David Audretsch · Erik Lehmann
Aileen Richardson · Silvio Vismara
Editors

Globalization and Public Policy

A European Perspective

Springer

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Contents

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Introduction

David B. Audretsch, Erik E. Lehmann, Aileen Richardson, and Silvio Vismara

Abstract This volume analyzes and assess seven key policy issues facing the European Union and the United States and suggest various policy solutions in order to make the U.S. and the EU more competitive in these key sectors. The term *globalization* has exploded in the literature since the fall of the Berlin Wall in 1989. The world is growing ever-more interconnected and because of world's greater connectivity, there comes a slew of more problems, but also a greater variety of available policy solutions as countries can look to one another. This chapter addresses the effect that globalization has had, particularly on Europe and its partnership with the United States. Furthermore, the chapter introduces the seven topics to be discussed throughout the volume: income distribution, gender pay gap, crime and security, unemployment, health care, demographics, and environmental regulation.

The fall of the Berlin Wall on November 9, 1989 not only marked the end of the Iron Curtain dividing Germany and Europe. It also marked the beginning of a new era of economic, social and political interaction and interface, which, at least according to Thomas Friedman (1995) in his best selling book, *The World Is Flat*, was quickly categorized as *globalization*. At that point, the countries of Europe were not bound together by the Maastricht Treaty, which was ratified in 1992. There was no single currency, the Euro. That would first come on January 1, 2002. In fact, the name itself had not yet been invented or created, which would happen in 1995.

It would undoubtedly be wrong to assert that Europe had fewer or less pressing problems prior to globalization. There was, after all, the matter of imminent

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destruction posed by the cloud of the Cold War. For some 40 years people in both the West as well as the East had lived with the ubiquitous threat of annihilation.

Still, the economic, political and social record of Western Europe prior to the fall of the Berlin Wall is impressive. After all, the post-World War II era is generally considered to be a "golden age" for economic growth and performance in Europe. In the United Kingdom, the unemployment rate barely rose above two percent during the 1950s. Similarly, the rate of unemployment averaged around two percent, not just in countries like France and Italy, but for all of Western Europe. The unemployment rate in the United States reached a remarkable 2.9 % in 1953, and in only 1 year of that decade did unemployment exceeded 5.5 %.

The post-World War II economic boom in (West) Germany was even more impressive. Germany had been reduced to ashes from the devastation of the War. But by 1946, the rubble had been cleared away, and the one time militarized population had been demilitarized and put back to work in bustling plants and factories, pouring out manufactured goods and products for peacetime applications were greatly welcomed. Responding to double digit economic growth which was rapidly driving unemployment out of existence in Germany, the eminent British newspaper, *The Times,* characterized the unexpected rapid recovery, as the *Wirtschaftswunder*, or economic miracle.[1] The growth of industrial production was 25.0 % in 1950. In the following year, it was 18.1 %. Economic growth continued at such a high rate that by 1960 industrial production had increased by more than two and half times. Similarly, Gross Domestic Product (GDP) increased by two-thirds over that decade, while employment increased from 13.8 million in 1950 to 19.8 million in 1960. Unemployment fell in Germany from over 10 % at the beginning of the decade, to 1.2 % by the end of the decade.[2]

As the years and decades passed, the high rates of growth and virtual absence of unemployment proved not to be sustainable. Going into the 1970s and 1980s the rate of unemployment ratcheted ever higher as economic growth slowed.

In the era preceding globalization, each country had its own sovereign currency. In France it was the Franc, the Greeks had the drachma, the Austrians had the schilling, the Dutch had the guilder, and in Germany it was the deutschemark. This meant that the value of the currency in international markets could be adjusted as an instrument to maintain or enhance the competitiveness of that country's goods and services. The chronic devaluations of the Italian lyra and Greek drachma, for example, may have led to relatively low values of the two currencies, but they also ensured that goods and services in those countries remained competitive vis-à-vis European neighbors and non-European trading partners.

In addition, the myriad country specific standards, regulations, traditions and customs served as non-tariff barriers often preserving the competitiveness, at least in the domestic market of goods and services produced in these European countries.

[1] *Die Zeit* "Division 999" April 18 1946.

[2] Herbert Giersch, Karl-Heinz Paque and Holger Schmieding, 1992, *The Fading Miracle: Four Decades of Market Economy in Germany*, (New York: Cambridge University Press).

For example, in Germany, the *reinheitsgebot*, or purity laws in the brewing of beer, prohibited the sale of any beer in Germany that was not brewed in strict accordance to those regulations. Since, most other brewers in Europe, let alone elsewhere in the world, had not developed and evolved adhering to the *reinheitsgebot*, their brewing methods and the resulting product were not acceptable in Germany, thus erecting a virtual non-tariff barrier to the importation of foreign beer and maintaining the competitiveness of domestically brewed beer.

The fall of the Berlin Wall was largely considered to bring a new era of prosperity to Europe. Freed from the emotional and economic burdens of the Cold War, Europe would now be free to re-orient investments into productive applications, which presumably would enhance competitiveness. What was not well understood in those heady days following the fall of the Berlin Wall, that the era of globalization was already well underway. Europe had become oriented towards competition from North America and Japan. Increasingly, however, the new competition came from Central and Eastern Europe, but especially from Asian countries, such as China and India. In 1992, the mean wage per working day was only $6.14 in Poland, $6.45 in the Czech Republic, $1.53 in China, $2.46 in India and $1.25 in Sri Lanka. By contrast, in the European Union the mean daily wage was substantially higher, at $78.34.[3]

The production of goods and products that had been competitive in a stable Europe for decades were now suddenly under threat by the new global competition. Manufacturing started to sag in many European countries, as economic growth stalled and unemployment soared.

The advent of first the Maastricht Treaty in 1992 and subsequently the introduction of a single currency within the Eurozone in 2002 ended the viability of not just the exchange rate for the currency as an instrument generating and sustaining competitiveness, but increasingly the viability of the instruments of fiscal and monetary policies as well. Thus, European countries had lost their traditional policy instruments for maintaining competitiveness particularly at a moment in time when they needed them the most.

Globalization has brought many other challenges to Europe as well, ranging from issues involving national security, to immigration, and the provision of health and other key social services. This book discusses seven key policy issues and challenges that currently face the United States and Europe including: income distribution, the gender pay gap, crime and security, unemployment, health care, the demographic question, and environmental regulation. The purpose of this volume is to analyze how public policy within the European context is responding to the challenges posed by this new global era.

The first chapter, entitled "The Impact of Globalization on Income Distribution and Income Inequality," by Giulio Paola Luongo, Theresa Pautzke, Daniel Rupp,

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[3] David B. Audretsch, "Innovationen: Aufbruch zur Entrepreneurship-Politik," in Klaus F. Zimmermann (ed.*), Deutschland—was nun? Reformen fuer Wirtschaft und Gesellschaft* (Munich: Deutscher Taschenbuch Verlag, 2006), pp. 237–250.

and Justin Tait investigates the role globalization has played in income distribution. The authors examine the variety of factors that influence inequality, including, tax policy, financial and capital flows, and access to education and transportation. Their analysis examines the impact these variables have on income inequality in the United States, Germany, and Norway, and they furthermore produce policy solutions for the three countries to combat their policy issue.

The second chapter by Davide Manetti, Ashley Meruani, Isabella Wagner, and Roman Zenetti, analyzes the gender pay gap in the European Union and the United States. The authors provide a detailed picture of the gender pay gap phenomenon by analyzing and examining the previous literature. They further identify both the positive and negative effects that globalization has had on the gender pay gap issue in both regions. Through the examination of best practices found in Nordic countries, the chapter proposes alternative strategies for the European and US governments aimed to progressively eliminate the gender pay gap.

The third chapter, entitled "Crime and Security in Europe and the US" focuses on the economic motives behind criminal activities. The chapter explains crime as an international phenomenon that is not limited to national borders, and thus discusses the interconnectedness of crime in Europe and the United States. The authors suggest understanding the motives and causes of crime are crucial to establish an effective judicial system aimed towards minimizing crime.

In the fourth chapter, Tanja Bosch, Jonah Otto, Martin Preuβ, and Savini Ranaweera give a comparative analysis of Germany and the United States' unemployment problem since the beginning of the global recession in 2008. By examining unemployment policies in the two countries, the paper provides a thorough analysis of the unemployment problem and gives a detailed policy solution for the governments to implement.

In the fifth chapter, "A cross comparative analysis of the U.S., German, and Italian Health Care System," the authors give a thorough analysis of three countries' health care system, outlining the positives and negatives of the three countries. The chapter discusses the challenges that each system faces despite their different structures, the authors claim each system is in jeopardy. They conclude with policy recommendations guiding towards a future of positive global healthcare policies.

The sixth chapter focuses on the demographic shift in Germany and wide-ranging policy implications that could arise from Germany's low birth rate. Steffen Braman, Mohammad Imran Qureshi, Swita Samimi, Nathan Viets, and Daniela Zanga examine the long-term viability of the current German pension system under Germany's current decreasing birth rate and family structures. In addition to the pension system, the authors discuss the negative population growth effects on medical care and unemployment. The chapter concludes with a policy recommendation for Germany's pension system.

The final chapter discusses the world emission levels of CO_2 and greenhouse gas emissions. The authors specifically look at the automobile sector and the rise of emissions due to industrialization and globalization. After an analysis of the global issue, the paper suggests three policy recommendations to be implemented at the U.S. and German national level with the possibility of engaging the international community to combat this serious world-wide environmental issue.

The Impact of Globalization on Income Distribution and Income Inequality

Giulia Paola Luongo, Hugo Menendez, Theresa Pautzke, Daniel Rupp, and Justin Tait

Abstract This paper investigates how globalization is related to income distribution and income inequality, especially in the United States, Germany and Norway. Information on income distribution among the citizenry, causes of inequality, the consequences of inequality, and potential policy solutions will be discussed. Income inequality in advanced, developed countries is resultant of a variety of factors, consisting of, but not limited to, tax policy, financial and capital flows, education access and equality, as well as access to transportation services and the equality thereof. This work examines the impact these variables have on income inequality in the United States, Germany and Norway and moreover suggests potential solutions to combat income inequality and their practicality in the current political and economic environment. The findings indicate that the reviewed factors have a significant impact on the distribution of income and that there are several policy solutions that can serve to meaningfully reduce income inequality in these countries.

1 Introduction

Globalization has received increasing attention in recent years due to its widespread impact. One of the effects of globalization is that is increased inequality between individuals and nations (Mazur, 2000), marginalizing the poor in developing countries and leaving behind the poorest countries (Kremer & Maskin, 2006). If instead we focus on countries integrated in the world economy, income gaps have

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been reduced by globalization of commodities and markets (Lindert & Williamson, 2003). The role of income distribution on economic theory and policy is central and is also often related to wealth distribution among the population.

The aim of our paper is to analyze the effect of tax and education policies, infrastructures, immigration, trade and finance on income inequality, considering the effect that globalization can have in increasing or decreasing these aspects as well as income distribution.

The effect of globalization on income inequality has received increasing interest in literature during the last couple of decades and has also been a matter of controversy. Several authors, Mazur (2000), argue that globalization caused several disadvantages, as an increased inequality between and within nations. Other authors, such as Barro (2000) and Kapstein and Milanović (2003) assert that trade liberalization is positively associated with inequality in poor countries and negatively in high income countries. Milanovic (2002) discerns the effects of globalization looking at the impact of openness and foreign direct investment on relative income shares, finding some evidence that at very low average income levels, it is the rich who benefit from openness.

We aim to analyze the impact of globalization on income inequality considering the previous drivers (tax and education policies, infrastructures, immigration, trade and finance), adding to existing literature a joint comparison of them as well as a specific analysis on three countries. We show that globalization has caused increased inequality between individuals and nations, since it amplified differences between poor and rich in developing countries and between poor and developing countries as well. However, if we focus on countries integrated in the world economy, globalization contributed to the reduction of income inequality, thanks to the globalization of markets.

The reminder of the paper is organized as follows. Section 2 describes the most common methods to measure income distribution, Section 3 analyses income inequalities according to the chosen drivers, as well as policy solutions and effectiveness and Section 4 concludes the paper.

2 Relevant Literature

The impact of several aspects on income inequality has been extensively analyzed in literature. In this study we focus on five drivers, i.e. tax policy, education policy, infrastructure, immigration, and global trade and finance. Joumard, Pisu, and Bloch (2012a) delve into tax and transfer policy as it is related to inequality, using the Gini Index as a measure for inequality and asserting that tax policy, and transfer policies have a major impact on income inequality. Pisu (2012) asserts that, on average, transfers have a greater impact on reducing income inequality than that of tax policy alone, while Roach (2003) analyzes the tax incidence and its impact on income inequality. Bauer, Lofstrom, and Zimmermann (2000) found evidence that the design of an immigration policy may be important for the prospect of immigrant assimilation, or labor market success, and for the development of sentiments of natives towards immigrants.

"The Federal Agency for Civic Education" is a German federal public agency providing citizenship education and information on political issues for all people in Germany. It reports on amounts and facts of globalization, showing how trade developed over time and is becoming more important. Through this agency the citizens can be informed about political topics like globalization and trade and globalization regarding to finance through foreign direct investments.

Regarding the effect of human capital on income inequality, Castelló-Climent and Doménech (2014) examine the evolution of income and human capital inequality and argue that, although there is a worldwide reduction in human capital inequality, the inequality in income remains almost unchanged: increasing returns to education, external effects on wages etc. may be responsible for the lack of correlation found. De Gregorio and Lee (2002) present empirical evidence on the relation between education and income distribution in various countries. They find that higher educational attainment and better distribution of education can contribute to the creation of a more equal income distribution.

Barro and Lee (2010) investigates the link between output and human capital, measured by overall years of schooling and by the composition of educational attainment at various levels of education. Moreover they use new data to analyse the correlation between education and income. Their results indicate that schooling has a noticeable positive impact on the level of income in a country.

The existing literature considers these effects separately and with the focus on a single country. There is not an examination of the joint impact of multiple variables in regards to related policies and does not assess the effectiveness of the strategies adopted by United States, Germany and Norway in levelling income inequalities. The United States and Germany have mainly been taken into consideration because of their economic power and importance and moreover this paper takes a closer look on Norway, which is one of the countries with the lowest income inequality, in order to examine how this country could achieve more equality and whether it could be used as a role model for others. The drivers we chose to analyze with respect to income inequality, which are mentioned above, are most common in literature and needed to be considered. For each aspect, the impact it caused on income distribution has been analyzed, as well as the existing policies to try to reduce inequalities and the assessment of the policy effectiveness. Each driver includes an analysis of the three considered countries and a comparison among them.

3 How to Measure Income Distribution

Income distribution has a central role in the economic theory and policy and is also often related to wealth distribution among population. There are several measures used to calculate represent income inequalities: the most used are representations

Table 1 Gini indexes for United States, Germany and Norway

Country	Gini index	Year
United States	45	2007
Germany	28.3	2000
Norway	25.8	2000

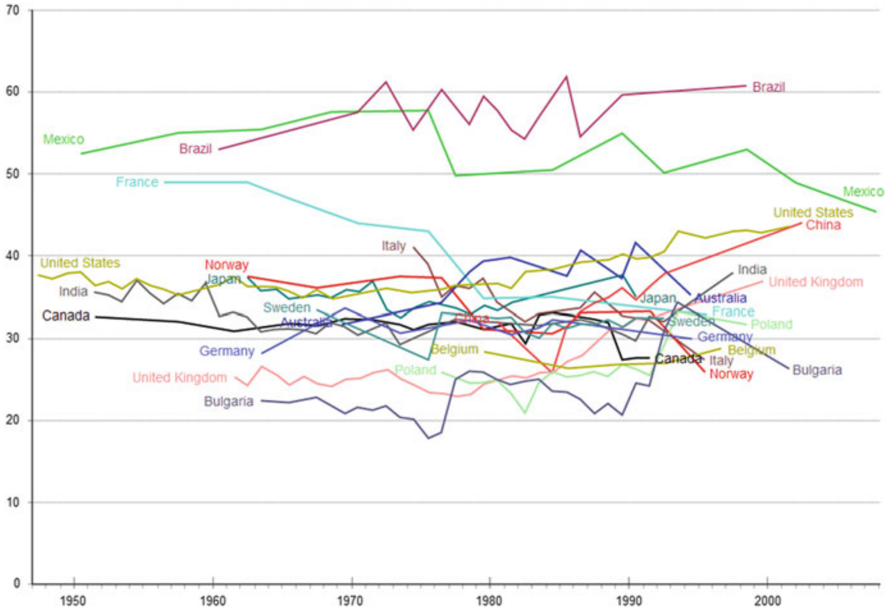

Fig. 1 Gini index, trend from 1950s to 2000s

by Gini-coefficient and by quintiles, HDI and IHDI indexes, the Rich/Poor ratio (10 or 20 %) productivity loss due to inequality.

3.1 Gini-Coefficient

The Gini index is the most frequently used inequality index (Gini, 1936) and it measures the inequality among values of a frequency distribution, in this case the levels of income. A Gini coefficient of zero expresses perfect equality, so where everyone has the same income, while a value of one (or 100 %) indicates maximal inequality, for example where only one person has all the income (GINI index).

Table 1 shows the Gini indexes for United States, Germany and Norway, as well as the year in which they were measured, according to the World Bank (GINI index) (Fig. 1).

Table 2 Quintiles representation for income distribution in the United States

All households	Lowest fifth	Second fifth	Middle fifth	Fourth fifth	Highest fifth
121,084	24,217	24,217	24,217	24,217	24,217

3.2 Representation by Quintiles

Quintiles are often used to represent the distribution of households' income: each quintile represents 20 % of all households, and it is calculated dividing an ordered sample population into five equally numerous subsets. This representation is mainly used in the United States: in this country the highest income households are almost ten times as likely to own their homes rather than rent, but in the lowest quintile, the ratio of owners to renters is nearly one to one (Table 2).

3.3 Human Development Index (HDI) and Inequality-Adjusted Human Development Index (IHDI)

The Human Development Index (HDI) is a composite statistic of life expectancy, education, and income indices used to rank countries into four tiers of human development. The index was introduced by Mahbub ul Haq and Amartya Sen in 1990 (About Human Development). In 2010 a new Inequality-adjusted Human Development Index (IHDI) was introduced: this index can measure the actual level of human development (accounting for inequality) while the simple HDI can be considered as an index of "potential" human development (or the maximum IHDI that could be achieved if there were no inequality). The difference between the HDI and IHDI, expressed as a percentage, defines the loss in potential human development due to inequality (UNITED NATIONS DEVELOPMENT PROGRAMME, Human development reports). Countries fall into four broad human development categories, each of which comprises 47 countries: Very High Human Development, High Human Development, Medium Human Development and Low Human Development.

Table 3 shows Human Development Index and Inequality-adjusted Human Development Index for United States, Germany and Norway (which fall into the Very High Human Development category) as included in the latest United Nations Development Program's Human Development Report, released on 14 March 2013 and compiled on the basis of estimates for 2012 (Human Development Report, 2013).

Table 3 Human development index and inequality-adjusted human development index for United States, Germany and Norway

Country	HDI	IHDI	Loss (%)
United States	0.937	0.821	12.4
Germany	0.920	0.856	6.9
Norway	0.955	0.894	6.4

Table 4 Rich/poor ratio 10 % for United States, Germany and Norway

Country	Richest 10 %	Poorest 10 %	Ratio 10 %
United States	29.9	1.9	15.9
Germany	22.1	3.2	6.9
Norway	23.4	3.9	6.1

Table 5 Rich/poor ratio 20 % for United States, Germany and Norway

Country	Richest 20 %	Poorest 20 %	Ratio 20 %
United States	45.8	5.4	8.4
Germany	36.9	8.5	4.3
Norway	37.2	9.6	3.9

3.4 Rich/Poor (R/p) Ratio 10 %

This measure is the ratio of the average income of the richest 10 % to the poorest 10 %; data refer to income shares by percentiles of the population, ranked by per capita income. The survey was made in the year 2000 (Klugman, 2009) (Table 4).

3.5 Rich/Poor (R/p) Ratio 20 %

This measure is the ratio of the average income of the richest 20 % to the poorest 20 %; data refer to income shares by percentiles of the population, ranked by per capita income. The survey was made in the year 2000 (Watkins, 2007) (Table 5).

4 Analysis and Results

The following sections analyse in detail five drivers that can increase income inequality: tax policy, education policy, infrastructure, immigration, and global trade and finance. The selected drivers and their effect on income distribution have already separately been analysed in literature (Joumard et al., 2012a; Lofstrom & Zimmermann, 2000; Castelló-Climent & Doménech 2014; De Gregorio & Lee, 2002), however we provide a complete overview of them jointly. After an overview of existing literature, we decided to take into consideration these specific aspects because they are the most common in literature analysing income distribution and inequality, and because they can provide a complete overview of the phenomenon, since they analyse different points of view regarding the topic.

For each driver, the reasons why they are the cause of income inequality and how they impact on the phenomenon are specified, then the existing policies that try to reduce income disparity are reported. Finally existing policies are analysed in order to assess their effectiveness. Each section, i.e. the description of the driver, the policy solutions and the assessment of each policy, provides a specific analysis for each of the three considered countries (United States, Germany and Norway).

4.1 Tax Policy

Tax policy in advanced, developed economies has the ability to influence income distribution, and therefore, influence income inequality both positively and negatively based on the tax policies implemented and enforced by governments. To examine the effects of tax policy and subsequent transfers upon income inequality, federal tax policies of the governments of the United States, Germany and Norway are given due consideration. Drawing from previous academic literature on tax policy and income distribution, the correlation between tax policy and income inequality is highlighted.

In the United States, taxes are levied at multiple levels of government by multiple taxing authorities (Roach, 2010). For the purpose of this study, we examine the federal personal income tax, the Social Security payroll tax, the capital gains tax and the sales tax. In the United States, the personal income tax is tiered based upon one's income level, meaning that an individual's income determines the tax rate that he or she will pay. Personal income tax rates range from 10 % for single-filers with incomes of up to $9,705 to 39.6 % for single filers with incomes of $406,751 on an annual basis (Pomerleau, 2013).

The Social Security payroll tax, otherwise known as the Federal Insurance Contribution Tax Act (FICA), is used to fund the U.S. Social Security system, charging individuals 6.2 % of their income for up to $117,000 of income. Employers are required to match at 6.2 %. Self-employed persons are required to pay 12.4 % of their income in FICA taxes (ADP, 2014). As income is taxed only to $117,000, this is a regressive tax (Roach, 2003). A regressive tax is a tax that takes a larger percentage if income from lower-income individuals than from higher income individuals (Investopedia, 2014). For example, the Social Security FICA tax taxes people up to $117,000 in income, but nothing more. This tax is therefore regressive for all individuals who make under $117,000. Furthermore, a progressive tax is a tax that takes a lower percentage of income from low-income individuals than high income individuals. For example, the U.S. income tax system is progressive in that it charges lower income tax rates as a percentage of income for lower income individuals than for high income individuals.

The United States Social Security program includes a number of programs, foremost among them, the old age, survivors and disability insurance programs. Others include Temporary Disability Insurance, as well as food and nutrition assistance programs (United States Social Security Administration, 2014). Healthcare access is not guaranteed through the Social Security system, Medicare or Medicaid.

The Capital gains tax is designed to collect revenue for the federal government from gains realized from the sale of capital assets. Capital gains are assessed on a short term (less than 1 year) and long term (more than 1 year). The capital gains rate is determined by both the duration of ownership and the seller's Marginal Income Tax Rate. Rates vary, but the most common rate is 15 %. Higher income earners are charged an additional 3.8 % on capital gains as a part of the Affordable Healthcare Act (Tax Foundation, 2013).

In Germany, like the United States, taxes are levied at multiple levels of government; municipalities, States and the federal government (LUBECK Business Development Corporation, 2005). For the purposes of this study, we examine the Income Tax, the Public Insurance Tax, the Flat Rate Tax and the Value Added Tax, or VAT.

Similar to the United States, Germany assesses income tax based on your income. Personal income tax rates are assessed at rates from 0 % for single-filers with income of up to 7,664€ and 45 % for single-filers with income of 250,000€ and up (Confederation Fiscale Europeenne, 2014). The German Social Security system covers a wide variety of social services. Taxes for the German Social Security system are assessed in a manner similar to that of the United States, with employees and Employers sharing the burden.

The German Health Tax, or Krankenversicherung, is a tax of 15.5 % of individual's income, with 8.2 % paid by the insured and the remaining 7.3 % paid by the insured's employer (Michael Bäumler, 2010). If an individual's income is below 53,550€, they are ineligible to opt-out of the public health insurance system (Internations, 2014). Long term care and disability insurance is taxed at 1.95 % of monthly gross salary at 1.95 %, with employees and employers sharing the cost evenly. Workmen's compensation insurance is taxed at 3 % of monthly gross wages, split evenly by the employer and employee. The German Social Security system also includes a pension insurance system, taxed at 19.9 % of gross monthly salary, shared equally by the employee and the employer. The German Social Security system also includes a parental benefit for childcare and education (Deloitte, 2011).

The Abgeltungsteuer, or the German equivalent of the U.S. Capital gains tax, is designed to collect revenue for the German federal government from gains realized from capital assets or their sale. It is levied at a flat tax rate of 25 %. If a filer's income tax rate is below 25 %, they may be eligible for an Abgeltungsteuer tax refund (Bundeszentraamt fuer Steuern, 2009).

Unlike the United States, Germany observes the collection of a Value Added Tax (VAT). The calculation of the VAT is based on the sales price of a product to the consumer, minus the cost of inputs, such as materials and labor, and tax the value-added portion. For example, take a Bavarian baker. They charge 5€ for a loaf of bread. The inputs consist of 1.50€ for labor and 2.50€ for materials, for a total of 4€ in inputs. The VAT is applied to the remaining 1€ of value. Through the VAT, each supplier pays a tax only on the value-added portion of their goods, so as not to distort market incentives. However, this requires that multiple entities pay the VAT on a single good, whereas with a sales tax, only the final consumer pays the tax.

In Germany, the standard VAT rate is 19 %, and all goods and services are subject to the VAT. There is a reduced VAT of 7 % for goods and services, including food, plants, animals, books newspapers and other items (KPMG Global, 2014).

Corresponding to the tax policies of the United States and Germany, Norway levies taxes at the municipal, state, and federal levels of government per the Skatteetaten, or the Norwegian Tax Administration (The Skatteetaten, 2004). In Norway, the equivalents of states, or administrative regions, are called counties. For the purposes of this study, we examine the personal income tax, the capital income tax, Social Security contributions and the Norwegian VAT.

The Norwegian personal income tax, unlike that of the United States or Germany, is a flat tax, constituting 28 % of income for those of all incomes. The 28 % rate consists of a local tax of 12.8 %, a county tax of 2.5 % and a national tax of 12.55 % (Finansedepartementet, 2011). Wealth surtax exists at two levels, with a surtax of 9 % for income exceeding 527,400 kroner for level one and a surtax of 12 % for income exceeding 857,300 kroner (Nordisk eTax, 2014; KPMG, 2012a, 2012b). The capital income tax, similar to the U.S. capital gains tax, is also taxed at a flat rate of 28 % (Global Property Guide, 2013).

Social Security Contributions in Norway, like the U.S. and Germany, are the responsibility of both the employee and the employer. These funds pay for Norway's Universal Old-Age Pension, Disability Pension, Survivor Pension, Sickness and Maternity Benefits, Workers' and Dependents' Medical Benefits, Work Injury Benefits, Temporary and Permanent Disability Benefits, Unemployment Benefits and Family Allowances for each child (U.S. Social Security Administration Office of Retirement and Disability Policy, 2010).

Norway's employer Social Security contributions are determined annually by Parliament and range from 0 to 14.1 % and are differentiated by county. The employee Social Security contribution consists of 7.8 % of gross income, 11 % of business income and 4.7 % of pension income. However, the first 39,600 kroner are exempt and total contributions may not exceed 25 % of income above 39,600 kroner (KPMG, 2012a, 2012b).

The Norwegian VAT consists of a 25 % general rate, 15 % on foodstuffs and 8 % on transport, lodging and other services. Financial, educational and health services are outside the scope of the VAT, as is the sale of real estate (KPMG, 2012a, 2012b).

The United States, Germany and Norway all share similarities, yet notable differences between the taxing systems of each government exist. The United States, Germany, and Norway all levy taxes from their equivalent federal, state, and local taxing authorities. Furthermore, each system embodies a degree of progressivity, e.g. income tax rates and social security. Despite these similarities, major differences in the overall progressivity of each system endure.

The United States and Germany both share an income tax system that is progressive, charging higher-income earners higher tax rates on their wage income, yet, the capital gains tax has the effect of making the U.S. system a more regressive system than that of Germany. For example, in Germany, a flat 25 % capital gains rate exists, yet, if your personal income tax rate is less than 25 %, you are able to deduce the difference, benefitting regular wage earners. In contrast, in the U.S, the capital gains tax rate which is between 15 % and 23.8 %, is below the 35 % maximum tax rate on ordinary wage income. This is believed to benefit the rich, as the majority of capital gains goes to the top ten percent in terms of wealth (MacDonals, 2013; Tax Foundation, 2013).

The United States, Germany and Norway all, likewise, share some form of a Social Security, or transfer system, whereby, the earnings of both the employee and employer are taxed at their governments' respective rates. The similarities largely end there. The Norwegian Social Security system is progressive as their Social Security tax does not take effect until an individual reaches an income threshold of 36,900 kroner. The U.S. system, by contrast, is regressive, levying a Social Security tax on all income up to, but not beyond, $117,000. The German Social Security system taxes all wage earnings.

More pertinent, however, is the difference in the scope and scale of social transfer programs offered. In the United States, Old Age, Survivors, Disability and Nutrition Assistance programs are provided. By contrast, the U.S. Social Security system pales in comparison to the programs provided by the German and Norwegian systems. The German and Norwegian systems offer healthcare coverage, sick benefits, childcare benefits, temporary disability benefits and more.

Due to these differences, we find three countries with a mix of tax and transfer policies that vary greatly, both in their progressivity and scope. These policies have a major impact on income distribution and income inequality.

The impact of tax policy, as well as social security transfer policy, have a major impact on income inequality in advanced, developed economies (Joumard, Pisu, & Bloch, 2012b). During the late 2000s, income inequality after taxes and transfers in the OECD, as measured by the Gini Index, was approximately 25 % lower than it was before taxes and transfers (Joumard et al., 2012b). The Gini Index measures the degree of inequality in the distribution of income. The more equal a societies income distribution, the lower its score. For example, a country with no income inequality (absolute equality) will receive a score of 0 and a country with the highest possible income inequality (absolute inequality) will receive a score of 100 (Central Intelligence Agency, 2012).

This measure is often used to determine how progressive the incidence of a tax is, after the taxes is levied. In other words, tax incidence is the analysis of who ultimately bears the burden of an economic tax and the economic impact of the tax incidence (Roach, 2003). In the United States Germany and Norway, economic inequality has increased since data was recorded in the mid 1980s (Organization for Economic Co-Operation and Development, 2011). In the United States, the before-tax and transfer Gini measure of inequality is 57 %, versus 42 % after-tax and transfer as of 2013, a difference of 0.15. In Germany, the Gini Index is 60 % before tax and transfer versus 36 % after tax and transfer as of 2013, a difference of 0.24. Furthermore, Norway has a Gini Index score of 57 % before tax and transfer versus 37 % after tax and transfer for 2013, a difference of 0.20 (Economist, 2013). Interestingly, the United States reduces inequality by 0.15 of the Gini coefficient after tax and transfer, whereas, Germany reduces inequality by 0.24 of the Gini Coefficient and Norway by 0.20 of the Gini Coefficient.

The before/after tax decrease in the Gini Coefficient in Germany and Norway is substantial and is due to the wide scale and scope of their transfers, versus that of the United States. On average, transfers have a greater impact reducing income inequality, with about ¾ of the reduction of income inequality being linked to transfers and the remaining ¼ due to taxes (Joumard et al., 2012b; Pisu, 2012).

4.1.1 Policy Solutions

In the United States, Germany and Norway, a variety of steps can be taken to remedy the issue, based on past successes of programs in the United States, Germany and Norway. Given the unique circumstances of each country, policy solutions will be tailored to each of the aforementioned countries.

In the United States, income inequality, as measured by the Gini Index is the lowest after taxes and transfers of the three countries at a coefficient of 0.42. Policies should be pursued to bring the reduction in the Gini coefficient, after taxes, more in line with Germany and Norway, with a reduction in the Gini Coefficient of 0.20 to 0.24. The personal income tax as it is currently written is very progressive, as higher income earners are required to pay more on their earnings. It is recommended that the United States continue their policy of a progressive personal income tax.

At this time, the United States has a regressive Capital Gains Tax system, whereby, it effectively reduced the aggregate taxes paid by the wealthiest of individuals. It is recommended that the U.S. increase capital gains tax rates and bring them in line with the rates of Germany and Norway at a flat rate of between 25 and 28 %. Furthermore, a tax deduction or credit should be made available to those whose capital gains tax rate exceeds their income tax rate.

Social Transfers in the United States, however, are not very widespread and represent an opportunity to meaningfully lower the Gini coefficient after taxes and transfers in the United States, as they are more effective in doing so than tax policy. To do so, it is recommended that the United States pursue social transfer policies similar to those of Germany and Norway. As a part of increasing social transfers universally to all citizens, it is recommended that the United States Social Security system adopt sickness, childcare, and maternity benefits, workplace injury benefits for workers and their dependents, education benefits. Most importantly, it is recommended that the U.S. adopt a public insurance system for all U.S. citizens. Naturally, the implementation of such a system would include increased taxes.

In Germany, the reduction in the Gini Coefficient is the greatest after tax and transfer at 0.024 and few recommendations can be offered to meaningfully improve progressivity in the tax and transfer system. The German Abgeltungsteuer, or Capital Gains tax equivalent, is taxed at a flat rate of 25 %. At this time, certain filers may qualify for a deduction if their personal income tax rate is below 25 %. It is recommended that all filers with a personal income tax rate below 25 % be made eligible for a tax deduction or credit to bring their capital gains tax rate in line with their personal income tax rate. However, exceptions to the rule should be applied when other sources of income exceed a predetermined threshold.

In Norway, the reduction in the Gini Coefficient, after taxes, is high at 0.020, but opportunities for meaningful improvement in progressivity in income distribution exist. At this time, Norway has a flat personal income tax rate of 28 %. It is recommended that Norway pursue a progressive income tax, or an income tax exemption for those below certain income thresholds. This could be paid for with an increase in the wealth surtax or through other means of taxation.

Should Norway adopt a progressive personal income tax system, or adopt an exemption for those below certain income thresholds, it is recommended that tax credits or deductions be available for those whose capital gains tax rate exceeds their personal income tax rate.

4.1.2 Assessing Policy Solutions

As with all potential policy solutions, there are boundaries and interests that must be worked within or addressed to change the status quo to allow for policy modification. Here, we assess each of the policy solutions offered and provide final recommendations for action in the United States, Germany and Norway.

In the United States, three policies have been proposed. The first is to keep the current progressive income tax policy in place. The second is to increase capital gains tax rates and bring them more in line with Germany and Europe while allowing for deductions. The third recommendation is to dramatically increase the scale and scope of social transfers.

- Continue Progressive Income Taxation Policies: At this time, the political and economic realities of the United States makes the continuation of the status quo likely. In fact, it is unlikely that this policy will change and no action is needed.
- Increase the Capital Gains Tax and Capital Gains Deductions: In the United States, much of the gains made in capital gains go to the very wealthiest of Americans, who in effect pay a much lower rate of taxes on their income. Therefore, economically, there is ample opportunity for a major increase in the capital gains tax. However, politically, it is unlikely as long as the Republicans hold a majority in the House or the Senate. That being said, it is recommended that the current government move forward with such plans.
- Increase Social Transfers: Currently, the U.S. has the fewest social transfers of the three countries. An increase in social transfers, while costing a substantial

amount economically, would solve a variety of social ills and reduce income inequality. However, the political roadblocks are enormous, possibly even insurmountable. Therefore, it is recommended that the current government pursue a policy of incremental improvements while laying the groundwork for a major expansion as soon as the political climate allows.

In Germany the following policy was proposed.

- Allow Abgeltungsteuer (Capital Gains) Deduction for All: Allowing a Abgeltungsteuer, or capital gains equivalent deduction for everyone whose personal income tax rate is less than the capital gains tax represent low hanging fruit for progressivity and reducing income inequality in Germany. As it would likely cost little and would fall in line with current thinking on German social policy, it would likely meet little political resistance. Therefore, it is recommended that the German government pursue tax credits and deductions for all who have a capital gains rate higher than their personal income tax rate.

In Norway the following policies were proposed.

