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1. Introduction

1.1. A case for research in lay economics

As an undergraduate student of economics, I stumbled across a disturbing academic article. Frey and Pommerehne (1993) asked German and Swiss citizens how they would judge different means of distributing drinking water to hikers reaching the top of a hill. On a hot day, demand by hikers clearly exceeded water supply. Only 27% of the survey participants judged a price increase for drinking water to rebalance supply and demand as fair. In contrast, 76% favored a "first-come, first served" principle. Not only did people virtually ignore the virtuous and welfare-maximizing role of the price mechanism, but they judged it considerably less fair than a dubious procedure that provided water to the strongest (those arriving first at the top of the hill) and left the presumably more needy (the last to arrive) empty-handed. For me, a passionate student of economics, this evidence was disturbing.

Apparently, laypeople in the survey have not been aware of basic economic principles, such as the mechanics of an efficient allocation of resources. Limited economic expertise is the first chapter of the lay economics story that addresses the differences in economic reasoning between laypeople and economists. Later in my studies, two further chapters were added to this lay economics story. Social psychology, particularly research on heuristics and biases, makes clear that laypeople have difficulties in making consistent and unbiased judgments of economic phenomena. The final chapter was added in the last year of my graduate studies. I attended a summer academy addressing the methodology of different disciplines of social science and realized that the reductionist model-based approach of economic science was a two-sided coin. I discovered that the utilitarian orientation of economics, judging economic and political action

(e.g., a socioeconomic reform) based on their consequences, is not the only correct way to decide whether such a reform is appropriate.

Lay economics became one of my primary areas of interest. It was apparent that lay economics could help to explain why certain political reforms were strongly opposed although they promised to be economically beneficial. Laypeople's positive and normative views of the economy influence voters' preferences, which are reflected in political debates and political action in a democracy. Lay economics could also explain the dubious perception of economics by the public. Economists were often not understood intuitively or were accused of being unsocial, both in public political debates and in discussions with my student friends in our shared apartment. Thus, a better understanding of lay views of the economy and how and why these views differ from economists' views is important. It can help to identify obstacles to economically efficient political reforms and to improve the perception of economic reasoning by the public.

Lay economics also led me systematically from economic research to psychological research. I found one thing nearly as disturbing as laypeople's ignorance of the alleged superiority of the price mechanism to allocate scarce resources: Economics does not identify lay economics as a relevant research topic or even as a relevant issue. In the economists' view of the world, there is little space for concepts that sacrifice the basic assumption of rationality. Lay economic beliefs may differ from economists' views. However, from an economist's viewpoint, these beliefs might be random variations or minor deviations that do not corrupt standard models. As long as current public choice models of voters' behavior based on the rationality assumption work sufficiently well, there is no need to develop more complex models that weaken the rationality assumption. Consequently, Roos (2007a) identified several preconditions for the development of economic theories on lay economic thinking: they must be formalized, based on some concept

of rationality, show general regularities, and allow us to explain empirical phenomena better than standard rational choice models. Currently, these hurdles cannot realistically be overcome. Furthermore, economists might agree that lay economic beliefs and the unsatisfactory perception of economics by the public are serious issues. However, they are not necessarily issues for economic science. Political science, sociology, and psychology may be seen as more appropriate domains for addressing these issues.

In psychological research, the field of lay economics has attracted considerably more attention than it has in economics. For example, research has examined the economic socialization of children (Furnham, 2008; Lunt & Furnham, 1996), laypeople's cognitive models (Williamson & Wearing, 1996), typical cognitive biases in the evaluation of political measures (Baron, Bazerman & Shonk, 2006), and judgment criteria for economic policies (Haferkamp, Fetchenhauer, Belschak & Enste, 2009). This dissertation relates to the last field of research and addresses the judgment criteria people apply to decide whether to accept certain economic policy proposals.

1.2. Overview of the present research

The research in this dissertation extends existing research in two innovative ways. First, it not only focuses on laypeople but also analyzes the views of teachers, journalists, and economists. Teachers and journalists are important promoters of economic knowledge through schools and the media. In economics, economists themselves are usually seen not as relevant actors but as independent observers. However, economists have a certain influence in the politico-economic sphere through their policy recommendations and their communication in public. Thus, the question of how economists form their policy judgments *is* relevant.

Second, the research in this dissertation focuses on national economic policy proposals that not only affect the country where the policy is implemented but also have consequences for foreign countries (e.g., immigration policies, trade restrictions, or job relocation). This allows us to determine to what extent laypeople and economists consider the consequences for foreigners when judging economic policies. This extension of research is particularly relevant in light of today's globalized world and the close political and economic ties between countries, such as in the European Union.

The empirical research in this dissertation is based on two separate series of telephone surveys. The findings in chapters 2 and 3 result from surveys with laypeople, economists, teachers, and journalists, which were conducted in Germany in 2007. Chapters 4 and 5 are based on surveys with laypeople and economists in 2011. Modified versions of the four empirical chapters have been submitted to academic journals for publication. Thus, the chapters can be read separately. I have been the first author of the four respective articles. They have been coauthored with Fabian Christandl and Detlef Fetchenhauer.

As a starting point, chapter 2 presents descriptive results of laypeople's and economists' views on immigration policies and job relocation scenarios. The results suggest that laypeople hold parochialistic attitudes. They prefer policies that benefit their home country and their fellow citizens while disregarding effects on outsiders. Economists, however, showed a more nuanced perspective. Around half of economic laypeople approved a policy proposal that would reduce the number of foreigners living in Germany and judged this fair as well as economically efficient. In contrast, less than 5% of the economists supported the proposal or judged it fair or efficient. Among laypeople, 70% opposed a job loss in Germany if, in turn, ten new jobs would be created abroad, but only 8% if the news jobs were created elsewhere in Germany. Again, economists expressed more

moderate views. A modified version of chapter 2 was published in the journal “Wirtschaftspsychologie” (Jacob, Christandl & Fetchenhauer, 2011a).

