competitive advantage. When other countries of the EMU raised wages, Germany pursued a policy of wage restraint at the beginning of the 2000s. For distributing the gains through productivity increases equally among society, it is important to increase wages by the sum of the productivity increase and inflation (v).

$$\Delta w = \Delta (AN) + \pi \tag{v}$$

Wages are a main component of product prices. Because of Germany's wage restriction policy, goods produced there were relatively cheap on the world market. Through following this neomercantilist strategy, Germany created an unsustainable and prevailing export surplus. A country which is not obeying to this rule is not only creating internally an insidious redistribution from labour to capital income. Also, and even more important, they hinder other countries in evening out their trade balance. The lack of exports is as well a lack of production (i). Through Germany's policy of wage restraint, it is directly responsible for the high unemployment rates in Southern Europe (Flassbeck, 2007).

Theoretically, there is full factor mobility in the EU. However, capital is more mobile than labour and there was not a working migration counterbalancing that higher production is taking place in Germany (Mundell, 1961). It is no miracle that Germany got better out of the financial crisis of 2008 and is celebrated to be not as hard hit by the COVID-19 crisis. As long as the exports can continue and there are no demands for wage increases in Germany, it remains a relatively cheap producer. Using the crises as an apology for the continuity of wage restraints, Germany once again prevents its working class to get their share in productivity increase and lets many of the other EU countries in the recession when it would be useful to them to fill the gap of their existing balance of trade deficit. The export surplus is a problem as it is high, in a large economy, and persisting over many years. It is directly reflected in the internal demand problem. The internal demand problem is directly caused by the development of wage restraints which aggravate inequalities between the capital and labour income (see Figure 3) and export industry and services. To visualise the development, the nominal wages are set in relation to the real productivity increase (vi).

$$ULC = w/(AN/P)$$
(vi)

This slightly different form of (v) presents the unit labour costs (ULC). As the countries of the EMU agreed on the inflation target of below but close to 2%. From the start of the Euro as the accounting currency in 1999 on, the commitment to this target by the different states is varying. While in some Southern European countries, wages increased beyond productivity development, in Germany, wages were maintained on a relatively low level for a decade after 2000.



<sup>1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018</sup> 

Figure 7: Unit labour costs in the EU

Indexed, 1999=100. Gross income from dependent employment in national currency per employee in relation to real GDP per employee. Source: AMECO

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When Germany was still bearing the costs of reunification and was seen as the 'weak man of Europe', the government lead by social democrats did agree with the labour unions on a deal to limit the wage increases. The purpose of this tri-partisan so-called *Bündnis für Arbeit* (alliance for work) was to decrease the unemployment (Bofinger, 2017). The problem with the assumption is that they are following neoclassical models where the labour market is treated like any goods market as well. But higher wages can only do one thing: increasing the price level **or** leading to higher unemployment (Stockhammer, 2011). If prices would increase as producers pass the higher labour costs on to consumers, it would **not** lead to a decrease in demand because through the higher wages the demand is **in**creasing. Admittedly, the additionally demanded products might not be the same then the exported ones. But the internal demand can lead to higher imports and thus, help other countries to reduce unemployment. Only those sectors might become problems which are producing to large extent goods which are for very specific purposes and not directly or indirectly involved in the production of goods which are demanded by the broad public as for example luxury articles.

Critics might refer now to the neoclassic assumption of the neutrality of money: The higher wages would lead to higher prices and, therefore, to higher inflation. This ignores that the level of the living standard does increase with the higher labour income across all sectors (Turner and Shear, 2012, ch. 2.1). Currently, investors and managers of exporting companies make profits as they sell products which do have a relatively low price due to the low wages in Germany. Instead, with adequate wages, citizens could afford more goods, as the prices of goods produced abroad are not affected by this German wage policy. Instead, the policies were connected to the trends of neoliberalism. The government created a huge low wage sector and a punitive system of unemployment insurance as the idea of citizens as trying to avoid work and being lazy was internalised and spread by entertainment media. Till today, huge stigmatisation is going along with the reception of *HartzIV*, the social transfer which is in the most cases benefiting people who are not even unemployed. This shows that the state is not taking up the responsibility of trying to achieve full employment nor that an equal distribution of gains through productivity increases are a political priority (Bosch, 2013).

#### 4.4 How the EMU allowed this model

Germany's economy has a tradition in the production of industrial goods but never created such a shift of weight in its balance of trade. This is due to the change of the currency regime. Before entering the monetary union, the *Deutsche Mark* would have revaluated and made German goods abroad much more expensive. Joining the Eurozone brought along all the trade facilitation mentioned in <u>chapter 3.2</u> and fixed the relative price of the German products when they were imported by other EMU countries.

Like the Maastricht Treaty / SGP agreements in the on the limitation of a country's budget deficit and debt ratio were made, which limited the scope of action of the national government, there were agreements on inflation and exchange rate. The latter points were rather seen as responsibilities for the ECB than as a directive for national governments to adopt policies with respect to these targets. One reason for the globally low interest rates might be uncertainty (Bibow, 2011). But on the other hand, governments continue to fail to provide the necessary *stimuli* to step in and fill the gap. This can be as an entrepreneurial actor or investor of last resort or via increasing internal demand through an increase in wages (Mazzucato, 2018).

Concrete policies improving the situation of workers can be the increase in the minimum wage or higher salaries in public services. But as well through the increase of unemployment assistance, internal demand can increase. As this is the case, it is very unlikely that companies have to dismiss employees – even if there might be demands for wage increases. If product prices will actually rise in consequence of these interventions, an inflationary tendency starts. Especially if in all EMU countries the inflation target of 2% is undershot, it is important to underline the nation state's responsibility to commit to the common goals to maintain the balance amongst the member states. Figure 7 shows that Germany as the EU's economic heavyweight has to counter its wage restraint policy from the first decade after the Euro implementation by closing the gap to the other countries who met the ULC target of 2% or did overshoot it through excessive wage development (Bibow and Terzi, 2007). The existence of the convergence criteria whilst de facto divergence in highly important factors shows the insufficient inclusion of causalities in the framework (EC, 2020).

There is no critical reflection about the export surplus in the German public while it creates the problems of unemployment in Southern Europe. The narrative that higher living standards in Germany could be achieved with more appropriate salaries is absent. The EU should assure that competitiveness in the single market is not a concurrence of tax systems, social standards or wages, but between a - sufficiently large – number of companies. Germany did create this competitive advantage in labour costs and disregards the logic of inflation targets in a monetary union and therefore, did increase the inequality within the country and across the EU. The neofunctionalist approach of a self-accelerating integration in different areas did not work out as even the existing rules were not sufficient for a sense of solidarity and a suitable narrative. By contrast, the

Maastricht-criteria with the limitations on government action is rightly criticised as being deflationary. The role of the state is limited when the country is about to reach the budget or debt limits. Especially in times of economic crises, these rules tend to act pro-cyclical and thus, aggravating the situation. The ECB is in the current situation not able to go against the failure of EU governance. A German catch-up in wage level would need increases beyond the productivity increase to level the playing field and create the ground for a prosperous future of the EU. The current German political strategy is contributing to the deflationary threats in the Eurozone as wages are the main driver for inflation. The idea to shift competitiveness away from within the corporate sector to other areas of policymaking is known from for example tax competition. The strategy of creating a large export surplus through internal devaluation can indeed be seen as neomercantilism (Lucarelli, 2011).

#### 4.5 Objections against fiscal and monetary interventions

Without the unconventional ECB policies, it is relatively certain that the EMU would have already shattered. However, there are many critical voices against the strategies in use. Coming from the monetarist perspective, the so-called equation of exchange explains inflation. At the latest with the world's central bank policies after the financial crisis from 2008, this mechanism cannot be called in as an explanatory mechanism. Quantitative easing programmes and the setting of the prime rate down to zero increased the money supply massively – without reaching the eurozone's annual inflation target of below but close to 2%. While there might indeed be asset-price inflation in certain areas, the consumer price index did not skyrocket at all.



Figure 8: Inflation rates in the Eurozone

Indexed, 1999=100. Consumer Price Inflation and housing prices. Source: OECD

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So, for those who are dealing with those assets, inflation might be felt or true regarding e.g. the housing market (Figure 8). For the average citizen, the consumer price inflation (CPI) is the variable of interest. High inflation rates are currently in none of the EU countries present. They would make it unattractive for private households to save in the form of bank deposits and make other investments more attractive which need higher amounts of means or more accessible information. However, there is a particular aversion against inflation coming from the retold experiences of hyperinflation and the narrative that the ECB policy finances what is perceived or communicated within the narrative – as economic mismanagement from Southern European countries and therefore, leading in consequence to the 'expropriation' of German savers (Brunnermeier et al., 2016, ch. 4.2). The story is ideologically connected with conservative and right tendencies and focusing on the difficulty for average citizens to nowadays increase their standard of living – which has different causes than the ECB's prime rate policy. The discourse is tightly connected with the one about fiscal discipline (chapter 4.2). Often, opinion is led by everyday life examples. Economic decisions of a single household or a company work very different from government spending or the behaviour of the aggregates. In the perspective of an individualist entrepreneur, there is automatically a misperception of macroeconomic policy. Even within the discipline of economics, there is a bias of microeconomic thinking as many models insist on a microeconomic foundation (Wren-Lewis, 2018).