- Adopt Progressive Personal Income Tax: In Norway, the current personal income tax system is a flat rate of 28 %. The adoption of a progressive system, or a system with low-income exemptions, would allow for increased income equality and would not present a large economic cost. Therefore, political resistance is unlikely to be insurmountable. It is recommended that the current government of Norway pursue a policy of progressive taxation in partnership with County and Municipal governments.
- Allow Capital Gains Deductions: Like their income tax system, the current capital gains tax equivalent is at a flat rate of 28 %. The adoption of capital gains deductions or credits would compliment a progressive income tax system by allowing for increased progressivity and income equality at little economic or political cost. Therefore, it is recommended that the Norwegian government pursue a capital gains deduction policy alongside a progressive tax system.

4.2 Education Policy

In the following paragraph we shortly show the correlation between Human Capital and income inequality. The relationship between human capital and income inequality has been analyzed by many economists.[1] Due to the briefness of this essay and because it is most common in academia to use education as a proxy measurement for Human Capital, we are mainly focusing on education as aspect of the Human Capital.

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[1] e.g. Bénabou, De Gregorio, Lee, Barro, Gary Becker, Castelló-Climent, Doménech, Chiswick.

The literature emphasizes Human Capital particularly as attained through education as one of the main influences on income distribution in developed countries as Human Capital accounts for more than half of the total national income (Hamilton & Liu, 2014). Politicians therefore often claim higher educational spending in order to reduce income inequality. But according to the findings of De Gregorio and Lee (2002) educational expansion does not necessarily lead to a more equal income distribution, because educational inequalities often reduce the effect of educational expansion. So in this context one has to give more importance to the correlation between educational inequality and income inequality.

One early work on this issue by Becker and Chiswick (1966) for instance finds that in the US income inequality is positively related with educational inequality and most subsequent studies[2] support this theory and mention that granting more people access to higher education can reduce income inequality. A research of the Spatial Economic Research Centre showed similar results for the EU: inequality in educational attainment can cause higher income inequality. These findings indicate that educational factors e.g. higher attainment can contribute to an improvement in income distribution (Rodríguez-Pose & Tselios, 2009). Moreover De Gregorio and Lee (2002) from the Universidad de Chile and Korea University investigated that a country with higher educational attainment is more likely to have a more equal income distribution.

Still there are also critical voices. Ram (1984, 1989) for example indicates that the impact of educational inequality on income distribution is not statistically significant, which agrees with the main findings of Castelló-Climent and Doménech (2014) revealing that, the unequal distribution of earnings remained almost unchanged, although human capital inequality decreased worldwide. But they also mention that increasing returns to education, external effects on wages of fewer illiterates, globalization etc. could be explanations for these phenomena.

Another aspect which should be considered talking about the distribution of educational attainment is the finding of Barro and Lee (2010) and Castelló-Climent and Doménch (2014) that the return to human capital varies across different levels of education. Based on their data, “the return to every additional year of schooling is 10.0 % at the secondary level and 17.9 % at the tertiary level. This finding suggests that on average, the wage differential between a secondary school graduate and a primary-school graduate is around 77 %, and the wage differential between a college graduate and a primary-school graduate is around 240 %” (Barro and Lee, 2010, p.20). Summing up, this indicates an increasingly positive return in secondary and tertiary education.

The findings of Becker and Chiswick (1966) indicate that especially in the US inequality in income and educational inequality are positively correlated. As one possible reason, statistics support the theory that there is a relationship between academic success of parents and academic success of their children (Orfield & Lee,

[2] Adelman and Morris (1973), Chenery and Syrquin (1975), Ahluwalia (1976), Marin and Psacharopoulos (1976) and Winegarden (1979).

2005). A possible explanation for this could be the fact, that those households are more supportive of educational success, offer more at-home help and have more beneficial social networks. But apart from the social background, schools vary enormously in their resources as funds are unequally distributed and because in the United States they are funded by local property taxes, so richer neighborhoods can afford more for their school district. So problematically poor and minority students usually visit less funded school with less skilled teachers, bigger classes, etc. (Darling-Hammond & Post, 2000). Overall money seems to be an important factor when it comes to education in the US. Statistics show that especially in the US the average tuition fees charged by tertiary-type institutions are very high compared to European countries (Damme & Heckmann, 2013). But according to the OECD country note on US education, tuition fees and access to higher education are not strongly connected in the United States because there are many funds to help households to finance tertiary education (Lalancette, 2013).

For many years Germany has been a role model when it comes to education and income distribution, but this image has decreased lately as several OECD studies appeared. Although publicly provided health, fully public funded education and social housing reduce income inequality and support financially week families, educational inequality remains. Just as in the US, the job status of the parent affects the education performance of the child. One problem is that children from lower classes often lack early infantile education as more and more kindergartens have to be paid by the parents and the other problem is that Germany has a high student to teacher ratio, so individual care for kids is not possible there and therefore the task to support children stays with parents. Moreover some argue that due to the tripartite German school system children's professional lives are decided when they are too young.[3] But still compared to other countries there are several improvements e.g. abolishment of tuition fees at universities, financial support of students by the state (BAföG), comprehensive school. Furthermore Germany is pioneer country when it comes to Dual Education which combines apprenticeships in a company and vocational education at a special school. The advantage of this system is that it provides theory and practical application of curriculum, students get paid and the chances to get a job within the company are quite high. But despite all those efforts Germany has to face the problem of wage differences between people with secondary and those with tertiary education increase (Bloem & Lalancette, 2013).

Norway is one of the greatest investors in education as they spent 9 % of its GDP on this matter. All public education in Norway is free of charge, while kindergartens have parental fees. Higher education is completely financed by the state with 96 % of total spending coming from public sources and freeing students from

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[3] After primary education there are three options for secondary schooling in Germany (*Hauptschule, Realschule, Gymnasium*), to which pupils get allocated according to their marks in primary school. These types of school provide their students with different degrees which either qualifies them for an apprenticeship or for going to university. Those pupils who couldn't achieve a degree which makes them get accepted at universities in the first place can still manage to get one afterwards via a *Fachoberschule*.

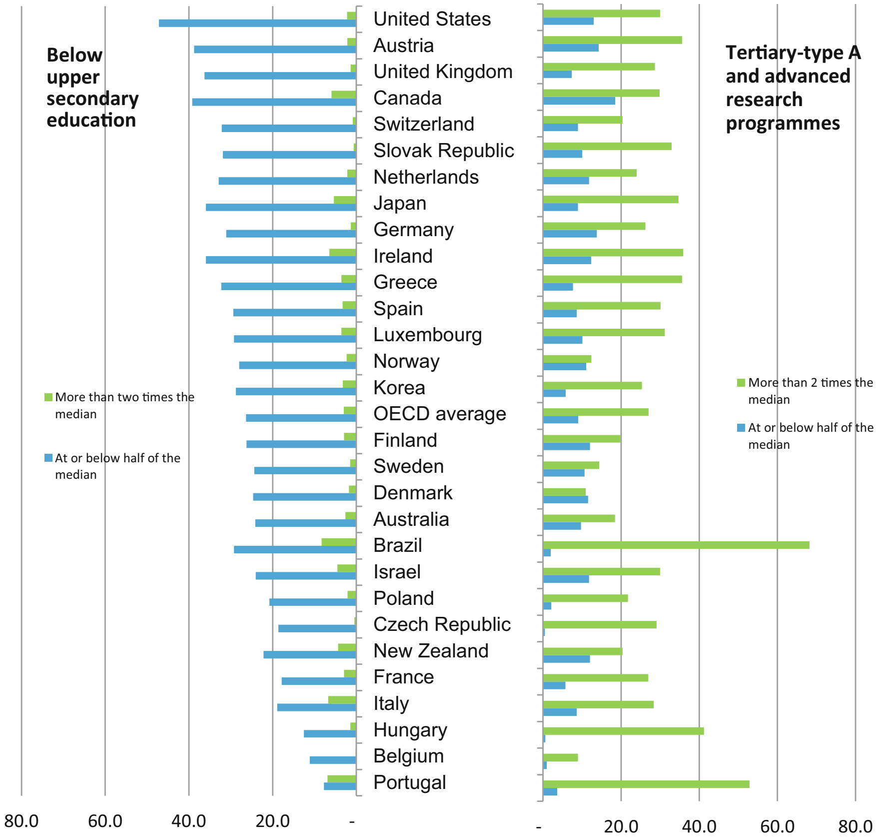

Fig. 2 Differences in earnings distribution, by educational attainment (2009 or latest available year). Proportion of 25–64 year-olds at or below half the median and the proportion of the population earning more than two times the median, for below upper secondary education and tertiary-type A and advanced research programs

tuition fees. Moreover Norway has a pre-primary education and care, which integrates children very early at the age of 3 and grants an early children education. All in all the Norwegian system seems to work quite well, as they have a very stable labor market and unemployment rates are relatively low (Heckmann & Barach, 2013). Moreover they perform better at reading, math and science than OECD average and the number of people with a high-school degree is also higher than average (OECD, s.d.). All in all the example of Norway shows how good and equal education contributes to a low income inequality (Fig. 2).

The statistic of the OECD in Fig. 3 further shows how strongly the education degree influences the income distribution. In the United States 30 % of people with tertiary education earn twice as much as the median, in Germany it is 28 % and in Norway about 12 %. Moreover most people with no upper secondary education

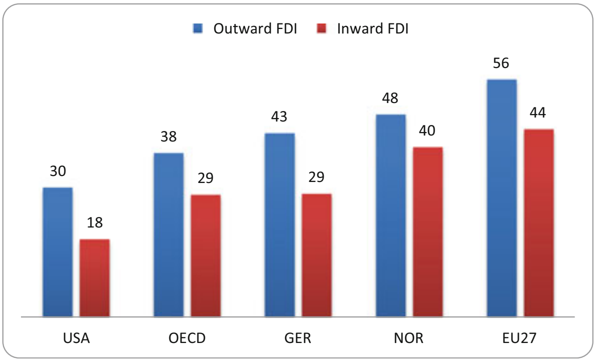

Fig. 3 Outward and inward foreign direct investments in 2010 (OECD)

earn less than the median: in the United States the percentage of these people lies within 48 %, in Germany 38 % and in Norway 30 % (OECD, 2011a, 2011b).

The conclusion one can draw from this is that education is an important aspect that cannot be ignored when it comes to income distribution and inequality. Considering our three examples, Norway is the country with the lowest educational inequality and also the one with the lowest income inequality. Whereas the United States seem to have huge problems related to educational injustice and also to unequal income distribution. Germany is performing quite well although they also lack several improvements in their educational system.

4.2.1 Policy Solutions

Educational factors like higher attainment and more equal distribution of education play some role in creating a more equal income distribution. Therefore a policy to reduce inequality should look for possibilities to lower educational inequality. In following part, we mention some suggestions on how to achieve this in each country.

As Norway has the lowest income- and the lowest educational inequality, the way their education system works could be used as a role model in order to improve educational standards in more unequal countries like the United States and Germany. Although kindergartens which by the way accept children from the age of 1 year are not for free in Norway, 89.5 % of all Norwegian children under the age of five were in kindergartens (SSB, 2012) indicating that early childhood education is very common in Norway. At the age of six children start going to school. Compulsory primary and lower secondary schooling in Norway lasts for 10 years and is founded on the principle of equity and adapted education for all pupils in a school system based on the same National Curriculum, so all children share a common foundation of knowledge, culture and values. Afterwards they have a right to upper secondary education which can also enable them to achieve the necessary qualifications for admission to universities (Norwegian Ministry of Education and Research, s.d.).

Summing up, one can say that the Norwegian education system is characterized by an early childhood education, universal schooling with an identical national curriculum and completely public funded education.

Within several years Germany has undertaken some improvements in lowering educational inequality e.g. by abolishing tuition fees at universities. This educational expansion obviously lead to better educational opportunities for all social classes but still a complete reduction of inequality in education according to the social background has not been achieved.

Especially the division of pupils into the tree different types of secondary schools at the age of ten is a controversial topic among politicians and educational researchers. Many of them argue that this has the consequence that children's professional lives are decided when they are still too young. For this problem, there are two main approaches. Some suggest following the example of the Scandinavian countries and introduce comprehensive schools instead of the three different types of school, others recommend extending the time in primary school so the division into the different schools takes place when the students are older.

Moreover many educationalists stress the importance of early childhood education concerning the reduction of inequality and claim improvements in this sector.

Turning to the United States[4] one of the biggest problems of educational inequality is the cost of education. Due to the fact that quality of a school is highly linked to the wealth of the neighborhood and the existence of high university fees, inequality in education is relatively high there.

In order to decrease inequality and grant more financially weak students the access to higher education, several ideas have been suggested. Obama suggested to make it easier for students to obtain a loan to finance college education and some favor vouchers, which are public funds given to families to provide tuition for children at any school they choose. Furthermore improvements could be achieved by abolishing tuition fees in general or at least reduce the fees for poorer students. Moreover it is problematical that schools in the States are funded by local property taxes with the effect that in most poor neighborhoods, students are locked into failing schools. A good policy on this issue could be to provide these schools with more financial support in order to improve the quality of education there e.g. by introducing charter schools or establish a District/School open enrolment.

4.2.2 Assessing Policy Solutions

Considering Germany, to establish comprehensive schools instead of the three different types of school has different advantages and disadvantages. Supporters argue that a comprehensive school is fairer because it does not define the later professional way through an early choice of school. Moreover they use PISA studies in order to show that many countries at top ranks e.g. Finland, have a

[4] http://education.stateuniversity.com/pages/2341/Public-Education-Criticism.html

comprehensive school system. But they lack to mention that many of the “PISA losers” which scored lower than Germany also have a comprehensive school system. So a comprehensive school system cannot be seen as the key to better education. Furthermore one must bear in mind that the word “comprehensive school” covers different school types in each country. In Finland for example every school has to design its own school profile according to the local demand. Some schools establish courses for high flyers, others courses for week students which leads to a high differentiation in schools and therefore also to inequality.

The opponents of this system criticize that an individual support according to the special abilities is not possible in comprehensive schools—bright students work below their potential whereas low achieving students could be overburdened and discouraged.[5]

The effectiveness of an extension of the time in primary school is also controversially discussed. Pro arguments are that this increases the chance to especially support weaker students and helps lower educational inequality coming from different social backgrounds. Furthermore this concept still offers the advantages of the three parted system—individual support according to individual abilities. Opponents argue that the individual abilities are already showing in an early stage of childhood (age of ten) and that an extension of the time in primary school is therefore needless. Moreover they fear the disadvantages of the reduction of years in secondary education e.g. cutback in curriculum and therefore a worse preparation for university standards (Kremer, 2010).

The importance of early childhood education concerning the reduction of inequality is relatively undisputed. Results of educational research (Schlotter & Wößmann, 2010) allocate that in the first years of life the basics for a later successful learning are laid. Through the imparting of language skills and knowledge and different courses of music, art and sport, Kindergartens have the chance to decrease the deficits of those children whose environment does not provide them with the optimal encouragement and promotion at an early stage (Cloos, etc., s.d.). Especially children from less education-minded background and those with migration background can take advantage from kindergartens.

In the United States, to solve the problem of high educational costs making it harder for low income students to achieve higher education, politicians suggest special student loans which can easily be obtained and used to finance college education. The clear advantage is that this enables poorer students who cannot finance education on their own, to get access to higher education. But on the other hand these students start their professional career after graduating with huge debt and in case they fail at university they are left behind highly in debt and with few chances to pay all the money back. Another opportunity could be the abolishment of tuition fees in general or at least a reduction. Pro arguments should be clear but the disadvantages must also be taken into account. This action would lead to a giant deficit which has to be eliminated by the state or the American taxpayer.

[5] Helmut Fend: *Gesamtschule im Vergleich. Bilanz des Ergebnisses des Gesamtschulversuchs.*

Although an increase in taxes and more public spending can help to reduce the deficit, it probably can't close the gap completely. Therefore critics argue that no fees is unattainable for the government and would only create a loss of educational quality.

Apart from tuition fees, one major problem in the United States is that poorer children are not afforded the same educational opportunities as wealthier ones. In most poor neighborhoods, students are locked into failing schools. Suggested solutions on this occasion could be to introduce charter schools or District/School open enrolment.

The research on the effectiveness of charter schools is mixed. Early studies cited higher achievement for some groups in some grades when compared to conventional schools, as well as lower achievement for others. But as charter schools have the independence of using their own ways of teaching and often receiving public funding, the success of this school types differs according to how well the given freedom is used. One clear advantage is that they have greater accountability. If they do not perform well, their enrollment numbers probably decrease and they could lose their charter status. A positive example on how charter schools improve educational inequality is given by New Orleans, where the poverty rate is quite high.

After Hurricane Katrina the city introduced some educational reforms: it laid off every public-school teacher, offered free or reduced-price lunches and issued charter licensees which allow schools to operate independently and to receive public funding if they meet certain standards. These licenses are only given to ambitious, college-prep schools and the compliance with regulations is strictly controlled. At these public funded schools the quality of teaching has risen enormously and the test results of its students confirm that—the passing rate on state tests nearly doubled (Kraushaar, 2014).

All in all creating more competition among schools seems to be a good way to motivate school to achieve higher standards which leads to the idea of a District / School open enrollment. This enrollment allows students to transfer to the public school of his or her choice either intradistrict or interdistrict. As already said above, the positive effect is that there is more competition among schools and it reduces social isolation in a particular neighborhood. As negative aspects of school open enrolment one could name transport costs and all the problems for students that come along with a longer way to school.

4.3 Infrastructure

In the modern world, infrastructure plays a vital role in relation to income inequality as it enables individuals from underdeveloped areas to connect to centers of economic activity, where they can find well-paid jobs and obtain a good education. Moreover it enables people living outside big cities to lower their transport costs and gain access to bigger markets, so they can raise their economic and social profiles. If a particular improvement in infrastructure shall reduce income inequality it should be undertaken to improve access for low-income households (Servén, 2004).

Although United States is a highly developed country, their infrastructure is becoming dilapidated, and many voices claim higher public investments in infrastructure are needed because they would lead to good-paying jobs, higher productivity and higher standards of living (ASCE, 2013a, 2013b). The United States has failed to invest enough in infrastructure over the last decades and neglected the growing demand (OECD, 2011a, 2011b).

As the American middle class declines, fewer tax dollars are being spent on infrastructure as other demands require greater investment. This leads to disproportionately lower access for individuals of lower socioeconomic status[6] but apart from the equality aspect, investments in infrastructure are also very important to make the economy more competitive (David Madland, 2012). The American Society of Civil Engineers which graded the American Infrastructure with a D+, estimates that the United States need to invest $3.6 trillion dollars by 2020 in order to maintain and improve the infrastructure system and prevent large reductions in potential GDP (American Society of Civil Engineers, 2013a, 2013b).

Compared to other less developed countries Germany has a diversified infrastructure, surveys have shown that most surveyed believe more money has to be invested in order to improve streets, communication networks and affordable electronically power supply and keep up with other economies. But, all in all many infrastructure concerns have economic, rather than equity-based underpinnings.

Norway has developed a national transport plan for 2014–2023, which suggests developing a new transport system that will enable people to travel easier and faster, commute and transport goods efficiently in the future. Wherever people live in the country, they shall have good access to good jobs and schools even if they are farther away (Norwegian Ministry of Transport and Communications, 2013). This plan is likely to ensure greater transportation equity and access, leading to further declines in income inequality.

4.3.1 Policy Solutions

At this time, the United States, Germany and Norway have inconsistent infrastructure systems that are both equitable and inequitable, with Germany and Norway leading the United States due to substantial investments in public transportation infrastructure. Moving forward, it is recommended that the United States substantially increase investment in public transportation systems in the form of inter-city rail transportation, in-city light rail and busses. In Germany and Norway, it is

[6] Madland, D., & Bunker, N. (2012). *Women are the biggest losers from failure to raise minimum wage*. Washington, DC: Center for American Progress Action Fund.

recommended that investments continue to be made in public transportation systems, with an emphasis on reducing inequality from city-to-city. Furthermore, to fund these systems, it is recommended that each country pursue tax-based and user-fee financing programs based off of professional cost-analysis programs to fund the construction, maintenance and day-to-day operational expenses of public transportation networks.

4.3.2 Assessing Policy Solutions

The United States, Germany and Norway all face similar policy constraints at this time, specifically, low tax revenues. While this constraint is large, the cost of inaction may be higher due to unrealized economic potential of citizens without access to reliable means of transportation. Furthermore, political constraints may exist in the form of political opposition to expenditures. This being the case, the cost of inaction is high and it is recommended that the governments of the United States, Germany and Norway move forward with plans for increased investment in public transportation networks (American Society of Civil Engineers, 2013a, 2013b).

4.4 Immigration

One of the effects of globalization is that it has prominently increased inequality between and within nations (Mazur, 2000), and in particular that it has marginalized the poor in developing countries and left behind the poorest countries (Kremer & Maskin, 2006). On the other hand, if we focus on countries that integrated in the world economy, we can say that income gaps have been reduced by globalization of commodity and factor markets (Lindert & Williamson, 2003).

Considering the role of globalization on income distribution, it is important to focus on the effects that it can have on human capital, especially for what concerns immigration: thanks to the flow of resources like capital, goods, technology and people, the international mobility of highly-skilled and talented individuals has seen an increase, since globalization allows the opening of new job opportunities for high-skill individuals: the globalization of human capital and talent strictly depends on the globalization of goods and capital markets (Solimano, 2002).

Since human capital, and mainly education, is the main source of earnings among the population, the impact that globalization and immigration can have on it should be properly analyzed, in order to better understand the inequalities among income distribution.

The impact of globalization on United States' human capital and immigration is considerable: this nation is the main pole of attraction for foreign skilled people, as around 40 % of its foreign born population have tertiary education levels and since the early 1990's about 900,000 skilled professionals have emigrated to the United

States coming from India, China, Russia and some OECD countries (U.K., Germany, Canada) (Solimano, 2002). The United States are also recruiters of foreign students in higher education, accounting for 32 % of all foreign students in the OECD countries.

Focusing instead on low-skilled workers, one of the effects of globalization is the creation of an integrated global labor market, which causes an increase in competition for existing workers: particularly for what concerns immigration and offshoring, globalization increases the supply of workers available to domestic firms. American companies can have access to low-skilled immigrant workers and they can shift the production facilities to labor abundant countries. This increase in competition mainly affects native workers, which may find higher difficulties in entering the labor market. As a consequence this situation affects their investments on human capital, since workers, in order to overcome the competition with foreigners, may be willing to acquire the necessary skills (Hickman & Olney, 2010).

Focusing on Germany, the effect of globalization on immigration can be observed, for example, in the activity of foreign talent importing: in 2000, a sort of "green card" scheme was launched in order to recruit around 20,000 foreign IT specialists. The main recruiters come from Russia, Poland and other Eastern European nations that have an important pool of scientific and technical specialist trained during the socialist period and afterwards (Solimano, 2002).

In 2007, 91.2 % (75.0 million) of residents in Germany had German citizenship, while 81 % of the population were Germans with no immigrant background and 19 % were German citizens with immigrant background (15.3 million people). Of the remaining 8.8 % (7.2 million), 1.7 million (2.1 %) had Turkish, 0.5 million (0.6 %) Italian and 0.4 million (0.5 %) Polish citizenship (Immigration to Germany).

There is an increasing concern about the widening of the income distribution in Germany, especially for what concerns very "visible" inequality and poverty due to immigration (Grabka, Schwarze, & Wagner, 1999). Since the unification in 1990 immigration into West Germany peaked: from 1988 to 1993 more than half a million immigrants immigrated to West Germany, and, starting on the eve of unification, many of East Germans began to move to West Germany; this migration stream peaked in 1990 although it was still considerable in 1991.

One of the effects of the globalization trend in Norway is increased immigration: the immigrant population in Norway is approximately 759,000 people. The five largest immigrant groups in Norway are Polish, Swedish, Somali, Lithuanian and Pakistani, and due to Norway's membership in the European Economic Area, migrants from the European Union as well as Iceland and Liechtenstein can be found. While at the beginning of 1992 immigrants and Norwegians born to immigrant parents were about 4.3 % of Norway's population, at the beginning of 2014 these groups reached 14.9 % of the population (Immigrants and Norwegian-born to immigrant parents, 2014).

The labor market performance of immigrants has received increasing attention in recent years, since the assimilation of immigrants into the host country labor market is an important factor to consider in the analysis of income inequality: as large groups of immigrants tend to be located in the bottom end of the income distribution, inequality is reduced if immigrants effectively accumulate human capital and raise their relative earnings. Active labor market programs and other policy measures are needed, based on the earnings performance of the immigrants and on how successfully integrate in the labor market (Longva & Raaum, 2003).

4.4.1 Policy Solutions

The American immigration policy is very complex: the Immigration and Naturalization Act (INA), the body of law governing current immigration policy, provides for an annual worldwide limit of 675,000 permanent immigrants, with certain exceptions for close family members. Congress and the President determine a separate number for refugee admissions. Immigration is based upon the following principles: the reunification of families, admitting immigrants with skills that are valuable to the U.S. economy, protecting refugees, and promoting diversity.

For what concerns employment-based immigration, there are various ways for immigrants with valuable skills to come to the United States on either a permanent or a temporary basis, and there are more than 20 types of visas for temporary non-immigrant workers. Many of the temporary worker categories are for highly skilled workers, and immigrants with a temporary work visa are normally sponsored by a specific employer for a specific job offer. Many of the temporary visa categories have numerical limitations as well. Permanent employment-based immigration instead is set at a rate of 140,000 visas per year, and these are divided into 5 preferences, each subject to numerical limitations (Immigration policy).

Considering the economic perspective, the primary goals of immigration policy should be to maximize the benefits of less-skilled immigration to the productivity of the US economy and the well-being of US consumers, minimize the potential costs of such immigration to native-born Americans, especially the least-educated workers and, whenever possible, help less-educated immigrants who stay in the country gain opportunities for effective integration and upward mobility without hurting US-born Americans. However conflicts and trade-offs are involved in the pursuit of such goals: US consumers might benefit from immigration policies that allow inflows of less-educated immigrants, while less-educated US-born workers might be hurt by such policies, and allowing for policies that enhance upward mobility prospects for immigrants might impose costs on some Americans and drain public resources that might otherwise be available to them (Holzer, 2011).

The effect of immigration on wages has a key role: since current factor income depends primarily on individual skill levels, there is a significant link between skills, wages, and immigration-policy preferences. Scheve and Slaughter (2001) find that a relationship exists between labor market skills and immigration policy preferences: low skilled laborers prefer more-restrictionist immigration policy, while high skilled laborers prefer less-restrictionist policy. Immigration can result in reduced wages for low and high-skilled workers and, therefore, increase income inequality. This link supports the argument that individuals' positions in the labor force influence their policy opinions, and is important for constructing empirically useful models of the political economy of immigration policymaking in receiving states. In particular, the link between skills and immigration-policy preferences suggests the potential for immigration politics to be connected to the mainstream redistributive politics over which political parties often contest elections.

Despite the presence of many immigrants in Germany, the country did not have an immigration policy until the turn of the century. The immigrants of the 1950s and 1960s were labor migrants that work in blue collar jobs (guest workers) and filled the gaps of the labor market: the guest worker policy worked well initially in terms of the labor market, but it failed when the needs of the labor market changed, and with the disappearance of manufacturing jobs the guest workers became unemployed. Even the policy of the Schröder government in the 2000s that aimed to bring in needed high skilled professional migrants did not work (Constant & Tien, 2011).

Since 2005 Germany encourages highly skilled workers to immigrate: while low skilled workers will still find it difficult to gain permission to work in Germany, highly skilled workers should find it easier to enter the country. The new German Immigration Act, approved in January 2005, provides for highly qualified persons to be granted permanent residence and permission to work from the outset, rather than 5-year work permits as was previously the case, while family members who enter Germany with highly skilled workers who have obtained a visa, or family members who join them later in Germany, can obtain the right to work in Germany as well. The new Immigration Act has replaced the former German Green Card Initiative, which made it easier for foreign IT specialists to work in Germany: the Green Card was unsuccessful, since it did not succeed in bringing about the additional IT workers as was expected, while the new provision of the Immigration Act is not only limited to IT specialists (Work Permit).

The Norwegian immigration policy selects immigrants according to their skills, so that they can be more successful in the labor market and enter easily in the economic environment. The policy states that immigration and work permits are mainly issued to high skilled workers or workers with specific skills (Bauer et al., 2000).

4.4.2 Assessing Policy Solutions

The previous policies are based on the assumption that high skilled immigrants would be more likely to integrate in the receiving country and are able to reach similar earnings to the natives; however, the human capital that immigrants obtain in the native country cannot be completely integrated and transferred to the requirements of the receiving labor market. Therefore, the gap between the wages of natives and immigrants at the time of arrival is still notable, leading to increased income inequality. Immigrants can increase their country specific human capital and adapt to the labor market of the country, so immigrants' earnings can approach those of natives. There are several factors that can influence the immigrants' situation with respect to income inequalities. First, a high similarity of the countries of origin and arrival provides fewer disadvantages for immigrants that will have to invest less in adapting their human capital to the immigration country culture and will also face lower initial gaps. Another important factor is the motive of the migration: immigrants moved by political reasons, such as asylum seekers and refugees, do not plan their migration and cannot invest in increasing their country specific human capital in advance. For this reason they may face higher disadvantages and earning gaps compared to migrants that decide to move for economic and income maximization reasons and so have the possibility to invest in the transferability of their human capital (Bauer et al., 2000).

4.5 Global Trade and Finance

Globalization can be clearly seen in the increasing economic importance of foreign trade or the change in the ratio of merchandise trade and world production of goods. From 1960 to 2008, the export of goods increased in real terms by a factor of 15.6, and the world production of goods by a factor of 5.9. On average, the exports increased by 5.9 % and the world production of goods increased by 3.5 % per year. The portion of exported goods on the world-GDP between 1970 and 2008 rose from 9.7 to 26.3 % (Bildung, 2009). This shows us the increasing important role of trade.

Also consideration of the trade ratio it is possible to observe the globalization in world merchandise trade. The percentage of merchandise exports and imports in world GDP rose from 19.7 % in 1970 to 53.1 % in 2008 and 51.7 % in 2012. The export share in 2012 was in U.S 9.9 % (Statista, 2014a, 2014b), (Statista, 2014a, 2014b) in Germany 41.1 % (destatis, 2014) and in Norway 32 % (Invest, 2013) of the GDP.

Evidence suggests that trade increase. The winners of the increasing trade are the big companies. These companies have the ability and opportunity to interact international corporations. They interact worldwide and are generating high sales internationally. The tax for these companies will be paid in countries with low tax rates by one concern. It is obvious, that high-ranked associate and especially suppliers are the winner of the globalization (Fuchs, 2014).

Foreign direct investment in 1970 was at 13 billion dollars. In 2007, it was at 1,833 billion dollars. That means an increase by a factor of 141 without adjusted by inflation. A large share of the foreign direct investments are from the economically developed countries like the United States, Germany and Norway.

The importance of foreign direct investment for developed countries is increasing. Thereby arise direct and constant connections between economics and it gives the opportunity to sell the products in a much bigger way on the international markets. Besides foreign direct investments are sources of finance for additional investments and can be a good processing for companies if there are good political environments. Foreign direct investments have risen from 0.9 % in 1990 to 3.6 % in 2007.

In 2010 the foreign direct investments for U.S. were 30.4 % of the GDP. Germany 43.1 % of the GDP and Norway had 47.5 % of the GDP (OECD, 2014).

Multinational companies have thereby the technical, financial and political resources, in order to convert a strategy of "global sourcing." For multinational companies this means inside-industry mergers, acquisitions and investments to open up markets and to secure markets and reduce costs (Bildung, 2009).

Evidence suggests that globalization causes more capital export in the way of foreign direct investments. Transnational companies produce all over the world where they find good investment opportunities. Good investment opportunities for the companies mostly means decline of working conditions, wage and welfare cuts, and privatization.

What does this mean for the distribution of income? Locations for corporate offices and manufacturing facilities are compared and selected according to international tax and charges. Each state needs tax revenues that are paid by the employees or by corporate taxes. This can contribute to unwanted changes such as decline of the welfare state. If the government spends less money on education, the income inequality will increase. Therefore, There is less education from the state side and thereby citizens must directly finance their own education. Some citizens simply cannot afford education and the supply of unskilled labor increases. The supply for high skilled labor decreases, and thus the income of high skilled people increases cyclically. This leads to greater income inequality (Lee, 2002).

Due to the impending relocation of production to lower cost countries creates an international competition. Domestic workers in developed countries can only continue to work there if they do not have high wage demands. Otherwise, they lose their job and the jobs are shifted to lower-cost countries. That affects mostly the unskilled labor and leads to decline in real income (Swagel, 1997).

The banks and financial services are the major accelerator in globalization. Within a few seconds, billions of dollars can be moved throughout the world. Thereby, finance institutions are engaging in a global competition for profitable investment opportunities. As targeted, high-profit investments become standard operating procedure at multinational firms, the social consequences of such actions, such as declines in real wages and increases in income inequality slip into the background. These points bear among other things to the fact that the poor get poorer and the rich get richer. This leads to increasing diverging income disparities.

4.5.1 Policy Solutions

Trade access for the developing countries for their goods and services are very important to reduce income inequality. Companies from developed countries make foreign direct investment often in developing countries. There are few, if any, labor unions or protections in place. The United States, Germany and Norway should mandate, through law, that companies using foreign labor be required to meet minimum labor and pay standards to level the playing field between the developing and developed world pay and labor standards.

4.5.2 Assessing Policy Solutions

In the United States, Germany and Norway, considerable opposition to such rules may exist at the political level due to corporate influence in each respective federal government. Such laws mandating minimum pay and working conditions would not be in the short-term interests of many multinational firms. Furthermore, they may result in competitive disadvantages with foreign firms that are not subject to such restrictions on labor and pay practices. Therefore, substantial efforts would be exerted on behalf of multinational firms to block the adoption of such laws. However, the adoption of laws mandating minimum working and pay conditions by firms operating abroad would serve to decrease income inequality by raising the floor on wages domestically and abroad. The governments of the United States, Germany, and Norway should move to adopt, at the domestic and international levels, minimum pay and working condition laws, despite opposition.

5 Conclusions

In conclusion, there are multiple, interrelated causes of income inequality in the advanced, developed economies of the United States, Germany and Norway. The consequences of income inequality, while not a factor in this literature, are widespread in scope and scale. Factors influencing income inequality include, but are not limited to, tax policy, education equality and access, access to functioning infrastructure, immigration, as well as global trade and finance. Fortunately, as inequality rises worldwide, there are policy solutions that can serve to meaningfully reduce income inequality that are available to policymakers in the United States, Germany and Norway. Through the adoption of the policies articulated in this text, the United States, Germany and Norway have the opportunity to more equitably redistribute the wealth generated from the technological and productivity improvements of the last two decades.

Our analysis shows that globalization caused an increased inequality between individuals and nations, marginalizing the poor in developing countries and leaving behind the poorest countries. However, focusing on countries integrated in the world economy, income gaps have been reduced by globalization of commodities and markets.

The analysis of the five drivers (tax policy, education policy, infrastructure, immigration, and trade and finance) highlights how income inequality can be influenced by various aspects in several ways. The countries analysed attempt to reduce this disparity through several policies, however they do not provide a complete solution for cases of excessive inequality.

The before/after tax decrease in income inequalities in Germany and Norway is substantial, due to the wide scale and scope of their transfers, unlike United States. On average, transfers have a greater impact reducing income inequality than taxes

(Joumard et al., 2012b; Pisu, 2012). For what concerns education, its expansion does not necessarily bring to a more equal income distribution, because educational inequalities often reduce the effect of educational expansion (De Gregorio & Lee, 2002). Moreover the return to human capital varies across different levels of education (Barro & Lee, 2010; Castelló-Climent & Doménch, 2014). Norway, the country with the lowest educational inequality, is also the one with the lowest income inequality.

The role of infrastructure in relation to income inequality is crucial, as it enables individuals from underdeveloped areas to connect to the economic activity and to find good education and occupation. Moreover it enables people living outside big cities to raise their economic and social profiles, lowering their transport costs and gaining access to bigger markets (Servén, 2004). Thanks to the increasing flow of resources like capital, goods, technology and people, the international mobility of highly-skilled and talented individuals has seen an increase, since globalization allows the opening of new job opportunities for high-skill individuals: the globalization of human capital and talent strictly depends on the globalization of goods and capital markets (Solimano, 2002). Globalization can also be seen in the increasing economic importance of foreign trade, merchandise trade and world production of goods.

Each one of the considered factors has been influenced by globalization and have an impact on the distribution of income among individuals in several ways. In order to reduce these inequality, the countries analyzed adopted several policies and solutions striving for a more equal redistribution of income. However there is still much to be done, especially for what concerned less developed countries, not considered in this paper.