There are various explanations for the differences between laypeople and economists discovered in the literature in general and in chapter 2 in particular. Chapter 3 focuses on one aspect that has not been investigated before. Teachers and journalists act as promoters for economic knowledge transfer through schools and media. It is presented how teachers and journalists judge two policy proposals from the trade and immigration policy domain and whether they are closer to an expert or a lay way of thinking. As expected, a large majority of the economists favored free trade and labor mobility and judged them as economically efficient and fair, while most of the laypeople held contrary views. The answers from teachers and journalists generally lay in between economists and laypeople—with teachers being closer to laypeople and journalists tending more towards the economists. Interestingly however, teachers and journalists reverted to the same criteria for the judgment of economic policies as laypeople. All three groups based their judgments nearly exclusively on a policy proposal’s perceived fairness, while economists strongly focused on its economic efficiency. A modified version of chapter 3 was published in the “Journal of Economic Psychology” (Jacob, Christandl & Fetchenhauer, 2011b).

The following empirical chapters take a closer look at economists’ views. There are two possible explanations for the more immigration-friendly attitudes that economists have shown in the studies of chapters 2 and 3. Either do they have a more cosmopolitan mindset and hold more positive attitudes toward immigrants in general or they believe in the positive economic effects of liberal immigration policies in their home country. Results of chapter 4 clearly suggest that the latter is true. Economists were asked to judge three policy proposals dealing with immigration policies, unilateral reductions of

CO_2 emissions, and an export ban on military equipment. The acceptance of the policy proposals was strongly influenced by national economic efficiency judgments. In contrast, global economic efficiency judgments did not exert a significant positive effect on policy proposal acceptance. Interestingly, economists' self-assessments as globally or nationally oriented did not strongly influence the importance that economists attached to the national or global efficiency judgments. They appear to hold a rather implicit bias toward their home country when judging economic policy. A modified version of chapter 4 was submitted for publication to the "German Economic Review" (Jacob, Christandl & Fetchenhauer, 2012a).

Chapter 5 aims to bring a more conciliatory tone to the debate about laypeople's and economists' views on economic policies. It is analyzed whether the differences between economists and laypeople persist in policy scenarios that do not involve core economic issues, but do involve strong ethical considerations. Laypeople and economists judged the immigration of highly qualified foreigners, a unilateral reduction in CO_2 emissions, and an export ban on military equipment. Results show that economists' judgments appear more similar to judgments of laypeople for policy proposals outside the core areas of economic expertise or proposals that involve strong ethical considerations, such as an export ban on military equipment. Apparently, the judgments of economists tend to be similar to the judgments of laypeople if a policy cannot, or should not, be evaluated based on the economist's toolkit. A modified version of chapter 5 was submitted for publication to the journal "Wirtschaftspsychologie" (Jacob, Christandl & Fetchenhauer, 2012b).

In the concluding chapter 6, I summarize the major findings and outline some ideas for future studies. Furthermore, I develop general thoughts on the judgment criteria economic efficiency and fairness and discuss normative implications in an essay style. Practical recommendations are also given.

2. Cosmopolitan Economists and a Parochialistic Public? Different Views on Immigration and Job Relocation

2.1. Introduction

We live in times of accelerated globalization. The world appears increasingly borderless and "flat" (Friedman, 2005). A large part of Europe forms a single market with one common currency. Nevertheless, we still observe strong national governments that keenly follow their national interests in debates on financial bail-outs, labor market regulation, or climate policy. In several European countries, parties have won elections with nationalist and anti-immigration slogans. Paradoxically, globalization may have even promoted nationalist and anti-immigration sentiments, because many people perceive an increasing precariousness through globalization and thus strive for security in a national safe haven (Haller & Roudometof, 2010, Baughn & Yaprak, 1996).

Apparently, adhering to a social group, for example, one's home country, is deeply rooted in human nature. At the same time, individuals are known to value fairness and to behave altruistically in various contexts (Fehr & Schmidt, 2006; Tyler, 1994). In the context of groups, individuals often sacrifice their own self-interest for the benefit of their ingroup. However, this altruism comes at the expense of the larger outgroup—a concept that is usually referred to as parochial altruism (Bernhard, Fischbacher & Fehr, 2006) or parochialism (Baron, 2001; Schwartz-Shea & Simmons, 1991). In the context of national policy, parochialistic views manifest in skeptical attitudes toward immigration and policies benefiting other countries at the expense of one's own country.

Professional economists, in contrast, do not enjoy the reputation of behaving particularly altruistically. In a survey by Jacob and Lehmann-Waffenschmidt (2007), a majority of the respondents disagreed with the statement that increasing general economic wealth was a major goal for economists. However, evidence on the selfishness of economists is mixed. A couple of studies detected more selfish behavior in economists, for example, in typical social dilemma experiments (Frank, Gilovich & Regan, 1993; Frank & Schulze, 2000; Marwell & Ames, 1981). However, other scholars could not confirm this conclusion and even observed less selfish behavior (Frey & Meier, 2005; Laband & Beil, 1999; Yezer, Goldfarb & Poppen, 1996). In the context of national policy, economists clearly favor free international exchange and free labor markets (e.g., Alston, Kearl & Vaughan, 1992; Coughlin, 2002). It remains unclear, however, whether economists hold more positive attitudes toward immigration in general. Do they share the parochialistic views of the general public, predominantly economic laypeople, or do they follow different judgment logic?