The acceptance that debts are mirroring assets remains excluded from public discourse. It is important to emphasise on the global tendency that enterprises worldwide became net savers, despite the low interest environment. The role of the net saver was in Europe previously mainly filled by households. The end of the scope of actions of monetary policy makes fiscal interventions even more important. The convergence criteria were meant to stabilise the European economies, but they put the counties' ability to act in chains and manifest a system of uncontrolled capitalism and the governments' role limited to a night watchman state (Flassbeck and Spiecker, 2011).

It was an important step for the EC to include a fairly even balance of trade into the scoreboard. However, the allowance of a higher export surplus than a maximum import surplus testifies that the importance of the contemplation of international trade imbalances in the EU was not sufficiently considered (EC, 2020). But so far, no penalties against the German defiance of these rules were undertaken. As the EMU countries have ultimately fixed exchange rates, the nominal convergence has to be assured. This means that real wage increases have to happen in every country proportionally to productivity increases. A nationalist approach like the German strategy is undermining the very essence of the EU. If the conditionality of the convergence criteria is hindering states in taking up the responsibility for deciding on the investments which are shaping the future, the fate of the EU as a political project is in danger. If citizens are feeling to be excluded in the gains through globalisation and capitalism and labour share continues to decline, inequality will continue to rise, and populists will gain power. A single nation-state is not able to solve this problem – it is in the responsibility of the EU to fight for an 'ever-closer union' – even in opposition of German exporters.

## 5 Empirical research

#### 5.1 Data

#### 5.1.1 Dependent variables

As the paper wants to investigate the effect on income distribution, I use one of the most standard tools, the Gini index. Even if there is legitimate criticism on the underexposure of extreme values at the top and the bottom, it is due to the simplicity and data availability a common measure. Alternatively, the Theil index, the Hoover index or any decile distances are famous metrics. The Gini coefficient is scale-invariant: thus, larger and smaller units can legitimately be compared. I use the data *pre-* and *post-*tax coefficients from the SWIID database (Solt, 2019): The market income Gini and the **disposable income Gini** ( $y_{ct}$ ). Regarding the research question and keeping in mind that the difference between market income Gini coefficient in EU and non-EU countries are rather small, the inequality after redistribution is more interesting.

#### 5.1.2 Independent variables

For the understanding of whether the EU membership is an explanatory factor of the inequality development in the countries, I include a time-variant binary variable  $(EU_{ct})$ . It can be regarded as a **treatment** changing in the year of accession from 0 to 1 and remaining 1. As the data does not include the year 2020, the Brexit is not considered. As the treatment is not happening in the same period, the staggered DID method is used (Wooldridge, 2013, ch. 13). Additionally to the aspect of the EU membership, I want to focus on the different subsets of the Eurozone  $(euro_{ct})$  and the countries which are a member of the ERM II. The countries sharing the same currency are ultimately dependent on the monetary policy by the ECB. As is it not possible for those countries to increase competitiveness by a further devaluation of the currency compared

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with the export surplus countries, they suffer from wage stagnation and rather increase than decrease in income inequality.  $erm_{ct}^2$  includes the countries with a fixed peg to the European Currency Unit (ECU), later the Euro, into the subset: Denmark and Bulgaria as well as Hungary and the UK for certain years.

#### 5.1.3 Control variables

Firstly, to overcome the omitted variable bias, the panel data analysis includes country fixed effects (CFE,  $\delta_c$ ) and time fixed effects (TFE,  $\gamma_t$ ). *time\_EU* acts as an interaction term with *EU* and respectively with the other subsamples. Besides, other time-variant control variables are included ( $X_{ct}$ ): *lnGDPpc* is the logarithmic version of the per capita income in the corresponding year, *growth* is the change compared with the previous year. In the first model, the *surplus* is included to check if the balances of the country are even. Moreover, the sum of imports and exports is included to check for the *openness* of the country's economy (World Bank, 2020). Furthermore, the *population* of the countries, as well as the Labour Regulation Index (LRI), are included. I use the LRI in an aggregated form:  $lri_T$  is calculated as the unweighted average from the following five sub-indices: Different forms of employment, regulation of working time, regulation of dismissal, employee representation and industrial action (Armour et al., 2016). To control if the origins of a potential increase in inequality are rooted in globalisation, the KOF Globalization Index (*KOFGI*) from the ETH Zurich (2018) is included.

In model calibration b, the logarithmic version of the total imports (*lnim*) and total exports (*lnex*) (both World Bank, 2020), as well as the inflation (*CPI*), are included (OECD, 2020). By contrast, I do not continue to include *surplus* in the variable list. Instead of the financial balances, I did decide to add the investment share of the GDP of the different sectors to model calibration c. As they have to sum up to 1, I only add *GFCFcorp* and *GFCFgov*. In d, the unit labour costs (*ulc*), the unemployment rate (u) and the GDP's share on public and social expenditure (*pse\_gdp*) are included. Calibration e includes the government debt (*ggdebt*) and the minimum wage (*minwage*). All previously mentioned variables are from the OECD database (2020).

#### 5.2 Analysis

Certain differentiations which I included in the thesis report are excluded in this analysis: I do not include the leads and lags and the differentiation by decades. Moreover, the presentation in

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

different models including only sociodemographic, policy and economic variables are omitted. The starting point of the analysis shall be the model specification (9) and (10) from the <u>thesis report</u> including the CFE and TFE. I do not separately display CFE and TFE but want to remind on the high explanatory factor with a P-value close to zero in these models. Given the explanations for the dependent, independent and control variables, the following DID regression formula is created as a basis for the models:

# $y_{ct} = \beta_0 + \beta_1 E U_{ct} + \beta_2 X_{ct} + \delta_c + \gamma_t + \varepsilon_{ct}$

In the first model specification, I give an overview of the influence on the *pre*-tax Gini  $(gm_*)$  and the *post*-tax Gini  $(gd_*)$  through membership in one of the country groups. While the model gives from EU accession significant feedback, being in the ERM II or the Eurozone does not result in explanatory power (Table 1). For both, the fact of being EU member shows an inequality level around one percentage point higher than being not EU member. In total, the market income inequality is much better explained through the model than disposable income inequality.

Variable	gm_EU	gm_erm2	gm_euro	gd_EU	gd_erm2	gd_euro
lnGDPpc	.38979447	.17878224	.07992727	.98824698	.89666357	.81079171
growth	1.67376	1.408177	.75983582	3.056169	2.7048912	2.3774885
openness	00114847	.00076735	.00268322	00601839	00541168	00478277
surplus	02103529	0181421	01941507	01411587	0127477	00959243
population	-82.993216	-90.407192	-104.51327	-24.723817	-27.947924	-31.613227
KOFGI	07237276	02687334	03710575	.00246328	.04011565	.03344508
lri_T	-6.0029689	-5.1392713	-4.3645424	-4.2105437	-4.0935755	-3.4119773
EU	1.4037288*			.97619267**		
time_EU	.03471344			0310444		
erm2		27262319			4369756	
time_erm2		.04755976			01307283	
euro			.59721565			.36855805
time_euro			01870376			05766654
_cons	56.56187***	56.839168***	54.309129***	28.841131**	28.06065**	25.786511*
N	1847	1847	1847	1847	1847	1847
r2_a	.42728835	.40795338	.40249958	.20122239	.19623025	.2050709

Table 1: Income inequality and European Integration (a)

In the following setting, I only regard EU as the variable of interest. Table 2 expands the control variable set to b and c. In contrast to b, EU loses its significance in c. Instead, c indicates a significant effect of an increase in inequality for higher exports. For the disposable income models, the LRI points to an important effect in lowering inequality. It is important to emphasise that the number of observations (N) did decrease a lot through missing observations for early years and many countries – especially in c. However, the explanatory factor of the adjusted  $R^2$  did increase compared with the previous control variable set a from Table 1.