Our work should be considered in light of some limitations. First, the analysis includes only three countries (United States, Germany and Norway) and a comparison with other nations with different levels of income inequality and different characteristics would be of interest. Second, the deriver selected provides a general overview of the issue, but are obviously not the only ones; a further analysis may consider the impact of other aspects on income inequality in order to provide a more complete analysis. Finally, this work considers income inequality among the population of a specific country. However an analysis of inequality among countries would add a different and more complete perspective of the issue.

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The Gender Pay Gap

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Abstract The difference between salaries of male and female employees has been persistent despite the effort employed by government agencies in reducing it. The gender pay gap amounts to 16 % in the European Union (EU) and 23 % in the United States (US) in 2011, and has not varied substantially over the last 20 years. In this paper, we provide a detailed picture of the gender pay gap phenomenon by reviewing the contributions provided by previous literature. We also analyze the role played by the increasing globalization on gender wage inequality, and identify both positive and negative effects. Then, we provide a detailed picture of the regulatory interventions implemented so far to deter the gender pay gap, and identify some of the best practices that national governments could adopt as a response to this phenomenon. Finally, we propose alternative strategies and potential solutions aimed at progressively eliminating the gap.

1 Introduction

In the past 50 years, gender equality movements all over the world have been trying to eliminate inequality based on discrimination against women in all aspects of our daily life. However, historical differences between the salaries of male and female employees have persisted over time. This gender pay gap pertains to the specific spread between the hourly wages of women and men, under the assumption of equal work or work of equal value. Over the past 20 years, the gender pay gap remained stagnant. As of 2011, the gap in pay between men and women reached 16 % in the

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European Union (EU), and 23 % in the United States (US) (European Commission, 2013; National Equal Pay Task Force, 2013). Its magnitude varies substantially across countries and between the public and private sectors (Arulampalam, Booth, & Bryan, 2007).

In this paper, we discuss the current status of the debate on gender pay gap literature. Among the widely recognized causes of this phenomenon, we find discrimination, i.e., managers often operate under the assumption that women are less reliable, less motivated, or even less qualified; wage bargaining, i.e. female candidates are less able to negotiate a salary than their male counterparts; and societal expectations, according to which women are expected to reduce their working hours or temporarily quit the labor market to take care of the children. The awareness of these causes led to a paradigm shift in the approach to narrow wage inequality between genders in the recent years. The argument associated with supply-side deficiencies of women is no longer justifiable, with new studies highlighting the role played by the design of wage schemes and the work environment (Rubery, Grimshaw, & Figueiredo, 2005). However, most countries still remain reluctant to implementing new wage-setting policies because societal entities are perceived as responsible for such additional legislation (Plantenga & Remery, 2006).

We also discuss the influence of globalization on gender wage inequality. There are circumstances in which globalization alleviates the difference between men and women salaries, but also others in which the increasing globalization has widened this gap. For instance, having strong trade ties with other countries and favoring foreign investments can help narrowing the gender pay gap, as this stimulates demand for products and services and, as a consequence, for workforce. This leads women to be less discriminated in the labor market. On the other hand, globalization makes it easier to adopt certain practices, such as outsourcing, that may result in an increasing number of women being unemployed for longer periods than men for the same job positions. Overall, it seems that the benefits and drawbacks of globalization have neutralized each other.

We then analyze the policies adopted to mitigate gender pay gap issues, both at a cross-country and at a domestic level. Both Europe and the US have implemented regulatory interventions aimed at guaranteeing gender equality in salaries. At a country level, we focus on the best practices adopted by the four countries having the narrowest gender pay gap in the world. These are all located in Northern Europe, namely, Iceland, Finland, Norway, and Sweden. The programs enforced to guarantee gender equality have particularly focused on improving transparency in salaries, by reviewing the structure of wages and checking their adherence with the previously signed contracts. Considerable effort has been put also into promoting the centralization of human resources staff, so that the same people design remuneration contracts and subsequent adjustments. Overall, the adoption of these practices has resulted in a significant reduction in the domestic gender pay gap.

The remainder of the chapter is organized as follows. Section 2 reviews the literature on gender pay gap. Section 3 discusses the main causes of the phenomenon. Section 4 focuses on the role played by globalization. Section 5 outlines the current policies adopted to mitigate gender pay gap issues, with a particular focus on countries that have been more successful in its reduction. Section 6 proposes future directions and potential solutions to the problem. Section 7 concludes.

2 Related Literature

Blau and Kahn (2001) examine data from 22 countries collected from the International Social Survey Programme (ISSP). They find that a more compressed male wage structure and a low supply of female labor is associated with a lower pay gap between genders. They find evidence that labor market institutions are responsible for a portion of wage inequality at the country level of analysis. Additionally, they find that wage-setting mechanisms raise the relative pay of women compared to men, and the presence of collective bargaining is negatively associated with the presence of a gender pay gap. Overall, the evidence suggests that pay structures are important factors when considering gender pay gaps.

In 2002, the Organization for Economic Co-operation and Development (OECD) explains that the reasons for the gender pay gap often stem from differences in education received, training undertaken, and work-life balance. To compensate for these factors, the organization calls for policy changes to be implemented by national governments, such as equal opportunity policies aimed at fighting gender segmentation, so that stereotypes that arise in society can be removed. Without policies that support gender pay equality, the gender pay gap will not be reduced (OECD, 2002).

In 2002, Negotiating Women conducted a survey on a sample of 500 women about their experiences in negotiating their salaries. The results indicate that, on average, women possess a negative perception regarding their ability to negotiate successfully (Kolb, Williams, & Frohlinger, 2004). Similarly, Wade (2001) finds that women have, on average, effective results when negotiating and advocating for other individuals, but gender-linked stereotypes, roles, and norms limit their effectiveness when advocating for themselves. Wade argues that women are constrained by social norms that lead them to believe they will experience a net loss if they make requests on their own behalf. This has implications for salary and promotion inequalities.

Achatz, Gartner, and Glück (2005) examine the extent to which the gender composition of certain occupational groups within organizations affects employee wages. The explanatory variables used are: the proportion of women in a specific job within the company, education, experience, as well as several fixed effects variables to control for individual, workplace, and institutional specificities. The evidence shows that wages drop in presence of a growing proportion of women in the job cells, with female wages being affected to a greater degree than male wages. The authors conclude that the presence of a work council leads to a reduction in the gender pay gap within the organization.

Mandel and Semyonov (2005) evaluate how family policies influence the gender pay gap. They combine both individual- and country-level data from 20 advanced societies and provide evidence that countries with strongly developed family policies exhibit a narrower gender pay gap. However, further examination reveals that, while these policies provide women with greater opportunities to enter the job market, they also serve to increase gender occupational inequality. Mandel and Semyonov (2005) argue that in developed welfare states, wage structures rather than family policies can be associated with a narrower gender pay gap. The authors conclude by discussing the implications of policies that, although designed to lessen the wage inequality, eventually cause a detrimental effect on the gender earnings disparities.

Blau and Kahn (2007) examine the origins of the gender pay gap in the US. The researchers began by explaining that from the 1970s to the 1990s, the gender pay gap in the US was narrowing and therefore becoming more equal. From the 1990s onwards, this narrowing stopped and the gap remained stagnant. Blau and Kahn (2007) find reasons for this stagnation, and imply that the reversal of these reasons could help the gap to begin narrowing once again. These causes were the increasing wage inequality and the ability of mothers to move out of home and get into the workforce. These mothers were often less educated, pushing women into a less desirable category from an employer standpoint. The authors hypothesize that the gap will continue to narrow, but not as quickly as in the past. A better work-life balance for women, perhaps by having men taking on more household duties, would help.

Arulampalam et al. (2007) analyze gender pay gaps across the wage distribution and find that the magnitude of the gender pay gap varies “substantially across countries and across the public and private sector wage distributions”. They also discover a “glass ceiling” effect, i.e. gap widening toward the top of the wage distribution, and a “sticky floor” effect, i.e. gap widening at the bottom. Using data from the European Community Household Panel, they find that the effects of family-friendly policy are often double-edged, as in the case of parental leave policy.

Kronberg (2013) investigates how using the strategy of moving from company to company can lessen the gender pay gap. In some cases, moving from one company to another helps make a more equal pay situation. The gap can be lessened when women in good jobs choose to leave for other jobs, or when women stuck in what are considered to be bad jobs have no choice but to leave their job for another. When women choose to leave bad jobs voluntarily, there is no change in whether or not they receive a more equal pay in the following job. When people have to involuntarily leave good jobs, they get paid in a more discriminatory way in their following job. This research shows that those who are in good positions benefit most from the ability to move from company to company.

3 The Gender Pay Gap Phenomenon and Its Causes

Countless policies and legislative directives in the US and Europe are clearly grounded on the principle of equal pay for equal work. Some notable examples of these policies are Article 119 of the EU founding Treaty of 1957, the Equal Pay Directive of 1975 within the Advisory Committee on Equal Opportunities for Women and Men, and Germany's Global Equal Treatment Act by the Federal Anti-Discrimination Agency of 2010. In this section, we attempt to identify possible causes and reasons as to why the current legislation, while undoubtedly necessary, has not been sufficient in solving the problem of the gender pay gap. It is important to take into consideration both structural factors, such as wage structures, as well as direct and indirect discrimination aimed at women today.

3.1 Discrimination in the Workplace

Discrimination in the workplace is one of the main reasons underlying the existence of a gender pay gap. Managers often operate under the assumption that women are less reliable, motivated or even qualified, even without evidence. Thus, female employees tend to be offered lower wages, slower promotions or just in general less responsibilities than their male counterparts. In the face of this discrimination, women often adapt their behavior to the expectations of their managers, investing less time into their work and focusing more on domestic aspects of their life, meeting the lower expectations of their employers in terms of their commitment and effort in the process (Zizza, 2012).

3.2 Wage Bargaining

A lack of power for women in wage negotiations has often been brought up as one of the factors that contribute to the gender pay gap. Blackaby, Booth, and Frank (2005) provide evidence of an existing correlation between external job offers and individual wage earnings. They examine data on academic economist labor market experiences and find that, due to gender discrimination, women receive less external job offers, and consequently lack distinct leverage in wage negotiations.

Nelson Killius, director of the recruiting department for a business consultancy company, reports in the "The Modest Gender" press article that "Men have a tendency to exaggerate, while women tend to be overmodest. If I have a woman's résumé in front of me, I already know that she will leave half of it out." Therefore female candidates, even with outstanding achievements, often miss out on opportunities because they appear too modest in interviews, due to their through their "tendency to understate". This is especially true during salary negotiations.

Then, is it women's own fault if they earn less than their male counterparts? Women judge the value of their work completely different than men, and often see a smaller income as justified (Frick, 2011). Due to the lack of transparency, women often don't know how much their male colleagues earn. However, there are exception, as in the case of Scandinavian countries (e.g., Norway or Sweden), that allow to check the salary of every colleague or even the boss' in documents published once a year. Societal behavior patterns certainly contribute to this lack of direct marketing and self-discrimination. Thus, there are more rigorous negotiation strategies and information about comparable salaries and possible solution to this problem. We will discuss them later in detail.

Prejudice towards (and even within) women have historical roots (Goldberg, 1968). When comparing two identical essays, one with a male author and the other one with a female author, the essay presumably written by the woman tends to receive consistently worse scores (Swim, Borgida, Maruyama, & Myers, 1989). Prejudices exist also in today's professional life. More often than expected, men are evaluated with "excellent, outstanding", while women with "average, unsatisfactory", and women who try to negotiate are often perceived as "less nice" (Katz & Baitsch, 2006). Previous studies show that "men were always less willing to work with a woman who had attempted to negotiate than with a woman who did not. But it made no difference to the men whether a guy had chosen to negotiate or not" (Clark-Flory, 2007).

The European Commission explains the undervaluing of women's work and skills in the 2009 and 2013 reports, with the assessment of women's performances to be seen as female characteristics rather than competences and skills. An example is the inferior wage of female nurses with respect to male medical technician in defiance of comparable qualifications, or also the overpay of responsibility for capital against responsibility for people. When taking a look at the negotiating power of employers in companies, men who receive a higher salary at equal qualification levels for identical performance are reluctant to ally themselves with women, so as not to be subjected to worse conditions. On the other hand, women wouldn't reduce their performance either, out of fear of getting laid-off. This only further increases their wage discrimination.

3.3 Traditional Gender Roles, Parental Leave, and Work-Life Balance

The public opinion of women's behavior is strongly influenced by gender roles and traditional values. Stereotypes of career choices can lead young women into professions that are perceived as typically female but behind that are less well paid. Because of traditions and stereotypes, societal expectations on women to reduce their working hours, or to exit the labor market to carry out child or elder care, are far greater. “Women work shorter hours and often part-time in order to combine their family responsibilities with paid work. Opportunities for women to progress in their jobs and receive higher pay are also affected by their family responsibilities. The gender pay gap widens when women have children and when they work part-time. In 2010, the employment rate for women with dependent children was only 64.7 % compared with 89.7 % for men with children” (European Commission, 2013).

The gender pay gap is further increased also when employers focus investments in their human capital, often in form of advanced training, first and foremost on full-time employees. Problems occur when, in companies where performance and profits count predominantly, pregnancy creates costs or employers impute to female employees that they invest less time and energy in their education and further training in view of future family-oriented plans, even if the desire to have children is absent. Several other factors not discussed here may play a role in the persistence of the gender pay gap, such as labor market segregation, according to which female occupations are generally paid worse, and women are underrepresented on top-level jobs.

4 The Role of Globalization

Globalization has profound effects on people throughout the world, and on the gender pay gap as well. There are some situations where globalization has helped lessen the difference in pay between men and women, but there have been other cases where things have worsened. As the ability of a society to globalize increases, there will be an increasing number of instances of globalization affecting the gender pay gap. Acker (2006) argues that globalization plays a role in continued gender wage inequality in the US. He finds that globalization has caused American men and women to lose their jobs when their employers decide to outsource their tasks to countries with cheaper labor sources. In terms of gender effects, Acker finds that men often find jobs more quickly than women after they have been laid off, and a significant gap in pay still exists between men and women.

Acker (2006) focuses on the connection between gender pay gap and outsourcing of jobs to foreign countries. From an American perspective, many jobs have been outsourced to countries where blue collared labor was cheaper. When outsourcing occurs, women remain unemployed for longer than men in the same job positions. Furthermore, the situation post-outsourcing in terms of gender pay has not changed. Women are still paid less than men. In poor countries, the strategies employed to lessen the gender pay gap used by wealthy countries do not have the same effect. Using economic development tools like strong trade ties and foreign direct investment do not help to lessen the pay gap between men and women (Oostendorp, 2009). Overall, globalization has changed the outlook of the gender pay gap for countries around the world.

There are, on the other hand, several positive outlooks on the effects of globalization on closing the gender pay gap. In terms of the wage gap within certain occupations in wealthy countries, the wage gap can be narrowed. This can be done with healthy economic development. For instance, having strong trade ties with other countries and foreign investors investing in companies within a rich country may help reduce the gap (Oostendorp, 2009). Trade appears to have a positive effect on the gender pay gap in some countries. Having a strong industry requires many workers, often low skilled. With a higher demand for the products that are produced by these workers, more workers are needed. Therefore, companies will need to hire whoever they can. In this case, women are less easily discriminated against men in terms of pay, because employers need to raise their salary in order to meet their quotas (Black & Brainerd, 2004). Globalization may help solve this issue in the future by encouraging economic development in rich countries and by causing a higher demand for good that are traded between countries.

5 Current Policies

Plantenga and Remery (2006) argue that most countries are reluctant to implement new wage-setting policies because, from their perspective, the social partners are responsible for this additional legislation. They also suggest that dissolving occupational rigidities might solve the wage inequality problem. They conclude that it is best to educate the public and raise awareness of the seriousness of the problem. Additionally, they argue that it is essential for the future to formulate well-founded objectives, timetables, and strategies on how to close the gender pay gap by national governments. In this section, we outline the regulatory interventions adopted to mitigate gender pay gap issues.

5.1 European Union

The European Commission (2013) argues that several regulatory actions, such as the communication on the gender pay gap in 2007, the strategy for equality between women and men of 2010–2015, and the directive on Equal Pay for Work of Equal Value, have been undertaken and are still in progress. National strategies and programs are displayed, making these action plans a precious source for practical approaches. Most importantly, action should change views of gender roles in society.

5.1.1 Public Sector

The European Union has been actively trying to prevent wage inequality between men and women since the 1950s. Several important pieces of legislation were passed both at a European and national level. For the purpose of this paper, we decided to focus primarily on the EU policies in order to achieve a reasonable comparison to the United States and their approach to the gender pay gap. European legislation on equal pay dates back as far as the Treaty of Rome in 1957. In Article 157, Member States are required to apply the principle of equal pay for equal work or work of equal value. Over the years the issue of the gender pay gap has been imbedded at a fundamental level of a variety of policies and instruments (European Commission, 2013). The 2006/54/EC Gender Recast Directive (European Commission, 2006b) commissioned by the European Parliament and the Council for the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation is of special importance. Prohibition of discrimination specifically states that "for the same work or for work to which equal value is attributed, direct and indirect discrimination on grounds of sex with regard to all aspects and conditions of remuneration shall be eliminated."

In 2006, the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions introduced a roadmap for equality between women and men, which focused on six specific aspects. Among others, the point of equal economic independence for women and men dealt with the increased risk of poverty for women due to their higher chance of interrupted careers and subsequently fewer individual pension rights. Reconciliation of private and professional life, equal representation in decision-making as well as the eradication of all forms of gender-based violence were further priority areas of the roadmap. Last, but not least, the elimination of gender stereotypes by raising awareness and the promotion of gender equality in third countries completed the agenda (European Commission, 2006a).

In order to examine possible causes for the gender pay gap, the European Commission initiated a strategy in 2007 that put several programs into action aimed at reducing wage inequality. These included an increase of care services for children and elderly people to reduce career interruptions as well as the elimination of gender stereotypes in education, training, and culture (Foubert, 2010).

In 2010, the Commission suggested a follow-up strategy to the original 2006 roadmap that forms the outline for its work program and focuses on the following key points. First, it continues the economic independence of women by for example undertaking initiatives aimed at promoting female entrepreneurship and self-employment or promoting equality through EU funding. Most importantly, however, the Commission, in cooperation with social partners, is looking for possible ways make pay structures more transparent, provides support to equal pay initiatives in the workplace (i.e. equality labels, charters, and awards), and attempts to convince women to enter into sectors that traditionally did not have a high representation of women, such as “green” or innovative sectors. In addition, a European Equal Pay Day has been instituted. It was first launched on 5 March 2011 and intends to draw attention to the existing gender wage gap between men and women in most countries and publicize the discrimination that is wage inequality. This date marks a point in the current financial year after a certain amount of days, i.e. that women need to work to achieve the same wages that men earned during the previous year.

Furthermore, this strategy forms the basis for the cooperation between the Commission and other European institutions, member states and other stakeholders as stated in the European Pact for Gender equality (European Commission, 2011). Additional instruments the deal with gender inequality on a European level include the European Strategy for Growth and Jobs or the Structural Funds (European Commission, 2013). In an outlook of how to deal with the gender pay gap in the near future, the Commission will try to focus on monitoring the correct application and enforcement of aspects introduced by the Directive 2006/54/EC as well as providing assistance to all stakeholders in the implementation of said regulations. A report published in December 2013 assesses the actual real-world application of the provisions on equal pay outlined in the Directive mentioned above. Furthermore, it provides a broad summary of the landmark EU case-law on equal pay as well as job classification schemes and national actions.

5.1.2 Private Sector

Despite the fact that the private sector is one of the most important environments in which wage inequalities take place, there is still a lack of effort in translating all the principles and legislations into force. A big issue is represented by the transparency of pay. Whereas the public sector is ahead in providing pay information, the private sector could enable more forwardly application of the equal pay principle. In some Member States of the EU, the national law protects pay information as confidential data and therefore cannot be made available by employers (European Commission, 2013). This bounces the ball back to governmental institutions.

However, the problem in the private sector emerges especially from the accumulation of both the highest and the lowest paid jobs (Rubery, Grimshaw, & Figueiredo, 2002). More individualized payment systems may also contribute to a wider spread of income. Another factor to be noticed is the output of individual bargaining because it rewards “factors that women are less able to supply, such as commitment to work excessively long hours. Where the terms of the pay bargain are collectively regulated, it is more possible to exclude factors from the reward system with which women are less able or willing to comply, but when rewards are individualized, working above and beyond the hours that are manageable in the context of domestic commitments, can be a source of pay discrimination, justified as reward for effort and productivity.” as the Expert Group of the European Commission states.

One may wonder what companies have done to contribute narrowing the gap. The voluntary measures are of little avail up to now. A self-commitment to increase the percentage of women at the top to 30 % until 2015 and 40 % until 2020 has been signed by only 24 enterprises in Europe, even though various parliaments and ministries supported it. The European Chambers of Industry and Commerce does not paint a better picture, as it does not promulgate any statement or opinion concerning the gender pay gap.

There are, however, notable exceptions, such as Total SA, a French-based international oil and energy company, and Allianz SE, a German-based international insurance and asset management company (both listed and included in the Euro Stoxx 50 index). Allianz SE not only offers programs for top female talents but also amply models of work-life-balances. The programs range from a Women Sponsorship Program over career-planning workshops, mentoring and networking events to leadership development programs, all for women. In order to guarantee flexibility to employees, Allianz SE designed work time models that include flextime, part time, vacation, home office, family service and sabbatical. Meanwhile, Total SA tries to engender an equal-pay-image, but misses the mark what is evidenced by following indications: admittedly it mentions the compensation composition by personal and company-wide performance, the average increase of 2,300 female salaries of 3.7 % in 2010 and adorn itself with signatories on agreements on promoting careers for women, but when it comes to the agreement on workplace gender equality at Total S.A. they set up a work council but no indications towards gender pay equality, as stated in the Total European Work Council. What looks like a deceptiveness as well is the companies statement, “Our target is 18 % women senior executives by 2015.”, if you know that 17 % of the senior manager workforce consisted of women in 2013.

It seems that the liberty that the companies have in setting their wages is still used. Many companies set up strategies and models to reach a fair pay over the gender or at least better circumstances for women, even if especially their wage settings are much less transparent for the public. However, there seems to exist enough ‘black sheep/bad apples’ that didn’t develop any instruments to adjust women’s pay. What can be seen as a healthy step in the right direction is the paycheck “Logib D” that was started as a pilot experiment by the German federal ministry for family, seniors, women and youth. Companies can—again voluntarily—review their inner structures, detect wage differentials and develop promising solutions (logib-d).

5.2 United States

The US has a vast history of implementing solutions to attempt to solve the issue of the gender pay gap. The first notable instance of gender pay gap action from the government came from the Equal Pay Act of 1963. The Act forced American companies to pay women equally for equal work under the law (National Equal

Pay Task Force, 2013). In 2013, the United States celebrated 50 years of the Equal Pay Act and the National Equal Pay Task Force produced an article outlining a number of different strategies that United States is currently undertaking or hopes to undertake in the coming years. The National Equal Pay task force was created to ensure good enforcement of equal pay rules, pushing for gender pay gap policy, and giving funding to agencies who act fairly. The article called for a unified civil rights movement on the issue and explained solutions that utilized further training for employees on the topic. The Task Force advocates for ending discrimination and more transparency in statistics of pay in the workplace.

Unfortunately, the Equal Pay Act of 1963 did not lead to the end of women discrimination. In 2006, arguments were heard by the Supreme Court of the United States in the case of Ledbetter v. Goodyear Tire & Rubber Co. Lilly Ledbetter brought the case against her former employer Goodyear for unfair pay practices. The Supreme Court found that Ledbetter was outside of her 180 days statutory limit for bringing a legal case against her employer. Thus, her case could not be argued (Cornell Law). In order to continue progressing equal pay for women, President Barack Obama signed the Lilly Ledbetter Fair Pay Act into law in 2009. The law reversed the decision of the Supreme Court and made it legal for women to sue their employers if they felt they were being paid unfairly compared to their male coworkers. The Act meant that women could once again sue their employers after the 180 days deadline upheld after the Ledbetter v. Goodyear case (National Equal Pay Task Force, 2013).

5.3 *Best Practices*

According to the report prepared by the World Economic Forum, the top four countries with the best Gender Gap Index are Iceland, Finland, Norway, and Sweden. In this section, we analyze the virtuous practices that led this part of Europe to the first places in world rankings for the lowest gender pay gap.

5.3.1 Iceland

In 2004, the District of Akureyri, Iceland (population of 17,000 people) tried to overcome the gender pay gap among its workers (at the time amounting to 8 %) by establishing a committee to review and analyze the structure of wages. The plan contains three steps: first they controlled that each person was paid according to his contract, the agreement with the labor union and the special payments or overtime. Already in this first step, you see that more men ask for overtime compared to women and for some this was in contrast with the family norms of the district. Then, they were cut many extra payments and reduced overtime. The next step was to re-measure the gender pay gap after the changes were implemented and the result was that no longer existed. Then the last step was to make sure that the decisions on the salaries of employees were centralized and carried out by the same staff; was also established the need to regularly measure the gender pay gap. The gender pay gap does not exist in the district of Akureyri anymore, but the work was hard and there was dissatisfaction and resistance from male employees, despite the support of labor unions. Now the district of Akureyri is leading Iceland in local policies on the gender pay gap.

5.3.2 Finland

In Finland, the government, central labor market organizations, and employers' confederations agreed to the joint action plan called The Equal Pay Programme to tackle the gender pay gap, that at the time was 18 %. The goals of the Equal Pay Programme were to develop a database with statistics specific to gender and sector, increase the use of paternity leave, reduce the gender pay gap to 15 % by 2015, improve the quantity and quality of gender equality plans and pay surveys, reduce the gender-based segregation in the labor market, develop prospects carrier for women and enclose equality and equal pay programs in the corporates statues. In 2010, The Ministry of Social Affairs and Health did a study on equal pay in the workplace to assess the level of achievement of objectives through a series of indicators. In general, the objectives were improved, but have not yet been fully achieved. A major effort has been made by the government, which has provided grants to highly qualified women who worked in the public sector. Grants have also been added, with the name of 'tranches of equal', in order to fill the gap in collective agreements.

5.3.3 Norway

In 2006, the Norwegian Government appointed the Equal Pay Commission aimed at reducing the gender pay gap. This commission is composed of experts in various fields and works closely with a group of ten employers in major Norwegian companies. In 2008, the commission presented its report, analyzing the reasons for this gap and providing explanations for Norway' gender pay gap, amounting to 15 %. In order to understand the gender pay gap the report also highlighted that in Norway the pay gap follows the gender segregated labor market and shows the increases of the gap during women's fertile age as having children has a negative effect on the wages of a woman, this occurs because women take maternity leave when they decide to have children. This may make them less productive. The Norwegian model of collective agreements did not help to reduce the pay gap.

The Equal Pay Commission provides concrete proposals for future strategies that involve the private companies and public sector. The private sector solutions will be proactive actions in the workplace and collecting statistics on payment available to all employees in the workplace. A strong focus on equal pay in collective bargaining negotiations and agreements, with the objective of allocating funds for low-income groups and dominated by women. In the public sector, proposals are aimed at increasing wages in predominantly female professions, allocated from the national budget. In order to balance family concerns with work concerns the Equal Pay Commission proposes that parental leave be more evenly divided between fathers and mothers, a right for employees who are absent from work due to parental leave of at least an average salary increase and a support for increased recruitment of women in management positions.

The Equal Pay Commission has played an important role in the spread of the problem among the public opinion. After that, the government put equal pay as a priority for the new policy platform. Many disputes and strikes have led to direct intervention by the state to mediate negotiations of the new collective agreements, highly focused on the equal pay, between employees and employers until they reach a wage agreement for better pay for women and a statement on gender equality. In 2010, the government sent a white paper to the parliament to turn into laws the proposal and the strategies outlined by the Equal Pay Commission.

5.3.4 Sweden

The Swedish Discrimination Act (SFS2008: 567) states "employers and employees must work together to equalize and prevent differences in pay or working conditions that may exist between women and men who do the same work or for work of equal value". To detect and prevent possible differences employers obligated to conduct a survey every 3 years and then draw up a plan for action to restore equal pay, and report the results of the surveys and outline the appropriate salary adjustments (the action plan on equal pay does not apply to companies with fewer than 25 employees). This practice has its origins in 2006 when the Ministry of Equal Opportunity began a campaign of inspection methods of payments in Swedish companies named 'One Million inspection program', which aimed to explore a million workers. Respondents included 600 employers with a total of 750,000 employees (15 % of government agencies and 85 % private companies). When 'Project One Million Inspection' ended at the end of 2008, there were notable results in the adjustments of the pays (that affected at least 5,800 employees, of which about 90 % were women) for about 60 % of employers and one-third of employers had taken measures other than pay adjustments to achieve equality of pay. These include professional development for staff, training for managers pay-setting, measures to recruit more women in management positions, and a brake on the growth of wages for men compared to colleagues who had received a wage higher than their current position justified. In the end, the survey also helped bring the attention to other measures of gender equality needed to solve the problem of the gender pay gap; these are called objective and wage differentials are the result of the conditions in working life.

In conclusion, all of these countries have implemented some programs along with governments and other institutions, but the most important factor leading to greater gender equality is the different way to look at the roles of male and female workers. This can substantially help to decrease the gender pay gap.

5.4 Future Directions

Despite all of the efforts put forth, American women were still being paid 23 cents less than men for every dollar earned in 2011 (National Equal Pay Task Force, 2013). Thus, US are not done at solving the gender pay gap issue. In 2010, President Obama started a National Equal Pay Task Force. This group is comprised of individuals from multiple agencies of the government. The National Equal Pay task force was created to ensure good enforcement of equal pay rules, pushing for gender pay gap policy, and giving funding to agencies that act fairly. The group calls for a unified civil rights movement on the issue and explained solutions that utilized further training for employees on the topic. The Task Force advocates for ending discrimination and more transparency in statistics of pay in the workplace.

A new bill, aimed at lessening the US gender pay gap, is on the horizon. This bill is called the Paycheck Fairness Act, and outlines a number of different methods to help women achieve fair pay in their jobs. One important part of the Act says that employees can have access to pay data about other employees in the company, so that they are able to assess whether they are being paid equally. The charges against companies who use unequal pay practices would be more strongly reprimanded. Furthermore, wage related data and information about handling unequal pay cases would be more readily available under the Act. The Paycheck Fairness Act has yet to be voted on.

6 Proposed Solutions

Even if the wages, and therefore their inequality, strongly depend on the private sector and the companies, governments and non-profit organizations can still play an important role in tackling the gender pay gap. As the companies would only raise the wages of women up to those of men if they had economical or monetary benefits, the loss of a bad reputation and social ostracism must be greater than the savings of paying women a lower wage. This can only be achieved by raising the public awareness of the gender pay gap. To aim for this goal, we suggest the following strategies and practices.

6.1 Public Sector

Governmental strategies in choosing when to attempt to solve these issues have always been based on legislation and new policies. At a first glance, these directives seem to be effectively designed to tackle the problem, but their practical effectiveness often falls short when compared to the theoretical goals. This can be attributed to lacking incentives or missing sanctions towards the private sector. For instance, the Italian constitution contains a paragraph on equal pay for equal work, which has been almost ignored by companies so far. We believe that governmental regulations and policies alone are insufficient in solving the problem of wage inequality between men and women. We hereby list several approaches that governments could implement in addition to the existing gender equality legislation.

Akin to the Fair Trade Certified label commonly used in the US, the European Union could award certifications to select businesses that achieve a gender wage gap that is below a certain threshold. This would serve in swaying public opinion and facilitate a market selection based on customer choice. Companies that so far have refused to address wage inequality would be forced to adopt changes or risk getting phased out of the market. Furthermore, by requiring companies to file an "equal pay audit", similar to existing tax audits, the government could help bring the topic of gender wage inequality out of obscurity and draw attention to the issue. This report would disclose the wage structure within the company and enable both current and potential future employees to identify whether they are affected by wage inequality or if they are being paid fairly. This transparency could then be utilized by liaisons of fair pay/equality of gender that act as contact points for employees who feel like they are being paid less than they should be. Based on the comparison of the wages of the person in question to salaries of colleagues in similar position, the liaison officer can give counsel on possible actions. This can be coupled with possible subsidies or tax benefits for those companies that achieve an especially low pay gap to provide further incentives for organizations to take action.

6.2 Private Sector

As mentioned before, the private sector is the setting where gender pay gap issues are more pronounced. Besides the measures that the public sector and non-profit organizations can take to increase the companies' incentives to pay equal work equally, we propose a way in which a company can cope with the gender pay gap. Generally, a company can build up and install a "gender free zone" policy. By promoting this policy and acting in line with it, the enterprise would create a confidential relationship to his employees and customers (what can be seen as a first step).

Part of the gender-free-policy can promote the birth of HR departments for fairness and advice, that would take care of the compliance of the policy and receive offenses as well as announces and avenge them. They would also include recruiting encouragement and render assistance for preparing wage negotiations. The probably most important point resides in the transparency of wages. If everyone was able to inform herself about colleagues' wages, women would initiate negotiations more often and more willingly. It would be sufficient—also because of data security—to publish a range of pay scale within the company. Of course it would be better to be also transparent to the public and possible future employees. Advertisements for a vacancy could include information of wage (setting) for example. What is more is to provide a fair base for an equal pay for women in every sense. Not only make wage structures transparent but also provide information and possibilities for women to earn an equal pay.

Overall, there are a lot of instruments available to governments, social partners, and NPOs. The companies can pick the strategies that are most apposite to their cases. Even if equal pay is laid down in law, the practice deviates a lot. The private sector shouldn't hesitate to adopt or create own models in fear of economic bad success. If companies look at the best practices of leading countries they realize quickly that eliminating the gap doesn't mean competitive disadvantage. On the contrary it could turn out to be an outstanding feature if society recognizes that our modern times don't require antiquated gender roles any more. Realistically, will the private sector only begin to take action if equal pay leads to benefits? Therefore all three sectors should work together and implement the policies and strategies that can end inequitable payment.

6.3 Nonprofit Sector

A number of non-profit organizations are working around the world to help women achieve equal pay in their jobs. For example, Equal Pay Day is a nonprofit organization in Germany that advocates for equal pay between women and men in German companies. The organization works on a city by city basis, holding events and sharing information about closing the gender pay gap. March 20th is their official Equal Pay Day each year where they hold events around the country to shed light upon the issue (Equal Pay Day, 2014). Another example of a similar organization in America is called 9to5. The nonprofit advocates for a number of women's rights issues when it comes to the workplace. One of these issues is equal pay for equal work. The organization calls people to action by asking them to share their stories with others, send letters to Congress members, become educated about equal pay for women, and asks them to stay involved in the issue by signing up for emails from the organization.

6.4 Future Partnerships

While the non-profit sector plays an important role in narrowing the gender pay gap, we believe that greater effort can be put in the sector to help move the process forward. Non-profits can do more in terms of advocacy, helping to audit corporate equal pay policy, as well as providing a nonprofit seal of approval for businesses with particularly good equal pay practices. Nonprofit organizations sometimes publically advocate for their beliefs. While some nonprofit entities in America are limited in their advocacy abilities, other types of incorporation statuses are possible to advocate more readily (IRS, 2014). Nonprofits should do more to wield their power to make the issue more salient in public. Nonprofit organizations could perhaps stage protests to build visibility for the cause among the general public. Nonprofits could also create a coalition of likeminded nonprofits in order to make a more unified front and to plan events together.

We propose an audit system be put in place in order to look more closely at certain corporations' records when it comes to pay practices. In this way, there could be a method for finding corporations that are acting inappropriately and they can be brought to justice. The non-profit sector could help by working with the government to help determine best practices for this new type of audit. Audit systems should become truly useful tools for narrowing the gender pay gap. Finally, we believe that the nonprofit sector could help by making a seal of approval so that companies could utilize to show that they are a gender free zone. The seal would be associated with any organizations that have passed a test of standards showing that they treat men and women in the same way when it comes to their paychecks. This non-governmental solution has already proved successful in the US with the fair trade movement. Certain non-profit organizations decided their own standards for fair trade, and producers that wish to be considered fair trade can apply for the status with one of the nonprofit organizations that provide such seals. Anyone who sees the seal knows that the organization meets certain standards, like fair payment to producers and humane working conditions, so they can feel comfortable buying the products. This method can be applied to businesses so that anyone looking for a job, male or female, can feel confident knowing that their proposed employer operates with certain equality of pay standards, like equal pay for equal work.