In order to answer this question, this paper pursues two aims. First, we extensively review relevant literature from the social sciences. Particularly, we link research on social identity, parochial altruism, nationalism, and attitudes toward immigration. Furthermore, we aim to explain what role nationalism plays in economics and hypothesize on economists' attitudes toward immigration. Second, we contrast views on immigration policies and job relocation of economic experts and economic laypeople with different levels of education for the first time. We also extend the existing evidence on laypeople's judgments of trade and immigration policies (cf. Baron & Kemp, 2004; Kemp, 2008; Jacob, Christandl & Fetchenhauer, 2011b). The empirical part is based on a survey of laypeople and economists in Germany.

2.1.1. How laypeople and economists judge economic policies

More than a century ago, in one of the very first issues of the renowned "Quarterly Journal of Economics", Simon Newcomb noticed that economic laypeople and economic experts held widely divergent views on economic policy issues (Newcomb, 1893). Numerous studies have followed since and basically confirmed Newcomb's observation (e.g., Baron & Kemp, 2004; Blendon et al., 1997; Caplan, 2002; Frey, 1986; Haferkamp et al., 2009; Henderson, 1986; Jacob et al., 2011b). In the trade and immigration policy domain, for example, economists usually support free trade and free labor mobility (e.g., Alston et al., 1992; Coughlin, 2002). Laypeople, however, are far more skeptical and often favor protectionist policies (Cass, 2000; Baron & Kemp, 2004; Kemp, 2007; Rubin, 2003).

Three major reasons for these differences can be identified. First, laypeople do not possess expert knowledge in economics. Second, their perception of economic phenomena is affected by cognitive heuristics and biases. And third, they use different judgment criteria to judge economic policies than economists.

Regarding the first reason, laypeople naturally possess rather limited knowledge on economic facts and basic economic principles (Caplan, 2003; Walstad & Larsen, 1993; Walstad, 1997). They misjudge basic economic mechanisms such as long-term effects of economic growth (Christandl & Fetchenhauer, 2009), macroeconomic consequences of economically relevant and irrelevant events (Roos, 2007b), or the principle of comparative advantage (Baron & Kemp, 2004; Krugman, 1994). This lack of economic expertise makes it difficult to adequately judge the potential consequences of economic policies. To meet this challenge, laypeople could simply follow the economists' recommendations. However, people react with mistrust and resistance to economic experts as communicators of socioeconomic policy proposals (Förg, Jonas, Traut-Mattausch, Heinemann & Frey, 2007). Consequently, laypeople develop their own mental models and

judgments about how the economy works (Caplan, 2007; Roos, 2007a; Rubin, 2003; Williamson & Wearing, 1996).

To derive their mental models and judgments of a policy's economic consequences, laypeople apply different cognitive heuristics. Heuristics and simple psychological algorithms often lead to surprisingly accurate inferences and decisions (Gigerenzer & Goldstein, 1996, Todd & Gigerenzer, 2003). In the context of judgments of economic policy, however, they are also prone to systematic biases. Baron et al. (2006), Caplan (2007) and Kemp (2007) provide overviews of heuristics and biases relevant in the context of economic policy. For example, people tend to follow the fixed-pie myth. They intuitively, and often erroneously, believe that the economy is a zero-sum game. They assume, for example, that one's own country loses if a foreign trade partner benefits from trade or that immigrants take away jobs from the locals assuming that the total number of jobs is fixed. Another phenomenon, parochialism (Baron, 2001; Schwartz-Shea & Simmons, 1991), will receive particular attention in the next subchapter.

The last and perhaps most important reason for the diverging judgments of laypeople and economists is that they apply different criteria when evaluating economic policies. On the one hand, professional economists focus on economic efficiency considerations (Haferkamp et al., 2009; Jacob et al., 2011b, Kirchgässner, 2005; Stiglitz, 1998). They usually favor an economic policy if it increases overall economic wealth. Other criteria, particularly a policy's perceived fairness, are of secondary importance (Rubinstein, 2006; Haferkamp et al., 2009; Jacob et al., 2011b). For laypeople, on the other hand, fairness considerations play a preponderant role. Fairness is known as a powerful decision factor in general (Tyler, 1994) as well as in economic contexts (Fehr & Schmidt, 2006; Davidson, Matusz & Nelson, 2006). Haferkamp et al. (2009) showed the importance of fairness for laypeople compared to economists for

judgments of labor market policies. Furthermore, fairness judgments can be made intuitively and without much cognitive effort (Haidt, 2001). Given that thorough assessments of economic efficiency are cognitively complex, laypeople tend to use their fairness judgment as a cognitive shortcut to derive congruent efficiency judgments (Jacob et al., 2011b).

Economic self-interest does not seem to be an important judgment criterion when it comes to evaluating economic policies—neither for economic laypeople nor for economists. Coughlin (2002) as well as Scheve and Slaughter (2001) argue that citizens might oppose free trade because they fear its negative consequences on themselves, for example, the loss of their jobs. However, public choice theory (Brennan & Buchanan, 1984), general surveys from political science and psychology (Baron, 2003; Miller & Ratner, 1998; Sears & Funk, 1990), and studies dealing with trade and immigration policies in particular (Citrin, Green, Muste & Wong, 1997; Jacob et al, 2011b; Pinto & Le Foulon, 2007) arrive at a similar conclusion: self-interest plays only a subordinate role in political contexts. For economists, Caplan (2002) finds no strong evidence of a self-serving bias. That is, economists do not hold different beliefs about the economy and economic policy because it would increase their material wealth.

Laypeople are primarily concerned about fairness when thinking about economic policies. But which factors influence their fairness judgment in the context of immigration policies?