Variable	g2mb	g2db	g2mc	g2dc
EU	1.506987*	.98848711*	1.3132627	1.166147
time EU	.00219476	04147569	07882783	0763988
lnGDPpc	1.4746789	2.4366232	-2.5883242	-3.192377
growth	47790922	.87545412	-7.0953012*	-1.1855358
openness	.01645292	.00387178	.0134891	00706559
population	-91.897756	-29.130757	-289.51311	-162.52709
KOFGI	08514514	00397925	15390379*	03757312
lri T	-9.4501183	-7.9545009**	-2.7649322	-6.8203199***
lnex	33400569	9288573	4.4441718***	3.1413423**
lnim	.22041227	.80304358	-1.5803217	.82021537
CPI	.00230555***	.00194902***	04604594	.00589591
GFCFcorp			.01335624	06494699***
GFCFgov			.03470668	05348096*
_cons	47.537992**	15.288981	78.938303***	62.237664***
N	1536	1536	789	789
r2_a	.50297647	.29383894	.70529091	.49986664

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 2: Income inequality and EU accession (b, c)

Variable	g2md	g2dd	g2me	g2de
EU	.71270456	05774332	.78988279	42094741
time_EU	0400251	05711183	00839208	045599*
lnGDPpc	-8.3846894***	-7.7357794***	-4.3195161	-2.7211028
growth	-4.0861269	5799113	-5.5517905	27338357
openness	00476187	01226283	.00775125	.00394354
population	328.26703	248.98033	-233.65448	-277.77376
KOFGI	00467778	.1131975*	.03240514	.11267413**
lri_T	22896651	-3.2890535	6.3789576	-3.336362
lnex	1.3507281	1.7828894*	-3.700867	08173221
lnim	4.0234962*	3.1452854*	4.5300598	.46506245
CPI	02899191	.04378542	03284704	.03144147
GFCFcorp	00248556	04518253**	.0104789	00335008
GFCFgov	.05333252	0066779	.03340375	.04938826**
ulc	.06967569***	.03582341**	.06763566**	.03341331*
u	.31599415***	.1440535***	.41284435***	.13740902*
pse_gdp	25198134**	29800034***	25521302*	26389297**
ggdebt			00565082	00383411
minwage			.33746249	.02060349
_cons	115.27551***	91.543789***	83.5065***	56.429769*
N	568	568	337	337
r2_a	.70895033	.5990865	.62592527	.41015864

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 3: Impacts on income inequality (d, e)

Model d and e show a positive influence of the unit labour costs and unemployment on inequality. On the other hand, higher (relative) social expenditure do supposedly lead to less inequality. The variables added in model specification e cannot be categorised as sufficiently significant. Neither in model d nor e, EU is significant. Similarly, for membership in the ERM II or the Eurozone, there are no persistent significances. Only model d shows for erm2 a slight increase (Table 6).

#### 5.3 Discussion

In the basic models, for example those in the thesis report but as well in calibration a (Table 1), the EU is indeed an explanatory factor for a higher inequality. Nevertheless, the coefficient of around one percentage point is rather small – especially compared to the CFE. Those are for nearly all countries and in the most models highly significant and do have a negative prefix. Eigure 4 shows the high redistribution and the preference for more equal income compared to the rest of the sample. Similarly, Eigure 10 in the thesis report gives an overview of the CFE which varied between -4 and -16 percentage points showing the difference between the Nordic countries with a lower unexplained country-specific inequality and Southern Europe and the Baltics with relatively higher values. In the models with the subsamples, only one time the ERM II became an explanatory factor. This is rather due to the instability of the models, indicating significance for some values already after a slight variation in the control variables.

There are some general findings which are worth to be mentioned. The models are much more able to explain *pre*-tax Ginis showing that certain distributional policies are in a black box. Checking model specification differentiating various types of taxes in the same sample underlines the interpretation that they are absorbed in the CFE. The order in which I added variables to the models is to the greatest extent due to the relevance but as well to the loss in observations through considering the variable already in an early stage. Especially model *c*, *d* and *e* did lose a lot of observations making them less credible even if *g2md* did reach an extremely high  $R^2$  of over 0.7. Some intuitions were underlined by the regression model. The influence of unemployment on the *post*-tax distribution is smaller than on the pre-tax Gini. The LRI contributes significantly to a way lower inequality – a differentiated look on the sub-indices would be an idea for further work. The same is true for social expenditure. And at least in model *c*, a high nominal export increased market income inequality and disposable income inequality significantly.

However, the fact that EU lost its significance to some variables which explain the non-countryspecific and non-time-specific more intuitively and with a higher level of significance lets me argue that the regression analysis does not support the statement that EU membership – and especially not ERM II or Eurozone membership – is by itself an important factor explaining disposable income inequality or market income inequality. It was important to do the two latter specifications but it can indeed be argued that the rules for the common currency are not much tighter than for the EU, as the SGP is effective for all EU countries and as the consequences of exchange rate corrections towards the Euro in an interconnected market like within the EU are too far-reaching.

## 6 Conclusion

While the view on the financial balances points out the macroeconomic disbalances the surplusoriented countries like Germany or the Netherlands are creating, the regression analysis is not underlining *per se* the inequality-driving factors of a lack of public investment, the export surplus and wage restrictions. With the agreement to budget deficit limitation in the SGP, the ability to act appropriately on citizens' needs becomes nearly impossible. Ideology and blindness lead to a onesided type of cooperation creating in large societal groups the resentment that the EMU and the EU are not any more projects of hope. Austerity policy was driven into an *extremum* after the financial crisis in 2008 and the following government debt crisis in Greece. The lack of solidarity and the wrongness of the narrative promoted in many Northern European countries repeats now vis-à-vis the challenges of the aftermaths of the Covid-19 crisis and the discussion about 'frugality'.

The end of monetary policy – even from the ECB which has the only goal of having a low inflation rate ignoring other macroeconomic trends - combined with the ideologic aversion of granting the state an active role in shaping the society and the future created disappointment which is right now a rather subconscious, untargeted and fragmented sentiment in many parts of the societies across Europe. Certainly, in the case of a crisis, the validity of the rules is interrupted. But this is only postponing the prevailing problem with the federal debt boundary. A real commitment towards the future of the political project in the form of the emission of common bonds did not seem realisable until the pandemic but was overdue (Turner, 2016, ch. 9). Indeed, bond interest rates did converge but directly became spreading with every uncertainty about the EU's perspective. For the future, it has to be sure that the EU can handle even asymmetric shocks with financial and non-financial measures being adequate to underline the unity and the claim to contribute to a new form of international cooperative governance. This is rather a defence from negative spill-over effects than an act of pure solidarity – which is never charity for an unsustainable lifestyle. Every convinced pro-European and especially EU policymakers should work on a positive turnout of the integration process and the promotion of the narrative of the EU as a highly important force to shape the world's fate, away from debates around questions on details.

Chapter 4 points out the priority to fight macroeconomic imbalances through overcoming the particular interest of countries, lobby groups or political parties and extend the common policy cooperation by coordination of fiscal policies and wages to overcome the pro-cyclical and deflationary tendencies of the EU and especially the Eurozone. Nearly three decades after Maastricht it is time to revise the rules and admit that the neofunctional idea of automatic
convergence did only work out in some sectors and remains absent in other policy fields. This should include an even balance of trade, ULC connected to the productivity increase and the state as an active policy designer and an *investor of last resort*. The current situation on the world markets needs stimuli and a policy perspective and clear guidelines can act as an indicator and trigger for sustainable investments and entrepreneurial creativity instead of a race to the bottom in regulations, standards, wages and taxes and therefore, increasing income inequality.

Chapter 5 investigated whether there is empirical evidence for a specific increase in income inequality through a country's commitment to EU, ERM II or Euro membership. While there is an inequality-increasing effect for EU membership in the basic models, it loses its explanatory power when other control variables were added. This rather points on previously omitted variables and instability within the model calibration. Nevertheless, the large-N models in specification a and b reach a high explanatory power with a significant inequality increase of around one percentage point. However, this is outweighed by the CFE which are for all EU countries minimum three times higher oppositely directed, showing the 'preference' for more equal societies compared to the comparison group. To conclude, EU absorbs in these rather simple models different other important factors. The empirical analysis has to reject the hypothesis that commitment to a circle common policy did have a contribution to inequality which cannot be explained by other variables. The approach maintains the problem of having no counterfactual. A statement on whether the considered and unknow control variables are influences by EU policy or despite / apart from EU policies cannot be made.