7 Conclusions

In this paper, we investigate the existence and the evolution of the gender pay gap phenomenon at an international level. Overall, we find that increasing globalization has not significantly affected gender wage inequality, bringing both positive and negative effects. As shown by the best practices adopted by virtuous countries, national governments face the concrete possibility to reduce the gender pay gap. Countries with the lowest pay gap index demonstrate that when gender inequality becomes a salient issue in society, policy pertaining to gender pay gap not only increases in relevance, but is also better received by citizens. As a result, regulatory interventions benefit from increased effectiveness. We propose a number of possible strategies pertaining to the public, private, and non-profit sectors, such as equal pay audit systems, transparent wage structures, or certifications. Since the private sector is the most affected by gender pay gap issues, particular attention should be devoted to this context. The feeling is that, in this context, efforts will be put in place only when monetary concerns are involved. As the issue of equal pay for equal work becomes more salient in a global perspective and more relevant in everyday businesses, private companies will be forced to do their part to narrow the pay gap. Future research could include testing the possible solutions proposed in this paper.

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Crime and Security in Europe and the US

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Abstract National security issues are always raised after crimes have been committed which attract the attention of the public. Examples can be found manifold: jewelry theft during the international film festival in Cannes, cyber-attacks on bank accounts or tax fraud worth millions of dollars. All those criminal activities lead to the question why those crimes are conducted. The answer to this question seems simple: it pays off. This chapter focuses on the economic motives behind criminal activities as well as highlights three distinct types of crime: violent crime, white-collar crime, and organized crime. As all different crimes result from diverse intentions and are mainly conducted by different social classes, every single characteristic is discussed separately. Since crime is an international phenomenon which is not limited to national borders, security systems and their interconnectedness in Europe and the US are described and explained. Getting a deeper understanding of the motives and causes of crime is crucial to establish an effective judicial system which tries to minimize any kind of crime.

1 Introduction

National and international criminal offenses are displayed almost every day on the news and attract and threaten the public simultaneously. Media authorities show documentary reports about the most famous crimes such as "The Great Train Robbery". However, conducted crimes do not only entertain people but also give occasion to discussions about the national security and preventive measures. Billions of dollars are spent every year by governments to prevent crime and run a solid judicial system. As crime and its implications have become an increasingly important issue within politics, many scholars from various scientific disciplines

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have dealt with the issue of crime and security in order to help classify different criminal actions as well as to understand the core reasons concerning crime (Becker, 1974; Gottfredson, 1987; Sutherland, Cressey, & Luckenbill, 1992).

Not only crime but also security has been investigated intensively during the last decades (Jordan, Taylor, Meese, & Nielsen, 2011; Wolfers, 1952). Scholars examined the influence of preventive measures towards crime reduction as well as internal and external factors which influence the feeling of (national) safety. Especially within the last years, increased focus has been placed on the stability of inner politics and the maintenance of the national security (Balzacq, 2010). Due to the ongoing fear of terroristic attacks and the limited financial capabilities of states, security issues are more than ever in the focus of the public.

The aim of this chapter is to explain the economic motives and implications of criminal activities as well as to differentiate the existing forms of malefactions. The distinction of Goring, Pearson, and Driver (1972) between "physical criminal types" and "non-physical criminal types" shall therefore help as a starting point. A differentiation between the different kinds of crime is necessary, since economic consequences of criminal activities vary significantly. According to statistics from the Federal Criminal Police Office in Germany, white-collar crime accounts for less than 5 % of the total number of crimes committed but resulted in more than 50 % of the total damages resulting from criminal activities in 2013. In order to be able to classify the different types of crime and their motives, a description of the theoretic background of crime is provided at the beginning, followed by a detailed analysis of violent crime. Additionally, white-collar crime and organized crime shall be discussed, too. Security systems and preventive measures against crime implemented by European states and America shall complement the topic and provide an outlook on future needs for action. In order to describe the whole topic more tangibly, selected examples of Europe and the US shall be revealed.

2 Theoretic Background

Scientists often aim to trace the origin of criminal offenses. Cressey (1972) therefore developed a so-called "fraud triangle". With this concept, the author tried to explain the cause for accounting fraud. Accordingly, the original reason for crime is based on an inner motivation, the actual opportunity as well as an inner justification for the corresponding action. This model inheres a general validity on almost any criminal activity and therefore can be seen as a basic concept for crime.

Especially the parameter "inner motivation" has provoked an intense investigation by various scholars. Since most criminals do not act irrationally but pursue a certain goal, leading economists focused on the so-called "economics of crime" (Becker, 1995; Freeman, 1999). According to this area of research, criminals base their decision process whether to commit a criminal activity or not on four distinct parameters: the benefit of a certain action, the associated costs, the probability of getting caught and the corresponding risk appetite. This theory characterizes criminals as “homines oeconomici” and therefore excludes violent crimes based on compulsive or illness-caused crimes such as sexual offenses or the desire to kill.

As a result, not biological disposition but financial and non-financial considerations play a key role in starting criminal activities. Either criminals have a direct benefit in terms of money or monetary equivalents or they gain additional power, reputation, or prestige. As already mentioned above, not only benefits but also associated costs play a crucial role in committing crimes. Costs can be divided into direct and indirect components. On the one hand, criminal acts provoke direct costs such as opportunity costs for planning and implementing. On the other hand, penalty costs such as transfer payments or opportunity costs for being arrested as well as indirect costs such as a loss in prestige, reputation, or power have to be considered.

Since the decision-making situation is ex-ante of any action, any (potential) criminal has to make decisions under uncertainty. Consequently, the adequate determination of all relevant probabilities is indispensable. Becker (1974) differentiates three types of probabilities: the transfer probability (probability of the anticipated gains and the corresponding benefits), the action probability (probability of the actual implementation of the criminal plan) as well as the penalty cost probability (probability of the resulting punishment). He further distinguishes the penalty cost probability into the probability of detection, the probability of getting arrested, the probability of being sentenced, and the probability of getting the maximum penalty. Based on these decision parameters, a function concerning the expected utility can be set up and analyzed by any individual.

The actual decision of committing a crime is in the end based on the risk appetite of the involved protagonists. A risk-averse person would rather increase the costs concerning planning to augment the probability of success or even give up the criminal idea whereas a risk-seeking person would get additional benefits from realizing a risky action. As a result, committing a criminal activity is based on several intrinsic and extrinsic factors which have to be taken into account in order to maximize the own benefit. Due to the fact that violent crime, white-collar crime, and organized crime arise from totally different beneficial motives, all three types of crime will be discussed individually in the following chapters.

3 Violent Crime

The Federal Bureau of Investigation (FBI) defines violent crime as a crime in which the offender uses or threatens to use violent force upon the victim and subsumes the following four offenses under this term: murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault (FBI, 2014a). Due to the direct link towards inner security, the causes of violent crime have been investigated intensively (Groot & van den Brink, 2010; Lochner & Moretti, 2001; Sampson, 2008). Upon welfare spending and other socioeconomic phenomena, scholars have

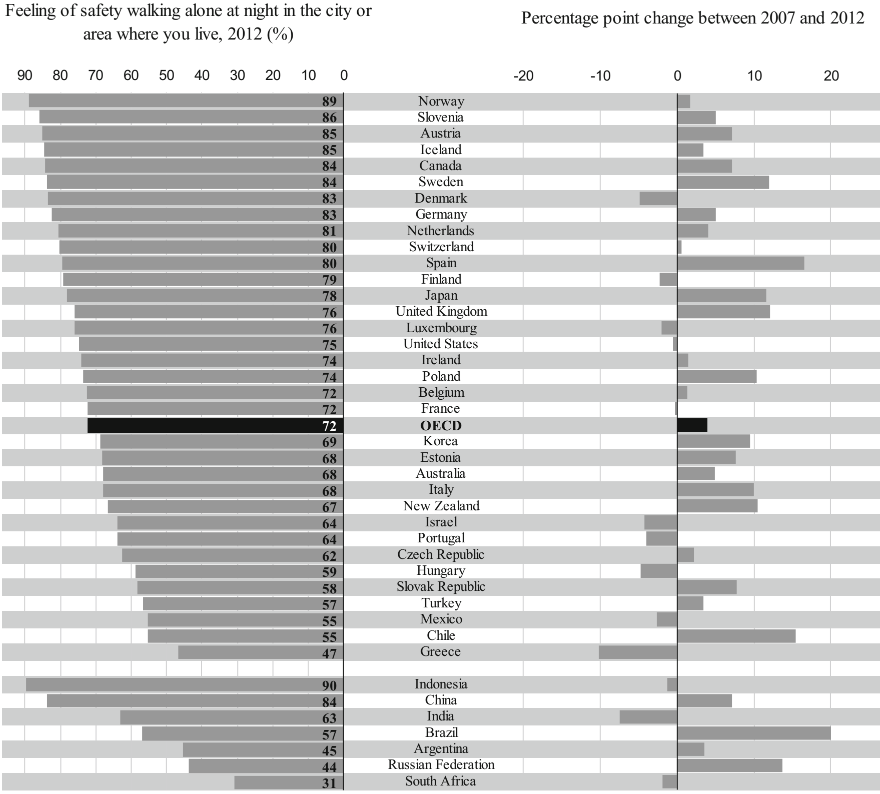

Fig. 1 Differences in feeling of safety walking alone at night (OECD, 2014)

examined two core factors which mainly seem to influence the involvement in violent offenses: immigration and education. Before focusing on those two very important factors concerning crime and crime prevention, statistics on this topic shall facilitate the introduction to this subject.

The OECD (2014), an international economic organization which aims to foster economic progress and world trade, intensively deals with national and international policies and consequently focuses on crime as well as security aspects, too. Subsequent Fig. 1 illustrates differences in the feeling of safety walking alone at night for selected countries. As this context is primarily related to the intrusion into a person's physical integrity, the revealed data can be connected to the level of violent crime within a specific country. Besides the depiction of the status-quo of 2012, the development of the past 5 years from 2007 to 2012 is exemplified. Whereas the safety level could be augmented in many European countries over the years, the feeling of safety could not be improved in the United States and even significantly dropped in countries such as Mexico, Greece, or Israel.

The ongoing involvement of the United States in wars fighting terrorism and the resulting consequences as America being a target of terroristic attacks might have a negative impact on the general feeling of safety among citizens and could be seen as possible answer towards this issue. Furthermore, continuous debates about the right of citizens to bear arms and the resulting threat of being shot dead in the streets might influence the feeling of safety. As already stated above, immigration and education policies are besides others very effective political measures to reduce violent crime and increase the national feeling of safety. The following sections therefore give a detailed overview of those political tools and the related consequences.

3.1 Immigration

Chapin (1997) evaluated the relationship between immigration and crime in Germany and tried to draw conclusions concerning the debates regarding optimal immigration policies. His empirical investigation suggests that increases in immigration are associated with increases in crime levels. However, he postulated that also other factors such as the unemployment level have to be taken into consideration. More recent empirical studies reveal that a linear connection between a high immigration rate and a high crime rate does not exist (Bell, 2014). Especially the legal status of immigrants and the adequate integration into society have to be considered and are simultaneously the key to success when it comes to preventing crime with immigrants involved.

The social integration plays an important role within all concepts focusing on the reduction of crime rates among immigrants (Tonry, 1997). Not only counting for immigrants, the social environment strongly influences the behavior of all citizens. Employment opportunities and social security therefore have to be guaranteed by any state in order to handle and reduce crime effectively. Individuals with poor legal sector opportunities are more likely to substitute this lack by criminal or illegal activities. Seeing this in the course of increasing immigration rates, governmental regulations, policing, and sentencing are essential.

Although it is not valid to prejudge immigrants for mainly committing crimes, it would also be a mistake to neglect criminal offenses from immigrants. As recent studies show, especially in some parts of the US, immigrants are responsible for a significant share of crime (Camarota & Vaughan, 2009). Therefore, federal immigration authorities have to work together with local law enforcement agencies in order to evaluate and determine the immigration status of offenders. Setting up a profound legal system together with effective policies concerning immigration constitutes the basic condition for a long-term reduction in criminal offenses and an increase in national safety.

3.2 Education

Another very important factor regarding the minimization of crime rates represents the educational policy of any state. Education and the lack thereof is a major factor for an individual's probability to commit violent crimes and be incarcerated. Groot and van den Brink (2010) investigated the dependency of education on the probability of committing criminal offenses. Whereas the probability of violent crimes decreases with increasing years of education, the likelihood of white-collar crime increases. Nevertheless, substantial savings on the social costs of crime could be obtained by investing in national education systems—including natives as well as immigrants.

A better education is not only likely to provide the individual with a higher income and better job opportunities, but may also lead to a higher aversion towards crime and the risk of losing current or future benefits from a proper education. Scholars like Lochner and Moretti (2001) or Entorf and Sieger (2010) confirm this postulation with their empirical investigations. Accordingly, additional years of schooling result in a significant drop of the probability for being incarcerated for violent crime. Freeman (1996) examined the structure of inmates and found out that approximately two thirds of all men in jail in the US did not graduate from high school. Additionally, the rate of men aged 20–23 reporting to earn parts of their income from crime is about 34 % for those completing 11–12 years of school; yet these numbers drop significantly to 24 % for those with a high school degree and even 17 % for those with more than 12 years of education (Lochner, 2004).

Lochner (2007) identified the four main reasons why education generally has a negative impact on committing violent criminal offenses. Firstly, higher education usually results in higher wages and therefore higher opportunity costs for criminal activities in the case of being arrested. Secondly, education may as well have a direct impact on the financial or psychological rewards from crime. Thirdly, a higher level of education may have an impact on an individual's willingness to take risks related to criminal activities. Fourthly, an individual's social network might be altered due to attending school or university, lowering the risk to spend one's time with the wrong kind of people.

However, a higher level of education does not only have a negative impact on the crime rate concerning violent offenses but also has positive effects for the society itself. Less crime results in higher social returns. Lochner and Moretti (2001) figured out that an increase of 1 % in the high school graduation rate of the US amongst men aged 20–26 would entail annual savings of US $1.4 billion for the American government. Consequently, investments in the education system would implicate a significant return on investment and should therefore be carried out by any state.

4 White-Collar Crime

According to Sutherland (1940), who was the first scientist to introduce the term "white-collar crime", white-collar crime comprises criminal activities of a person with a high social status and certain responsibilities in the course of one's occupation. Typically, white-collar crime can be further subdivided into law-breaking by individuals and by organizations (Geis & Jesilow, 1993). The Federal Bureau of Investigation of the US subsumes fraud, theft, and embezzlement, which might occur within or against the national and international financial community, under this term (FBI, 2014b). The Association of Certified Fraud and Examiners (ACFE) additionally includes corruption as a white-collar crime. Figure 2 illustrates the frequency and median losses of detected corruption cases by region. Especially in the Middle East and in North Africa, both rather politically instable regions, most corruption cases have been reported. The highest median losses interestingly occur in Canada. The liability to corruption in Europe and the US is generally rather low. However, the frequency of corruption cases is slightly higher in Western Europe than the US.

The criminal practices of white-collar crimes can be directed at a variety of legal entities. Ordinary citizens may become a victim of a phishing scam or investment fraud. Companies may suffer from corporate fraud or market manipulations and even governments may become victims for example in cases of subsidies fraud or fiscal fraud. As was already stated above, the likelihood to commit a white-collar crime increases with higher education. The return on investment for white-collar crimes may rise on certain occasions and therefore pose a bigger incentive to engage in fraud, forgery, and other white-collar crimes.

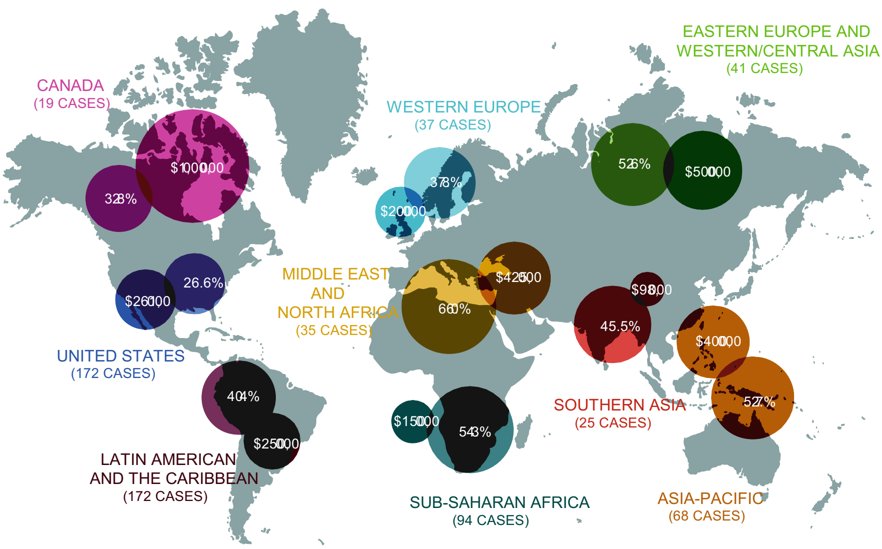

Fig. 2 Frequency and median loss of corruption cases by region (ACFE, 2014)

Especially the financial implications of white-collar crime often raise public attention. According to the FBI (2014b), corporate fraud cases involving losses to public investors up to US $1.0 billion have been investigated. Besides the monetary implications of this type of criminal offense, white-collar crime also has some other distinct negative side effects. As Friedrichs (2009) states, crimes like fraud or corruption undermine the trust in government authorities and lead to a decay of a society's value system. Furthermore, legal acting companies might have competitive disadvantages by obeying the law which then leads to inequalities within the market.

A recent study conducted by KPMG (2012) concerning white-collar crime reveals some interesting insights into the economic scope of this issue. According to the study, white-collar crime accounts for an overall economic damage of €20 billion in Germany with each case making up €30,000. In Germany, 675,000 cases of white-collar crime were committed in 2012. However, budgets for preventive and compliance measures have not been augmented within the last 2 years. The most common criminal offenses concerning white-collar crime had been theft, embezzlement, fraud, data abuse, trade secret violations, infringement of copyrights as well as corruption.

In order to prevent white-collar crimes, a variety of different measures is used. Due to the internationality of people often involved in such activities, it is of absolute importance that national law enforcement agencies cooperate with their counterparts abroad in order to ensure thorough and adequate investigations as well as quick and coordinated efforts. It is important to be able to seize the earnings derived from these criminal activities and thus to reduce the incentives to engage in such activities. A cross-border coordination of law enforcement activities is necessary to successfully locate and confiscate the earnings. The threat of sensitive punishments besides financial reparation might be an additional way to reduce this kind of crime.

5 Organized Crime

An even greater degree of damage is caused by organized crime. According to a recent study from the Catholic University of the Sacred Heart in Milan in collaboration with the European Union, the total revenue of illegal businesses was estimated at €100 billion in Europe alone per year. Despite the general belief that organized crime is mainly involved in drug-related crimes, criminal offenses such as counterfeiting, money laundering, and cybercrime provoke immense damages for economies. Additionally, crimes against persons such as the facilitation of illegal immigration need to be taken into consideration when it comes to creating a complete overview concerning organized crimes. Figure 3 illustrates most severe criminal offences taken by organized crime groups on a global level.

Due to the immense influence on regional as well as global economics, scientists intensively dealt with the topic of organized crime, its origin as well as the

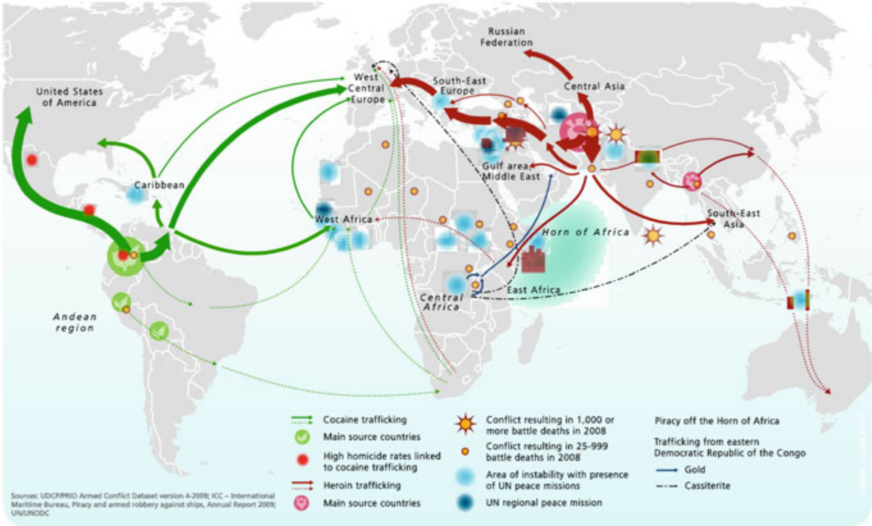

Fig. 3 Crime and instability—Key transnational threats (UNODC, 2010)

organizational structure which lie behind those organizational formations (Braithwaite, 1989; Needleman & Needleman, 1979). In order to be able to conduct profound research on organized crime, "Transcrime", a joint research center on transnational crime, has been established in 1994. The aim of this center is the investigation of innovative ideas and techniques in the field of criminology and crime prevention. Since its foundation, more than 100 research projects have been carried out on analyses of criminal phenomena, the evaluation of crime prevention policies, analyses and identification of criminogenic opportunities in legislation as well as on the development of risk analysis and prevention.

The European Police Office (Europol) estimates that approximately 3,600 international organized crime groups are active within the European Union and are involved in a broad range of criminal offenses such as trafficking in illicit goods, weapons and drugs, armed robbery, counterfeiting, money laundering as well as the facilitation of illegal immigration. Although drug trafficking is by far the most widespread criminal offense, more than 30 % of all active groups within the EU engage in more than one crime area—so-called poly-crime groups (Europol, 2013).

Abadinsky (2012) investigated the attributes of organized crime and analyzed criminal organizations such as the Italian Organized Crime and the Albanian Connection, the Latin American and Black Organized Crime, the Asian and Russian Organized Crime as well as Outlaw Motorcycle Clubs. Within these different associations, different types of organizational structures can be observed. On the one hand, there are vertical structures which are based on clear hierarchies and a distinct differentiation between different compulsory tasks. On the other hand, horizontally structured groups with less rigid hierarchies but rather network structures exist. Additionally, hybrid forms of organizations can be observed. Since the enforcement of those hierarchies is not based on solid corporate governance and control systems, violence is not only used against rivals or victims, but also against their members.

Besides the actual organization of criminal groups, specifics about the members of such groups have been investigated (Shover & Hochstetler, 2002). Recent studies conducted by Europol (2013) reveal that the trend of internationalization also affects organized crime. Accordingly, 70 % of all identified organized crime groups are multi-national in their membership. This circumstance is a visible sign for the cooperation and mobility of such organized crime groups and their substantial reach.

Whereas criminals who commit violent or white-collar crime can usually be matched to a certain social class or educational level, organized crime groups possess a heterogeneous structure concerning their participants. Not only the skill set of criminals within an organized crime group vary significantly, but also the distinct level of expertise differs widely. However, the primary goal of all criminal organizations remains financial gain. Due to the huge amount of money which is involved within the business of organized crime, even a convergence with terrorism can be observed by some crime groups.

6 Security

Since the effects of crime are manifold and affect multiple stakeholder groups, governments try to use all existing means in order to prevent or at least curb the spread of violence and crime. The protection of inner security is therefore one of the main goals of any state. As a result, national and international security is subject to a whole area of research and is investigated intensively—especially since security issues such as terrorism have raised the attention of the broad public (Paris, 2001; Sheehan, 2005).

Due to the diverse implications and the varying reach of crime, discrete measures have to be adopted to handle crime target-oriented. Governments have to deal with local and national (violent and white-collar) crime on the one hand and international (organized) crime on the other hand. Although those types of crime are sometimes interconnected, diverse counter measures have to be adopted to reach the goal of a secure environment for citizens. Wæver (1993) und Balzacq (2010) scientifically deal with those security issues and the so-called securitization theory. While classical approaches are based on material dispositions such as the distribution of power or military capabilities, securitization is a process-oriented approach to security which focuses on the politicization as a means to guarantee security. Basic assumptions for this concept are that securitization needs the acceptance of the audience, is context-dependent as well as power-laden (Balzacq, 2005). Although securitization theory can be deployed generally, governments have to adopt different political measures in order to handle local and international crime effectively. Figure 4 impressively illustrates the differences of security all over the

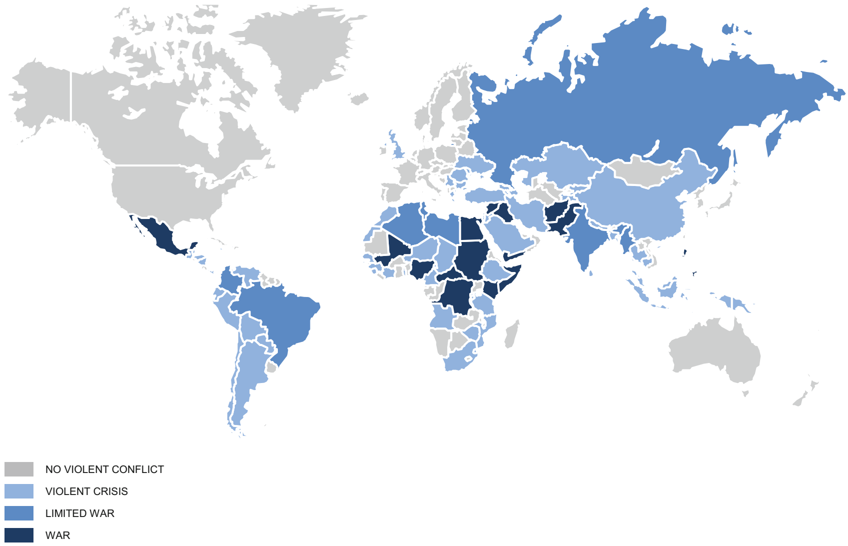

Fig. 4 Violent conflict on a national level (HIIK, 2013)

world. Whereas American and European citizens are living in a rather safe and politically stable environment, especially Mexico and African countries suffer from violence and war.

Although the United States and Europe do not face severe national safety problems, the criminal offences such as violent crime, white-collar crime, or organized crime must not be neglected. Concerning local crime, many actions have already been taken in order to curb violence and criminal offences. In America, the so-called National Instant Criminal Background Check System has been introduced in 1998 to track gun purchases and ensure that guns are only bought by authorized people. Those and similar systems create a dense net of information for police and judicial authorities and facilitate the adaption to the continually changing face of crime. Besides the sole focus on the reduction of crime, creating a feeling of safety among citizens is crucial. Therefore, not only governmental but also private crime prevention schemes such as “neighborhood watch” have been introduced which aim at achieving a secure neighborhood by educating corresponding residents (NNW, 2014).

Since police presence is not an adequate way to ensure safety, political instruments have been implemented. Crime prevention strategies as well as adequate encompassing social policies provide the basis for a safe environment. Creating a bond of trust between the government and the population itself is essential to guarantee security. As a result, low unemployment and inequalities within society play a crucial role concerning crime as well as efficient rehabilitation programs. Only be offering criminals valuable alternatives to crime and the corresponding gains, crime rates can be sustainably reduced.

Global crime and terrorism can only be combated by effective international politics and close collaborations between affected governments (Williams, 2003). Since effects of global crime are even more severe than local crime, effective and preventive countermeasures have to be adopted. Barnett (1995) investigated the effects of the United Nations on the global security architecture and concluded that the established norms and mechanisms of this intergovernmental organization contributed significantly to the creating of transparency and collaboration among participating states. Since not only international norms, but also national security governance structures are important factors for guaranteeing international security, Kirchner and Sperling (2007) examined structures of all relevant economic powers such as the United States, Germany, China, Japan, Russia, and many more. Although there are agreements on the threats industrial and industrializing countries have to face—such as terrorism or weapons of mass destruction—institutional preferences and involvement differ widely. Consequently, changes concerning a global governance have to be initiated in order to combat global crime even more effectively (Patomäki, 2007).

7 Conclusion and Future Areas of Research

This chapter serves as a flashlight considering different types of crime as well as the corresponding security aspects. Since crime is an international phenomenon, governments all over the world try to find adequate political instruments in order to minimize criminal offences. The knowledge about the distinct implications of crime—both from a humane and economic point of view—serves as the basis for adopting effective countermeasures. Scholars distinguish between violent crime, white-collar crime, and organized crime since all these forms of crime result from different motives and are mainly committed by disparate social classes. Notwithstanding, money or monetary equivalents constitute the primary reason for drifting into illegality.

Although violent crime is more of a local problem with only minor economic effects, it has huge effects on the subjective feeling of security among citizens. Since physical safety is a fundamental right of every citizen, governments have to ensure a nonviolent environment. Consequently, vast amounts of money are spent in police surveillance and enlightenment to prevent and detect violent actions. Especially immigration and education policies play a crucial role when it comes to violent crime. States have to offer opportunities for those socially marginalized groups and less educated classes as criminal offences are often perceived as the only way out of poverty.

White-collar crime and organized crime are by contrast global or at least national issues. Due to the globalization, criminal offences such as fraud, theft, or embezzlement as well as money laundering, cybercrime, and drug trafficking are no longer limited to any border. Therefore, governments have to collaborate and develop common solutions how to curb international crime and prevent the emergence of criminal formations. Institutions such as the United Nations have been established to promote international co-operation and guarantee global security. Institutionalizing an overall accepted global security governance might be the first steps towards this goal.

To conclude, any form of crime has negative effects on the national security. However, security is not only affected by criminal offences, but also by other influencing factors such as fast-spreading diseases and epidemics. A whole strand of literature deals with this topic and must not be neglected dealing with security issues (Brundtland, 2003; Prins, 2004). Only a comprehensive approach is therefore an effective means to ensure national and international safety. Since crime is also interconnected with public health, e.g. through potential terroristic attacks with bioweapons, future research should focus on this interconnectedness to entirely provide coverage on the topic of national and international safety. In this regard, especially organized crime and the distinct connections to terrorism have to be further researched. Based on those profound investigations, politicians and governments should be able to draw the right conclusions and initiate adequate actions to establish a safe (global) environment.

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Recession and Unemployment: A Comparative Analysis of Germany and the United States

Tanja Bosh, Jonah Otto, Martin Preuβ, and Savini Ranaweera

Abstract Unemployment is a long-term, cyclical problem that plagues governments and citizens in states across the globe. During periods of high unemployment, individual citizens struggle to provide basic needs for their families as they continue to search for gainful work. Consequently, governments become hard pressed to produce quality public service in the face of the dipping levels of tax revenue that results from low citizen income. Never has this systemic issue been more apparent than during the most recent economic recession.

In exploring the large and complex phenomena of unemployment, taking a comparative analytical approach can bring useful insights to light. This paper discusses unemployment from the perspective of Germany and the United States. By comparing and contrasting these two highly developed economies and governments, it will be explained how they handle unemployment differently through their public policy practices. Analyzing the differences, successes, and failures of these two nations will then reveal what they can learn from each other as they continue to move forward economically and attempt to prevent another surge in unemployment.

1 Introduction

Unemployment is a long term problem that governments as well as their citizens are confronted with. Unemployment comes with high costs of national assistance programs designed to alleviate the economic burdens of joblessness. This is compounded by the fact that overall state revenue suffers as low employment rates lead to a lower amount of wage taxes being collected. Although

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unemployment has been remedied temporarily in the past, the current rising unemployment rate shows that a real long term solution has not been found. This suggests that there is a missing element in the existing research. Attempting to close this gap can give insight on how to handle the problem of unemployment today.

The improvement of the living conditions of non-workers helps to solve other serious matters. Upon closer inspection one can see that the countries that support their unemployed persons are more likely to have a long term problem. As a result, it raises the question if it is meaningful to reduce the benefits to stimulate the jobless people to go back to the labor market or if it is important to assist these people at all. This chapter talks about different projections on how two exemplary industrial countries, Germany and the United States, handle the problem. Germany and the United States both have a long term unemployment problem which will be explained in detail in this chapter. Of the solutions discussed, one can decide where one can combine the advantages of both systems and arrange a better program.

The prospects for the unemployed in Germany are generally better than in the United States because of the social care and the advanced training that is financed by the German government. However neither of the two governments has found a way to reduce their unemployment rate in the long-run. One of the reasons for this is due to the recessions and economic boom phases that have a big influence on the unemployment rate.

Furthermore because of globalization, recessions have a big influence on the unemployment rate in other countries. The exports and imports, which have increased during globalization in the twentieth century, have a large impact beyond national borders. Before this time, when every country was responsible for itself, a bad economic climate in the United States had almost no influence on that of Germany due to the geographical distance. Today the association with unemployment is different in the two countries so the consequences for the aggrieved party, also referred to as the unemployed persons, are not the same. In Germany it is difficult to find a job, but if you have a job it's hard to lose it. This fact is based on the strict dismissal protection and the low fluctuation in the German job market. In contrast, in the United States the danger of losing an existing contract of labor is higher while finding a new job is easier.

Long term unemployment is a big problem for the German treasury. One possible reason for this is because the unemployed in Germany receive more unemployment benefits, which leads to a higher living standard for the jobless than for the unemployed in the United States. People in the United States also change their job often, because it is easier to find a new one. In fact, about three out of four employees leave their job on their own accord because they have found a better alternative. Only one out of four were actually dismissed by their company (Blanchard & Illing, 2009).

This chapter will show which country has found the best way to deal with unemployment and explicate how both countries can learn from each other on how best to deal with this problem. In exploring this area, research will be presented to show what other scientists have found in this field and different types of unemployment will be discussed. Next, unemployment in the United States will be discussed, including the reasons for unemployment and how the American government deals with this problem as well as possible solutions to combat unemployment. The same format follows for Germany and its government. We will then discuss the relationship between unemployment and health and the similarities and differences between Germany and the United States. The chapter then concludes with the effect of globalization on unemployment and the final thoughts on which solutions to unemployment are the most realistic, applicable and effective.

2 Literature Review

The literature about unemployment is very informative and diversified because of the consistency of recessions and their effects on unemployment. The basis of this research will be shown to give an outline of the existing findings. Franz (1995) has engaged in the different types of unemployment and turned his attention to the structural unemployment which in turn is important for our research. He thinks that the insufficient adaptability on the structural change is a cause for unemployment, while Hilpert and Kistler (2001) see the main problem of unemployment as the change in demographics.

Boss, Christensen, and Schrader (2005) occupy themselves with the problems that result from the preservation of unemployment benefits. They point out that many unemployed persons see unemployment benefits as a long-term solution instead of working and have no ambition to go back to the world of work. Berthold, Gangl, Schmid, van Suntum, and Weidmann (2002) asses in their study the efficiency of Hartz IV and carve out the relationship between the quality of unemployed benefits and the length of the jobless phase. Brinkmann (1976) applies himself to the impacts of unemployment for the aggrieved party whereas on the other hand he takes a look at the financial aspect and the personal problems of the involved party. Afterwards many studies are followed which handle the health conditions which change for the worse because of unemployment (Bartley, 1994; Grobe & Schwartz, 2003).

Many scholars have delved into the topic of unemployment and the differences in unemployment rates between the United States and other European countries. Solow (2000) states in his paper "Unemployment in the United States and in Europe A Contrast and the Reasons" that the variables that contribute to the differences between the unemployment rates in the United States and Germany are the duration of unemployment, the legal restrictions on discharging workers, the difference in minimum wages and the range in payroll taxes. Solow (2000) suggests that European countries like Germany need to have flexible labor markets in order to decrease their unemployment rates. He also states that the reason many European countries have higher unemployment rates is due to the extensive unemployment benefits that the unemployed receive.

However Rothstein (2011) would disagree since in his paper “Unemployment Insurance and Job Search in the Great Recession” he asserts that the extension in unemployment benefits that occurred after the Great Recession had almost no impact on the increase in the unemployment rate. Murphy and Topel (1986) might disagree because their research found that mobility in the labor market has little to do with the unemployment rate. Their findings in “Evolution of Unemployment in the United States: 1986-1985” concluded that much of the fluctuations in unemployment rates are economy wide and hard to exactly pin down.

3 Recession and the Types of Unemployment

A recession is the episode of economic activity where production has decreased drastically. Recessions have a tendency to have an excess supply in the economy because of the decreased demand. There are four different types of unemployment: seasonal unemployment, which exists when firms are producing only in a specific period. Frictional unemployment occurs when a worker is in between two jobs. It refers to the period of time the worker is jobless between finishing their old job and beginning their new one. The third type is cyclical unemployment, which depends on the circadian fluctuation. In a boom phase the unemployment rate is declining and in a recession the rate is increasing. Finally there’s structural unemployment which is the biggest problem. Structural unemployment depends on sector adjustment. In recent years the introduction of new technologies and changes on the global market has made structural unemployment a bigger problem. The labor market has largely been inflexible and slow to adapt to the changing economy.

4 Unemployment in the United States

According to a recent poll from February 2014 unemployment is one of the top concerns of Americans today. Of the Americans that participated in the study, around 23 % stated unemployment as their main concern. To put this into perspective unemployment ranks above issues such as dissatisfaction with the government (19 %), federal budget deficit (8 %) and immigration/illegal aliens (6 %) which are all topics that are heavily discussed by Americans, and is displayed graphically in Fig. 1 (Rifikin, 2014).