2.1.2. From ingroup bias and parochialism to nationalism

Judgments of trade and immigration policies involve potential benefits and downsides for one's own nation and other nations. Psychologically, the way an individual feels attached to his or her nation and a small group are very similar. "At the level of the nation, the group fulfills economic, sociocultural, and political needs, giving

individuals a sense of security, a feeling of belonging and prestige." (Druckman, 1994, p. 44)

Past research leaves little doubt that adherence to a group goes along with preferring the group and its members over others. Even mere assignment to trivial experimental groups leads to a bias in favor of this group (Tajfel, 1982). This ingroup bias can also be observed in economic experiments involving real financial consequences (Ahmed, 2007). Ingroup bias can be explained, for example, with social identity theory stating that an individual's self-evaluation is partly shaped by their group memberships (Tajfel, 1982). Consequently, a positive view of the ingroup enhances self-esteem. The same is true for favorable comparisons with other groups and choices improving the own group's situation.

If intergroup conflicts occur, people tend to behave parochially altruistic. They are willing to sacrifice their self-interest for the benefit of other members of their group—they behave altruistically. Altruistic behavior is generally seen as a key to the development of modern societies with their high level of cooperation and their detailed division of labor (Fehr & Fischbacher, 2003; Bowles, Choi & Hopfensitz, 2003). It is also closely related to the desire for compliance with fairness norms (Fehr & Schmidt, 2006). In the course of human evolution, altruistic behavior proved particularly beneficial in the presence of intergroup conflicts. These conflicts required cooperation within the group while limiting this cooperation to the ingroup (Bernhard et al., 2006; Choi & Bowles, 2007). Thus, the altruism observed in the intergroup context favors the members of the group or "parish" the individual feels attached to— which is called parochialism (Baron, 2001; Schwartz-Shea & Simmons, 1991).

Parochialism usually benefits the ingroup, but it can be detrimental to the individual and to the outgroup. The aggregate effect for all groups, or broader society, may be negative. In an experiment by Bornstein and Ben-Yossef (1994), for example, participants were

more willing to sacrifice an individual contribution of 5 Shekels for a group benefit of 9 Shekels in the presence of a competing outgroup. The outgroup lost an equivalent of 9 Shekels. The sacrificed individual contribution remained an overall loss. To maximize overall outcomes by showing strictly altruistic behavior, participants should have behaved exactly the other way around: they should have contributed less in the presence of an outgroup, but more if no outgroup was present—when the net group benefit exceeded the sacrificed individual contribution.

Given the substantial evidence on ingroup bias and parochialism, the prevalence of nationalist attitudes in today's world is not surprising. Schrock and Jacobson (2009) analyzed data from the International Social Survey Program for 22 countries. They estimated that 62% of the respondents shared nationalist views. Based on questionnaire items on feelings of national superiority and outgroup derogation, Blank and Schmidt (2003) concluded that 40% of Germans are nationalistically oriented.

However, nationalism itself is a rather broad concept and is not clearly defined in the social sciences literature. Dekker, Malová, and Hoogendorn (2003, p. 345) notice "a conceptual labyrinth that is characterized by questionable instruments, a lack of valid empirical data, and poor explanatory power". We will not attempt to disentangle this labyrinth here, but we focus on aspects that relate to attitudes toward immigration policies and the impact of level of education.

2.1.3. Nationalism, attitudes toward immigration, and effects of education

Generally, nationalist attitudes appear to be negatively correlated to positive attitudes toward globalization, immigration, and free trade. In a study with American students, Baughn and Yaprak (1996) found a strong correlation between a general nationalism measure and economic nationalism, measured through the acceptance ratings for

several protectionist and anti-immigration policy proposals. Pinto and Le Foulon (2007) analyzed data of the International Social Survey Program for the USA and estimated a higher probability of supporting trade restrictions for respondents showing more nationalist attitudes. Among German adults, Blank and Schmidt (2003) found a strong correlation between nationalism and devaluation of foreigners. Wagner, Becker, Christ, Pettigrew, and Schmidt (2010) used similar measures, but employed a longitudinal design with two time periods to test causal hypotheses. Nationalism exerted a significant effect on future ethnic prejudice.

Although methodologies may differ, it becomes clear from past research that there is considerable variance in nationalist attitudes on the country level as well as on the individual level (e.g., Shulman, 2002; Pinto & Le Foulon, 2007; Schrock & Jacobson, 2009). Numerous studies have found correlations to sociodemographic variables. One of the most important factors proved to be education. A higher education reduces the probability of sharing nationalist attitudes (Schrock & Jacobson, 2009; Pinto and Le Foulon, 2007) and positively influences attitudes toward immigrants and immigration (Pettigrew, Wagner & Christ, 2007; Rustenbach, 2010). This can be explained, for example, with realistic group conflict theory (Sherif, 1966). Lower educated people often hold lower-qualified jobs that might be more threatened by foreign competition and globalization. This perceived competition for jobs constitutes a source for an intergroup conflict, which nurtures outgroup derogation and negative feelings toward foreigners.

Overall, ingroup bias and parochialism seem to be deeply anchored in the human mind. Nationalist views and negative attitudes toward immigration can be widely observed. We expect laypeople to express more negative than positive views toward immigration policies and to favor policies which they believe would benefit their own country. A

higher level of education should reduce the parochialistic answer pattern. Are economists likely to share this lay perspective?

2.1.4. Economics and economists – nationalist or cosmopolitan?

Many concepts of economic science directly or indirectly relate to the national state as the major unit of analysis: national income, balance of payments, trade deficit, and others. This proliferation of nation-oriented concepts does not necessarily have normative reasons, that is, because economic science would judge strong independent nations as *the* one way to increase global economic wealth. Rather, this may be due to situational factors and can be traced back to the traditionally strong role of national states in the past centuries.