Even if my conclusion rejects the assumption that the EU directly affected the countries' income inequality, likewise, the opposite is not true either as it cannot be stated that the EU is acting as an absorber of the globalisation pressures. Rather, the argument that autonomous country-specific decision-making and policies are the main explanatory factor for between-country differences. Despite its heterogeneity, the EU has to continue its efforts in policies creating a convergence between regions as well as within countries (Alesina et al., 2017). Insisting on ideology-based rules on public spending seem therefore as an obstacle. Globalisation increases interconnectedness and needs common strategies instead of fragmented national responses. It is the duty of European politicians, scientists and the public to point of these imbalances created through particular interest. The current EC presidency is crucial to head to higher (supra)governmental responsibility. The von der Leyen commission has to proof, that European Green Deal or Coronavirus Recovery Plan are worth the name and not weasel words. In the next decade, the fate of the EU but as well the future of global governance will be challenged more than ever – in more fields than ever.

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# Appendix



Source: Povcal (2018), The Charbook of Economic Inequality (2017), Kandbur et al. (2017) Table 1.B CC BY Note: Estimates are based on household survey data of either incomes or consumption. All countries for which comparable surveys within five years of each reference year were available are shown.

Figure 9: Inequality development within the last 3 decades Source: Our World In Data, 2019.

# Income and its distribution, 2015



Figure 10: Income and market income distribution in 2015

Red: EU countries. Green: Non-EU countries. Sources: Gini: SWIID; GDP: World Bank.



Figure 11: Development of disposable income inequality

Green: Disposable income Gini over time (bottom axis). Red: Disposable income Gini over income (Kuznets specification; top axis; logarithmic version of GDP per capita). Source: SWIID, World Bank, own calculations.



Figure 12: Elephant chart Source: Lakner and Milanovic, 2013.





NOR RUS LVA 20 0 -20 -40 2015 2000 2005 2015 2000 2005 2000 2005 2010 2010 2010 2015 year corporate savings government savings household savings current account balance

Figure 13: Financial balances of all countries

Net savings of different sectors. In % of GDP. Starting year: 1999. No data for following countries: BUL, CYP, HRV, MLT, ROM; ARG, IND, MYS, PHL, SGP. The export surplus is portrayed inverted to underline the balance functioning. Sources: OECD.

Variable	g2mb	g2db	g2mc	g2dc
erm2	21809283	49635281	.60310054	1.0706485
time_erm2	.0122528	02248075	05134239	07903236
lnGDPpc	1.7824695	2.621008	-2.3212068	-3.4070304*
growth	24304593	.93133675	-6.7814487	-1.2815165
openness	.02652159	.00838125	.01096942	00624717
population	-82.786659	-23.807285	-246.52114	-178.42592
KOFGI	03015378	.04357963	12438383	02172295
lri T	-9.0181565	-8.0336255**	-4.4952457	-8.0162925***
lnex	53512569	-1.037906	4.6744069***	3.1345829**
lnim	25632458	.53813706	-1.3731809	.96577364
CPI	.00237765***	.00198804***	05191976	.00025851
GFCFcorp			.01082903	06336077***
GFCFgov			.0392165	04442417
_cons	42.694342**	11.763338	72.777055***	62.085307***
N	1536	1536	789	789
r2_a	.48973184	.2890405	.69565134	.49673236

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 4: Model b and c for the ERM II subsample

Variable	g2mb	g2db	g2mc	g2dc
euro	.32897141	0653944	24121286	51361597
time_euro	05376552	05246877	03770338	02588729
lnGDPpc	2.0339926	2.5421905	-1.6789072	-2.4117698
growth	93758589	.54180947	-7.0768977	-1.261257
openness	.03658873*	.01128897	.01144462	0092976
population	-80.989604	-24.199374	-206.1235	-87.331145
KOFGI	02271613	.03695331	09468362	.01232339
lri_T	-7.8597964	-7.2399992**	-4.3084876	-8.3904842***
lnex	7037564	98791158	4.6196755***	3.3083986**
lnim	72552706	.43417943	-1.4946665	.99494034
CPI	.00242834***	.00198384***	03903001	.01559108
GFCFcorp			.01247662	06483511***
GFCFgov			.03786265	05081318
_cons	36.417283	10.395213	63.779162***	49.534665**
 N	1536	1536	789	789
r2_a	.49485444	.2986197	.69689306	.48642731

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 5: Model b and c for the Eurozone subsample

Variable	g2md	g2dd	g2me	g2de
erm2	.34939013	.8789594**	46891982	.29789877
time erm2	.00898182	05542267	.03780382	0367742
lnGDPpc	-8.9237071**	-9.0796395***	-2.4438523	-3.8408282
arowth	-3.9669965	.10676092	-6.5547804	.17130042
openness	- 01308867	- 01188135	00371849	00229071
population	386.55348	248.12054	-318,40667	-313.70763
KOEGT	01740535	07677871	07070831	08581503*
lri T		_4 1764139*	5 9675016	_4 0529519
lnev	1 7485772	1 7175217*	-3 5803114	- 37387601
lnim	1.7485772	2 269507+	4 7070601+	79167002
	4.0180301*	0552080507*	4.7879091*	.78187003
CPI	03250926	.05570591	04/6//29	.03/41313
Grercorp	00394376	038/144**	.0103955	00036517
GFCFgov	.05244371	.00159685	.03768418	.05055845**
ulc	.06527883**	.03590783**	.0600674*	.03690463**
u	.31879259***	.13050126***	.4210301***	.14279343**
pse_gdp	28062323**	27228286***	29552175*	26714409**
qqdebt	1		00352299	00544441
minwage			.27964974	.01707714
_cons	117.61204***	106.46552***	63.461807*	69.913432**
N	568	568	337	337
r2 <u>a</u>	.70520623	.60473819	.62405885	.40336278

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 6: Model d and e for the ERM II subsample

Variable	g2md	g2dd	g2me	g2de
euro	.28528902	12058021	.39459389	07256421
time_euro	00995384	02388935	05868225	.03826077
lnGDPpc	-8.3577787**	-8.2458329***	-2.9039813	-3.5870857
growth	-3.8843026	77831598	-5.6882719	36235505
openness	01217198	01736064	.0123205	0054621
population	382.51368	281.97897	-166.13261	-457.17286
KOFGI	.03406209	.12127735**	.09061441	.06093831
lri T	94075506	-5.0330341*	6.8418669*	-5.0724265
lnex	1.630513	1.7901548*	-3.7867735	23053756
lnim	4.4588658*	3.547255**	4.0818532	1.483358
CPI	0328478	.0472323	02757387	.02221061
GFCFcorp	00570274	04037647**	.01239217	00238916
GFCFgov	.05147172	00432593	.03016187	.05657219**
ulc	.06763968***	.03597075**	.06892995**	.03011572*
u	.32954516***	.13834072***	.426793***	.14611722**
pse_gdp	28096527**	30425099***	23687766*	32553441***
ggdebt			00575625	00330864
minwage			.35628485	0490245
_cons	110.57079***	95.029992***	62.389705*	72.536215**
N	568	568	337	337
r2_a	.70469677	.58919479	.62529402	.40088378

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 7: Model d and e for the Eurozone subsample

# Author's Declaration Form

I, the undersigned Hendrik Hinrichs hereby declare that I am the sole author of this thesis. To the best of my knowledge this thesis contains no material previously published by any other person except where proper acknowledgement has been made. This thesis contains no material which has been accepted as part of the requirements of any other academic degree or non-degree program, in English or in any other language.

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Thesis report

# Inequality and European Integration Convergence of living standards in the EU or motor of deregulation?

Hendrik Hinrichs Erasmus Mundus Master European Public Policy 2018/20 Budapest, 31. August 2019 Number of words (total): 6,476

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#### 1 Introduction

Within the last decades, in nearly all countries, wealth and income inequality increased. For many, the European Union is the solution in retaining the possibility to shape global governance and moderate the competitive pressures of more and more globalising markets and value chains. On the other hand, the European Integration process is dominated by market liberalisation in the form of removing barriers to trade and less taking responsibility for worker's rights. At the end of the day, the European Union is confronted with the question if the governance power is used to create a protectionary barrier against the pressures of globalisation for example in form of rising inequality or if the institutional setting of the EU is even deepening the race to the bottom in welfare systems. As a proxy for the effect, the EU membership has on the adjustment of the society, the development of the income distribution will be regarded.

H<sub>1</sub>: EU membership increases intra-country inequality.

Besides the question of how the income distribution in the counties evolved, the goal of European Integration to achieve convergence of living standards amongst the EU members will be regarded. After a summary of the existing theoretical work on inequality and the European Union, I will conduct a regression analysis investigating on the impact of EU membership on inequality development regarding data from EU and non-EU countries from the 1970s onwards. The results of the analysis indicate that EU countries tend to have redistributional mechanisms reducing the income inequality. However, this is not necessarily an EU membership-driven phenomenon. Rather, the county-specific possibility for an adjustment or a preference for a more liberal or a more social calibration of the economy remains (cf. Hall and Soskice 2001).