4.1 Causes for Unemployment in the United States

The Great Recession that occurred in 2008 was cyclical in nature since it was partially due to the regular ups and downs of the economy. The root cause however

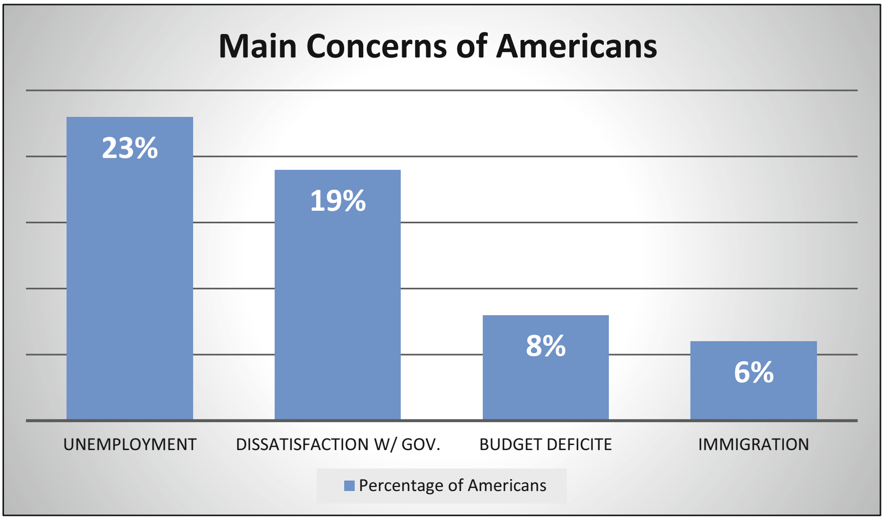

Fig. 1 Policy Areas of Concern to American Citizens

was the housing bubble burst of 2007. Hall (2012) states that a recession begins with a wave of layoffs, mainly in cyclical durable-goods industries. In the past 10 years the highest unemployment rate recorded was 10 % in 2008. This was at the height of the Great Recession and the highest it has been in the past 16 years (Bureau of Labor Statistics, 2012). This rate is only slightly higher than the 8.9 % rate reported in 1930 during the Great Depression. The highest rate of unemployment during the Great Depression was 24.9 % in 1933 (Lucas & Rapping, 1972). Figure 2 below conveys U.S. unemployment trends over time (Pettinger, 2010). As of April 2014, the unemployment rate in the United States is at 6.3 % which is a decrease from the previous month's rate of 6.7 % and a significant decrease from the 7.5 % rate reported on April of 2013 (Bureau of Labor Statistics. (May, 2014). The decrease results from creation of new jobs, mainly low income jobs such as retail services, bars and fast food joints.

The recession although cyclical as stated earlier seems to have contributed to structural unemployment because of its severity. The research conducted by Groshen and Potter (2003) was on the recession of 2001 but there are many similarities to the recession that occurred in 2008. The "largely permanent nature" of the jobs lost during the 2001 recession means that workers must find new positions in new firms. The recovery from the 2001 recession showed steady growth but at the same time there seemed to be no corresponding change in unemployment. This is the same situation as 2014 in regards to the 2008 recession since the current market is performing well, but still unemployment remains rather high. It seems that much of the recovery pattern that followed the 2001 recession will parallel the recovery for the 2008 recession. This means structural change and productivity increases rather than gains in payroll. The recovery period for the 2001 recession

Fig. 2 U.S. Unemployment Trends Over Time

was 18 months and that does not seem to be the case for the 2008 recession (Groshen & Potter, 2003). This is due to the 2008 recession being much more severe.

A few years after the Great Recession hit, the government gave out extensions on unemployment insurance (UI) to assist people during the difficult time. Previously UI only lasted 26 weeks but in June 2008 Congress enacted legislation which authorized the benefits to go up to 99 weeks. This includes regular benefits which last about 26 weeks, emergency unemployment compensation (53 weeks) and extended benefits (20 weeks). Even though the goal of extended benefits is to assist people in getting out of unemployment, unemployment levels continued to rise. The new policy contributed to around 1 % of the unemployment in 2011. If there wasn't an extension, the unemployment rate in December of 2010 would have been about 0.1 % lower (Rothstein, 2011). UI benefits decrease the motivation of people to search for jobs thus slowing their transition into employment. However, it is not uncommon for the US government to grant these extensions in times of severe recessions because it is so difficult for people to find work.

There are other causes of unemployment for the United States besides structural and cyclical unemployment. The Euro crisis has also had an effect on US industries and unemployment. Since today's economy is a global economy when European countries are going through a recession it affects American stock markets and exports, and viceversa. Exports are an important part of the American economy and have a distinct impact on American manufacturing companies. One of the effects is unemployment due to the fact that there is less demand for workers since the company is not exporting as many goods.

4.2 The Effect of Unemployment on the American Economy

If unemployment goes on for too long, the people within the country will start to save money because they no longer have a source of income. This belief is known as Keynesian economics which is a liberal theory that warns against excessive saving due to the fear that it would be detrimental to the growth of the economy. This theory is largely based on the effect of total spending in the economy and its effects on outputs and inflation. Keynesian economists believe that one person's spending goes towards another person's earnings. When this person spends his or her earnings he or she is contributing to another person's earnings. This cycle is what keeps the economy functioning in a normal manner. Excessive saving could lead to a stagnant economy because the "circular flow of money" is halted (Maynard, 1997). In fact, personal consumption or spending is about 70 % of the United States GDP (Skousen, 2010) so it is no surprise that a decrease or halt in spending has a negative impact on the economy. After the Great Recession of 2008, Keynesian economic policies were put into action when the government pumped trillions of dollars into the economy to stimulate it once again.

Another effect of unemployment on the economy is unemployment benefits and the detrimental consequences it can have on society in the long run. After a certain amount of time the unemployment benefits put the unemployed workers into a false sense of security and lead them to believe that they no longer need a real job since they can rely on government assistance. This in turn leads to the problem mentioned earlier about Keynesian economics and the effect it has on the economy when people are out of work and not spending money.

4.3 Strategies for Solving Unemployment in United States

There are various strategies for fixing the unemployment problem in the United States. One of the first solutions is the reformation of UI benefits. If the UI benefits are implemented for a shorter period of time they could help incentivize people to continue their job search. UI benefits are only provided to people who are continuously looking for a job (Rothstein, 2011). Another idea for reformation is giving the payments for unemployment assistance at the beginning of the month instead of weekly so people will start jobs at the beginning of new pay periods. Providing cash bonuses for people on unemployment insurance if they find a job and go off unemployment is another way to incentivize people. There should be programs that help relocate people into other areas around the country (Strain, 2014). These programs would include relocation subsidies to help with the financial burden that come with moving and relocation. The subsidies would of course be a large cost for the government if provided for everyone that is unemployed so it would only be provided for people in long term unemployment (Strain, 2014).

There have to be incentives for companies to hire workers. For a short period of time new hires should have a lower wage (Strain, 2014). This idea is paired with a proposition for a higher minimum wage. Congress can also offer subsidies to companies that spread out the hours worked between employees instead of laying off workers. This will also benefit the company in the long run because once the economy picks up they will not have to worry about hiring new employees and training them, they would already have experienced workers.

A similar method is to ensure that people are trained for jobs that are in high demand. This proposition was put forth by President Barack Obama during his State of the Union address in January of 2014. Obama stated that companies need to connect with universities and offer apprenticeships with on the job training that is designed for specific jobs that are in high demand. He also says that Congress can help by funding more effective programs that directly and easily place workers that are ready for a job into open positions (Obama, 2014).

5 Unemployment in Germany

This next section is about the unemployment in Germany. First there will be a discussion of the actual situation in the job market. After showing the situation, the causes of unemployment will be explained more specifically. Next, the strategies of the German government to solve this problem will be shown. Initially the actual programs are explained, before the impacts of these agendas are exposed. Finally the consequences of immigration, especially from the European guest workers coming to Germany, are declared.

5.1 Causes of Unemployment in Germany

Structural unemployment is a long term problem in Germany because it depends on sector adjustment. Historically coal mining and handcraft jobs were important industries, but over time conditions have changed. Now Germany is a service-driven economy. This implies that the national economy needs specific workers for services. Structural unemployment exists because of the high adaption costs needed to change the education system. These high costs lead workers to lack the qualifications needed to work in the new sector. This is one of the causes of unemployment in Germany because the sectorial structural change defeated copious activity areas in the industrial sector, without creating new workplaces in the service sector (Franz, 1995).

Cyclical unemployment is also a problem the German economy is confronted with. Recessions have a negative impact on the German unemployment rate. The government tries to keep the negative influence as low as possible instead they legislated for protecting the citizen, for example the dismissal protection. This protection prohibits entrepreneurs from dismissing their workers in short term recessions because it seems to be cheaper to dismiss someone than employ somebody until the next boom-phase. A negative aspect of the dismissal protection is, that an entrepreneur hesitates more to hire new workers because he cannot dismiss them from one day to another.

Another initiative for economic recovery is the automating of the production process. Depending on the industry, a machine may be more efficient. The role of the worker has changed from a ‘doer’ to an ‘operator’, so the economy does not need the same number of workers as before. A resulting cause is outsourcing, which is the displacement of production to low wage countries. For example, the clothing industry changed from Europe to Bangladesh because of the cheaper production costs in Bangladesh. Workers in Bangladesh will work for less and in facilities that are built and maintained cheaply. Cost pressure is another aspect for outsourcing because of the increasing competitive pressure that firms are confronted with.

One of the reasons for the lack of jobs is the phenomenon of multiple jobs. Many people take on multiple jobs because one job simply cannot provide the money needed to survive. If every employee earns enough money in his first job, he does not need another job, which can be given to another applicant. Illegal employment also leads to job scarcity and is something that the government needs to solve. This is especially a problem in the building industry where many workers are working without paying taxes.

There is a gap between some under skilled people and those who have the requisite qualifications. The skilled workers are standing in for those who missed the “technology train” in the last 15 years. Unwillingness to work is also a problem that Germany is confronted with. Some of the employable people could work, but are simply not interested because they would earn about the same or less money than if they stayed on government assistance (Boss et al., 2005; Berthold et al., 2002).

In the long run, demographic change is another cause for unemployment because of the aging population (Brücker et al., 2013). The whole job market is suffering from the implication of this generational force. Through the increasing number of inactive population based on the aging of German citizenry it becomes more difficult for the employed people to fund assistance to the non-working population (Hilpert & Kistler, 2001).

5.2 The Effect of Unemployment on the German Economy

Germany is also confronted with the problem of unemployment; however its problem is not as severe as other European countries like Spain, Greece and Italy, who have to fight against the results of the Euro-crisis. In April of 2014, 2,943,000 people were jobless, translating to an unemployment rate of 6.8 %. Since 2005 the unemployment rate decreased continuously until 2008 (See Fig. 3). In 2009 it rose

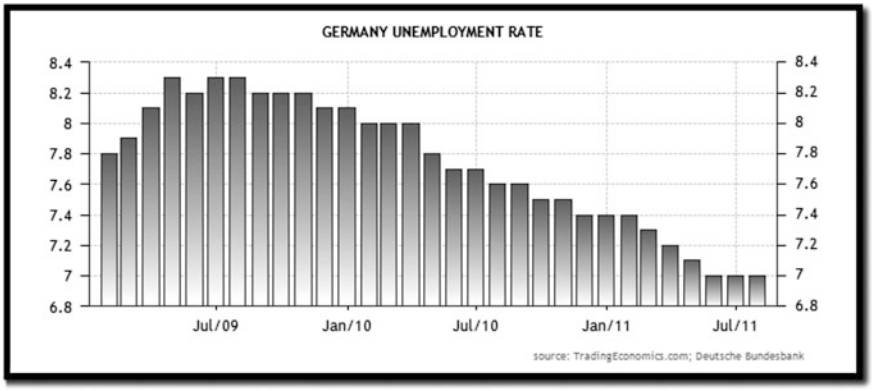

Fig. 3 Rate of Unemployment in Germany - 2009 through 2011

because of the global economic recession, the next two years the rate declined beneath the level of 2008.

German administration faces high costs when it comes to the unemployed. It is estimated that Germany will spend about 120 billion euros for its welfare system in 2014. This is more than 40 % of total government expenditures (Statistisches Bundesamt, 2014). There are two factors which cause government spending to increase. Tax deficit occurs because the government is unable to collect wage taxes. Fewer wage earners signify less tax-payers and that implies less state income. In addition, expenses are rising because the state pays out-of-work benefits to the unemployed persons. This results in the state taking out a loan, thus increasing level of debt.

The long-term unemployment is an issue for the nation as a whole, but especially for sick and old persons (older than 50 years), and persons with a migration background (Achatz & Trappmann, 2009; Konle-Seidl, Rhein, & Trübswetter, 2014). The long-term unemployment is high and one reason are the high benefits the government pays for the unemployed. This begs the question if high benefits are good or if it is better to pay less to stimulate the workers to go back in the labor market. Another negative factor is the high costs of social insurance institutions. These high costs lead insurers to raise the premiums in order to support every German citizen. The associated employer outlay is also on the rise. At the moment Germany is one of the countries spending the most on incidental wage costs. The result is that the impulsion to dismiss more workers hence forming a vicious circle (Franz, 1995).

5.3 *Strategies for Solving Unemployment in Germany*

In Germany assistance for the unemployed is high. Every citizen has the right to live according to the living standards which are prescribed in the German basic rights. For example, the dignity of the individual must be preserved. This means that every citizen has the right to have access to food, drink and warm shelter. The German social system is built on two-way support. The basis of this system is that the employed pay for those who are unemployed with the knowledge that they would be treated well if they were in the same position. The administration agency of the unemployment insurance in Germany is called “Bundesagentur für Arbeit”. They administer the unemployment insurance contribution which is deducted from the workers’ paycheck every month.

Unemployment benefits are the most important support for the unemployed. With this money, they are able to provide for themselves and their families. Without this backup, most of them would be homeless. The amount of the benefits depends on the age, family status and earnings before becoming unemployed (Brinkmann, 1984). These compensations are not meant to be long term solutions, which is the reason why the German government is anxious to integrate the unemployed back into the labor market. The German government wants unemployed workers to join advanced vocational training for specific occupations. This allows for a better integration of the prospective job applicant to the job market. Another way the German government assists the unemployed is through job centers. Job centers offer free career counseling to the unemployed to ensure that they know which options are available to them. If the unemployed person receives the job offer he has to apply himself to the corresponding firm.

The German government, like all governments, has the goal of keeping the market fairly consistent. The system is called “Anti-cyclical budgetary policy“. This requires the government to increase government spending during a recession. A common way to increase spending is for the state to reduce taxes and invest in the economy. In contrast to the recession the government has to increase the public revenue, through the advancement of taxes and reducing the subventions in the boom phase. The same problem can be noticed in the wage policy where wages are rising in an upcoming economic climate. Reduction of wages in a recession has negative effects on the general employer satisfaction.

The idea of “Anti-cyclical budgetary policy” is ideal but there are problems with the implementation. It is difficult to increase taxes in a boom phase and often the focal point of the government is reducing the rate of unemployment. The primary goal of the government should be to raise the demand for labor. This is a long term solution to reduce unemployment by creating a higher demand which means in turn a higher production rate and therefore more workplaces (Franz, 1995). In Germany, a minimum wage has been introduced, which means that every employee earns a specific sum per hour, which is given by the government. Besides the positive aspects of this program, such as less exploitation of the low wage workers, there are negative aspects for the long-term unemployed. The entrepreneur hesitates to hire new applicants, because of the high wage costs. A possible solution could be that the workers get their legal minimum wage only after 6 months. This should increase the occupational rehabilitation for the long-term jobless people (Amlinger et al., 2014).

6 Relationship Between Unemployment and Health

Many researchers have delved into the topic on the relationship between unemployment and health. That depends on the social pattern of the contemporary society which is focused on the individual, especially the influence of ethics and morality. The human takes center stage and that's the reason why this research takes a look on the consequences of unemployment on individual health. It is quite obvious that unemployed people are prone to more health problems in comparison to employed persons. Through the switchover into unemployment the living conditions are altered. At first the living standards change for the worse, because the aggrieved party has to move into smaller and cheaper homes. This procession into another environment causes their previous social network to deteriorate. The result of this is that the people lose their social contacts, which leads to general unhappiness and depression (Grobe & Schwartz, 2003).

Another adverse impact is low-self-esteem that results from being dispensable and expelled from society (Brinkmann, 1976). Many of them try to forget their problems by drinking alcohol. This especially affects the male population. Furthermore there is a relationship between unemployment and mortality. For an employed person, the mortality rate is about 0.277 %. In contrast a person who was unemployed between one and two years, the rate amounts to about 0.463 %. If the person is unemployed for more than two years the rate double to about 0.965 % (Grobe & Schwartz, 2003). There is a correlation between the increasing trend of the mortality rate and the length of the unemployed time (Bartley, 1994). It's apparent that the longer a person is unemployed, the more likely they are to have major health concerns.

On the basis of the oversupply of labor on the job market, often employees with disorders and diseases are frequently dismissed because they are less capable of competing. These employees are less productive because of their sick days and cost the company the same amount as a healthy employee. So naturally the company would choose a healthy employee over an ill employee (Grobe & Schwartz, 2003). This confirms the long term unemployment and brings US to the problem that the exchange relationship between the working and those who are living on the costs of them is out of order. The government system is not designed for many long term jobless people, because of the very expensive funding.

7 Comparing the United States and Germany

The United States and Germany are both highly industrialized countries with a multilateral and multidimensional relationship that has grown stronger in the twenty-first century. Both countries have some of the best universities, research institutions and innovative companies in the world. They are each economic powerhouses in their respective regions yet they are both susceptible to economic

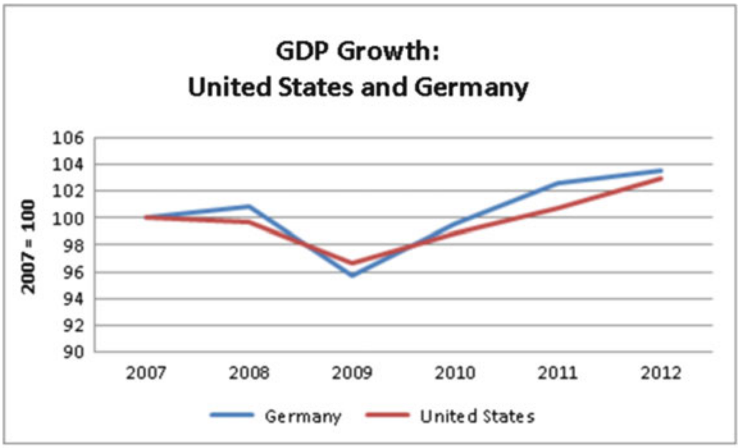

Fig. 4 Growth in GDP from 2007 to 2012 - U.S. and Germany

downturns and vast unemployment. See Fig. 4 for a comparison of growth in gross domestic product growth between the two nations (International Monetary Fund, 2012). With all their similarities there are many differences between Germany and the United States as well. However the close relationship between the two countries leads to a domino effect concerning economic downturns.

7.1 Similarities and Differences Between Germany and the United States

Germany and the United States have few similarities in regards to the topic of unemployment. As of April 2014, Germany and the United States have similar levels of unemployment at 5.1 and 6.3 % respectively. See Fig. 5 for a comparison of the unemployment rates of the United States and Germany prior to and during the most recent recession (OECD, 2010). Keep in mind of course that the population of Germany (81 million) is much smaller than that of the United States (315 million). Both countries have near equal levels of productivity in the labor force as well. Germany's productivity in April of 2014 was 102.20 index points while the United States was about 106 points (Trading Economics, 2014a,b).

One of the main differences between the United States and Germany is the amount of time spent in the unemployment pool. In general, people in the United States do not wait long to find a job (under the assumption that there is no large recession) and quickly get a new job. This is not the case in many European countries like Germany. For example, 26 % of unemployed Americans find a job. Compare this to the 10 % of unemployed Germans who find a job. At the same time there are more people leaving the labor force in the United States than in Germany.

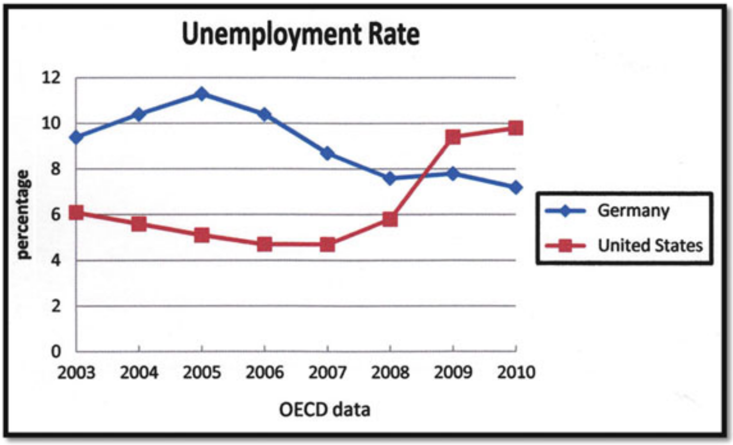

Fig. 5 Unemployment Rates in Germany and the U.S. - 2003 to 2010

Forbes reported a study in 2013 saying that in the United States about two million people quit their jobs every month and the number will continue to grow (Hall, 2013). Germans follow the typical European thought process that staying in the same job often is actually a positive choice (Fottrell, 2014). This difference in the amount of people entering and leaving the labor force is influenced by the fact that the US economy is more flexible than the German economy.

All of the States in America (except Montana) have a policy known as "employment at-will" that also contributes to more people being jobless. "Employment at-will" means that an employer is legally allowed to terminate an employee at any time for any reason. This is quite different from German policies regarding employment because they have a process that makes it difficult for an employer to fire an employee.

Another difference between Germany and the United States are their labor costs. On average Germany's index points for labor costs are 109.67 points while the United States is about 58.5 points (Trading Economics, 2014a,b). Germany has a much higher minimum wage than the United States with an hourly rate of about \$11.60 an hour. In contrast the minimum wage in the United States is about \$7.25 an hour ("Pay Scale"). Even in comparison to the rest of the EU, Germany has much higher labor costs.

As of July 2014, there are about 32 million people unemployed in the United States. These 32 million are considered long-term unemployment because they have been unemployed for 27 weeks or more. The current long-term unemployment rate is about 2.02 %. Germany's long-term unemployment is only slightly higher with it being about 2.4 %. There are also about 502,000 jobs available for German citizens compared to the 4.6 million that are vacant for American citizens (Trading Economics, 2014a,b).

7.2 The Role of Globalization on Unemployment

In the twenty-first century it is almost impossible for a country to be unaffected by events that occur in another country since most of the highly industrialized countries of today have close economic relationships. This is especially true when talking about the relationship between the United States and Germany when the recession of 2008 occurred. Even though the recession was caused by a housing market failure in the United States, Germany still suffered some unemployment reprucussions. Surprisingly, Germany's labor market in regards to unemployment was barely affected. Germany actually had the lowest unemployment out of all the G7 countries after the recession hit (Möller, 2010). A possible explanation for Germany's low unemployment is the wide range of unemployment protection plans and short term work schemes such as flexible working hours and the social partnership between management and unions (Möller, 2010).

Likewise when there's a recession in Germany the United States has a rise in their unemployment. In 2005 the recession in Germany caused the unemployment rate in the United States to rise to about 5 % when in 2000 it was at around 3.9 %. In parallel to the 2008 recession where unemployment was higher in the United States than in Germany, the unemployment for Germany during the 2005 recession was about 10 %. In 2000 the unemployment rate in Germany was around 7.5 % (Blanchard & Illing, 2009). These recessions that seem to travel across waters affect various industries in both countries such as manufacturing.

7.3 Some Possible Solutions to Solve the Unemployment Problem

Structural change has led to the reduction of jobs in the past. Although one must be aware that the technological industry has created many jobs. This goes against the predominant opinion that structural change has many capabilities and possibilities. One must qualify the unemployed persons for the new challenges which the new labor market demands. The German government has already tried to reeducate unemployed workers for sectors where there are open jobs. This is a good approach to the problem because the efforts can be balanced in sectors where there are still some open jobs. In the United States unemployed persons are on their own because there are few programs financed by the government for improving their educational attainment. Another problem is that there are not enough government agencies that can inform unemployed people as to which jobs they are suited for and where the open positions are. This problem occurs because of a lack of employee reeducation in the United States. The advanced vocational trainings are too expensive and take up too much time.

In Germany the government has problems financing this program, because these courses are expensive and the success of this program is not guaranteed since some are forced into the courses. For many jobless people the professional training is only a means to an end. That means that they participate in these programs not to become qualified for a new work place, but to get a certificate which allows them to receive unemployment benefits. In addition, some of the unemployed are qualified for areas in which they never want to work in the future. In the United States the situation is different in that the government does not offer adequate programs to educate oneself. This makes it difficult for people to orient them into the right job, since they do not know where the open positions are. Another negative aspect of the American system is that the citizens have to pay for these programs on their own. One way to improve this already good projection could be to construct future-oriented programs. More specifically one could try to find the future gaps in the labor market before they arise so the economy could prepare unemployed persons on these future job perspectives. Furthermore it is important to train the redundant workers in appropriate skills. Through this measurement these courses can be designed to be more efficient, faster and consequently cheaper. This will make the success rate higher than before.

Now it puts into question why there are so many long-term unemployed if the education training in Germany is wellrun. One reason could be that these courses are not as effective as expected. They have the wrong concept of advanced training, which means that the content that is communicated is not needed in the practical world. On the other hand many unemployed join these programs because participation is required of them in order to receive unemployment benefits. It is often heard that people do not want to work and just join these courses to be secured on the financial aspect. Another requirement for getting long term unemployed benefit could be that the jobless have to apply in constant periods at different companies. The applications have to be serious and legitimate; otherwise one will receive a reduced unemployment benefit. The advantage of these measures could be that the government can save money and offer the jobless workers new perspectives on the labor market.

8 Conclusion

The German government provides much more assistance to the unemployed in their country than the US government does for its citizens. There are also rigid rules that German companies must follow before laying off workers so there are far fewer people that are jobless in Germany. The unemployment rate is also higher in the United States because of the "at-will employment" policy that most companies adopt. In addition, Germany already has programs in place to better assist workers to find a job while President Obama just recently proposed a similar solution to the American public.

If the United States adopted unemployment policies similar to Germany's, such as more unemployment benefits, there would be a stronger shield for the citizens of the United States if another recession hits the country. President Obama's policies seem to move in this direction because of his mentioning of the government subsidizing programs in companies to train employees for jobs that are actually needed. This might be easier said than done because many Americans do not like the idea of the government interfering with businesses. Maybe one should try to change the attitude of these people. This mindset is different in comparison to German citizens since they are comfortable with their government assisting their businesses. For Obama's plan to be properly implemented, citizens need to understand that not all government interference is bad.

With regards to Germany's unemployment problem, the "anti-cyclical budgetary policy" will be difficult to implement and control but once worked out it will be beneficial in the long run. Of course in the short run, the career counseling which includes the training of workers will help combat the unemployment. Germany will also need to find solutions for their long term unemployment problem that does not drain the resources of the government. The German government will need to find less expensive ways to finance their unemployed or better, bring them back into the labor market.

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A Cross Comparative Analysis of the U.S., German, and Italian Healthcare System

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Abstract This chapter is a comparison between the German, Italian, and American Healthcare Systems. All three systems are designed to be redistributive and help needy populations receive healthcare. While the American system is treated as ineffective since it does not cover vast portions of the population, problems in Italy are grounded in the local governments and its power on funding the system. And the future of the universal healthcare system in Germany is threatened by a large demographic shift towards an aged population. This chapter briefly compares the health care system in the three countries, highlighting their strengths and weaknesses, and illuminates healthcare policy from a global point of view. The chapter ends with some policy recommendations indicating a direction for future global healthcare policies.

1 Introduction to the Policy and Value Comparison

The health sector with a spending of 3.2 trillion dollars in the year 2003, which was about 10 % of the global GDP, is one of the worlds' hugest industrial sectors (Lister, 2008). Besides the economic importance, healthcare has a higher significance in the political and public debate than many other topics. Examples are the political discourse concerning Obama Care in the US and, as a result, the Government Shutdown, or the debate about the "Bürgerversicherung" in Germany. The demographic change and thus the ageing society make their own contribution to the

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rising challenges and problems in national healthcare systems all over the world. So it is only to be expected that globalization had an important influence on the development of the worlds' health sector and also on reforms that have been implemented in different countries concerning their health systems.

When talking about comparing cross-national healthcare it is important to notice that each nation bases its healthcare policies off of varying national priorities. The U.S. for instance, places a value on low taxes, low government expenditure, and marketization of most economic sectors. Germany and Italy, on the other hand, place a stronger value on social welfare. Because of these priorities there is no universal best system, each system depends on the unique characteristics of each state. Every country needs to be analyzed separately before they can be compared and unifying themes and overarching healthcare policies can be addressed. Therefore this chapter is organized as follows: After a short review of the literature, each of the three countries, Germany, the U.S., and Italy's healthcare models will be analyzed separately. Individual policy recommendations conclude each section. A discussion about healthcare policy in a global world will close the chapter.

2 A Review of the Literature

The purpose of this literature review is to establish the significance of previous authors' research on the topics of healthcare and healthcare reform. The majority of this section will look at different researchers work on the German, U.S., and Italian healthcare systems, their methodologies and ways to approach solving healthcare problems in each respective system.

The problems of the German healthcare system are serious, in particular the rising costs (Porter & Guth, 2012), induced by the ageing population, the decreasing working class and the increasing demand for high technological medical treatment. Porter and Guth (2012) mention the importance of a value-based system with the focus on the value for each patient. Greß and Rothgang (2010) discuss problems in financing the German system assuming that the members of the statutory health system will not be able to pay for it in the future. The solution in their opinion is a package of measures such as the additional taxation of other incomes when charging premiums, the increase of limit for assessment of contribution, the reinforcement of the competition between the private health insurance (PHI) and the statutory health insurance (SHI) and the stronger tax financing of the system by the government. Other authors, such as Clarke und Bidgood (2013) rather see Germany as a role model for other countries like the UK. They point out the main characteristics of the Germany healthcare system which is very useful for understanding why reforms that aim for more justice in the social distribution can be implemented in Germany. Lauterbach (2004) wrote a paper about the so-called "Bürgerversicherung" which might be a possible solution for the German healthcare system in the future, as it suggests to integrate the private healthcare system into the statutory healthcare system.

For the U.S. healthcare system a major critique that has been pointed out is the fact that not everyone can receive or afford healthcare and it has created many problems in the society. Diggs (2012) pointed out that there has been a longstanding problem with groups or individuals to access healthcare in the United States and one of the reasons why lies in discrimination amongst certain ethnicities, orientation, class, or socio-economic statuses. Digg's (2012) main argument is that when talking about healthcare accessibility in the U.S. more needs to be focused on these types of discrimination. He states that if these forms of discrimination are not addressed by policy makers the U.S. healthcare system will continue to fail its citizens (Diggs, 2012).

Iglehart's (1999) research has a similar critique of the U.S. system and goes on to further critique the U.S. healthcare system stating that while the U.S. pays the most healthcare than any other country it still leaves a large number of the population without healthcare access. Iglehart (1999) states that the U.S. system is still a work in progress and is in urgent need of reform especially in terms of healthcare access. The main focus of his analysis on U.S. healthcare is through finances and government expenditures. Iglehart (1999) makes a point that the U.S. government expenditure of healthcare is increasing and will eventually become unsustainable. He goes on to state that despite the U.S.'s belief in free markets and capitalism the government still needs to be heavily involved in healthcare (Iglehart, 1999).

Alesina, Glaeser, and Sacerdote (2001) draw a comparison between the European and American healthcare systems. The main focus of this paper is to do a cross-national perspective on why the U.S. system is different than the European approach (Alesina et al., 2001). Their article mostly points to the racial heterogeneity in the U.S. amongst its institutions for the main difference. The article points out that the problem with the U.S. system might lie in racial animosity that affects redistribution of resources amongst the poor at a major reason for a lack of universal healthcare. Overall, Digg's (2012), Iglehart's (1999), and Alesina et al.'s (2001) research were important to this paper because it helped shaped the major issues that the American system was facing and ways to look at solving the policy issue. They all mentioned that the U.S. healthcare system is vastly unequal and that major issues may lie in discrimination of certain minority populations in the U.S.

The Italian healthcare system is mainly structured on three-tiered levels divided between the central government, regions, and then finally local health authorities as it is clearly stated by France, Taroni and Donatini (2005) and Doetter and Götze (2011). Their works focus also on the historical background and development of the Italian healthcare system which have led to a situation of misspending and overspending as it clearly stated by France et al. (2005). Other major issues of the system due to the current legislation regard mainly the funds misusage as political tool as explained by the Joint report on Health system elaborated by the European Commission (2010), the increasing of the costs and the budget overtaking as explained by Maris (2012), the few subsidization provided by the government to the family who takes care of the elderly as described in Rusconi's (2006) paper, and the great inequalities between the northern and southern Italian regions as argued by France et al. (2005).

3 The History of Healthcare Systems: Four Basic Models

In order to understand different healthcare systems across the world it is important to first understand the types of healthcare systems that already exist as most countries are influenced by these models. There are four basic models, the Bismarck model, the Beveridge model, the National Health Insurance (single player system) model, and the out-of-pocket model. The models will be explained more in depth below.

3.1 The Bismarck Model

The Bismarck model or, the German model, is arguably the most important healthcare model today. This is because Germany has the oldest universal healthcare system of the world and therefore has been an example for many other countries such as France, Belgium, Switzerland, Netherlands, etc. when establishing their own healthcare systems (Reid, 2008). Before the development of the universal healthcare system, sickness funds existed in Germany which gave their members the possibility to regularly pay a certain amount to them so they were helped by the funds in times of illness (Radich, 1995). After the unification of Germany in the year 1871, the German healthcare system has been established by the German Chancellor Otto von Bismarck within the Health Insurance Act in the year 1883 after he told Emperor Wilhelm I to recommend it in his Imperial Message in 1881 ("Kaiserliche Botschaft"). The message stated that the Reichstag should consider development of welfare in order to decrease the social damage which was caused by the industrialization (Obermann, Müller, Schmidt, & Glazinski, 2013). Bismarck was under great political pressure because he had to stop social riots in order to maintain German economic growth and efficiency during this time (Social Security Administration). The laws introduced within the Health Insurance Act forced all workers that did not earn more than 2,000 RM (Reichsmark) to become a member of the public health system. Bismarck decided to build up a wage-dependent system where two-thirds of the contribution had to be paid by the workers themselves and one third was contributed by their employers. The coverage included a maximum of 13 weeks of illness, providence of medicine within these weeks, free choice of doctor and in case of inability to work they would receive 50 % of their original wage (Bundesministerium für Arbeit und Soziales 2014).

On this basis the "Bismarck Model" became the first healthcare system that was developed. As mentioned earlier other countries started to adopt the so-called "Bismarck Model" and also established universal healthcare systems. The main characteristics that these systems have in common are that hospitals as well as doctors and insurance providers, called "sickness funds", do not belong to the state but are private entities. Although independent from the state, the system is strongly influenced by the government as firstly the insurance companies are forced to accept every applicant and secondly everyone is forced to enter into an insurance provider. The healthcare system is financed by the insured employees and their employers and the insurance companies run on a non-profit basis (Reid, 2008).

3.2 The Beveridge Model

The Beveridge Model of healthcare systems started to develop when Beveridge, a British economist and social reformer, was asked for advice when it came to rebuilding Great Britain after World War 2. In the famous "Beveridge Report" of the year 1942 he introduced a model of a welfare state to the government which then was implemented step by step under the prime minister Clement Attlee from 1945 on. In 1948 within the National Health Act, the first National Health Service which provided free medical services for the whole population (BBC, 2014). The main characteristics for this model are that health insurance is financed by the government through taxes so it has a great control over the system. Furthermore, most hospitals are owned by the state and a lot of doctors are government employees—those who are not are at least paid trough taxes as well. The "Beveridge Model" has also been an example for other countries like Cuba, New Zealand, Spain, etc. (Reid, 2008). As our later explanation of the Italian healthcare system will show, it rather fits into the "Beveridge Model" so Italy can be seen as an example for this model.

3.3 The National Health Insurance Model

Another healthcare system that must be mentioned in this context is the "National Health Insurance Model" which combines the Bismarck and the Beveridge model. Usually hospitals, doctors and insurance providers are private entities but they are financed through governmental insurance programs in which citizens pay either taxes or premiums. Derivatives of this model can be found in Canada, Taiwan and South Korea (Wallace, 2013).

3.4 The Out-of-Pocket-Model

The out-of-pocket-model actually is the most widespread healthcare model all over the world as it basically exists in every country that is too poor or to unorganized to provide a healthcare system, such as rural regions of Africa, India, China, etc. In case people need medical treatment and theoretically have access to it, they have to cover their doctor bill by themselves if they are able to. If they are not, they will not have the chance to receive medical service at all (Wallace, 2013).