Indeed, classical economics developed as “national economics”. In Germany the term “Nationalökonomie” for economic science had been widely used far into the 20th century. Several scholars argue that traditional classical economics basically followed the motive to augment national power (Greenfeld, 1995; Helleiner, 2002; Nakano, 2004). One of its first and most famous exponents, Adam Smith, was quite literally concerned with increasing “the wealth of nations” (Smith, 1789). Other economic thinkers of the 19th century like Friedrich List or Alexander Hamilton explicitly defined economics as a science aiming to obtain prosperity of a given nation (Helleiner, 2002; Preparata & Elliot, 1996). According to Greenfeld (1995, p. 581) "nationalism should be seen as, to some extent, an explanation of the emergence of economics".

However, Smith and most of his liberal successors advocated free worldwide trade—not protectionist policies. How can this be explained? Preparata and Elliot (1996) argued that the first British economists just represented the “word of the victors”. At the time, Great Britain had obtained naval, technological, and commercial supremacy and had become the workshop of the world. Economic liberalism proved a beneficial strategy for maintaining and

strengthening this position. Moreover, the reason for the endorsement of free trade by political groups was most often not its promise to lead to an economically efficient outcome. Rather, political groups associated liberty and free exchange with British national identity (Helleiner, 2002).

Apparently, economic nationalism does not necessarily imply protectionism and anti-immigration policies. On the contrary, economic nationalists could support liberal policies and free trade as long as it benefits their own nation, a view that is generally shared in the literature (Helleiner, 2002; Nakano, 2004; Pickel, 2003).

This leads us to the first reason why we expect economists to deviate from the parochialistic views of economic laypeople and their skeptical attitudes toward free trade and immigration: liberal trade and immigration policies might increase the wealth of one's own country. Even economists sharing nationalist attitudes might support these policies because they are known to focus on economic efficiency when evaluating economic policies.

We suggest a second reason why the views of laypeople and economists might differ. Economists do not exclusively apply efficiency criteria when considering political decisions (Haferkamp et al., 2009). This should be particularly true for immigration policies evoking non-economic considerations. For example, one might consider how much value to put on tolerance or cultural diversity. Thus, economists' attitudes should influence their judgments of immigration policies. However, to the best of our knowledge, no studies exist that analyze the inclination of economists toward immigration or nationalism. A survey on personal values of social scientists by Lucey & Delaney (2007) suggests that economists rate self-direction, achievement, and benevolence higher than the average citizen. However, effects on attitudes toward immigration are unclear.

Studies in the general public identified several sociodemographic factors related to weaker nationalist and stronger cosmopolitan

attitudes, for example, higher education, higher income, residence in urban communities, female gender, or leftist political orientation (Pichler, 2009; Rustenbach, 2010; Schrock-Jacobson, 2009). While education, income, and urbanity should lead to weaker nationalist and more cosmopolitan attitudes among economists, the other two factors might have a reverse effect. First, the economic profession is dominated by male economists. Second, we know that economists are less inclined to vote for left-wing parties. In a German survey by Jacob, Christandl, and Fetchenhauer (2010), 39% of the economists supported left-wing parties, compared to 61% of non-economists. At the same time, economists show strong support for liberal parties (Jacob et al., 2010), which are known for promoting liberal immigration policies. It remains an empirical question which effects dominate.

2.2. Method

2.2.1. Participants

In order to compare the judgments of *laypeople* and *economists*, two separate surveys were conducted via telephone. For the first survey, adults were randomly selected based on random German telephone numbers (*N*=1,133). This sample formed the respondent group of *laypeople*. The vast majority of the participants held German citizenship (95%); 53% were female; 75% had grown up in the Western part of Germany. The participants' average age was 46 years (*SD*=17).

To control for effects of education, we formed a separate subgroup from the sample for more highly educated laypeople, holding university entrance qualification after a minimum 12 years of formal education (*N*=379; 92% German citizenship; 48% female; 74% West German; average age = 42 years with *SD*=16).

The *economist* sample was based on the member index of the "Verein für Socialpolitik"—the major association of economists in Germany, which has more than 3,600 members. In a two-step approach, university departments were randomly selected from the member index and then one faculty member was randomly chosen from each department (*N*=80; 96% German citizenship; 18% female; 93% West German; average age = 40 years with *SD*=13).

2.2.2. Survey Design

The survey consisted of two major parts for both respondent groups. In the first part, interviewees were presented two policy proposals from the immigration policy domain: (1) *The number of foreigners living in Germany should be reduced as much as possible* and (2) *Employers should only be allowed to hire foreigners if no Germans apply for the job*. While all interviewed economists (*N*=90) participated in the first part of the survey, only a part of the economic laypeople sample was interviewed on the two proposals (*N*=188).

For each proposal, the respondents first had to disclose if they were *in favor of* or *against* the policy proposal. Participants were subsequently asked to judge the economic efficiency of the policy along three dimensions: long-term consequences for unemployment *(decrease or increase)*, for national economic growth *(increase or decrease),* and for the federal budget deficit *(decrease or increase).* A fifth question targeted the fairness of the policy *(fair or unfair)* and the last question asked whether the participants assumed the policy served their personal interest *(positive, neutral or negative*). Table 1 gives an overview of the six questions with their exact phrasing.

In the second part of the survey, both respondent groups were asked whether they accepted a job loss in Germany if, in turn, one new job would be created abroad. In addition, the laypeople group was asked in a 3 × 2 between-subjects design whether they accepted the job loss if one, five, or ten new jobs would be created, either elsewhere in

Germany or abroad. To collect the answers in the second part, we used a five point Likert scale from *1=Fully disagree* to *5=Fully agree*.

The two parts of the survey allowed us to examine potential parochialistic attitudes of laypeople and economists from two different angles. The first part focuses on the judgments of potential political interventions, the second part deals with an economic scenario that participants are confronted with. One might argue that the policy proposals were not very specific in how they should be implemented and left room for interpretation, for example, how one does define a "foreigner". We considered this less critical because we did not aim to test for specific psychological biases. Rather, a different awareness for implementation issues and varying mental representations evoked by the proposals represent the very reasons for the differences between economic experts and laypeople.