## 2 Literature overview

Debating the influence, the European integration had on developments of economic inequality, the most important literature on these topics has to be introduced. Besides a general literature overview, the connecting points between the topics will be presented before chapter 3 contributes analyses based on empirical findings.

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## 2.1 Inequality

"Indeed, even the equality of wages [...] only transforms the relationship of the present-day worker to his labour into the relationship of all men to labour."

— Karl Marx (1844)

Even though the possibilities of nowadays seem bigger than ever before, the foundation of democracy itself is threatened. Existing hierarchies are not challenged in the absence of a discussion about it. The advance of individual freedom which liberalism brought did not let catch up the appropriate regulatory framework of governance for social cohesion. Emphasising the role of inequality is more important than ever as a right to vote is not even assuring a rudimentary equal representation on the world stage. Democracy remains unperfect as the universalism of human rights is not reflected in the position of power of one citizen amongst all people. Neoliberalism fuelled the predominance of the beliefs in individual performance. With regards to the state of the world, reason enough to engage with economic inequality which is strongly interdependent with political inequality. The market economy, globalisation and capitalism created unknown efficiency gains but as well a concentration of wealth imperilling its very means of existence.

Social inequality can be regarded from many various angles. Though spreading liberal values, more and more privileges are only connected to financial means. But with the concentration of wealth, in a society with obviously more social freedoms, many possibilities are not open to everyone with the same extent. Social and economic but as well political equality or inequality are highly interconnected with each other. Power relations can always be contemplated as a *status quo*, but the intertemporal trends have to be analysed as well. Especially the dependence of the quality of education from the wealth of the parents or the municipality for a decrease in social mobility (OECD 2017; Roemer 1998). It is important to be aware of these developments as too high inequality can be accompanied by losses in the economy's efficiency (Cingano 2014).

Moreover, with a decline in the population believing in general fairness of the system, a challenge to democracy and the role of law goes along (Uslaner and Badescu 2004). To analyse the inequality development, investigation on the accumulation of wealth would be the most illuminating research. However, this work will focus on income inequality as a similar time trend can be estimated for income and wealth. The focus on income inequality is primarily made because of the massive lack of data availability for wealth accumulation but can as well be considered as a more conservative method of regarding inequality development. Generally, distribution within a country's society can result in a higher inequality as well as different development of states themselves can lead to a divergence of living standards. Therefore, growth rates, to the extent as they can reflect welfare gains, have to be considered for a comprehensive analysis.

#### 2.1.1 Intra-state inequality

The factors leading to reproduction or even deepening of the existing inequalities are numerous. Business and family networks, neighbourhoods which can acquire more public investments or different quality in education are main points shaping individual futures. In all countries, these factors are even paired with more or less obvious corruption. Everywhere, this inequality is reflected in financial assets. The already mentioned wealth accumulation originates mainly in the different taxation of incomes within one country. In many countries, capital income is taxed at a lower rate than labour income (OECD 2019b). Moreover, property- or inheritance taxes are much lower than the increases in the value of the properties. Not only did the influence of the nation-state decline in the face of globalisation, information technology and factor mobility (Darvas and Wolff 2016, ch. 3). In general, society experienced a development away from relevant small entities like villages, or a strong role of the family, where social disparities underlay a certain review. To a certain degree, solidarity was replaced by a rise of individualism and self-dependency. This trend is increased by the homogenisation of districts, being surrounded by ideological bubbles, assortative mating, the marriage only with the same status (Greenwood et al. 2014).



Figure 1: Growth rates and income inequality development in EU and non-EU countries Source: Growth rate: World Bank; Gini: SWIID. Own calculations.

However, there are arguments that through growth, all citizens could benefit. This idea refers to the ideal version of inclusive growth, where salaries would rise equally over the breadth of society (e.g. Andor 2016). Nevertheless, this would in the most optimistic reproduce the existing wealth structures, as capital income has to be considered as well. And as we have seen, this is growing faster than labour income and is taxed less. A maladjusted progression of the tax rate leads in the worst case to a shift to the informal sector. Governments could actively oppose these tendencies if labour incomes for low-income jobs would increase to minimise the difference to the wealthier high-income section. Though, rather the opposite is happening. Political actors are bending their influence in the face of firm's possibilities to shift their production. In many countries, the share of typical labour contracts is rising, or jobs are sourced out to subcontractors (McGrath et al. 2017). In theory, for example, the Kuznets curve states, that with the development of a country, economic inequality would decline after having risen over a certain amount (Peterson 2017, p. 5). However, historic development is more complex. In most of OECD countries, the intra-state inequality experienced a rise over the last 4 decades (OECD 2011).



Figure 2: Decline in the average income tax rates (capital-<u>and</u> labour income). Source: OECD 2019.

# 2.1.2 Inter-state inequality

Like national policies can increase or tackle inequality, the development of different countries can take diverging directions. Firstly, the benefits of globalisation are distributed very unequally (e.g. Milanović 2016, ch. 3). The difference in the mobility of factors remains high. While financial flows change countries within seconds, the barrier for a worker to move into another country is immense. Different macroeconomic policies in different countries, for example in the adjustment of the labour market or the taxes contribute to the circumstances (cf. Atkinson 2015, pt. 2). Furthermore, external influence does not necessarily have to affect every country in the same extent. Asymmetric shocks might hurt only some countries or some economic sectors. For example, the vulnerability to the effects of climate change differs between the countries depending on various factors like current temperature, the fertility of the soil, or sea level (Islam and Winkel 2017).

On the other hand, through regulations and the competition on location advantages, there could be a race to the bottom – or a certain minimum standard a significant number of nations can agree on (Genschel, Kemmerling, and Seils 2011). The

OECD (2011) finds "signs of a possible convergence of inequality levels towards a common and higher average level across OECD countries". (Compare as well Figure 6 in the appendix.)

# 2.2 European Integration

Over the last decades, the EU developed as a supranational power to one of the most important players on the world stage. To regard which effects on the member countries' inequality are going along with the decision to join the confederation and how the countries differ from each other as well as which importance the corresponding time of the joining had is highly interesting for a better understanding of globalisation tendencies and the functioning of the EU.

# 2.2.1 Historical development

After the cruelties of two world wars spreading all over Europe and beyond, stabilisation and reconstruction of the continent were crucial. As the allied forces decided to not punish the whole German population with the exploitation of their economy but to allow them to rebuild their economy as well, further mechanisms of assuring peace in Europe were needed. Besides the demilitarisation of Germany, closer economic cooperation was established to make the economies more integrated. Over time, more and more political integration was conducted by the heads of state of the governments (e.g. Vanthoor 2002). Starting with a group of 6 countries, the EU counts today 28 members. With globalisation, it became more and more important to have cooperation between countries. In the view of for example increased capital mobility and transnational value-adding chains, it is debated which competences the EU should take over and where the nation-state remains in responsibility (Zeitlin and Vanhercke 2018). Some see the answer of this *finality debate* in the United States of Europe, some in the Europe of nations (Joerges, Weiler, and Meny 2000). Since the Maastricht treaty was implemented in 1992, the EU with its institutions was constituted in the form of existence like it is nowadays (e.g. Habermas 2012, ch. 1).

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From a post-WW2 world over the Cold War to the rise of emerging powers, the world order did underlie massive changes. The Western World led by the US created with the Embedded Liberalism Compromise the broad acceptance for market solutions because many people profited from the rise in opportunities and wealth. The system of nation-states was able to give answers while the speed of development seemed to align, growth rates were high, and globalisation was primarily seen as availability of new or cheaper products. But the international coordination did destabilize with the end of Bretton-Woods and the oil shock (e.g Kirshner 1999 or Gereffi 2014). The following era of the Liberal International Order was for the further rise of a rather unregulated capitalism in the market economies. Lose exchange rates and the narrative of the necessity of global competitiveness did not have an adequate counterpart reducing the inequalities. This trend could be seen in many areas, like for example in the race to the bottom in of corporate tax rates (see e.g. Simmons and Elkins 2004). With the change of the global order, a change in challenges to the countries of the European continent went along. While in the first decades, the coordinating intergovernmental approach dominated, the new powers the European Parliament got with the Maastricht Treaty and the Lisbon Treaty strengthened the supranational layer (Moravcsik 1998). Still, national interests are in the focus, but over time, the necessity to fill the lack of governance created through the predominance of interest rates of global wealth flows within the insufficiently regulated globalisation with more global governance became clearer as a goal (Stiglitz 2013).

#### 2.2.2 Convergence of living standards

But the EU is not only a political and economic project to maintain peace through cooperation, but it also has a political agenda written in the Treaties of the European Union. One main promise is the strive for convergence of living standards within member states. Especially after the Eastern enlargement, the catching-up process of less developed regions became more important as most of these regions had structural deficits in for example infrastructure and opportunities (Leitner and Stehrer 2014).