Summing up, it is not possible to seek out a global trend concerning healthcare systems for the past. National policy makers and governments as well as the historical background influence the nature and extent of health risk protection. Furthermore, the existence of one outclassing system cannot be observed. Especially the financial costs of the different systems on the on hand and the financial resources of the nations on the other hand have influenced the different healthcare systems.

4 Three Different Healthcare Systems

4.1 Some Facts and Figures

In this section, the national healthcare systems of the three countries will be analyzed in detail.

Table 1 gives a first impression how the healthcare systems and their financing in Germany, Italy and the United States differ. In Italy, the per capita total expenditure on health as well as the total expenditure on health as a percentage of GDP is lower than in Germany or the US. The high out-of-pocket expenditures (92.7 % of private expenditure on health) suggest the Italians usually do not invest in basic and voluntary supplemental insurance, but rather pay direct fees if they need any additional health treatments. The Americans have per capita the highest expenditures on health (8,895.1 US$ instead of 4,683.2 in Germany and 3,032.5 in Italy). This fact leads to the consequence that the private households as well as the government have to pay high amounts on the healthcare system. That is surprising given the population in the U.S. has a lower median age and fewer people in the over 60 age group. These figures surprise, especially if you consider that 34 % of the American population are left un- or underinsured and therefore do not have unlimited access to the healthcare system (Nunley, 2008).

In the course of this, the fact that Germany, Italy and the United States have absolutely different models as well the differences concerning the size of population, geographical position and cultural background should be kept in mind. The following part starts with a description of the German healthcare system because, as mentioned before, it is the oldest universal one of the world.

4.2 The German Healthcare System

After the introduction of Bismarck's universal healthcare system, more and more workers were required to enter into Germany's healthcare system. Finally, in 2007

Table 1 Comparison of healthcare expenditures in 2012 (WHO, 2014)

Indicator	Germany	Italy	United States of America
Population (in thousands) total	82,800	60,885	318,000
Population median age (years)	45.09	43.99	37.3
Population proportion under 15 (%)	13.17	41,743	19.63
Population proportion over 60 (%)	24.16	26.97	19.31
Total expenditure on health as a percentage of gross domestic product	11.3	9.2	17.9
General government expenditure n health as a percentage of total government expenditure	19.1	14.2	19.9
Social security expenditure on health as a percentage of general government expenditure on health	88.6	0.2	88.8
Out-of-pocket expenditure as a percentage of private expenditure on health	50.8	92.7	20.7
Private expenditure on health as a percentage of total expenditure on health	23.7	21.8	53.6
General government expenditure on health as a percentage of total expenditure on health	76.3	78.2	46.4
Per capita total expenditure on health at average exchange rate (US$)	4,683.2	3,032.5	8,895.1
Per capita government expenditure on health at average exchange rate (US$)	3,572.3	2,370.5	4,126.1

healthcare insurance became compulsory for every inhabitant of Germany such that only 0.2 % of the population is uninsured today (Statistisches Bundesamt, 2013).

The German healthcare system consists of a statutory health insurance (SHI) sector as well as of a private health insurance (PHI) sector. In 2011 86 % of Germans were insured within the SHI system whereas the rest was privately insured (Statistisches Bundesamt, 2013). The SHI is characterized by the sliding-scale principle which means, that every insured person has to pay a contribution depending on their wage and receives services depending on their needs of medical care so that the healthcare system has redistributive properties. In other words, the healthy ones pay for the sick and within that the wealthier ones help the poor (Burkhardt, 2013). The size of contribution rate is presently 15.5 % which is regulated by law (§ 241 SGB V) (Bundesministerium für Gesundheit, 2014a) and it is split up between employee and employer. The employee's dependents are co-insured with him. The contribution rate is paid to the "illness funds" (insurance providers) monthly. In 2010 there were 169 competing public illness funds and the employee has the right to choose which one he wants to be insured through (Porter & Guth, 2012). Those who earn more than 4,462.50 euros per month (or 53,550.00 euros per year) have the possibility to switch from the SHI into the PHI on a voluntary basis. Public officials and freelancers are usually also privately insured.

In 2010 in Germany, 46 private insurance providers cover premiums depending on the health risk of their members—those who are expected to be in need of a high quantity of medical services have to pay high contribution rates. As a consequence, the premiums that a member has to pay increase with their age so that members have the option to build up age reserves (capital reserves) at the provider during their insurance time (Porter & Guth, 2012).

4.2.1 The German Healthcare System on a Snap Shot

The quality of the German healthcare system in an international comparison has been decreasing over the last few years as the EHCI rankings of the years 2009 and 2012 show. In 2009, Germany ranked 6th out of 34 different European countries whereas in 2012 it was only ranked in 14th place (Health Consumer, 2012). Although these rank changes are quite alarming there are other factors that need to be taken into consideration.

As explained earlier, the German healthcare system is largely being financed by its labor force and their employers, which is going to cause heavy financial problems for the system in the future. One factor that has a strong influence on this is that the population in Germany has been declining for years and still keeps on declining so that the labor force decreases—and with it the premiums being paid into the national health insurance (Porter & Guth, 2012) (Fig. 1).

Nevertheless the health spending in Germany has been rising by an average of 2 % over the years and exceeded the 300 billion mark for the first time in 2012 (Statistisches Bundesamt, 2014). In total Germany has been spending 11.3 % of its GDP on health insurance in 2011 which is less than the US spent but still more than most OECD countries did (OECD, 2013). The most important reasons for the rising costs are the ageing population as well as the increasing demand for high quality medical care in the population (Porter & Guth, 2012). The amount that the single worker will have to pay in the future might become prohibitive. We will explore various means by which the German system can improve its sustainability, leaving open the question how the problem of the demographical shift could be solved.

Before considering an idea of possible solutions, it is important to be aware of an adverse selection problem facing the German healthcare system. A critical difference between the SHI and PHI that you have to pay a contribution/premium for children and dependents in the PHI which is not the case in the SHI. On top, the contribution in the PHI is based on the health risk of the members. As a result, the members of the PHI are rather rich and healthy singles that do not incur a lot of health-related costs the so called "good risks", while the SHI has to deal with relatively more "bad risks" which reinforces the financial difficulties of the system. It is often seen as an injustice that the private insured do not participate in the social redistribution that the healthcare system as part of the German social safety network actually is aiming for. Additionally private insured people receive preferential treatment when they go to the doctor because the income that doctors are able to earn by having them as their patient is higher. This fact can have negative impacts on both of the different insurance groups—statutory insured might not receive enough treatment whereas private insured may receive too much of it (Greß & Rothgang, 2010; Greß, Leiber, & Manouguian, 2009).

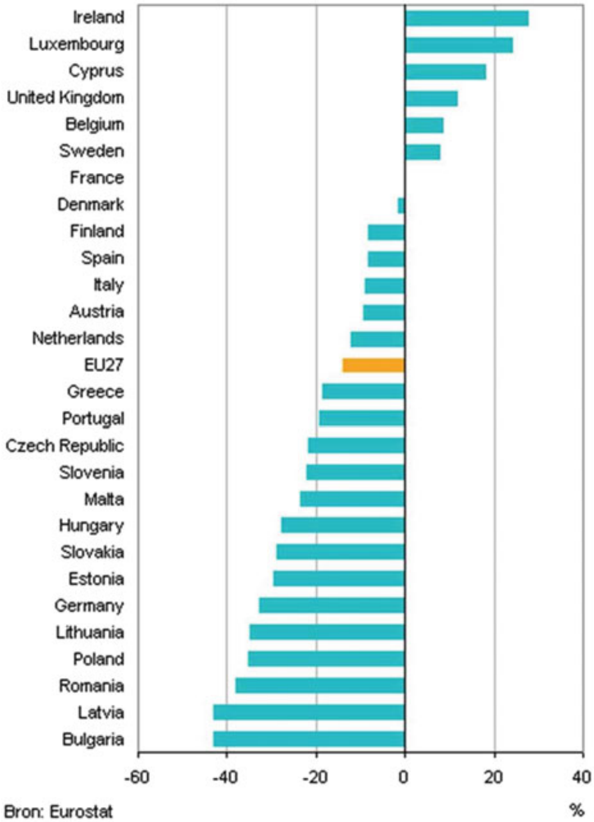

Fig. 1 Development of labor force in EU countries, change from 2010 to 2060 (Statistics Netherlands, 2012)

The government implemented a national health reform in the years 2007 and 2009 in order to prevent the SHI system from becoming unsustainable and increase the competition between SHI and PHI (Porter & Guth, 2012). As a result the size of the contribution of the SHI is now determined by the government and no longer by the different sickness funds themselves. As a result they cannot compete with each other by setting low premiums or percentages of contribution anymore (Green, Irvine, Clarke, & Bidgood, 2013). Furthermore the Central Health Fund was established which collects all the premiums that the members of the different sickness funds and their employers pay. They then are redistributed to the separate funds based on different criteria like sex, age or morbidity rates of about 80 chronic and/or serious illnesses. If the money that the funds get is not enough to cover all the costs, their members have to pay an additional contribution of any amount necessary (Green et al., 2013). Another change within that reform was that now the suppliers of private healthcare have to accept all the applicants who did not have an insurance before but must be privately insured (such as freelancers) on a so-called “basis charge” (Barmer, 2014). Furthermore switching from the SHI to the PHI is more difficult now then it was before the 2009 changes (Greß et al., 2009). The reforms led to an increase of the financial resources of the SHI sickness funds from 170 billion euros in 2009 to about 189 billion in 2012. Simultaneously the governments' tax spending to the funds of about 7 billion euros in 2009 doubled in the same period (Bundesministerium für Gesundheit 2014b). Although the sum of money available is now higher than before, the single worker and their employers are still carrying nearly the whole costs so that it is unlikely that the reforms lead to an improvement of their situation.

4.2.2 Policy Suggestions for the German Healthcare System

A base for a solution which may relieve the single worker might be to start abolishing the private health insurance system (PHI) as it is facing serious financial problems, too, and integrate it into the system of statutory health insurance (SHI). Several ideas about this integration do already exist and one that is especially interesting is the so-called "Bürgerversicherung" which has been politically discussed for many years. The implementation of this system might take a long time but it aims for more social justice as it would no longer allow rich "good risk" people to insure themselves separately from the rest of the population. The problem of the adverse selection could be solved that way. The first step to restructure the system would be to no longer allow freelancers, public officials or people who exceed the necessary income limit for PHI to enter into it but to force them to enter into the SHI. As the abolishment of the PHI would make a lot of people lose their jobs it would be unavoidable to integrate the private sickness funds into the statutory system. The most significant change would be that the government would no longer allow them to set their contribution rates by measuring the risks of the new members so that all the premiums all over the county would be charged in the same way after some years: by looking at peoples' incomes and covering a certain percentage of it. Additionally it would be fair to also include other property such as rental, interest and investment income when setting premiums. This could be done by letting the Internal Revenue Service directly cover a certain percentage of the incomes and giving the money to the "Gesundheitsfond" where it then can be redistributed. Another aspect that the "Bügerversicherung" would change is that the income threshold would be set higher than its current income level such that prosperous people would be more burdened in order to increase the level of social justice within the healthcare system (Lauterbach, 2004). There is also one thing that should be imported out of the PHI and integrated in the SHI system: everyone should be forced to build up reserves according to their possibilities that can be used for medical care in the old age. This could be organized by using one part of the percentages covered from employees to put it into huge bonds where the money could be collected. The ones who want to save more than the compulsory contribution would of course have the option to do that within the system. Another aspect that should be added to this idea is that people without children should have to build up higher reserves than people who do have children because the sustainability of the healthcare system depends on the existence of children in Germany who will be the future payers of the social safety network. It seems that it is not enough that families do not have to pay extra premiums for their dependents and children. The ones who do not have children threaten the existence of the whole healthcare system (and safety network) and therefore should be forced to carry more financial responsibility.

Based on a calculation of the year 2001, the contribution to the healthcare system in the "Bürgerversicherung" would only be at about 15 % of the insured peoples' incomes in the year 2030. This would even be a lower contribution than it is now. The likely increasing prices based on technical progress as well as inflation and discounting have not been included in the calculation so that the percentage might be estimated a little higher based on todays' data (Lauterbach, 2004). Still the number does show clearly that the "Bürgerversicherung" can be a future model for the healthcare system of the German society.

4.3 The U.S. Healthcare System

Contrary to the German one, in the U.S. it is not obligatory to have a health insurance. As a consequence many Americans are underinsured or uninsured. The last health service reform by the American government was the "(Patient Protection and) Affordable Care Act (ACA)", better known as "Obamacare". The law has the goals of lowering the uninsured rate, but also increasing the quality of health insurance, both private and public insurance. The high media presence and the long ongoing political and public discussions are showing that the topic is very important for the future and in particular the self-conception of the American economic and social system.

The following sections will begin with a detailed introduction of the American healthcare system and afterwards give some policy recommendations.

4.3.1 The U.S. Healthcare System on a Snap Shot

The U.S. Healthcare system is dominated primarily by the private sector. The U.S. does not provide universal healthcare service to the majority of its citizens. Instead, it is expected that employers sponsor healthcare for their employees. According to a 2003 statistic approximately 62 % of non-elderly Americans have private insurance (Chua, 2006). Despite this, the U.S. does have two government sponsored healthcare programs, Medicare and Medicaid, which are both part of the U.S. Department of Health and Human Services. Medicare is for senior citizens who are over the age of 65. Americans over the age of 65 are virtually all insured by Medicare's federal government operated single payer system (Chua, 2006). The other government program is Medicaid, which is designed to help impoverished or disabled Americans. Unlike Medicare, Medicaid is operated by each state independently, but is partially financed by the federal government. The United States effectively has a mix of four different health-insurance programs, the single payer system (Medicare, where all payments go through the government and paid for with payroll taxes), the privatized version of the Bismarck model (where employees pay into an insurance plan with their companies), the Beveridge system (Medicaid, where government's collect taxes and redistributes a percentage to health insurance) and the out of pocket system (where citizens with no insurance pay cash for service). Having a mix of four different systems makes the American system more unique compared to most other countries and creates different sets of issues than EU nations would face.

While the U.S. has shown an overall average increase in life expectancy over the last decade, it still lags significantly behind most other developed nations in life expectancy and health related issues. Most OECD countries' life expectancies have also been improving at a faster rate than the U.S. (JAMA, 2013). The OECD average life expectancy is 80 years while in America it is 78 years (OECD, 2014). Despite average U.S. life expectancy increasing, there has been a decrease in life expectancy in many communities and population groups across the U.S. These decreases have been attributed to problems relating to inadequate access to healthcare. One reason for lack of access to healthcare is due to affordability. Millions of Americans are denied healthcare solely because they cannot afford it (out-of-pocket model) and as of 2012 over 16 % of Americans were left uninsured (CDC, 2014). If underinsured Americans are included the number rises even further to 34 % (Nunley, 2008). These citizens cannot afford health services despite the fact that the U.S. spends about 17 % of its GDP on healthcare (OECD average is 9.3 %), but the U.S. healthcare system only helps a small percentage of the population with almost double the expenditure (OECD, 2014). Also, the U.S. spends the most per-capita on healthcare in the world, but still the population's health is equal or lesser than other OECD countries who spend substantially less on healthcare (Diggs, 2012).

Part of the reason for low healthcare outcomes in the U.S. is that there is institutional discrimination that is tolerated within the American healthcare system (Diggs, 2012). Some examples of this institutional discrimination may involve race or certain socio-economic classes (or a combination of both). For instance, African-Americans and Hispanic populations compared to white populations statistically have the lowest access to healthcare and therefore the lowest health outcomes as compared to white populations (Diggs, 2012). Socio-economic factors are also another major contributor to discrimination seen in the healthcare system. This is because if a person is poor they may not have access to insurance nor the means to pay for healthcare. Also, people living in certain impoverished regions may also have access problems to adequate healthcare, in that they may have difficulty finding adequate healthcare facilities in their area, especially in inter-city or rural areas (Diggs, 2012).

4.3.2 Policy Suggestions for the U.S. Healthcare System

If the U.S. expects to increase life-expectancy and overall health and wellness for all sectors of the population, it needs to change its policies and laws to reflect that healthcare is a right, not a privilege. This is because healthcare is something that all humans require. If the U.S. does change to this policy (or have a culture shift in this direction) it will enable all Americans access to healthcare and thus reduce healthcare disparity. Furthermore, the U.S. needs to work to reduce healthcare costs for all Americans and increase healthcare coverage. The U.S. has attempted to solve policy issues related to efficiency, adequate care and healthcare accessibility recently with the *Patient Protection and Affordable Care Act*. Despite these new policies, the government still has not gone far enough to address the needs of society and still not everyone will receive coverage (JAMA, 2013).

The Patient Protection and Affordable Care Act was designed to expand medical coverage to cover the majority of Americans. The Affordable Care Act also made it legal to penalize citizens who have not signed up for health insurance effectively making health insurance mandatory. One of the ways it was to achieve this goal was the expansion of Medicaid (KY Cabinet for Health and Human Services, 2014). Under the Affordable Care Act, Medicaid expansion was expanded to cover up to 138 % of the federal poverty level. Despite this expansion, not all states are required to expand Medicaid due to a Supreme Court Ruling eliminating the possibility of penalizing states for not expanding coverage. After the March 2014 deadline for signing up for insurance under the Affordable Care Act (to avoid penalization), a McKinsey study noted that over 74 % of the sign-ups were from people who had pre-existing insurance (Forbes, 2014). A Gallup survey also stated that after the 2014 sign-up ended, the uninsured rates in the U.S. dropped to 13.4 % and that many of the newly insured citizens were from minority populations such as Hispanic or Black. Gallup (2014) also found that the highest rates of newly insured citizens occurred in states that expanded Medicaid. However, not enough data has been collected to take into account the number of underinsured citizens, as many of the new insurance sign-ups may only include life-threatening coverage. Another issue with the Affordable Care Act is that the expanded service mostly helps lower-income citizens due to only a partial expansion of Medicaid, but does not do much to provide full health insurance coverage to middle class Americans, as their only option is private insurance usually from their place of work.

As the Gallup data above shows, the states that had the highest increase of newly insured citizens were in states that increased Medicaid. This data shows that the best way to improve the Affordable Healthcare Act would be to expand Medicaid (or add another public option) for everyone. This would decrease the uninsured and underinsured rates.

4.4 The Italian Healthcare System

The following paragraph will give an overview of the history of the Italian Health System and development nowadays to analyze its strengths and weaknesses. Policy recommendations will be given under the consideration of national entities. All policy recommendations below aim into the direction of supporting a greater equality in Italy in accordance with European Union values and strategies.

4.4.1 The Italian Healthcare System on a Snap Shot

The Italian National Health System was established as recently as 1978. The system was originally set up as a three-tiered system divided between the central government, regions, and then finally local health authorities (Aziende Sanitarie Locali). The central government was in charge of setting price ceilings and redistributing national healthcare funds to regions based on need and poverty levels (France et al., 2005). In reality, however, these funds were distributed disproportionately and based on political preferences at the local level. This control on the local level caused problems because national funding ceilings were regularly exceeded by the local authorities' budget problems (France et al., 2005) (Fig. 2).

In 1992, the central government decentralized healthcare financing and gave away more authority of the health system to the regional governments. The motivation behind this measure was that shifting responsibility to the local level would create more efficiency in the system, as the regions could better accommodate their own healthcare priorities, as compared to the central government. Furthermore, the policy makers hoped local financing would help fix issues of misspending or overspending of national health funds. The development was a central government that still plays a roll but only as a provider of general guidelines.

Currently, the 20 regions in Italy are able to decide how much they want to spend on healthcare, resulting in a wide variation of healthcare models. Some regions of Italy, such as Lombardy have embraced a privatization or "marketization" of the healthcare system, while others have embraced a cooperative approach (Doetter et al., 2011). This second approach involves private and public healthcare working together or complimenting each other rather than direct competition.

4.4.2 Policy Recommendations for the Italian Healthcare System

An unintended consequence of the regionalization of the healthcare system was that the abuse of power by politicians started becoming more prevalent. Some regions spend up to 70 % of their budget on healthcare so such that healthcare has become a political tool (European Commission and the Economic Policy Committee (AWG), 2010). The biggest issue since the inception of the healthcare system until now has been curbing healthcare spending. Because healthcare costs are so high in many

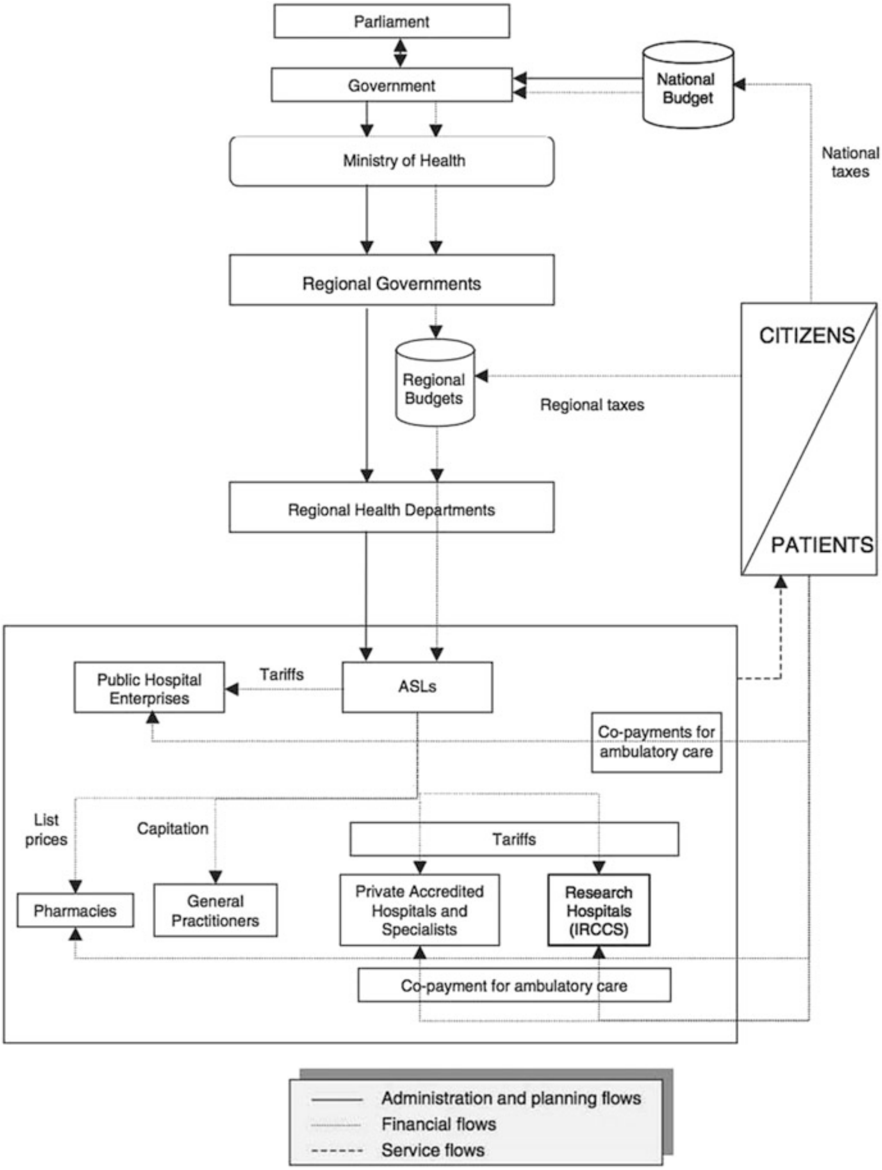

Fig. 2 The Italian national health service (2002) (France et al., 2005)

areas, taxes have also gone up. This has created economic distortion in the system, as black markets and bartering have become a way to avoid high taxes (Maris, 2012). Italy's biggest healthcare issue has been to curb this spending, especially in regards to the terms of the EU's Maastricht criteria. Those are the criteria, which EU member states have to fulfill to enter the third stage of the Economic and

Monetary Union (EMU) in order to adopt the Euro as their currency (European Commission, 2014a).

The caretaking of the elderly by the families is one of the role model aspects in the Italian healthcare system. The responsibility for taking care of the elderly lies solely with their families, as little is provided by the government in terms of elderly care. When elderly family members are sick in southern countries like Italy most of the time the family takes care of them at home instead of in retirement homes or hospitals. This works well for Italy but it couldn't be easily transferred to every country because of different familial structures. In northern countries it is not as common as in Italy that three generations live in one house or close to each other anymore. Young people often move out in order to study or to work (Rusconi, 2006). A possibility to mirror this on other countries would be through a national substitution policy in monetary form. Families of the northern countries would receive money from a newly installed national fund in case they take care of the elderly people. The southern European countries could use similar measures to increase the level of family responsibilities.

Another major issue with the system is the great economic inequality between the south and the north (see Table 2) which led to large migration of people (in 2001 it was 860,000 which is an increase of 7.5 % from 1997) moving from regions like Sicily and the region of Campania to northern regions' of Emilia-Romagna and the region of Lombardy (Rusconi, 2006). This has put more stress on northern regions healthcare systems.

A midterm solution could be transferring healthcare administration to national control again to prevent the great inequalities. The European Union member states policies are moving into the direction of national controlled policies. Many nationalistic movements were founded in the last years, which want to diminish the influence of the European Union on national policy matters (Rettman, 2014). Through healthcare insurance bills the Italian government could establish a superregional healthcare system again with a consistent healthcare level that is equal for all 20 regions in Italy. Furthermore this could diminish another problem that comes with the regional division of the healthcare system, the influence of local politicians and the abuse of regional funds. National funds would be an optimal solution in order to establish a greater balance between North Italy and South Italy. In the long-term a coherent EU healthcare policy, which will be discussed below, would be a solution of interest but this solution would be hard to apply given the current political climate.

The current focus for EU action in health policy is defined in Article 168 of the Treaty on the Functioning of the European Union. The concept is that human health is valuable and accounted for in the development of all EU policies and activities. "EU action to encourage cooperation between Member States shall in particular concern the improvement of their health services in cross-border areas"(Article 168 of the Treaty on the Functioning of the European Union). Article 168 also states that the European Union should acknowledge the freedom of individual member states to define their own health policies and organize and deliver their health services and medical care, including any resources assigned to them.

Table 2 Selected indicators of interregional variation—2002 (or nearest year)

		Northern		Central		Southern		
	Italy	Max	Min	Max	Min	Max	Min	CV (%)
Population ($\times$1,000)	57,321	9,109	121	5,146	834	5,725	321	81.2
% elderly population (> 65 years)	18.6	25.4	15.8	22.6	17.7	21.4	14.2	14.8
GDP (€000) per capita[a] Life expectancy at birth	20.1	26.8	21.7	22.3	19.5	17.1	12.4	25.2
Male	76.8	77.2	76.5	78.1	76.6	77.8	75.4	0.8
Female	82.9	83.6	82.7	84.0	82.4	83.9	81.2	1.0
Infant mortality ($\%_0$)[a]	4.5	4.6	2.4	4.7	3.1	6.2	4.0	27.3
Perinatal mortality ($\%_0$)[a]	5.7	6.4	3.5	5.7	4.1	7.4	3.2	24.1
Hospital beds ($\%_0$ inhabitants)[b]	5.0	6.0	4.3	5.9	4.4	5.0	3.8	11.5
Private hospital beds (%)[b]	13.8	21.7	0.0	30.8	7.0	34.2	2.3	70.5
Private hospital admissions (%)	13.7	19.3	0.0	15.9	5.5	24.7	1.9	61.1
Public health-care expenditure per capita (€000)[b]	1.4	1.9	1.4	1.5	1.4	1.4	1.2	11.1
Prevention (%)	4.3	6.0	2.8	5.1	3.0	6.5	3.3	25.5
Hospital (%)	48.1	53.8	43.8	50.1	44.4	50.5	47.0	5.6
Drugs (%)[c]	15.1	17.3	10.0	17.2	14.8	19.1	15.5	14.9
Community services (%)	32.5	38.0	29.1	36.1	29.7	32.6	27.9	6.7

Northern regions: Val d'Aosta, Piemonte, Lombardia, Vento, Friuli-Giulia, Trentino Alto-Adige Liguria, Emilia-Romagna. Central regions: Toscana, Lazio, Mnbria, Marche. Southern regions: Campania, Molise, Abruzzo, Puglia, Basilicata, Calabria, Sicilia, Sardegna

CV Coefficient of variation

[a]2000

[b]2001

[c]Distributed via retail pharmacies only

The European Union's task is to complement the policies of the EU members on issues where coordination, cooperation and exchange of information are needed. It also uses legislative powers to control certain areas.

In 2007 the European Union created policy to standardize health standards, which is based on four key points. First, shared health values must be defined across all nations, secondly health must be seen as the most important right, thirdly considerations about health must be included in all policies and lastly EU healthcare policies supersede national policies on all issues affecting global health.

Thus three key objectives were identified; provide good health in an aging Europe, health threat protection like in the case of an epidemic and the support of innovative health systems and technologies. These three principles can be transferred to the Italian system.

These objectives complete the aims of the Europe 2020 strategy, which can be a valuable orientation for the Italian government for smart and sustainable growth. Focused investments in healthcare, productivity and innovation, building new abilities, are measures to help to reduce inequalities and create more sustainable health systems. In February 2013, the European Commission passed a bill called ‘Social investments for growth and cohesion’. One aspect of this package focuses on investments in health. The conclusion is that health is a value in itself, and also a key to economic prosperity. Sustainable health systems are a key focus, investing in people’s health as human capital, and investing in reducing inequalities in health can contribute to economic growth. The European Union will support reforms through its funding instruments, i.e. ‘Structural Funds and health program’.

These funding instruments can be used to assist the Italian structural changes back into a governmental controlled healthcare system. Furthermore the aimed healthcare reforms will be nationally supported to strengthen the positive aspects like the caretaking of the elderly in Italy.

4.5 Comparison of the German, U.S. and Italian Healthcare Systems

The three healthcare systems are based upon different models of healthcare systems. Italy is using a form of the Beveridge Model as their healthcare is funded through taxes and the regional governments decide how the money will be used. As explained earlier the main problem of the Italian system results exactly from the power that politicians have concerning the financing of healthcare and therefore tend to spend too much money on it. For that reason, it might be necessary to implement some aspects of the Bismarck Model in the Italian healthcare system as it does not give all the power to the government but just is controlled by it. Therefore Italy can use the German statutory system as a role model. The reason for that is that the Bismarck Model works very well in Germany concerning the distribution of healthcare and the universality of the system as the providers of insurance are private and the government is only regulating them. The redistribution from rich to poor and from healthy to sick might also be a way to improve the differences between the Italian regions and their financial resources which might make the system more just. Germany can also be a role model for the US in some points as their healthcare system is strongly influenced by politicians as well because they are trying to implement reforms to improve healthcare in the US. For that reason the American healthcare system consist of four different healthcare models and still does not provide universal healthcare for everyone. It might have to choose one model and then start to establish it for every part of the society. Therefore the US could also use the German system as a role model for their system and adopt some of the aspects to make their system more homogeneous. The Bismarck model might work better than the Beveridge Model because most of the insurance providers and hospitals in the US are already private and it would be too much of a financial effort for the state to nationalize them.

5 Effects of Globalization on Health

All in all, globalization brings along a number of advantages but also supports the expansion of disadvantages as will be explained in this text. Most of the reforms, which were mainly implemented in middle or low income countries, aim for supporting the extension of the private health sector and its importance and influence on the provision of healthcare because they are strongly influenced by global organizations such as the IMF or the World Bank (Lister, 2008).

On the one hand the great importance of the health sector makes it nearly impossible for politicians to ignore the topic or to reduce financial resources in this sector as the political debate is also driven forward by NGOs, health workers trade unions and other organizations that deal with the health topic. This can be an advantage because most of these organizations promote healthcare as a public service and want it to improve (Lister, 2008). Another advantage of globalization might be that trough the rising spending on health the medical knowledge in the world is also rising. As a result, the ability to heal more illnesses and the awareness of the development of new drugs and treatments is recognized all over the world. This awareness leads to an increase of the pressure to offer these methods (Lister, 2008).

On the other hand it is also this huge influence of the health sector that brings along a number of disadvantages. Some of the reforms (that these low and middle income) governments made led to the image of healthcare as an "economic transaction" rather than a "public good" which made the increasing privatization of the healthcare sector even easier. Most of those private providers do preferentially treat the wealthier part of the population which on top has a lower health risk. The public providers of healthcare suffer from that, as they as a result need to deal with all the poorer and sicker individuals. The reforms obviously are not driven by the necessity or demand for private services but by political pressure that comes from influential global institutions (Lister, 2008).

Another aspect of globalization is a great external and internal movement of health workers "brain drain". The external movement is an emigration of health workers from poor (usually southern) countries, for example India, South Africa or the Philippines, to rich (mainly northern) countries like the US, the Middle East, the UK or Australia. These movements have disastrous consequences for the poor countries where these qualified workers would be needed very urgently to provide medical services for the population. The internal brain drain is the movement of health workers from the public into the private health sector—and with it the movement from rural regions into cities where the private services are mostly provided. This effect even enlarges the problems for the poor population to get access to medical care as they on the one hand cannot afford it and on the other often do live in these rural areas. The motive for the health workers to either emigrate or work in the public sector is clearly the higher wages they get from it and it is their strategy to survive (Medico International, 2004).

Another factor that increases the lack of health workers who provide healthcare for the poor is the medical tourism which became very famous in some countries like Thailand or Bangladesh. This medical tourism is often offered by huge hospitals in cooperation with Joint Ventures and of course they are private providers who offer a lot of employment with higher wages than public hospitals could. For rich countries where the tourists usually come from this development is positive because even complicated treatments are far cheaper than in the home countries (Medico International, 2004).

All in all it is clear, that poor countries are rather the losers of the globalization of healthcare whereas especially the private health providers of the western health industry profit from the exchange of medical services.

6 European Union Healthcare Plans and Future Policies

This section gives an overview over the historical and current policies implemented by the European Union member states. These policies are used as a foundation for future policy recommendations. Thus, the European Union is already moving towards a united policy concerning health cards that work in all of the EU, this can be seen as a first step forwards to coherent EU healthcare policies. All the policies mentioned in the sections below move into the direction of an international healthcare system, from which all the European Union citizens would benefit.

6.1 Historical and Current Overview of EU Healthcare Policies

This paragraph, which is the rational for our policy recommendation, explains that the EU is slowly moving towards a continental social system and healthcare has been part of this change. Below are all the steps from 2003 that the EU has been taking towards a single social healthcare network.

On 13 December 2007 the heads of state and government of the 27 EU Member States signed the Lisbon Treaty called, Treaty on the Functioning of the European Union (TFEU). It is intended to reform the functioning of the European Union following the two waves of enlargement, which have taken place since 2004 and which have increased the number of EU Member States from 15 to 27. The article 168 belongs to Title XIV Public Health and states:

> A high level of human health protection shall be insured in the definition and implementation of all Union policies and activities. Union action, which shall complement national policies, shall be directed towards improving public health (European Union, 2014a)

The European health policies went through three steps in their development: Public Health Programme (PHP), Second Programme of Community Action in the

Field of Health, Third Health Programme. The Public Health Programme 2003–2008 ran from 1 January 2003 to 31 December 2007. The program aimed to protect and improve EU members' healthcare systems. It promoted work in the following three main areas: health information, rapid reaction to health threats and health promotion through addressing health determinants (European Union, 2014b). The Second Programme of Community Action in the Field of Health 2008–2013 came into force on 1 January 2008. It is intended to complement, support and add value to the policies of the Member States and to contribute to increased solidarity and prosperity in the European Union by protecting and promoting human health and safety and by improving public health (European Union, 2014c). The Third Health Programme is the main instrument the European Commission uses to implement the EU Health Strategy stated in article 168 of TFEU. It runs from 2014 until 2020 and the main scopes are to promote health, protect Union citizens from serious cross-border health threats, encourage innovation, efficiency and sustainability in health systems and facilitate access to better and safer healthcare for Union citizens (European Union, 2014d). This program emphasizes the Europe 2020 strategy for intelligent, sustainable and inclusive growth stated in the European Health Strategy 'Together for Health'. One of the main concerns is the protection of citizens from serious cross-border health threats in order to improve the cooperation with neighboring countries. The program is open to the participation of potential candidates benefiting from a pre-accession strategy, in accordance with the general principles and general terms and conditions for their participation in Union programs established in the respective Framework Agreements, Association Council Decisions or similar Agreements; EFTA/EEA countries in accordance with the conditions established in the EEA Agreement; neighboring countries and the countries to which the European Neighborhood Policy (ENP) applies in accordance with the conditions laid down by a relevant bilateral or multilateral agreement; other countries in accordance with the conditions laid down by a relevant bilateral or multilateral agreement (European Union, 2014e). The implementation is based on annual work plans, which set out priority areas and the criteria for funding actions under the program (European Union 2014f). Moreover, it considers the following steps: monitoring the implementation of the actions, reporting to the programme committee, evaluating the impacts at mid-term by the end of June 2017, ex-post long-term impact, making the results publicly available, and widely disseminated (European Union, 2014g).