Table 1: Phrasing of the policy proposals and the questions asked for each proposal

Item	Concept	Phrasing
1	Acceptance	Are you in favor of or against this proposal?
2	Unemployment	If the policy was implemented, what do you think the long-term consequences would be for the unemployment rate – an increase or decrease?
3	Economic growth	If the policy was implemented, what do you think the long-term consequences would be for the national economic growth – an increase or decrease?
4	Federal budget deficit	If the policy was implemented, what do you think the long-term consequences would be for the federal budget deficit – an increase or decrease?
5	Fairness	Do you consider the policy to be unfair or fair?
6	Self-interest	Does the policy serve your personal interests or those of close friends, that is, are the consequences for you negative, neutral or positive?
Policy Proposal 1 (German)		Die Anzahl der in Deutschland lebenden Ausländer sollte so stark wie möglich gesenkt werden.
Policy Proposal 1 (English)		The number of foreigners living in Germany should be reduced as much as possible.
Policy Proposal 2 (German)		Arbeitgeber sollten freie Stellen nur dann an Ausländer vergeben, wenn sich kein Deutscher darauf bewirbt.
Policy Proposal 2 (English)		Employers should only be allowed to hire foreigners if no Germans apply for the job.

2.3. Results

2.3.1. Judgments of immigration policy proposals

The results of the first part of our survey by and large confirmed our hypothesis of parochialistic attitudes in the general public, but revealed a more nuanced picture for economists. In both policy proposals, we observed a wide gap between the answers of laypeople and economists (see Tables 2 and 3).

More than half of laypeople with a lower level of education approved the first policy proposal to reduce the number of foreigners in Germany as much as possible. Among highly educated laypeople, the support was clearly lower and amounted to 27%. Economists, however, opposed the policy almost unanimously. The differences between the three groups were statistically significant based on Tukey's HSD test procedure (Toothacker, 1993).

Table 2: Percentages of agreement across all respondent groups to policy proposal 1: "The number of foreigners living in Germany should be reduced as much as possible"

	Laypeople with low level of education	Laypeople with high level of education	Economists
Acceptance (yes)	53_a	27_b	1_c
Unemployment (positive consequences)	66_a	68_a	24_b
Economic growth (positive consequences)	66_a	52_b	3_c
Federal budget deficit (positive consequences)	66_a	56_a	16_b
Fairness (yes)	48_a	35_b	3_c
Self-interest (positive consequences)	12_a	12_a	0_b
Sample size	*N=134*	*N=54*	*N=79*

Note. Percentages of agreement that do not share a common subscript differ at $p<.05$ according to the q-statistics of Tukey's Honestly Significant Difference (HSD) test procedure (Toothacker, 1993).
Degrees of freedom for acceptance, unemployment, economic growth, federal budget, fairness: $df = 1$. Degrees of freedom for self-interest: $df = 2$

The judgments of the policy's economic consequences of laypeople and economists also diverged. About two thirds of the laypeople expected positive employment effects—independent from their level of education. In contrast, only 24% of the economists saw positive effects for employment. In the other two items related to economic efficiency, consequences for economic growth, and the federal budget deficit, the differences between laypeople and economists were even larger. Furthermore, 48% of the laypeople with a lower level of education versus 35% of those with a higher level of education judged a reduction of the number of foreigners as fair. In contrast, only 3% of the economists agreed. Regarding the last question on self-interest, 12% of laypeople assumed positive consequences for themselves, but not a single economist did.

Table 3: Percentages of agreement across all respondent groups to policy proposal 2: "Employers should only be allowed to hire foreigners if no Germans apply for the job."

	Laypeople with low level of education	Laypeople with high level of education	Economists
Acceptance (yes)	39_a	15_b	3_b
Unemployment (positive consequences)	71_a	70_a	23_b
Economic growth (positive consequences)	70_a	63_a	1_b
Federal budget deficit (positive consequences)	62_a	72_a	7_b
Fairness (yes)	60_a	51_a	3_b
Self-interest (positive consequences)	22_a	7_b	0_c
Sample size	*N=134*	*N=54*	*N=79*

Note. Percentages of agreement that do not share a common subscript differ at $p<.05$ according to the q-statistics of Tukey's Honestly Significant Difference (HSD) test procedure (Toothacker, 1993).
Degrees of freedom for acceptance, unemployment, economic growth, federal budget, fairness: $df = 1$. Degrees of freedom for self-interest: $df = 2$

The results for the second policy proposal largely resembled the results for the first policy (Table 3). A larger share of laypeople with lower education (39%) than higher education (15%) agreed that employers should only be allowed to hire foreigners if no Germans applied for the job. In contrast, only 3% of the economists approved

of this policy. As for the first proposal, a majority of laypeople with both a low and high level of education expected positive effects for employment, economic growth, and the federal budget deficit. However, most economists disagreed and argued the contrary. More than half of the laypeople with lower (60%) and higher education (51%) found the policy fair, but only very few economists (3%) agreed.

To summarize, our hypothesis that laypeople would show more negative than positive attitudes toward immigration policies corresponded well with the data. Around half of the laypeople with a low level of education accepted the two policy proposals, a higher level of education significantly reduced acceptance. However, a clear majority of laypeople, independent from level of education, judged the policies as economically efficient and a considerable share found them fair. In contrast, economists strongly opposed the two policy proposals and judged them as neither fair nor economically efficient.

2.3.2. Judgments of job relocations

In the second part of our survey, we also found evidence for parochialistic attitudes among economic laypeople. Economists expressed a more moderate opinion. Laypeople opposed a job loss in Germany if, in turn, new jobs would be created abroad. Opposition decreased dramatically if the new jobs would be created elsewhere in Germany instead.