The EU cohesion policy is not only meant to ensure more fairness but as well to increase the overall competitiveness and create efficiency gains through regional cooperation (Armstrong 2010). But the freedom of richer municipalities to use tax reductions to win the contest on the locational advantages of companies or the withholding of social standards in a country to keep labour costs for factories low even intensifies the scepticism towards other countries. The cohesion and structural funds are with around a third the second largest post of the EU budget after agricultural subsidies (Mohl and Hagen 2010).

Especially compared with federal countries in a nation-state, the young common past as an entity and cultural heterogeneity as well as the political will to minimize the national responsibilities in favour for a stronger European Union did hinder the emergence of broader international solidarity. To maintain in an influential position on the world stage, the EU as a political project has to be kept alive. Especially because of this, the reduction of economic inequalities in the EU should have priority as it is expected to result in a lower political inequality as well leading towards easier decisionmaking on an intergovernmental level (Beckfield 2006). Besides a more or less informed criticism to the functioning of the EU, in academia, the dispute on the asymmetry of the integration process is mentioned in the criticism of a potential democracy deficit of the EU (e.g. Follesdal and Hix 2006).

## 2.2.3 Asymmetric integration

To which extent is the European Union fulfilling the mission of shaping politics on the world stage and protecting its citizens from pressures through unregulated globalisation? Founded mainly as a project of economic liberalism, not much has changed in the opinion of many critics. They emphasise mainly the imbalance in favour of policies facilitating market access leaving behind social cohesion and the aspect of solidarity (Scharpf 2010). The term *asymmetric integration* describes this disequilibrium of the speed of integration between negative and positive integration. The first is basically the removing of obstacles to economic integration for example

barriers for trade. Positive integration means the active creation of new rules, the authority to tax and distribute resources. The latter is done only in a very limited scope. Till today the EU is not equipped with the right to collect taxes. Therefore, social politics lag behind compared with the aspects of the economic side. Even new rules and standards are more difficult to implement as the majority of countries has to be convinced. Thus, the adaption of common standards which are relatively weak is predominating. If the EU is not able to implement a social and environmental net of standards, it is endangering to satisfy its very claim to be a union for the citizens. One the one hand, countries had the expectations of an increase in welfare and living standards – underlined by the promise of convergence of prosperity levels in the EU. But even if higher growth rates are achieved, did it go along with higher inequality?

#### 3 Empirical research

To investigate the development of inequalities, an analysis of empirical data will be conducted. Regarding monetary means of the nations, the income and wealth distribution is particularly interesting. While data on the income and its distribution is available for a vast number of countries and over many decades, data on the development of intra-country wealth distribution is only available from recent research and for a selected number of countries (Piketty et al. 2019). To find a general trend of the impact of the EU, a large number of countries should be considered and be compared to non-EU countries. While the investigation on wealth distribution remains a highly interesting and relevant topic, for the question of the impact of the EU, a long-term panel of data from the various different countries is more applicable. A comparable analysis is conducted by Filauro (2018) who differentiates between inequality levels, however only for the years from directly before the 2008 crisis.

#### 3.1 Data

Founded in 1958 as EEC, the EU exists already over many decades and underwent various changes. Thus, it is desirable to have data already from the earliest possible

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point on. From 1960 on, data for the Gini coefficient is available, which will be the main variable of investigation in this analysis. Besides the EU28, 25 countries outside the EU are included in the dataset. Having many observations for countries and years provides the possibility to use a model with both, entity- and time-fixed effects (Stock and Watson 2015, p. 409). To not limit the explanatory power of the estimations, control variables were added due to completeness for the subsequent years.

#### 3.1.1 Dependent variables

As pointed out at the beginning of this chapter, reliable data on wealth distribution which is going back to the time of the foundation of the EU is no available for the majority of countries. In the impactful work Thomas Piketty did, he collected historical data for France, the UK and the US, for more recent years, there is data available for China, India and Russia as well. For analysing potential inequality effects through EU membership, a broader database is required. This paper used the income inequality data provided by Frederik Solt (2018) in the database called SWIID.

Income distribution describes partly the differences in a country's wealth as well as the wealth distribution. Nevertheless, for example price increases in property assets are not considered in the tax base for the income tax. However, empirically high labour income is often correlated with wealth and the income generated through capital income and value augmentation. (Arpaia, Pérez, and Pichelmann 2009) Admittedly, this method overestimates the upward mobility in the society and is, therefore, a rather conservative estimator for inequality tendencies as non-labour income represent a huge share in wealth conservation and accumulation.

The SWIID database provides the market and disposable income as well as the absolute and relative redistribution. The pre-tax income is equivalent to the market income and the disposable income is the income after taxes. Both definitions will be kept as dependent variables as first shows the homogeneity between different employments within the society, e.g. through 'natural' fairness preferences or government regulations like absolute or relative maximum wages. The disposable

income shows the outcome after taxes and acts more or less like a 'national inequality target'. Besides the Gini coefficients, absolute and relative redistribution are considered as dependent variables:

$$\{dv\} = \{gini\_mkt, gini\_disp, abs\_red, rel\_red\}$$

## 3.1.2 Independent variables

To get to the bottom of the question of whether EU membership has a significant influence on inequality development, this is included as a binary variable. To compare two different groups, a difference-in-differences approach is chosen (Angrist and Pischke 2009, ch. 5.2; Lechner 2011). This is the case for comparing a group which is experiencing a 'treatment' between the first and the last point in the panel with a control group. Here, EU membership acts as the 'treatment'. Because not all countries joined the EU in the same year, a staggered difference-in-differences model has to be used. Over time, a coefficient can change from 0 to 1 but not *vice versa* as this paper is written pre-Brexit and the dataset ends in 2016. Besides the time-variant variable EU membership, in some models the time-invariant options of the EU15 and EU28 will be regarded.

Variable of interest 
$$(x_1)$$
: {*EU*; *EU28*, *EU15*}

## 3.1.3 Control variables

The difference-in-differences approach, like other regressions as well, leaves out potential explaining factors what can result in a spurious relation. In the best case, the omitted variable bias leads only to over- or underestimation of the effects. Therefore, control variables are included in the advanced models to distinguish globalisation or general liberalisation tendencies from the potential accelerating effect on this phenomenon caused by the EU membership. In different models, macroeconomic, sociodemographic and policy variables are included as control variables.

To ensure linearity, the GDP in current prices and per capita  $(log\_GDPpc\_curr)$  is included in a logarithmic version (e.g. Wooldridge 2013, ch. 3.3). Besides this, the

annual growth rate (growth) is included to be able to compare the short-term performance among the countries. The export surplus (surplus) is included to check if the balances of the country are even. Moreover, the sum of imports and exports is included to check for the openness (openness) of the country's economy (World Bank 2019). Furthermore, the countries' population is included (population) as well as the Labour Regulation Index (LRI) from the Centre for Business Research at the University of Cambridge (Armour, Deakin, and Siems 2016). Here, an aggregated form of the LRI is used. It is calculated as the unweighted average from the following five sub-indices ( $lri_T$ ): Different forms of employment, regulation of working time, regulation of dismissal, employee representation and industrial action. To control if the origins of a potential increase in inequality are rooted in global reasons, the KOF Globalization Index (KOFGI) from the ETH Zurich (2018) is included.

## 3.2 Inequality development

To receive an overview over the development of the Gini indices, Figure 3 shows a simple plot over the last decades. For the pre-tax incomes, but as well for the post-tax numbers, the coefficient increases over time. The most obvious finding the difference between EU member states and non-EU countries that through the distinctive social system the post-tax income inequality has been kept relatively stable while the inequality in market incomes experienced a significant increase from the 1970s onwards. For the analysis of the inequality development, a weighting by the population can be applied. In this case, because the autonomy of decisions of nation-states facing the pressure of globalisation or maybe EU decision-making is regarded and therefore in this step, a weighting is not used. However, this means that on the one hand for the treatment group of EU countries, small population states like Malta or Cyprus are included while for the selected control group of non-EU countries, due to data availability only countries with the highest economic relevance were included (see Table 13 in the appendix).



Figure 3: Development of market- and disposable income in EU and non-EU countries in the sample over time Source: SWIID.