The aims of the European Union emphasize the role of a highly developed health system in promoting productivity at work, economic competitiveness and higher living quality (European Union, 2014d).

The fields of interest are investing in sustainable health systems, in people's health as human capital, in reducing health inequalities. Increasing the financial effectiveness through reforms and investments is crucial. Investing in healthcare specifically in precaution medicine can lead to a more effective spending without increasing the input financing. Thus generally the effects on healthcare can be expected to be of greater influence. It may take different approaches, such as change in the structure of healthcare departments to improve efficiency while improving the benefits for the society, investment in healthcare staff, training or equipment and initiatives to promote good health and prevent diseases.

The avoidable morbidity and mortality resulting of health inequalities represent a loss of human capital that must be diminished. General availability of healthcare services, increased cooperation between social and healthcare services and new health policies in order to prevent avoidable diseases can result in an important contribution to economic productivity and social comprehension.

Policies could foster cost-effective innovation to generate increased health outcomes. In the long-term view these measures should avoid increasing disease and financial burdens. Financially reasonable systems and structural changes of health systems need to support public policy aims guaranteeing an overall improvement of the healthcare system. As a part of the reforms within the context of Europe 2020 this should be accomplished. As you can see, European Union is continuously trying to improve the cohesion of the international healthcare system.

6.2 Policy Suggestions for Future EU Healthcare Policies

Due to the EUs policy towards a more coherent and unified healthcare system it is important for policy makers to start looking at long-term EU policy goals in regarding healthcare. This is because the advantages of more coherent European policies can already be seen resulting in benefits for the citizens. Policy recommendations go into the direction of extending these efforts.

The European Union could establish a minimum healthcare system in their member states. Through a stakeholder analyses the European Union could acknowledge winners and losers. Winners would be regions with a lower developed healthcare system, which would profit in terms of structural changes. Losers might be regions that already have a highly developed healthcare system and profit from healthcare tourism. In an optimal case there would be no losers. Minimum requirements for healthcare would not threaten regions with a better developed healthcare system. Those regions still keep their advantage of a good health system thus they generate healthcare tourism. Another policy recommendation would be a “Luxury tax” on additional health insurance; if citizens want to have insurance above the basic level they are usually wealthier. Thus an additional 10 % tax could be established on this insurance to help financing the people that are not able to pay their insurance by themselves. “Since 1998, member states have no longer been permitted to discriminate against citizens of other member states when disbursing social benefits,” says Kingreen (Spiegel, 2014). This law can be used as a legal foundation for supranational European Union policies in the field of healthcare.

Furthermore integration efforts need to consider healthcare as well to insure equal treatment for all the citizens. First steps into the direction are already made through healthcare cards of the European Union, which already include the European symbols on it and work in all of Europe. There is no the need for additional travelling insurance in the boundaries of the EU; though the services provided by the Insurance programs are still varying significantly in each country or region.

Another policy could be the establishment of an EU subsidy fund for the caretaking of the elderly at their families' homes instead inside of retirement homes or hospitals. The Italian system could be seen as a role model in this field. Family boundaries are stronger, so for most of the people in Italy it is self-evident. Implementation in the Northern EU countries through subsidy would be an admirable goal (Nesti et al., 2003).

In the long-term the USA-EU trading zone could be extended in to other policy fields, such as health insurance. The usage of the best practice method would be an optimal solution in order to find out about the advantages and disadvantages of each system.

7 U.S. and European Global Healthcare Policy Suggestions

As the above section mentions, the EU is already moving towards an "international healthcare zone", where EU citizens can acquire access to healthcare in other EU states if they have an EU health insurance card (European Commission, 2014b). The benefits of the EU health insurance card is that if people from one EU state visit another and need sudden medical care, they will be able to receive it at reduced or minimum cost (similar to the cost of a citizen of the host country). Other benefits are that it helps reduce barriers between countries, and creates more efficiency in the healthcare system if multiple countries healthcare systems cooperate and coordinate with each other especially in a time of increased globalization and increased necessity for traveling. A policy recommendation would be to expand the EU Health Insurance Card to North America as well to create a single health zone, where all member states can have access to similar benefits.

The rationale for the expansion of the EU Health Insurance Card lies in the foundation of the Trans-Atlantic Trade and Investment Partnership (TTIP). The foundation of TTIP is to create a single market between the United States and the EU, where goods on both sides of the Atlantic can be traded freely (European Commission, 2014c). The current issue is that both the EU and the U.S. have their own separate regulations and standards on safety, health, regulation etc. which creates compliance problems for companies wanting to sell in both markets. TTIP is working to fix this problem by possibly creating a common set of standards for health and safety for both markets. In addition to reducing costs, TTIP will create further benefits. One of these benefits is that both EU and American policy-makers and regulators will have to work closer together and are thus able to exchange and learn from ideas on both sides of the Atlantic (European Commission, 2013, European Commission 2014c). Also, if common standards are achieved, these are more likely to become international standards which could result in an increase of standards globally.

If TTIP does get enacted by the EU and the US it would create a solid framework for expansion of a single healthcare zone. TTIP could even be expanded to include healthcare in future talks. As stated above, collaboration on other safety and health standards would increase efficiency in the economic system, create an exchange of policy ideas, and could set international standards. The same logic could be said for a similar dialogue on allowing for an international healthcare zone. This is because, to allow such a zone, a core of common standards for healthcare would have to be met, which would create discussion and policy adjustments that could make healthcare in both zones more effective and efficient.

Furthermore, according to the U.S. Office of Travel and Trade approximately over 11.2 Americans traveled to Europe in 2012, while approximately 12.4 million Europeans traveled to the U.S. (ITA, 2014). That is approximately 24 million people who would benefit from an international health zone policy. If the policy is further expanded to all of North America, including Canada and Mexico, the number of beneficiaries would increase even more. The one issue that may be a stumbling block to implement this policy would be the U.S.'s lack of universal government backed healthcare, like in Europe. This problem could potentially be remedied by making a provision that visitors who are in the U.S. and have a "North Atlantic" Health Insurance Card could have access to an expanded Medicaid service (either at a full discount rate like American citizens, or a slightly more expensive, but still subsidized rate).

8 Conclusion

After having analyzed the American, Italian and German healthcare systems it is pretty clear that all of the three models do have some advantages and some serious problems they have to deal with. The US provides medical services of high quality to some parts of the society but it needs to work on establishing a health system which is more universal and accessible to everyone. In Italy the idea of letting regional governments decide about the amount of healthcare needed can be a good idea but it needs to be reorganized so that politicians cannot abuse the system for their own aims. In Germany the system includes a redistribution that allows poor people to receive the same services like the richer part of the population but the system is threatened by a demographical shift. In the end there is not a "perfect" healthcare system that may work in every part of the world as every country has its own priorities that are accepted in the society. Still the situation could be improved if the EU and the US would work together on a standardized health zone as healthcare in general is becoming a more and more globalized topic. Furthermore some of the national problems that Italy, the US and Germany have to deal with could be solved with these points. Healthcare definitely must be treated as a public right that everyone should have access to which also includes medical treatment that is affordable for everyone including minorities.

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The Demographic Change in Germany: Implications for the Pension Scheme

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Abstract Similar to other advanced industrialized countries, Germany's low population growth and aging workforce put considerable pressure on its national pension system. This chapter begins with an overview of the country's changing demographics and the pressures they place on the pension system. Next, the chapter reviews some of the major reforms that have been implemented to relieve the strain. The closing section considers several policy strategies that might improve the country's demographic profile and ensure proper functioning of the pension system. Immigration reforms, family support policies, reduction of future pension obligations and public awareness campaigns are among the most likely measures to improve the pension system performance in the long-run.

1 Introduction

In 1986, Dr. Norbert Blüm, Germany's former secretary of labor (1982 to 1998), famously declared, "The pension is secure" (Deutscher, 2012). However, his words may no longer hold for the German pension scheme because, like many other industrialized countries, Germany is suffering from an aging population. Across the European Union, populations are aging due to low birth rates, longer life

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expectancy and changing family structures. These factors have contributed to a clear decline in the populations of nearly all EU members.

Germany, in particular, must deal with negative population growth rate as a result of high mortality rates and low birth rates, since is workforce its shrinking and many of its elderly citizens live in poverty. This places new demands on health care system to provide appropriate medical care for the elderly. Moreover, the aging society and lack of labor force puts the country at risk of increasing unemployment. Major changes in the pension system in Germany have already been done in order to keep the system going. This chapter considers Germany’s changing demographics and what implications that has for the country’s pension system. The following section provides an overview of Germany’s demographic conundrum, as well as the origins and current state of the national pension system. The third section of the chapter assesses the effectiveness of the current pension reforms, which have been implemented to deal with the problems. The fourth section discusses the feasibility of several new alleviatory policies. The fifth section concludes the chapter.

2 Demographic Situation in Germany

2.1 Current Situation and Forecast

The Federal Statistical Office of Germany reported a population of over 80 million in 2012. In the same year, the total fertility rate was 1.4 children per woman or 8.4 children per 1,000 inhabitants, and the mortality rate was 10.8 per 1,000 inhabitants (Federal statistical office, 2014). Excluding immigration, this means that for every 1,000 inhabitants there were 2.4 more deaths than births in 2012. Table 1 contains a summary of Germany’s population statistics in 2012. Although the country is growing in absolute terms, its native population is clearly shrinking.

The decline has been under way for a number of years, and the population is expected to fall to 65 million by 2060 (Federal Statistical Office, 2009).

Immigration is certainly an important element in the country’s demographic change. In 2012, over one million immigrants moved to Germany and around 700,000 emigrated. Most of the inflow was made up of people from Eastern Europe, particularly from Poland and Romania, though many people also immigrated from Italy, Spain and Greece, which was likely due to the economic crisis in those countries (see Federal Statistical Federal Statistical Office, 2013). The issue of immigration will be revisited in detail in the fourth section (Fig. 1).

Age structure is another important demographic characteristic. Figure 2 shows the progression of age structure in Germany from 1950 through 2100. The graphics illustrate a transformation from a triangular to a rectangular composition. Germany’s aging population segment (people around 50 years old) is clearly visible in the graphic for 2010. In the near future, the proportion of older to younger people will rise considerably (United Nations, 2014).

Table 1 Key population data for Germany in 2012

Total population	80,500,000
Live births	673,544
Deaths	869,582
Live births—deaths	−196,038
Net migration	368,945
Populations growth—absolute	172,907

Source Own diagram based on figures provided by the Federal Statistics Office of Germany, 2014

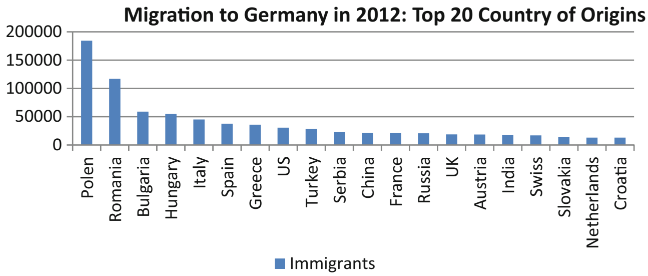

Fig. 1 Migration to Germany 2012: country of origins (*Source* Own diagram based on figures provided by the Federal Statistics Office of Germany, 2013)

Figure 3 shows the Federal Statistical Office population forecast from 2008 to 2060. Over the indicated period, the number of seniors aged 80 and over is expected to increase from 5 to 14 %, and the working population (20–65 years of age) is expected to shrink from 61 to 50 % (Federal Statistical Office, 2009). These numbers don't look so positive for the pension scheme as the smaller working population will have to support a much larger elderly population. These demographic changes are already well under way, and the following paragraphs consider some of the main causes and challenges of this transition.

2.2 *The Major Challenge and Its Causes*

We identified two major demographic changes in Germany: its shrinking population and the aging society. We will now analyze the causes of these demographic processes and how they may affect the pension scheme.

2.2.1 German Pension Insurance

The German Pension Insurance has its roots in the social legislation of Otto von Bismarck, the first Chancellor of the German Reich(1871 to 1890). In 1889,

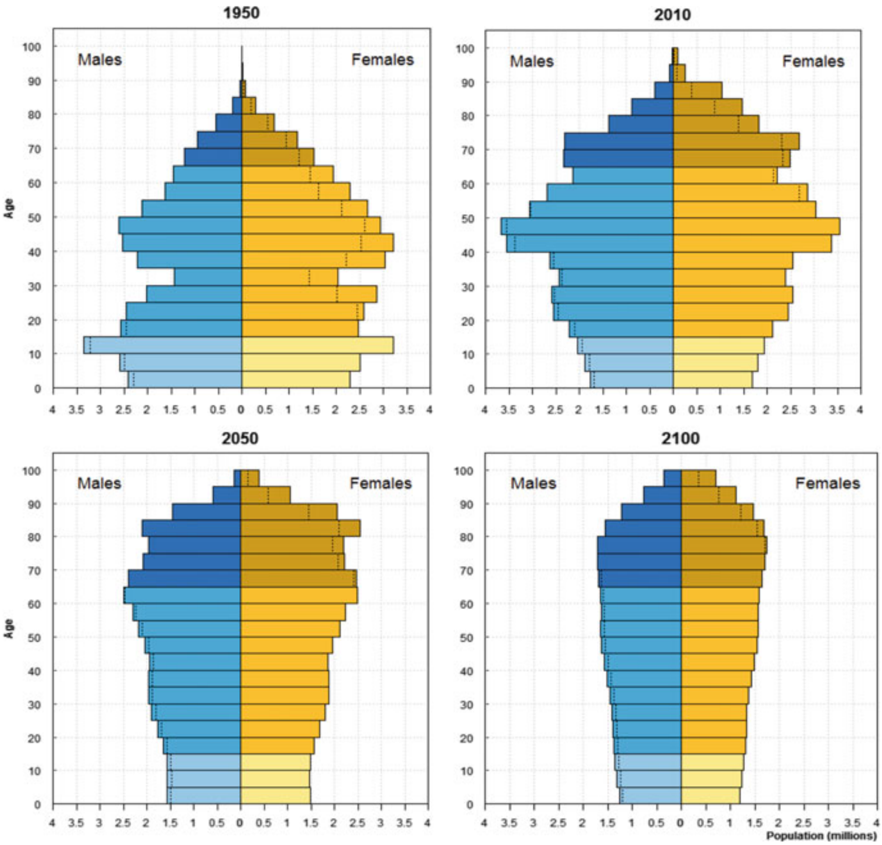

Fig. 2 Population pyramid age structure Germany (*Source* United Nations, 2014)

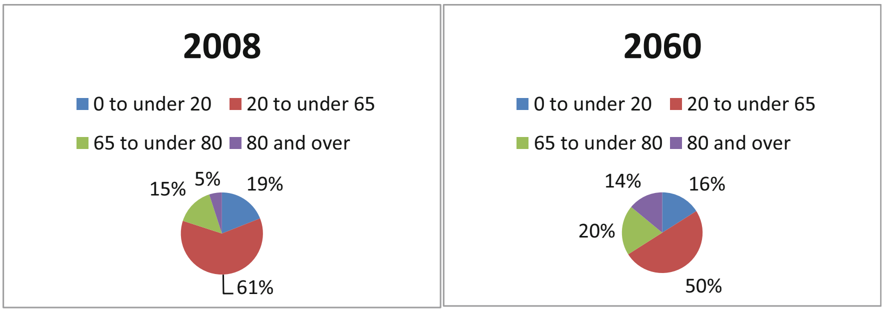

Fig. 3 Population by age groups (*Source* Own diagram based on figures provided by the Federal Statistics Office of Germany, 2009)

Bismarck proposed and passed a law on old-age security, which became the foundation for the current social security system in Germany. Today, the German pension scheme is based on a so called Pay-As-You-Go system. The working population takes care of the financial security of today's pensioners, which is called the "generation contract." This means that the contributions of today's contributors go directly to today's pensioners. These contributions have to be paid fifty/fifty by employers and employees. Since 1 January 2014, the rate of contribution is 18.9 % of the gross wage or gross salary (each 9.45 %). The assessment ceiling of the general pension insurance is 71,400 Euro per year in the old federal states and 60,000 Euro in the new federal states of Germany. The contribution assessment ceiling is adjusted each year in accordance with the economic development and fluctuations of salaries and wages. However, the general pension insurance is financed not only through these contributions: the budget is to be filled with annual grants (fiscal resources) from the federal budget (LeMO, 2014).

2.2.2 The Major Challenge

The major challenge that comes along with demographic changes in Germany is securing the future pensions. At this point, we refer to Birg (2003) who devised a mathematical explanation regarding the future pension scheme. As we mentioned earlier, the German pension scheme is based on the contributions and fiscal resources. Let X be the number of pensioners and P the average pension, then:

$$Expenditure = X{*}P \tag{1}$$

Furthermore, we assume that C is the number of contributors, w is the average wage/salary, r is the contribution rate and y is the tax factor (for example, if 30 % of the pensions are financed by tax, then the tax factor is equal to 1.3). Then:

$$Receipts = C{*}w{*}r{*}y \tag{2}$$

Next, assume that the receipts and the expenditure need to be equal in order to have a functioning pension scheme:

$$X{*}P = C{*}w{*}r{*}y \tag{3}$$

After solving the equation for r:

$$r = \frac{X}{C}{*}P{*}\frac{1}{y}{*}\frac{1}{w} \tag{4}$$

This shows that for a given pension, tax factor and average wage, the contribution rate is greater the higher level the quotient of pensioners and contributors.

The ongoing trends of the demographic changes will result in aging population in Germany. The number of pensioners will rise, whereas the number of contributors will decline. As Fig. 2 illustrates, the quotient of pensioners and contributors in 2008 was (20 %/61 % =) 0.33 and is likely to change in 2060 to (34 %/50 % =) 0.68, which is more than double. As a result the contribution rate also has to be doubled (if P, y and w are fixed) in order to fulfill the above equation, which would be 19.9 % (in 2008) * 2 = 38.38 %. Another option would be to reduce the pension by the factor of ½ = 0.5, which would be half of the amount in 2008 (52 %/2 = 26 %). These changes are not feasible immediately and, therefore, the biggest challenge for the German pension scheme is to ensure future pensions without drastically reducing the amount of pension or increasing the contribution rate (Birg, 2003; Federal Statistical Office, 2009).

2.2.3 Causes

The demographic change in Germany is a result of low birth rates, higher life expectancy and changing family structures, and, in this section, we will examine some of the factors, which influence these causes.

In economic terms, the demographic paradox explains low birth rates in industrialized countries that occur despite rising real income. The economic reason for having less children lies in the rise of child care cost and industrial consumer goods. This means that you can reach a higher utility if you spend the bigger part of your income on industrial goods and at the same time reduce your spendings on child care. This position assumes that given the fixed income, the demand for goods will grow when the price is reduced. This idea practically explains having children as a sort of investment into future social security for parents, which puts children on the same scale with consumer goods.

Another point of view explaining the demographic paradox interprets children not as real costs, but as opportunity costs, the latter being defined as a loss of income when a mother decides to have children instead of going to work. The theory states that those opportunity costs may increase over time, which makes having children more expensive in terms of foregone income. If this theory were true, people would only work for the income, and not for the utility of it. The maximization of income itself would be the ultimate goal. The question here, then, is why do people prefer to not save all of their money and buy consumer goods instead. Thus, this theory is not enough to explain the demographic paradox.

In order to examine possible causes of the aging population of Germany we will have a look at historical events which could explain these trends in demography (Birg, 2003).

2.2.4 The Introduction of the Modern Social Security

Bismarck introduced a law on old-age security in 1889. Since then, social structures have been constantly modernized. The connection with lower birth rates is reflected in the earlier ways of thinking about having children. Whereas before children were seen as some sort of social security (in terms of life risks, diseases, accidents and deaths), nowadays this responsibility is on the contributors. In that scenario children are no longer a means to secure future for parents (Birg, 2003).

2.2.5 Change in Values

One reason for low birth rates could lie in change of values. Some argue that capitalism instigated pervasive egoism and deterioration of the institutional marriage. The importance of family has diminished, and, today, German society may have a stronger regard for individualism. Even representatives of liberal policies argue that the decision against having children is an expression of individual freedom (Kröhnert & Klingholz, 2005).

2.2.6 The German Reunification

Declining birth rates in the new federal states after the reunification received attention across the world. Never before had a country changed its fertility behavior so rapidly in times of peace, while, in the BRD, birth rates were increasing steadily.

At the time of the German Democratic Republic, Eastern Germany was characterized by high fertility rates prompted by government-sponsored incentives for having children early. Many demographers believe that the decline in birth rate would have also occurred if the reunification had not taken place. German reunification strengthened that effect (Witte & Wagner, 1995).

Furthermore, the reunification unsettled young people with regard to their family development and opportunities in the labor market. The economic insecurity resulted in reduced desire for children. Since German reunification, the average age of having a first child has risen sharply. The demographic behavior of younger people in the new federal states has converged to the old states. This trend of later childbirth can be seen in many other industrial countries (Kraus, 2009).

2.2.7 Further Causes

In addition to the causes discussed above, there are a few more, which have contributed to the current demographic situation. Education level of women relates strongly to fertility rates, especially in Western Germany. In general, women who leave school at an earlier age tend to have more children. According to Grunheid, women who do not receive their graduate certificate have an average of over three children. On the contrary, 30.9 % of women with a higher education degree don't have any children. The proportion of women with a higher education has grown in recent years, and it has been accompanied by declining fertility rates overall. Oral contraceptives, which became popular in the 1960s, are another likely reason for the country's low fertility rates. However, this is a very controversial theory. The slump of the birth rate at the beginning of the 1960s in Germany is primarily attributed to leveling-out of the baby boomer generation of 1955 to 1965.

3 Economic and Social Measures against the Demographic Change

3.1 Pension Reforms

Due to the aging society and its huge impact on the pension scheme, demographic change has turned into a political debate, and the government has introduced several pension reforms over the last 20 years. The main goal of those reforms is to manage demographic changes through legislation in order to ensure funding and retirement benefits for pensioners.

The first pension reform responding to the demographic change was introduced in 1992. This was the first time that the government publicly acknowledged that the country needed to prepare for its aging society. Regarding the rise of pensions, payments into retirement benefits changed from a gross wage to a net wage in order to adjust to the slowly rising net wages and increasing taxes and social security contributions. Furthermore, the pension age was adjusted for different retirement payments to the age of 65. In addition, being a caregiver for a child born before 1992 became a condition for increase on their pensions (Leisering, 1992).

Since 2001, German pension reforms have included a gradual reduction of the statutory payout rate and the complementary introduction of a new private, government-subsidized pension-saving products. Since then, the development of the current pension rates has correlated with average gross wages. Certain retirement provision contracts have been partially subsidized through support payments and partially through tax deductions ("Riester contracts"). At the same time a firm's pension scheme became more attractive by a certain deliberation process: the closing of direct insurance contracts were enabled and some types of old-age pensions were included into the Riester contracts. Furthermore, some new legal regulations were introduced. Working mothers receive more earning points (€28 gross per month) if their child is 3 to 10 years old and their income is below average (Marschallek, 2004).

The 2004 pension fund sustainability law controls the quantitative development of the amount of pensioners in relation to the amount of people earning money at work. Since the introduction of deferred taxation in the same year, the contributions to the statutory pension insurance are exempted from the income tax until 2025, whereas the statutory pension is a subject to the income tax until 2040.

Another recent pension reform was introduced in 2007. The “Insurance—Retirement Age Adjustment Act” extends the retirement age from 65 to 67. Also, the old-age pension for those insured long-term, which can still be obtained deduction-free, was introduced (Berkel & Borsch-Supan, 2003).

3.2 Pension Packet 2014

On the 1st of July 2014, a new pension packet was introduced in Germany. Rising social inequalities have been acompanying demographic changes, and the 2014 pension packet includes several measures designed to close this gap. People who were born before 1950 are the primary beneficiaries. This packet contains four main measures (Bundesministerium für Arbeit und Soziales, 2014):

Those who paid contributions to Statutory Pension Insurance for 45 years can retire at the age of 63 after July 2014. The pension age will be extended to 65. For those insured and born before January 1953, the retirement age is lowered with each year by 2 months. Therefore, insured people who were born before January 1964 will be able to retire with a full pension if they reach 65 years of age (Bundesministerium für Arbeit und Soziales, 2014).

Mothers who had their children before 1992 receive more money per child each year. Pensions for those mothers improve their social security. Specifically this means that mothers benefiting from this statutory provisions receive €338 a year per child (Bundesministerium für Arbeit und Soziales, 2014).

The reduced earnings capacity pension in Germany decreased over the last years. While the average pension payment amounted €676 in 2001, it fell to €607 in 2012. For that reason the non-contributory supplementary period of reduced earnings capacity pension will be increased from the age of 60 to 62 and the formula for calculating will be improved (Bundesministerium für Arbeit und Soziales, 2014).

Another important issue to address regarding demographic changes is the adjustment of seniors medical care costs. Demand for preventative and medical care is growing due to the fact that the baby boomers are reaching senior age. Therefore, there is a greater need for more services. To solve this problem, the rehabilitation and medicare budget will be adjusted according to the needs of the population (Bundesministerium für Arbeit und Soziales, 2014).

3.3 Corporate Management

According to surveys conducted by the Hamburg Chamber of Commerce, many human resources department managers see demographic changes as their main challenge. Numerous companies have come together to establish the Demographic Network in 2014—a non-profit consortium of 400 companies representing about two million employees. The Demographic Network actively controls demographic changes and researches how to adapt to an older working population. As a result companies are able to compare their situation with other companies and learn how to cope with the demographic problem.

Many companies now also include demographic analysis in corporate planning. They use differentiated analysis of age structures which can identify specific areas of risk within their workforce (Bundesministerium für Arbeit und Soziales, 2014):

- Aging groups of population and operating units
- Difficulties in finding staff, especially in attracting young professionals
- Massive loss of knowhow over a short time because of retirement rates
- No transfer of knowhow between younger and older employess
- Declining efficiency of older staff

Companies are developing business demography projects supported by European Social Funds, the Federal Ministry of Labor and Social Affairs. The Ministry trains advisors in demographic change to provide assistance to companies with the implementation of specialized demographic-orientated human resources projects. The aging society has a huge impact on corporate management and many companies are already on they're way to develop strategies to deal with changes (Rump, 2013).

4 New Solutions and Their Feasibility

4.1 Attracting and Retaining Skilled Immigrants

One solution for the declining population and aging of the society in Germany may be to attract skilled immigrants to the country. This idea has been widely mentioned in popular press. To quote Suzanne Daley and Nicholas Kulish, "With high unemployment rates across most of Southern and Eastern Europe, Germany is in a good position to increase its labor pool by plucking the best and the brightest from its neighbors" (The New York Times, 2013). During 2012, Germany saw an increase in population of 368,945 due to immigration (Federal Statistics Office, 2013). Most of the immigrants come from Poland, Romania and other eastern and southern European countries (Federal Statistics Office, 2013) in a hope to find a job. Their home countries are struggling with unemployment and have little hope for change in the near future. The current wave of immigrants brings mainly well-qualified and trained people to Germany including engineers, academics and skilled workers (Deutsche Deutsche Welle, 2013).

Cumbersome legal frameworks and unclear paths to citizenship have erased the success of past initiatives to attract and retain highly skilled immigrants, who instead chose to move to other European countries with more favorable treatment. Strategically favorable immigration policies are a key when the government seeks to attract skilled immigrants before other European and non-European countries. Retention and integration of foreign workers is also important and requires a significant amount of attention from the policy makers. If Germany were to develop a better integration program, it would need to foster a more welcoming atmosphere. Qualifications of immigrants should be recognized, and they must be able to live in Germany with their families. Legal duties and documentation procedures should be simplified. Moreover, immigrants today learn German through integration. However, as many are looking to work as engineers, scientists, doctors or nurses, the new generation of skilled immigrants may require specialized language classes.

The challenges of demographics in Germany could be alleviated through attraction and integration of skilled immigrants for a short-term and long-term. Scandinavian countries, for example, have used immigration to alleviate some of their demographic challenges. Of course, this kind of solution will bring some other challenges as it leads to the continuous replacement of ethnic Germans with foreigners. Therefore, sustainable and politically acceptable measures are required.

4.2 Appropriate Family Support Policy

In order to tackle this problem and to find appropriate solutions, policy makers need to focus on improving Germany's fertility rates. During the 1970s, Germany had higher fertility rates and larger families. However, during the same period, lifestyles began to change due to the facts we have mentioned in Sect. 2. It also became more difficult to sustain larger families due to increasing autonomy of women and marriage rates started to fall. These circumstance lead to a decline in the fertility rate to about 1.4 children per woman, far below the rate of 2.1 children that is necessary for a stable population (Federal Statistics Office, 2013).

The challenge now lies in developing a balanced policy that will ensure recognition of the values of modern western culture such as gender equality, women's independence and minority rights, while, at the same time, encouraging larger, healthier and happier families in order to improve declining fertility rate. Germany has achieved very little from investing money in a system of family benefits and tax breaks that includes allowances for children and stay-at-home mothers, and tax exemptions for married couples.

Instead, the country should focus on developing a comprehensive family support policy, compiling its many initiatives into a unified action plan. This policy should have basic characteristics such as (France Diplomatie, 2013):

- Payment of family benefits such as housing benefit, family allowance, early childhood benefit
- Introduction of specific forms of leave such as maternity leave and paternity leave

- Tax allowances depending on number of people in a family or specific benefits such as large family card, retirement benefits
- Child care facilities and after school programs available from a very young age

As a result of family support policies and extension of compulsory education, 85 % of women in France are occupied at work (France Diplomatie, 2013). Furthermore, the average age at which French women have their first child has increased and is now 30.1 years. However, this postponement of motherhood has not had any negative impact on fertility rates (France Diplomatie, 2013). Thus, as a consequence of family support policies, there will be more skilled female workers in the system, which will help the country to deal with shortage of skilled workforce. High rates of female employment also help to promote gender equality in the workplace, which has more positive implications. In the long run, increased support to families will increase women's fertility and improve their chance to secure a job.

There is another long-run implication of these family support policies. They provide many financial and non-financial provisions and incentives for people to have larger families. This dimension of the policy is critical because it will help Germany to encourage stronger families, which is a key element for the country's demographic situation. In fact, family institution is one of the most important things, which was lost during the 1970s. Since family and married life are positively correlated with fertility rates, that will stimulate a greater number of births. Similar policies helped France to increase its population by 300,000 people (+0.47 %) since last year by retaining its fertility rate at 2.1 (France Diplomatie, 2013). It will put France in a favorable position among the European countries from demographic perspectives. The policy will help Germany to be prepared to tackle the existing demographic crisis.

4.3 Revision in the Retirement Age

Angela Merkel's governing coalition decided to reduce retirement age from 65 to 63 years for those who have been paying into the pension system for at least 45 years (Deutsche Welle, 2014). This decision could be justified because it will help Germany to reduce immigration rates among young people by reducing unemployment in these groups. Hence, it may provide a sustainable and long-term solution for the existing demographic challenges in the country. The government sets aside over €4 billion annually to cover the initial cost (The Local, 2014).

On the other hand, this approach may lead to loss of a big part of skilled workforce within next few years because the number of people in the work force aged 55–64 had risen to 61.5 % in 2012 from 38.9 % in 2002 (Federal Statistical Office, 2009). Many scholars argue that retirement age in Germany should be raised to 67 years instead of 65 or 63 in order to deal with the current demographic challenges, especially in the short-term. Another reason behind this approach is the increase in retirement age by roughly 2.5 years per decade in

EU countries for the last 150 years. Retirement age has been held almost constant at 65, since the late 1940s in many countries in northern Europe. But during that time, life expectancy had gone up by 10–12 years (Deutsche Welle, 2014). So instead of paying pensions to these skilled people, authorities should use their energies in the best interests of the nation. Other European countries such as Greece and Portugal have already adjusted their retirement age to meet the demographic challenges.

4.4 Reducing the Number of Pensions

Another problem is the number of pensions per person. In Germany the reversibility (or survivor's pension), or delaying retirement time is up to the family and is based on many criteria. To reduce public deficit, a solution might be to give only one pension per person. So if only one person in a married couple is working, pension will transfer to the spouse if a person dies even if the spouse doesn't obtain a job. However, if they both work, the pension cannot be transferred to the surviving spouse. In recent years, there are funds provided for workers which they put their savings and will be "untouchable" until the pension.

These funds allow workers to have a more secure future due to constant changes in laws. The alternative would be to organize a system based on the model of the pension fund, where all the workers pay for their own pensions. It should then switch from possibility to obligation to make these funds. This solution, however, remains only theoretical because a transition from the current pension fund model would require a generation of workers pay both for themselves and for the generation of their parents.

4.5 Educating the Masses

Another sustainable long-term solution might be to help people to rethink their life styles and priorities in favor of healthier demographic trends through awareness and education. The objectives of such policy might be to create awareness about the negative trends in the country's demography and how these negative trends can be converted into favorable ones. Other objectives might include raising fertility rates through improving the value of family life, building happier larger families. For integration of immigrants, encouragement may include the promotion of diversity and tolerance for different people and cultures. In the same way, improvement of old age work may include flexible working hours, better work facilities etc.

This type of awareness and education campaign could be implemented using diverse of channels such as educational institutions, mass media, social media, community centers and religious centers where young people and families are concentrated. In this educational campaign, families and mothers are important because they have a significant influence on the personality and life style of an individual, they might help to promote the desired values. In the same way, educational institutions such as schools and universities can influence young people's understanding of the rationality of these incentives. The other educational institutions such as language and cultural programs for immigrants will help to develop German lifestyle among the immigrants, which will facilitate their integration. Moreover, mass media and social media could be utilized to increase coverage of these ideas. Mass media could also help to educate adults to adopt healthier lifestyle through television shows, drams, films etc. Finally, community centers and religious institutions will help to influence families and older people to act as responsible citizens by working after age of 65 years and by educating their children to save the country from demographic disaster. These types of policies for educating the public could only be effective in the long-run. However, they are important because they could have long lasting effects on the German society. In fact, they would be a reversal of the paradigms, which were promulgated during the late twentieth century.

5 Conclusion

The demographic paradigm shift has been under way for many years, and Germany has already responded in many ways. Still, the country needs to take more corrective measures to deal with demographic challenges both in the short and long term. Immigration is one of the best solutions for the existing challenges at least in the short term. But Germany does not have the most suitable conditions for integrating immigrants. So measures will have to be taken to better accommodate immigrants. Increase in fertility rates may be a long term solution. Therefore, Germany needs to develop and promote family support policies to boost fertility rates in order to be able to deal with upcoming demographic challenges. Also, Germany may have to consider the option of establishing the retirement age at 67 years to overcome its skilled labor shortage in the short term. Furthermore, Germany may also reduce the number of pensions to one per individual in order to decrease the capital expenditures on the pensions. Finally, Germany needs to raise awareness and devise a comprehensive education plan to promote and accelerate corrective initiatives in unified direction.

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US and German Regulations of CO_2 Emissions from Passenger Cars

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Abstract Global air pollution, especially through the burning of fossil fuels, has reached a state of urgency that very soon will not be bearable anymore for the planet. CO_2 emissions from passenger vehicles are a major contributing factor to this. A variety of regulations exist to control CO_2 emissions, but nations do not share a common goal, a uniform standard. This paper seeks to give an insight into the problem of non-uniform environmental regulations throughout the world. Through the use of primary and secondary sources, it will provide a qualitative case study of CO_2 emission regulations for passenger vehicles in Germany and the United States. In the context of an increasingly globalized world, policy recommendations, which will help in harmonizing regulations for all countries, are obtained. These recommendations include incorporating emission standards into the Transatlantic Trade and Investment Partnership, attaching a yet greater importance to environmental education and generating homogeneous standards within the automotive sector.

1 Introduction

Pollution is defined as anything that un-balances an ecosystem. When specifically referring to air pollution, the World Health Organization's (WHO) definition is "the contamination of the indoor or outdoor environment by any chemical, physical, or biological agent that modifies the natural characteristics of the atmosphere.[1]" Even though air pollution has been a problem dating all the way back to the American industrial revolution and beyond, it is only recently becoming recognized as a

[1] World Health Organization (2014) Air pollution.

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global issue due to its current state of urgency. Every country on Earth is guilty of pollution to some extent, leading to negative environmental and health outcomes across the globe. Despite this, our analysis will focus primarily on developed and medium income countries as classified by the United Nations (2012).[2] In any discussion of air pollution concerns, one must consider causes, sources, and consequences of pollution, among other factors.