A large majority of laypeople with low and high levels of education disapprove of a job loss in Germany if one new job would be created abroad. Less than 10% of laypeople partly or fully agreed with the job relocation. The mean agreement rating on a five-point scale from *1=fully disagree* to *5=fully agree* amounted to M=1.83 (SD=1.17) for laypeople with lower education. For laypeople with higher education, we observed a slightly higher agreement (M=2.09; SD=1.01). However, this difference was insignificant (p=.12) according to Tukey's Honestly Significant Difference (HSD) test procedure (Toothacker, 1993).

Among the economists, the picture appeared more balanced. With a mean rating of M=2.72 (SD=1.03) they judged the job relocation scenario significantly more positively than laypeople with lower and laypeople with higher level of education (p<.01).

Additionally, we had asked the laypeople respondent group if they accepted the job loss if either one, five, or ten new jobs would be created in turn—either elsewhere in Germany or abroad. We conducted a 2 × 2 × 3 analysis of variance to quantify the effects of level of education (high or low), location of the new jobs created (in Germany or abroad), and the number of jobs created (one, five, or ten) on the agreement rating. Figure 1 plots the mean agreement ratings, differentiated by the three factors.

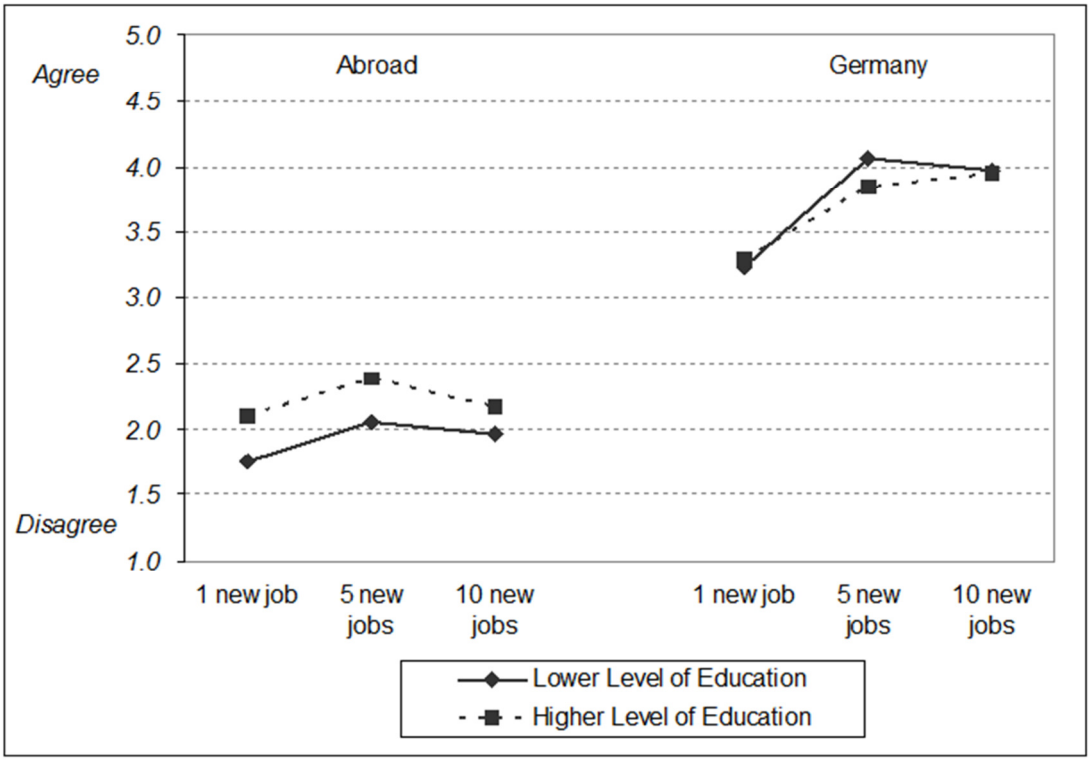

Figure 1: Agreement ratings by number of new jobs created, location of new jobs and level of education for the statement: "The loss of one job in Germany is acceptable if one (five/ten) new job(s) is (are) created abroad (in Germany)"

As expected, the analysis revealed a significant effect of the new jobs' location, F(1, 1085)=480.2; p<.01; η^2=.31. If the new jobs were created abroad, mean agreement was M=2.03, while it increased to M=3.74 for new jobs in Germany. The variance of the number of jobs created

also explained a significant part of the variance of the agreement rating, $F(2, 1085)=16.5$; $p<.01$, $\eta^2=.03$, with factor means of $M=2.58$ for one new job, $M=3.08$ for five, and $M=2.99$ for ten new jobs. Increasing the number of jobs offered from 5 to 10 did not further increase the mean agreement rating. Offering more than five jobs may have appeared implausible to the participants.

The level of education did not exert a significant independent effect on the acceptance rating: $F(1, 1085)=2.3$; $p=.13$; $\eta^2<.01$. However, the interaction effect between level of education and the new jobs' location suggests that more educated laypeople held less parochialistic views. This two-way interaction proved significant, yet with a very small effect size: $F(1, 1085)=5.4$; $p=.02$; $\eta^2=.01$. Laypeople with a higher level of education shared a slightly more positive view on jobs created abroad than laypeople with a lower level of education.

Furthermore, we observed a significant but also relatively small two-way interaction between the number of jobs created to compensate for the job loss and the location of the new jobs with $F(2, 1085)=4.8$; $p=.01$; $\eta^2=.01$. On the one hand, if the new jobs were created in Germany, increasing their number from one to five had a positive effect on the agreement rating. On the other hand, respondents did not care for jobs created abroad—the agreement rating did not change significantly when altering the number of jobs created.