## 3.3 EU membership and inequality

Regarding the most basic configuration, 3 out of 4 models are highly significant and have through the size of the adjusted  $\mathbb{R}^2$  a high explanatory power. The significances are an expectable result as every other variable is omitted and EU membership collects all conspicuousness of the dataset. While the market income Gini cannot be explained through the test on EU in this simple model, the disposable income Gini is smaller in EU countries. Accordingly, absolute and relative redistribution is higher in EU member states. Whether the time-variant or time-invariant versions are used changes the coefficients but not the levels of significance.

$$y = \beta_0 + \beta_1 E U 28 + u \tag{1}$$

Variable	gini_mkt_1	gini_disp_1	abs_red_1	rel_red_1
EU28	.26254255	-10.372976***	9.382893***	19.480391***
_cons	45.433393***	38.939138***	8.1118949***	18.006639***
N	2172	2172	1548	1548
r2_a	00002089	.34696066	.44835541	.43128138

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 1: Regression of the time-consistent binary variable of EU membership.

(2)

Variable	gini_mkt_2	gini_disp_2	abs_red_2	rel_red_2
EU15	1.2179706	-7.6075145***	8.3068706***	17.261883***
_cons	45.18501***	36.236576***	9.9249476***	21.764885***
N	2172	2172	1548	1548
r2_a	.00763011	.15922556	.33369633	.32156029

 $y= {
m eta}_0 + {
m eta}_1 EU$ 15+u

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 2: Regression of the time-consistent variable of membership in the core-EU.

$$y_t = \beta_0 + \beta_1 E U_t + u \tag{3}$$

Variable	gini_mkt_3	gini_disp_3	abs_red_3	rel_red_3
EU	2.2037983	-6.7656393***	8.3896817***	16.397314***
_cons	44.863208***	36.029447***	9.703482***	21.725898***
N	2172	2172	1548	1548
r2_a	.02639189	.12757134	.3472415	.29592886

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 3: Regression of a first model with a time-variant EU variable.

In model (4), we include the *year* into the regression. Besides the values for EU which remain significant, a global trend towards increasing market Gini coefficients can be seen (95% significance). This underlines the findings that global pre-tax labour income inequality is rising within the last decades.

$$y_t = \beta_0 + \beta_1 E U_t + \beta_2 y ear_t + u \tag{4}$$

Variable	gini_mkt_4	gini_disp_4	abs_red_4	rel_red_4
EU	1.5561111	-7.170696***	8.4642788***	16.817127***
year	.08679564**	.05428106	02973179	16732266*
_cons	-127.9903*	-72.071291	69.092139	355.94955*
N	2172	2172	1548	1548
r2_a	.06075653	.13405732	.34885256	.30984676

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 4: Regression model with a time trend.

To distinguish the effect between EU countries and the rest of the sample, an interaction term is included in model (5). *Time* is rising from 1 in the year of joining the EU and is rising by 1 every year. This so-called 'treatment intensity' is related with the value '-100' for all non-EU countries and getting negative values for EU member states before their admission. Here, a highly significant positive coefficient for redistribution over time in the EU countries appears, while the basic EU effect loses its significance. For the market income Gini, the fact of EU membership seems to be important now. There is a general trend for all countries to have higher labour income disparities. Though, a difference in the trends between EU and non-EU countries cannot be found. If a non-EU country starts in 1960 with a pre-tax Gini of 40.80 or an EU country with a Gini of 44.18, income differences lead to an increase in the Gini coefficient of 0.08 points every year, whether the country is an EU member or not. By contrast, in the disposable income differences fall from a Gini of 30.45 in EU countries. This can be seen in the significant increasing redistribution in EU countries.

Variable	gini_mkt_5	gini_disp_5	abs_red_5	rel_red_5
EU	3.3771851**	4.9835774***	.21195739	-1.5319047
yearshort	.08459907**	.03962065	.00248824	09568144
time	01797077	11994113***	.07858941***	.1747435***
_cons	40.802333***	25.464137***	15.889936***	39.274964***
N	2172	2172	1548	1548
r2_a	.06955417	.34167671	.47203037	.44577393

$$y_t = \beta_0 + \beta_1 E U_t + \beta_2 y ear_t + \beta_3 E U_y ear_t + u$$
(5)

Table 5: Regression model with an additional interaction term for years of EU membership.

But the impact of joining the EU does not necessarily have to become visible in the first membership year. The effects of a potential EU-specific trend in income inequality may be appearing after a couple of years. On the other hand, it is possible that due to certain admission criteria to the EU, fundamental changes have already been made before. With different models testing for lags and leads, a statement on the occurrence of an eventual entry shock can be made.

	model for high $(L)$		$101 \text{ every } t = \{10, 12\}$	, 10, 1, 0, 0, 2, 1].
	Market inc	come Gini	Disposable in	come Gini
years	Lead	$\operatorname{Lag}$	Lead	Lag
1	$1.6455^{**}$	(1.5060)	2.7297***	$(2.3163^*)$
2	$1.6398^{**}$	(1.6501)	2.8473***	$(2.3554^*)$
3	$1.6300^{*}$	(1.7811)	2.9803***	$(2.4455^*)$
5	$1.6219^{*}$	(1.9947)	$3.2683^{***}$	$(2.6646^*)$
7	(1.6967)	(2.1209)	3.6193***	$(2.7590^*)$
10	(1.5324)	(2.0735)	3.9036***	$(2.7828^*)$
12	(1.2842)	(1.9361)	3.9841***	$(2.8285^*)$
15	(0.1995)	(1.7113)	$(3.5390^*)$	$(2.6744^*)$

 $y_t = \beta_0 + \beta_1 E U_t + \beta_2 y_{ear_t} + \beta_3 E U_y_{ear_t} + \beta_4 \{ L.l, ..., F.l \} E U_t + u$ (6)

with one model for lags (L) and leads (F) and for every  $l = \{15, 12, 10, 7, 5, 3, 2, 1\}$ .

Table 6: Table of significance of different leads and lags of EU membership.

In none of the models with a lag,  $\beta_4$  is surpassing the significance of  $\beta_1$ . These results are enclosed by brackets. By contrast, the leads are more significant than the actual year of admission for between 1 and 12 years before joining the EU for the disposable income Gini, for between 1 and 5 years respectively for the market income Gini. This information is important to be kept in mind, even if the directly following analysis will refer to the earlier introduced *EU* variable of the actual year of admission.

Despite the existence of a panel dataset, only the time trend and EU membership have been included. With adding the country fixed effects, the model allows every nationstate to have an individual level of inequality. In all models, the explanatory power did rise, especially for the pre-tax Gini. Every country has now a specific inequality setting, all of them are significant (see Figure 4). A higher starting point in disposable income inequality for the EU countries is remaining and the inequality is growing over the years, through distributional politics slower in disposable incomes than in market incomes. However, there does not seem to be a difference between EU and non-EU countries in the time trend of inequality development.

Variable	gini_mkt_7	gini_disp_7	abs_red_7	rel_red_7
EU	1.1447819	1.5907169**	18548982	-1.0473935
vearshort	.1034123***	.05968688*	.06061336***	.04846766
time	.07102026	03428689	.06907669*	.07906802
_cons	44.954577***	29.78847***	13.455437***	29.925656***
N	2172	2172	1548	1548
r2_a	.44030002	.15224411	.45272669	.19354984

$y_{i,t} = eta_0 + eta_1 E U_{i,t} + eta_2 year_t + eta_3 E U  year_{i,t} + eta_4 country_i + u$	(	7
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Table 7: Regression model with country fixed effects.

So far, only the time trend was introduced. To allow a proper panel analysis, a time fixed effect is included as well. Now, global shocks like a financial or economic crisis can be considered in the model. With adding these first control variables, the explanatory variables absorb less of the sample's occurrences. For disposable income inequality, EU states have an initially higher Gini coefficient. The global trend of the rise in pre-tax income inequality remains.

$y_{i,t} = eta_0 + eta_1 E U_{i,t} + eta_2 y ear_t + eta_3 E U \;\; y ear_{i,t} + eta_4 country$	$\mu_i + eta_5 year_{i,t} + u$	(8)
--	--------------------------------	-----

Variable	gini_mkt_8	gini_disp_8	abs_red_8	rel_red_8
EU	1.2554509	1.5903202***	08981433	96663429
yearshort	.06645752*	00201237	28401398	60955206
time	.06683252	03868482	.0624551*	.0684184
_cons	46.016946***	32.958323***	31.803627**	65.435972**
N	2172	2172	1548	1548
r2_a	.45968679	.20146402	.45619726	.19603907

Table 8: Regression model with time- and country fixed effects.

The fact that the there is no significant effect of the EU membership, while there is an empirical difference between EU and non-EU countries (see Figure 3) is an indicator that country fixed effects are absorbing the trend of the majority of EU countries have a more equal society. Therefore, high heterogeneity in national inequality preferences can be expected. Figure 4 gives an overview of the different country fixed effects.