1.1 Causes for Air Pollution

There has been a significant increase of CO_2 emissions yielding an increase in air pollution in the past two of centuries largely in part to industrialization.[3] Although CO_2 is a natural gas that naturally circulates as part of the Earth's carbon cycle, recent human activities (i.e. industry, transportation, and deforestation, etc.) have altered this natural cycle[4] Such activity that alters the carbon cycle include activities such as burning fossil fuels, exhaust from combustion engines, chemical pesticides and fertilizer use, petroleum and mining operations, among others, contribute to air pollution, automobile issues, and the CO_2 emissions from the use of cars, will be the main focus of this analysis.

When focusing more on the process by which emissions from cars actually pollute, one needs to understand the process that takes place. Gasoline is the third most pollutant fuel behind coal and diesel fuel. According the U.S. Energy Information Administration (2014), gasoline emits 157.2 pounds of CO_2 per British thermal unit (Btu—traditional energy unit).[5] An automobile is powered by burning fuel in a combustion process. In the course of this combustion process the automobile emits exhaust, a by-product that contains many harmful chemicals and pollutants, also known as greenhouse gases (GHG). Some of the primary pollutants that are discharged include hydrocarbons, carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxide (NOx), sulfur dioxide ($S0_2$), volatile organic compounds (VOCs), and particulate matter 2.5 ($PM_{2.5}$).[6] Most of these pollutants correlate with the EPA's six criteria air pollutants for which they have set quality standards in the Clean Air Act established in 1970.[7]

[2] World Economic Situation and Prospects 2012. *Statistical Annex, United Nations,* 2012.

[3] Cherniwchan, Jevan. "Economic Growth, industrialization, and the environment," in the Journal of Resource and Energy Economics, Vol 34, Issue 4, 2012.

[4] "Overview of Greenhouse Gases – Carbon Dioxide Emissions," Environmental Protection Agency, 2014.

[5] "How Much carbon dioxide is produced when different fuels are burned?" U.S> energy Information.

[6] "Pollutants Vehicles Emit, B.C. Air Quality." Province of British Columbia, 2013.

[7] "Clean Air Act Requirements and History." *United States Environmental Protection Agency*. 2014.

1.2 Consequences of Air Pollution

Emissions from automobiles and, more importantly, air pollution in general require action because of their short and long term negative consequences.[8] There are numerous negative consequences that scientists have accredited to air pollution. Some of these include harmful health affects for humans, including lung cancer and respiratory problems. Additionally, air pollution causes environmental degradation, ozone layer depletion, and in some cases is the foundation of infertile land.[9]

1.3 Countries Responsible for Air Pollution

There are different ways to answer the question 'who pollutes the most and why?' This is because each country has its own methods and ways to measure pollution. The two main methods used for defining and measuring CO_2 pollution determine the annual CO_2 emissions in thousands of metric tons per year for each country. The second method ranks each country by their CO_2 emission output by metric tons per capita.[10] These two methods are popular because they can be easily explained to the general public.

One factor that is often considered while discussing the amount of pollution and pollutant contributions is the overall development and industrialization of a country. Developing nations, for example, usually do not have the resources or the motivation to control pollution, as the effects of pollution and the cleanup process can be costly.[11] Developing countries can further be classified into two separate divisions: developing countries (such as China, Brazil and India), and underdeveloped countries (such as Sudan, Ethiopia, Afghanistan and Turkmenistan).[12] Developing countries, such as China, India and Brazil often debate that they need to pollute in order to get on a economically compete with developed, industrious countries.[13] In other words, pollution is a side effect of industrialization, which is needed in order for one to develop and compete in a globalized world. Additionally, those countries are primarily concerned with their own domestic growth and not necessarily in promoting sustainable, or green, technology. These technologies are often considered expensive and comparatively inefficient to the technologies that produce more pollution. Although some countries are beginning to form their own

[8] "Indoor and Outdoor Air Pollution" *Greening Forward*. 2014.

[9] "Air Pollution: Comes from many sources" *National Geographic*. 2014.

[10] Vaughan, Adam. "Carbon Emissions per person, by country," *The Guardian,* 2 September 2009.

[11] TL Guidotti," Developing Countries and Pollution." *Encyclopedia of Occupational Health and Safety*. International Labor Organization. 2011.

[12] "List of Developing Countries." *IOHA*. September 2012.

[13] "The Hidden Tragedy: Pollution in the Developing World," *The Blacksmith Institute,* September 2014.

renewable energy campaign, countries are still largely dependent on coal and other fossil fuel burning energy sources. China's energy consumption, for example, receives almost 70 % of their energy from coal burning sources.[14] On the other hand, underdeveloped countries often produce less pollution compared to emerging countries because of their extreme lack of development and industry. Despite their low levels of pollution, they continue to feel the consequences of air pollution. For example, Gao et al. (2011) suggest that Lake Chad, once one of the largest lakes in the world, is experiencing shrinking due to European air pollution and the effects it has had on weather patterns in northern Africa.[15] Lake Chad had previously been the primary fresh-water source for the peoples of Chad, Cameroon, Nigeria, and Niger. The shrinking however is causing an urbanization movement in those countries, which in turn, has its own effects on pollution and CO_2 emissions. Developed countries play a different role entirely than that of the developing world. Many of these developed countries have already gone through an industrial development and globalization phase, and usually have a strong economic standing and therefore are expected by the international community to have the resources, both capital and monetary, to address pollution problems. Many of the world's top air polluters are middle-income developing countries, such as China, India, and Brazil, and these countries are still looking to the developed countries to take the lead in the "clean up" process.[16] Therefore, for our chapter, we will look more in depth on the policies of Germany and the United States. These countries were chosen because they are both developed and have the resources to appropriately tackle air pollution and other environmental problems, and have been doing so for a number of years with through different practices. The rest of this chapter will go into further detail about the policies set forth by the two countries, and analyze their effectiveness in reducing CO_2 emissions.

Additionally, the chapter will first explain how the issue of $CO_{2\ \mathrm{emissions}}$ has evolved over time, what the role of the car industry plays, and discuss the concept of Corporate Social Responsibility in regard to environmental issues, in particular with the car and oil industry. Our main focus, then, lies on analyzing CO_2 regulations: Why is it so difficult to make regulations effective and what role should the industry play? Afterwards we propose and assess three policy recommendations, which are followed by conclusions and implications for further research.

[14] "Overview," *U.S. Energy Information Administration*. February 2014.

[15] Gao, H., Bohn, T.J., Podest, E., McDonald, K. C., Lettenmaier, D.P., "On the causes of the shrinking of Lake Chad," *Environmental Research Letters,* 6, No. 3. 2011.

[16] McDermott, Matt. "Developed-Developing Nation Split on Climate Obligations Needs Reevaluation. *Environmental Policy*. 10 May 2012.

2 Historical Evolvement and Existent Literature

2.1 How Did CO_2 Emissions Become Such a Huge Problem?

The graph above shows the increase in global carbon emissions for the last 200 years.[17] The emissions estimate in almost all categories has skyrocketed since the end of World War II. Yet, more interestingly, the graph shows how emissions have been becoming more and more of an issue since the start of the industrialization period in the end of the eighteenth century when steam engines and steam locomotives became commonplace. But, it was not until the end of World War II that total emissions of carbon per year started to grow at alarming proportions. As money and wealth returned to the war struck countries, especially Germany, industrialization and manufacturing industries were the top employers in the 1950s as production started to increase.[18] By the 1980s, almost everyone drove a car, which, among other factors, contributed to a tremendous increase in CO_2 emissions (Fig. 1).

The period, beginning in the 1950s through present time, is generally referred to as globalization. According to the Business Dictionary, globalization is defined as the "worldwide movement toward economic, financial, trade and communications integration "and "implies the opening of local and nationalistic perspectives to a broader outlook of an interconnected and interdependent world with free transfer of capital, goods, and services across national frontiers.[19]" But, globalization is not only the results of free transfer of capital, goods and other beneficial contributions for the nations, but is also a mindset of openness and access to movement. As a result of open borders and the accessibility of new market production, transportation and consumption in the world has increased. More and more goods and services are transported between countries and continents on more and more cars, trucks, ships and airplanes. The increased transportation of goods can be linked to a rise in air pollution with GHG, especially CO_2.

These increases in CO_2 emissions unfortunately do not seem likely to come to an end in the near future, due to the continuous industrialization of developing countries, such as Brazil, India, and especially China. Raupach et al. (2007) estimate that "the growth rate in emissions is strongest in rapidly developing economies, particularly China. Together, the emerging developed countries and least-developed economies, which form 80 % of the world's population, accounted for 73 % of the growth of global emissions in 2004.[20]"

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[17] Boden, T.A., Marland, G., Andres, R.J., "Global, Regional, and National Fossil-Fuel CO2 Emissions." *Carbon Dioxide Information Analysis Center,* Oak Ridge National Laboratory. US Department of Energy, 2013.

[18] "America's 5 Biggest Employers – Then and Now," *The Huffington Post,* 23 September 2010.

[19] "Globalization," *Business Dictionary,* 2014.

[20] Raupach, M.R., et al., "Global and regional drivers of accelerating CO2 emissions." *Proceedings of the National Academy of Sciences.* 104(24). 2007.

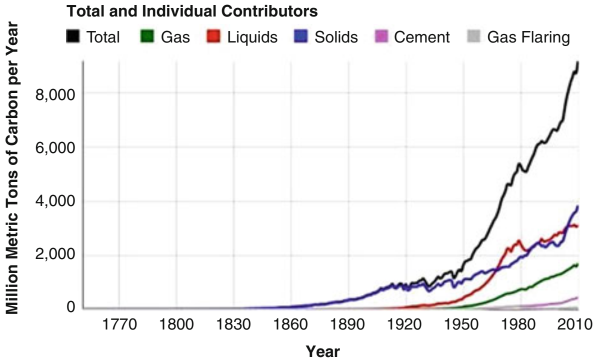

Fig. 1 Global carbon emissions estimate (*Source* Boden, T.A., Marland, G., Andres, R.J., "Global, Regional, and National Fossil-Fuel CO_2 Emissions." Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory. US Department of Energy, 2013)

In this context, passenger cars also are a major contributing factor for the rise of carbon emissions. In China only, German car manufacturers have sold almost 22 million cars in 2013, that is 23 % more than in 2012, and the market does not seem to be slowing.[21]

2.2 National and International Reactions

As a reaction to the continuous increase in CO_2 emissions, various countries have introduced state-level approaches to combat air pollution, in particular, concerning passenger car regulations. An and Sauer (2004) in "Comparison Of Passenger Vehicle Fuel Economy And Greenhouse Gas Emission Standards Around The World" compiled data concerning the fuel efficiency of cars and greenhouse gas standards of ten different critical countries and areas of the world.[22] They found that the European Union (EU) and Japan have the most strict emission standards in the world and that the US and Canada have the lowest standards of developed countries when it comes to fuel economy rating. They also state, however, that standards are not easily comparable because of different policy approaches and different units of measurement.[23]

The globalized world is not only one of the causes for the increasing CO_2 emissions, but it is also the only medium in which a solution to the problem can be found. The lack of a uniform global policy and regulation is of grave concern to many countries as air (and therefore pollution) is not something that can be contained by national boundaries. Thus, pollution released into the air has a net negative impact on the overall air quality worldwide. To combat this problem,

[21] Verband deutscher Autmobilindustrie (2014) Jahresbericht 2014.

[22] An F, Sauer A (2004) "Comparison of Passenger Vehicle Fuel Economy and Greenhouse Gas Emission Standards Around The World." *Pew Center on Global Climate Change*. Dec 2004.

[23] An F, Sauer A (2004) "Comparison of Passenger Vehicle Fuel Economy and Greenhouse Gas Emission Standards Around The World." *Pew Center on Global Climate Change*. Dec 2004.

nations from all over the globe have met to discuss what can be done to reduce CO_2 emissions. The most important result of these summits was the Kyoto Protocol in 1999.

"The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets," the Parties, including the European Community and 37 industrialized nations, who were committed to reduce GHG emissions to at least five percent by 2012 compared to 1990 levels.[24] Then, in Doha, Qatar in 2012, the parties furthered their commitments, increasing their emission reduction commitment to 18 % of 1990 level by 2020. The new protocol placed individual responsibilities on the countries, giving developed countries a higher percentage of the burden "as a result of more than 150 years of industrial activity.[25]"

Based on these assigned amounts of GHG commitments, individual countries have adopted their own regulations concerning the reduction of CO_2 emissions. In addition to emission targets for the energy and heavy transportation sector, countries have defined CO_2 emission limits for the car industry. In December 2008, as a measure to fulfill the standards of the Kyoto Protocol, the EU-Parliament and the EU-Council have agreed upon a decree to decrease CO_2 emissions of new passenger cars to 95 g/km by 2020.[26] The decree was put into effect on 23 April 2009, and is legally binding for the automobile industry of the member states of the European Union.[27]

In the United States, CO_2 emissions have been regulated indirectly since 1975 through the "Corporate Average Fuel Economy (CAFE)" Standard in the form of miles per gallon limits. The main goal of this standard, however, was to reduce dependency on oil imports into the country. In 2007, California was the first US state to introduce a law to specifically set limits to GHG emitted through passenger cars.[28] Shortly after the law was enacted, other states followed California's example and finally, in April 2010, state and federal regulations were synchronized and national regulations were set to be enacted between 2012 and 2016. In addition, the National Highway Traffic and Safety Administration (NHTSA) regulates the fuel efficiency, while the Environmental Protection Agency (EPA) sets standards for GHG emissions. These standards enforce car manufacturers to reduce their average CO_2 emissions to 160 g of CO_2/km by 2016 for their new passenger cars.[29]

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[24] United Nations (1998) Kyoto Protocol to the United Nations Framework Convention on Climate Change. Kyoto, Japan. 11 Dec 1997.

[25] United Nations Framework Convention on Climate Change (2014) Kyoto Protocol. http://unfccc.int/kyoto_protocol/items/2830.php. Accessed 15 May 2014.

[26] European Union (2009) REGULATION (EC) No 443/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL. Official Journal of the European Union. 5 June 2009.

[27] European Union (2009) REGULATION (EC) No 443/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL. Official Jour- nal of the European Union. 5 June 2009.

[28] "Clean Car Standards – Pavely, Assembly Bill 1493." California Environmental Protection Agency, Air Resources Board. 4 Dec 2014.

[29] Institut für Kraftfahrzeuge: Strategie und Beratung (2012) CO2- Reduzierungspotenziale bei PKW bis 2020. Abschlussbericht zur Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie. Aachen, Germany.

In “Analysis of policies to reduce oil consumption and greenhouse gas emissions from the US transportation sector” Morrow et al. (2010) analyze policies to reduce GHG emissions in the transportation sector.[30] These policies include fuel taxes, increased fuel economy standards and purchase tax credits. The analysis comes to the conclusion that economy wide CO_2 prices, or paying to pollute, will soon be a reality, but will not be effective in lowering emissions. In fact, all policy scenarios modeled in the paper would fail the Obama administration’s emission goal of reducing GHG by 14 % of the 2005 levels by 2020. To lower emissions, the authors suggest that transportation sector-specific policies such as fuel taxes, mileage charges, fuel economy or GHG emissions intensity standards and/or purchasing incentives will need to be put in place if emission reductions from this sector are desired.[31] The remaining sections of our chapter will discuss car and oil industries obligations and ability to meet the policies described above.

2.3 Approaches of the Private Sector

The increased demand for regulations has forced the automobile industry to develop new technologies, such that new passenger cars would emit less CO_2. Searchinger et al. (2008) explains how in the mid-2000s there was a large push to power automobiles with ethanol due to its low levels of emissions.[32] As a result, many farms increased their production of corn d to make ethanol. Coincidentally, the amount of forests cleared to produce the corn actually had a larger negative impact on the environment than the use of the subsequently benefit produced by the ethanol. More precisely, the survey found that “corn-based ethanol, instead of producing a 20 % savings, nearly doubles greenhouse emissions over 30 years.” As a result, the production and use of ethanol was actually more harmful than simply using gasoline.[33]

[30] Morrow WR, Gallagher KS, Collantes G, Lee H (2010) Analysis of poli- cies to reduce oil consumption and greenhouse-gas emissions from the US transportation sector. Energy Policy 38 (3):1305–1320. doi:10.1016/j.enpol.2009.11.006.

[31] Morrow WR, Gallagher KS, Collantes G, Lee H (2010) Analysis of poli- cies to reduce oil consumption and greenhouse-gas emissions from the US transportation sector. Energy Policy 38 (3):1305–1320. doi:10.1016/j.enpol.2009.11.006.

[32] Searchinger T et al. (2008) Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change. Science 319(5867):1238–1240. doi: 10.1126/science.1151861.

[33] Searchinger T et al. (2008) Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change. Science 319(5867):1238–1240. doi: 10.1126/science.1151861.

David L. Greene (2006), corporate fellow at the Oak Ridge National Laboratory, proposed to the Legislative Commission on Global Climate Change that "increasing fuel economy can make the largest single contribution" to reducing GHG emissions in transportation.[34] In his presentation "Reducing Greenhouse Gas Emissions from Transportation," he finds, that since 1978 with the help of increased fuel efficiency, people have been saving over 50 billion gallons of gasoline per year. He adds that "public policy, rather than market forces, has been largely responsible for increased fuel economy" and that states can have a positive impact on their inhabitants and consumer behavior.[35]

Klaus Barthel et al. (2010) also share the opinion that state and regional governments must play a major role in promoting not only the platforms for technical innovations for passenger cars, but are also responsible for promoting sensible usages of natural resources, such as oil and gas. In "Zukunft der deutschen Automobilindustrie: Herausforderungen und Perspektiven für den Strukturwandel im Automobilsektor[36]" (2010) the authors suggest that political institutions, both at a national and international level, should foster the production of more efficient low-emission vehicles through regulations, fiscal incentives and dialogue with the automotive sector.[37] The latter is especially important in regards to the trend towards increasing hybrid and electro mobility. The auto manufacturing industry and politics should come together to discuss new technologies as well as alternate mobility concepts like car sharing and public transportation.

The German Institute for Motor Vehicles (Institut für Kraftfahrzeuge) reports in its study "Reduzierungspotenziale bei PKW bis 2020[38]" that there are two major measures by which the goal of reducing CO_2 emissions can be reached. One is increasing the efficiency of car engines, for example through downsizing and new technologies. The other method is reducing driving resistance, for example through lighter car frames and other aerodynamic design improvements.[39] For public institutions on a European and transcontinental level, the authors recognize the development for a market with efficient and low emission vehicles as the core challenge for manufactures. Car manufactures in Germany and the United States

[34] Greene, DL. "Reducing Greenhouse Gas Emissions from Transportation. "Presented to the Legislative Commission on Global Climate Change, Raleigh, North Carolina, 25 April 2006.

[35] Greene, DL. "Reducing Greenhouse Gas Emissions from Transportation." Presented to the Legislative Commission on Global Climate Change, Raleigh, North Carolina, 25 April 2006.

[36] Translation: "The Future of the German Automobile Industry: Challenges and Perspectives for the Structural Change of the Auto Industry."

[37] Barthel K et al. "Zukunft der deutschen Automobilindustrie: Herausforderungen und Perspektiven für den Strukturwandel im Automobilsektor." *WISO Diskurs. Diskussionspapier der Arbeitskreise Innovative Verkehrspolitik und Nachhaltige Strukturpolitik der Friedrich-Ebert- Stiftung*. Bonn, 2010.

[38] Translation: "Reduction Potential of passenger cars by 2020".

[39] Institut für Kraftfahrzeuge: Strategie und Beratung "CO2- Reduzierungspotenziale bei PKW bis 2020." *Abschlussbericht zur Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie*. Aachen, Germany (2012).

have been working on fulfilling the CO_2 emission standards are making an effort to comply with the regulations that were implemented through national governments as a result of the Kyoto Protocol and subsequent summits. However, there is still much that can be done on national and international levels to make regulations more effective, and compliance easier.

Policies installed exclusively on a national level are not sufficient to reach CO_2 goals. After a review of individual automobile manufactures' goals and standards for their products, An et al. (2011) recommends that "it may eventually be in the interests of governments everywhere to achieve harmonized vehicle standards that aim for the best with regard to fuel economy targets.[40]"

Public and private sector institutions have put a lot of effort into revolutionizing the car industry so that emission standards could be met without suffering loses in sales. Although not all the regulations imposed led to the short-term effects that their creators had hoped, they certainly affected the awareness for the environment by the consumers, i.e. society and private households.[41] The findings of Achtnicht (2011) suggest that German car buyers are aware of climate change and its anthropogenic character, and that on average they are willing to pay substantial amounts of money to fulfill their social and environmental responsibility.

Politicians, managers, and researchers have been looking for and testing new approaches to control CO_2 emissions as well. As for the car industry, manufacturers in Germany and the United States contribute a majority of their resources, such as time, labor, and money to develop low-emission vehicles and thus, to adhere to prevailing standards. Yet, global CO_2 emissions from automobiles as a whole are still increasing.[42]

In addition to governmental regulation, many, if not all car manufactures are introducing Corporate Social Responsibility (CSR) programs into their business models. Such activities in the program include creating a green supply chain management and environmental management schemes.[43] Through these measures, manufactures are actively recognizing their products' responsibility in creating CO_2 emissions and they are actively pursuing alternative methods to reduce their involvement in environmentally harmful practices. Despite these practices, CO_2 emissions remains a top issue for international politicians and world leaders. But

[40] "CO_2-Reduzierungspotentiale bei PKW bis 2020." *Institut für Kraftfahrzeuge: Strategie und Beratung Absclussbericht zur Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie*. Aachen, Germany, 2011.

[41] An, F., Earley, R., Green-Weiskel, L. "Global Overview on Fuel Efficiency and Motor Vehicle Emission Standards: Policy Options and Perspectives for International Cooperation." Paper presented at the Nineteenth Session on the Commission of Sustainable Development of the United Nations Department of Economic and Social Affairs, New York, 2–13 May 2011.

[42] Achtnicht, M. "German car buyers' willingness to pay to reduce CO_2 emissions." *Climatic Change* 113(3–4): 679–697. 2011.

[43] Martinuzzi, A., Kudlak, R., Faber, C., Wiman, A. "CSR Activiteis and Impacts of the Automotive Sector." *RIMAS Working Papers*. 3. 2011.

why is it so difficult to make regulations effective and to eventually find a solution to the whole problem? These questions will be addressed in the next section.

3 The Problem of CO_2 Regulations

There are two main problems within the topic of air pollution, specifically pertaining to emissions from automobiles. First, countries are focusing on setting and complying with their own environmental regulations. Second, there is no way to establish or enforce global standards across national boundaries.

3.1 Diverse Regulations and Standards Between Nations

The automobile industry has been, and will only continue to become more globalized as countries become more interconnected in the globalized economy. Long gone are the days of General Motors and Ford having an oligopoly on the American automobile market. Similarly, BMW, Audi, and Mercedes-Benz no longer have an oligopoly within the German market. In today's market, these companies are selling their product across the globe, competing with each other. Despite this global market, each national market has its own standards and regulations that the manufacturers must abide by these national regulations in order to sell their product to that market. As An et al. (2011) states, these automobile companies have to meet the regulations in each different country they sell their cars in and, as a result, have to produce differing models to meet these differing regulations thus making their overall production methods larger, more complex, and more expensive than they would be under uniform regulations.[44] The most common standard emissions method measures fuel efficiency, but this measurement varies greatly from country to country, from miles per gallon (USA), to kilometers per liter (Japan, Republic of Korea), to liters per 100 km (China, Canada, Australia). The European Union measures the levels of carbon dioxide emitted on a per kilometer basis. Additionally, not all of these regulations are mandatory. For instance, Australia and Canada have had voluntary standards up until 2012.[45]

[44] An, F., Earley, R., Green-Weiskel, L. "Global Overview on Fuel Efficiency and Motor Vehicle Emission Standards: Policy Options and Perspectives for International Cooperation." Paper presented at the Nineteenth Session on the Commission of Sustainable Development of the United Nations Department of Economic and Social Affairs, New York, 2–13 May 2011.

[45] An, F., Earley, R., Green-Weiskel, L. "Global Overview on Fuel Efficiency and Motor Vehicle Emission Standards: Policy Options and Perspectives for International Cooperation." Paper presented at the Nineteenth Session on the Commission of Sustainable Development of the United Nations Department of Economic and Social Affairs, New York, 2–13 May 2011.

One of the main reasons each country has its own very different regulations and measurement standards is because each country has its own emission priorities and targets. Thus, countries view environmental issues differently. Many countries value economic development and growth more than environmental care and concern. This is particularly true in developing countries where the economic growth and advancement is more important than the consequences of globalization and industrialization. Even within environmental policy, national priorities relate to varied aspects of environmental protection; policies can focus on energy, clean water, air, animal and forest protection, and many others. There is a wealth of areas in which a country can focus its efforts. Thus, not all countries will share the same focus and priorities on economic and environmental issues. This disconnect plays a role in why there is no uniformity in these regulations.

3.2 Inability to Enforce Regulations on a Global Level

The United Nations was created in 1945 after the end of World War II to unify as many countries as possible and to work towards preventing massive global conflicts from occurring in the future. Additionally, the United Nations provided an international platform for countries to work towards promoting the greater good for the global community in a variety of aspects including Human Rights, Economic Development, and recently, Climate Change. More specifically, the United Nations exists to maintain international peace and security, to develop friendly relations among nations and to promote social progress, better living standards and human rights.[46] While the United Nations provides a venue for international discourse, research, and cooperation, the nature and structure of the organization and the global political climate makes real widespread change difficult to enact and implement at the international level. If the United Nations had full law making and enforcing capabilities, it would become the sole and primary international government and international police force in order to oversee the activities and enforce consequences on all of its member states. Considering the current tumultuous state of global politics, it is probable that this new United Nations structure would create far more problems that it would ever be able to solve, and we deem it highly unlikely that the United Nations will increase its dominance at the international political level. Thus, it is unlikely that many of today's global issues such as climate change can be solved by international institutions providing a comprehensive, top-down solution.

Having differing regulations across the world is a critical issue because, regardless of what is polluted or where it is polluted, it still has a global impact. Even if half of the world has the same standard or regulations, the actions of the remaining

[46] United Nations (2014) UN at a Glance. http://www.un.org/en/aboutun/index.shtml. Accessed 15 May 2014.

countries would still have a net global effect. With countries acting independently to combat the environmental issues they see to be the biggest issue, they forgo the global impact of their actions. Thus, to actually work to combat this global issue, there must be some sense of uniformity and consistency within environmental regulations and standards. With uniform regulations, realistic global progress on improving air quality and protecting the environment will be advanced a much faster rate and more efficient rate.

4 Strategies and Recommendations

The following recommendations are meant for the United States and Germany. Since German policy, to a large extent, falls under the law of the European Union, some of the policies we suggest may be installed on the European Union level. So despite the potential wide-spread implications, Germany is still regarded as our main focus of interest throughout the remainder of the paper.

The Transatlantic Trade and Investment Partnership (TTIP) is currently an intensely debated subject and if implemented, will drastically change the way the global economic system functions. Tariffs were created to protect national business and prevent competition from foreign producers. Yet, in today's globalized business world, maintaining these national boundaries through tariffs is a hindrance to economic development.[47] When a company has a global focus, tariffs are inflicted costs for the company to make nearly any and all transactions. This cost prevents the money from being reinvested into the company to advance development and innovation.

TTIP is still in the developing stages and will not be implemented for another year or two at the earliest and there still remains the possibility that consensus will not be reached and that the partnership will never be enacted. Thus, part of the debate and concern surrounding TTIP is the uncertainty from stakeholders in both the United States and Germany pertaining to how the TTIP will affect their business and operations in the future. By opening a free trade market, there has to be uniformity, or at least inclusive recognition of standards throughout the free trade market. Therefore, the United States and the European Union will need to find new compromised standards or be willing to accept each other's standards of production. The hope is for these new standards to then become a type of "Gold Standard" for the rest of the developed world to try to obtain in order to do business with the TTIP countries, which in large, represent a significant portion of the global economy. To a degree, the rest of the world will have to work progressively to remain economically relevant, but this new open access to the global market will enable them to do so.

[47] Seshadri VS (2013) Transatlantic Trade and Investment Partnership. Discussion Paper #185. Research and Information System for Developing Countries. New Delhi, India.

If the United States and the European Union can come to a consensus on trade and investment regulations it is possible that they can come to a consensus on a number of environmental regulations as well, particularly emission regulations from passenger vehicles. When considering that five of the world's top ten largest automobile manufacturers are based in Germany and the United States, it becomes apparent that consensus could be found on regulations for automobile emissions between the two countries.[48] In doing so, the United States and the European Union can set a similar "Gold Standard" for CO_2 emission regulations and sustainability.

Apart from a top-down approach to combat CO_2 emissions of cars through international policies such as the TTIP and other governmental regulations, it is also crucial to create environmental awareness from the bottom up with a focus especially on younger generations. This should be accomplished through environmental initiatives in schools, beginning with young children and continuing throughout the course of the education system. Only if people come to internalize the sustainable use of nature and resources, can the long-term existence of the world as we know it be guaranteed. Or, as UNESCO says, "education alone cannot achieve a more sustainable future; however, without education and learning sustainable development, we will not be able to reach that goal.[49]" Therefore, UNESCO declared the years 2005–2014 to be the "Decade of Education for Sustainable Development" (DESD), an incentive to "mobilize the educational resources of the world to help create a more sustainable future.[50]" DESD's intention is to convince countries to invest in and intensify education on social, ecological, cultural topics. However, it "is not a particular programme or project, but is rather an umbrella for many forms of education that already exist, and new ones that remain to be created.[51]" However, as long as there remains no consensus on what exactly is to be taught around the world, some countries will try to be pioneers and set benchmarks in the field of environmental education, while others will ignore the topic entirely. This necessitates a common environmentally conscious curriculum to be taught at all levels of education from primary to secondary schools across the globe in order to create a common understanding of environmental protection and sustainable development. Ideally, this would make an international patchwork of

[48] MBASkool (2008) Top 10 Automobile Companies in the World 2013. http://www.mbaskool.com/fun-corner/top-brand-lists/7544-top-10-automobile-companies-in-the-world-2013.html?start=9. Accessed 22 May 2014.

[49] United Nations Educational, Scientific and Cultural Organization (2014) Education for sustainable development. http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/about-us/.

[50] United Nations Educational, Scientific and Cultural Organization (2014) Education for sustainable development. http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/about-us/.

[51] United Nations Educational, Scientific and Cultural Organization (2014) Education for sustainable development. http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/about-us/.

laws and regulations obsolete, as people will be more inclined and educated to buy environmentally friendly goods, for this example, low-emission cars.

The third suggestion is having car companies themselves set their own air pollution standards and regulations. The idea would be to have US car companies and car companies following EU regulations come together to set a mutual standard of CO_2 emission regulations. The stipulation being that the regulations set by the industry would still have to comply with the most strict government standards. Essentially, it would be a group effort for the entire automobile industry to manufacture cars based off the same standard, not implemented by the government but instead by pure private intentions. The benefit of this is that the industry as a whole would become more efficient as every car manufacturer would only produce cars at one standard rather than producing different models for every market it wishes to sell. Another benefit would yield an overall positive for the global community as a single emission standard should reduce overall emissions in both the United States and the European Union. This is because the car industry would have to produce at the strictest regulations and not just the regulations of one particular country market standards.

A document from the United Nations' Department of Economic and Social Affairs presents the current motor vehicle fuel economy standards set forth by a handful of countries, including the US and European Union.[52] The same document also has fuel economy targets in miles per gallon for a list of different automobile manufactures (from both the US and the EU). This information and these statistics from the groundwork of what could be accomplished, because fuel economy levels are directly related to carbon dioxide emissions. The goal of this recommendation is that it would still be able to create an overall common standard for the automobile industries in both the US and the EU.

5 Assessment and Limitations

Setting up an agreement such as a 'Transatlantic Environmental Regulations Partnership' would by no means be an easy task to accomplish. In the same manner in which the TTIP has been intensely debated and continues to be a controversial topic on both sides of the Atlantic, such an environmental agreement would take many months, if not years, in order to find a consensus on a number of regulations. But, such a partnership would have numerous positive implications for the global reduction of CO_2 emissions, not only from passenger cars, but from other industries as well such as heavy transportation, energy, chemicals, and mining. Similarly to

[52] An F, Earley R, Green-Weiskel L (2011) Global Overview on Fuel Efficiency and Motor Vehicle Emission Standards: Policy Options and Perspectives for International Cooperation. Paper presented at the Nineteenth Session of the Commission on Sustainable Development of the United Nations Department of Economic and Social Affairs, New York, 2–13 May 2011.

the TTIP, an environmental partnership will help to advance the globalized economic world, by having an uniform environmental regulations system will have substantial impact and could slow the environmental harm caused by global air pollution.

Thus, the biggest limitation will be the process of finding a bilateral consensus between the US and Germany, or the US and the EU. Each and every country, manufacturer, and industry has their own specific interests and focus and the negotiation process of creating a partnership will take time, but, we argue, all global issues require lots of compromise and time in order to find a solution. Real sustainable change takes time and investment from all parties involved. Additionally, even if the US and the EU can come to an agreement and set a global "Gold Standard," there is no guarantee that the rest of the world, particularly developing countries, will follow suit. In some instances, it may even provide a competitive advantage to other countries to not abide by the regulations set forth by the "Gold Standard." Every solution has its flaws, and every international agreement produces winners and losers, but when the future of our planet and resources is at stake, everyone must be willing to lose in the short term in order to bring a long-term solution.

Just as it will not be easy to set up international regulations on CO_2 emissions for passenger cars, it will be similarly difficult to get nations from all over the world to agree on an unanimous curriculum on sustainable development to be taught globally at primary schools. In many countries such as Germany and the United States, education is at the direction of each independent state and is curricula not regulated at a federal level. Agreeing upon a global standard for education will be equally difficult as places like Germany cannot even come to a consensus between their sixteen state education ministries on a current education amendment. We anticipate that an educational reform will be similar to the United Nations' Kyoto Protocol, where all signatory states will be compelled to uphold lose guidelines outlined in the educational document agreed upon at an international level.

As already stated above, integration of these new agreed upon topics will not be an easy task, nor will it be a project that can be completed in the short-term. On the contrary, changing people's minds and attitudes toward environmental protection will take years or even decades. However, creating awareness through education is extremely important in moving towards a global consensus on environmental issues. The first step, we argue, is getting everyone to agree that there is a problem.

Even though the idea of industry set regulations, not only in the automobile industry, but any industry that can set regulations toward Greenhouse gas emissions and CO_2 emissions seems like a practical private sector solution, it is not without limitations. Most of the problems regarding this solution revolve around a cost-benefit analysis for each company. At first, companies might not want to set pollution regulations as it will mean changing their strategic business plan, and in order to maintain production at a lower environmental cost, other costs will increase. Not only is it an immediate cost for companies to change strategies, but for many companies, environmental protection is a low priority. The hardest part of implementing this solution will be having each industry come to a consensus on what regulations they wish to implement in their production strategy, then ensuring that everyone complies with the regulations agreed upon. However, one could argue that the companies would save money as they only have to produce cars for one general market with a global standard of production rather than having to produce cars differently for each market it wishes to sell. Lastly, for companies that are already practicing “green” technology methods, such as BMW, Mercedes, and Ford, a global standard will decrease their competitive advantage in selling “green” cars as all competitors will be selling the same emission standard car. In other words, once all of the companies are producing cars of the same environmental standards, no company will be able to claim themselves more “green” over others and take a niche set of buyers who are particularly interested in green technology. A good thing that could arise from this type of policy is that we may expect to see more innovation from companies still striving to find the competitive advantage. Strong environmental regulations that are applied correctly generate more innovation and competition which then leads to potential economic growth in that market. This strategy is still a viable option for the private industry.

6 Conclusions

No global solution is quick, nor will it be a great short-term outcome for everyone, every company, or every industry. Global situations do not start instantaneously all over the world. They take time and progress, both social and political. Likewise, every major global change must begin somewhere, and the fighting of bad air quality and emissions should begin where it first became a problem, the US and Europe. If these two actors can properly work together, as recent history shows they can, the rest of the world may follow suit in the fight against global emissions. Then, the car industry can set the example for other industries and the developed nations will continue to serve as a role model for developing countries.

No one idea or policy can solve this issue, but a combination of the three aforementioned suggestions would lead towards increased progress in three very important areas: the public sector, the private sector, and the current and future generations. If major governments are working together to implement progressive policies to cultivate progress, the automobile companies are working to create the best and most efficient vehicles, and youth are taught about the importance of having clean air and how to promote continued progress, the world could improve its environmental conditions for future generations.

Now, as a next step, it would be interesting to see what international and industry specific CO_2 emission regulations could look like in particular, and also what the car companies’ opinion on these suggestions are. Furthermore, research into the economic effects of the problem should be intensified in further studies.

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