Adding multiple control variables like economic performance, social conditions and policy variables, the EU variable is still connected with a slightly but significantly higher inequality. Model (9) and (10) include time- and country fixed effects. Most of them are significant. The country fixed effects vary between the different EU countries around 12 percentage points of the disposable Gini coefficient (see Figure 5). It is important to acknowledge, that all coefficients exceed by far the tendency towards higher inequality the EU variable is indicating.

 $gini\_mkt_{i,t} = \beta_0 + \beta_1 E U_{i,t} + \beta_2 year_t + \beta_3 E U\_year_{i,t} + \beta_4 country_i + u$ (9)

Variable	econ_gm	soc_gm	pol_gm	all_gm
EU	1.1861892	1.1861787*	1.0756277	1.4327055*
yearshort	0457179	.05828896	18313324*	.00016701
time	.05100336	.04343899	.066232	.03663918
log_GDPpc_~r	.08956079			.31276786
growth	1.4343878			1.5259653
openness	00616054			00138097
surplus	.00818976			01632824
population		-98.171078		-93.574683
lri_T		-6.1311314		-6.3981258
KOFGI			00421772	06948919
_cons	51.379694*	52.105567***	60.128866***	57.607677***
N	2062	1878	2008	1837
r2_a	.40056306	. 43555235	.44238578	.42878271

legend: \* p<.1; \*\* p<.05; \*\*\* p<.01

Table 9: Multivariate regression models testing the influence on the market income Gini.

$$gini\_disp_{i,t} = \beta_0 + \beta_1 E U_{i,t} + \beta_2 year_t + \beta_3 E U\_year_{i,t} + \beta_4 country_i + u$$
 (10)

Variable	econ_gd	soc_gd	pol_gd	all_gd
EU	1.2093445*	1.2246486**	.8329268	.99061206*
yearshort	0607293	.08168984***	01318112	.02427275
time	03861152	03992637	01978182	02946697
log_GDPpc_~r	1.1454574			.95544969
growth	3.1238589			2.9637507
openness	00700402			00612076
surplus	00597756			01137773
population		-27.581716		-28.625518
lri_T		-2.9962968		-4.4738176
KOFGI			.06421624	.00406517
_cons	25.559541	32.77417***	29.421771***	28.025741*
N	2062	1878	2008	1837
r2_a	.16958492	.19860865	.21103387	.19614069

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 10: Multivariate regression models testing the influence on the disposable income Gini.



Figure 4: Differing country fixed effect within the EU.

Including the variance explained through the country fixed effects, the adjusted  $\mathbb{R}^2$  rises to 89.6% for the market income Gini and 96.5% for the disposable income Gini. The range of different country fixed effects is depicted in Figure 4. The limitation of Figure 4 is the lack of temporal dynamic. All years from 1971-2015 are included and a country fixed time trend like for example the development of the end of the regimes in a socialist form in Eastern Europe are not considered. A graph trying to illustrate the dynamic within the 25 years between 1990 and 2015 can be found in the appendix (Figure 5). The dynamic development can be regarded with the time fixed effects. However, for simplification, the years will be summarised to decades, the results are shown in Table 11. Especially for the 1990s and 2000s, a tendency towards higher inequality can be seen. In model 12, decade fixed effects are differentiated between EU and non-EU subset. Here, for the model with the disposable income Gini and the redistribution, the EU countries have a significant tendency to less inequality or higher redistribution in the last decade (see Table 12).

Variable	gini_mkt_dec	gini_disp_dec	abs_red_dec	rel_red_dec
EU	3.490319***	-1.4763249	5.1650323***	8.3697176***
log_GDPpc_~r	-1.9240368*	-6.1944827***	4.3202621***	11.036308***
growth	-12.19251	-8.6835996	-3.2712953	1.9383021
openness	02456047*	02072923	00190624	.00212946
surplus	.10015962	.24012685**	13769508	3250313*
population	-37.182487*	-46.634558**	9.1190347	35.929095
lri_T	-6.3161918	-10.988004*	4.3977063	14.035198
decade				
2	.91615914	1.0967735	79234151	-2.3782925
3	2.5788356*	1.8517768	22010765	-2.5284617
4	4.523524***	4.4667924**	95913658	-5.3921963*
5	5.0856848***	5.5241904***	-1.3190115	-6.869585**
_cons	66.281489***	99.419209***	-32.952949***	-87.623042***
N	1839	1839	1427	1427
r2_a	.16438049	.50544683	.56923968	.60490773

$y_{it}=eta_0+eta_1EU_{it}+eta_4country_i+eta_5decade_{it}+u$	(11)
$g_{l,l} = f_{0,l} + f_{0,l} = 0$	()

Table 11: Regression model with decade- and country fixed effects.

$$y_{i,t} = \beta_0 + \beta_1 E U_{i,t} + \beta_3 E U\_decade_{i,t} + \beta_4 country_i + \beta_5 decade_{i,t} + u$$
(12)

Variable	gini_mkt_dec	gini_disp_dec	abs_red_dec	rel_red_dec
log_GDPpc_~r	-1.9252053*	-6.3033826***	4.373696***	11.171492***
growth	-12.527028	-12.125915	1.0325724	10.888958
openness	02434843*	01815963	00483562	00400785
surplus	.09803765	.2293579*	12317363	2948724*
population	-37.032806*	-47.289718**	9.1588121	36.134091
lri_T	-6.2833511	-10.689095*	3.7859897	12.845043
decade				
2	.77625045	1.2187105	-1.9528094*	-4.5050883*
3	2.3708657*	1.7222602	-1.3915365	-4.5420081
4	4.4599302***	5.0735109**	-2.8626944*	-8.9969664**
5	5.0277667***	7.7641533***	-4.8825271**	-13.906237***
decadeEU_				
1	2.9624622	.42647872	1.3204268	1.1789071
2	3.5990634**	67931535	4.0440153**	6.179698*
3	3.8342987**	.17149921	3.9501892**	5.5943237*
4	3.3702276**	-2.1835651	6.0884323***	10.24507***
5	3.3797508*	-5.2852019**	9.144836***	16.56363***
_cons	66.377595***	99.892438***	-31.535245***	-85.288762***
N	1839	1839	1427	1427
r2_a	.16291575	.51304301	.58665334	.62077164

legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

Table 12: Regression model with decade- and country fixed effects distinguished by EU membership.
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While generally, the variance in inequality levels is declining constantly on a global level, there is no huge discrepancy in the subsample of EU countries (see Figure 7 in the appendix). This leads to the assumption that there is no specific EU-related mechanism leading to a certain common level of inequality.

## 4 Conclusion

The first analyses suggest that admission of a country to the EU did have indeed an impact on the intra-country inequality in the form of the market income Gini coefficient. It can be argued that the more relevant indicator is low disposable income inequality. While there is a global trend to a higher inequality over time as well, the fact that a country was EU member resulted at least in the current decade in higher redistribution, respectively a lower post-tax income inequality. Globally, there is a tendency towards a common level of inequality in the form of a smaller variance over the years – for both Gini coefficients. An EU effect deviating from this cannot be seen. Even over the years, the EU countries maintained their individual inequality preferences. Even if in some models there is a significant EU effect indicating that EU admission is accompanied with higher income inequality, the country fixed effects are outweighing these as the EU member states have – especially in the post-tax income - a preference to have a much lower inequality compared with countries from the rest of the world. The findings suggest that despite EU admission criteria, the sovereign national policy of redistribution remains. On the other hand, this would underline the theory, that current EU policies do not enough to create cohesion in terms of goals of intra-state economic equality and would leave open room for improvement regarding further EU integration policies.

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## Appendix

Region	Countries
Europe	EU28, Iceland, Norway, Switzerland
North America	Canada, Mexico, United States
South America	Argentina, Brazil, Chile, Colombia, Costa Rica
Middle East	Israel, Turkey
Far East	China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore
Oceania	Australia, New Zealand
as well as	India, Russian Federation, South Africa

Table 13: Included counties in the sample by region.



Source: Povcal (2018), The Chartbook of Economic Inequality (2017), Kandbur et al. (2017) Table 1.8 CC BY Note: Estimates are based on household survey data of either incomes or consumption. All countries for which comparable surveys within five years of each reference year were available are shown.

Figure 5: Dynamic country specific inequality development over time. Source: Our World In Data 2019.



Figure 6: Global development towards higher market income inequality.



Figure 7: Disposable income inequality development in the EU28.

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## Author's Declaration Form

I, the undersigned Hendrik Hinrichs hereby declare that I am the sole author of this thesis. To the best of my knowledge this thesis contains no material previously published by any other person except where proper acknowledgement has been made. This thesis contains no material which has been accepted as part of the requirements of any other academic degree or non-degree program, in English or in any other language.

This is a true copy of the thesis, including final revisions.

Date: Name (printed): Signature:

31. August 2019 Hendrik Hinrichs IMM-