To summarize, laypeople heavily opposed a job loss in Germany, regardless of the number of jobs created abroad in turn. Economists expressed more moderate views. When the new job would be created in Germany, however, most respondents in the laypeople group accepted a job loss, particularly if more than one job was offered in compensation.

2.4. Discussion

The major aim of our study was to contrast views on immigration policies and job relocation of economists and laypeople with different levels of education. Therefore, we conducted two telephone surveys in Germany with randomly selected laypeople and professional economists. Participants were asked to judge immigration policy proposals and a job relocation scenario.

Our results revealed huge differences in the judgments of immigration policies between laypeople and economists. Around half of the laypeople with a low level of education accepted the two policy proposals to reduce the number of foreigners living in Germany and to allow employers to hire foreigners only if no Germans apply for the job in question. Additionally, a clear majority of lay respondents, independent from level of education, judged these two policy proposals economically efficient. A considerable share of respondents found them fair as well. On the other hand, a large majority of the economists opposed the two policies and did not assume positive economic effects or judged them as fair. In the second part of our survey, a significantly larger share of laypeople than economists opposed a job loss in Germany if one job would be created abroad in turn. The number of jobs created abroad as compensation for the job loss did not significantly change the acceptance of the job relocation. Acceptance clearly increased, however, if the new jobs were created in Germany. A higher level of education had only a small positive effect on the mean agreement ratings. Nevertheless, educational effects may still explain part of the gap between economists and laypeople. In our survey, the respondent group of higher educated laypeople had completed a minimum 12 years of formal education, without further differentiating between college or graduate education. The professional economists, however, had completed graduate studies and most of them had obtained Ph.D. degrees.

There is a certain irony in the diverging results of economists and laypeople. Economics enjoys a reputation as a "dismal science" (e.g., Marglin, 2008), allegedly expecting humans to be rational, "cold-hearted" individuals solely focused on increasing economic wealth. In the context of immigration policies, however, economists display rather cosmopolitan attitudes, do not value a job in Germany much higher than a job abroad, and judge it unfair to prefer Germans over foreigners in the labor market. In contrast, the general public values one job in Germany higher than ten alternative jobs and would partly judge it fair to expel foreigners from Germany.

The results for economic laypeople conform well to existing research on parochialism and nationalism. Acceptance rates of about 50% for anti-immigration policies correspond to similar estimates for the dissemination of nationalist attitudes in Germany (Blank & Schmidt, 2003). We know that fairness is the preponderant judgment criterion in political contexts for economic laypeople. Our results suggest that they share a strongly parochialistic notion of fairness. Simply put, people consider fair what they think is good for their own nation and their fellow citizens. One reason for this could be that people feel the need to reciprocate: "They owe something to their nation because of what it has done for them. In particular, they have a duty as citizens to support policies that benefit other citizens" (Baron, Ritov & Greene, 2009, p. 23). Consequently, it seems inappropriate to support policies that harm one's own nation, even though the benefit for other nations might be significant as was the case in our job relocation scenarios. People do not simply determine the adequacy of an action based on its consequences. This is what consequentialist ethics or utilitarianism would suggest, which is usually advocated by economists. Instead, laypeople adhere to a deolontogical ethics: they follow general rules, for example the rule to reciprocate.

Moreover, the results for the different job relocation scenarios suggest that laypeople did not completely ignore economic efficiency

considerations. Only a minority of the respondents opposed a job loss if, in turn, a new job was created elsewhere in Germany. Offering five or ten jobs in compensation further increased acceptance. On the other hand, economic efficiency judgments might have further supported parochialistic reasoning. Laypeople rated the economic consequences of the two proposed policies considerably more negatively than economic experts. Most likely, cognitive biases contributed to these diverging judgments. The fixed-pie myth, for example, could lead laypeople to think that foreigners take jobs away from an assumed fixed pie of jobs available in Germany. They may also view the loss of one job and one new job created somewhere else as an economic zero-sum game. Economists, on the other hand, would point to productivity gains related to this kind of job relocation, usually resulting in a net economic benefit. However, the economists' belief in the positive economic effects of free labor mobility is far from being indisputable. There might be non-material as well as social cost of migration and job relocations that are inadequately reflected in standard economic models (cf. Rodrik, 1997; Schiff, 1992).

Generally, the measures for economic efficiency and fairness in our survey can not fully explain the acceptance ratings of the two policy proposals. Particularly, most laypeople with higher education disapproved the proposals although many of them judged them both economically efficient and fair. Apparently, parochialism and the perceived duty to support one's nation conflicted with other considerations that were only partially covered by our fairness measure. This may have included social desirability, sympathy for foreigners, valuing the equality of all humans, or favoring cultural diversity. These considerations relate to attitudes and concepts developed in the literature as counterparts of nationalism: civic national identity (Huddy & Khatib, 2007; Kunovich, 2009), patriotism (Blank & Schmidt, 2003; Kosterman & Feshbach, 1989) or cosmopolitanism (Haller & Roudometof, 2010; Schrock & Jacobson, 2009). Future studies could try to discern the different attitudes and

the respective facets of justice that are likely to influence judgments of immigration policies.

Economists did not share the parochialistic attitudes of the general public. Most of them did not accept the two immigration policy proposals and judged them as unfair. Why economic experts express different views than economic laypeople remains an open question for future research. On the one hand, economists could basically share nationalist attitudes, but favor immigration and free transnational labor markets because they have positive effects on their home country's economy. Thus, they would not explicitly care about immigrants or global justice, but strive to increase their own nation's economic wealth. On the other hand, economists could hold more cosmopolitan attitudes and more positive attitudes toward immigrants in general. Consequently, they support policies promoting immigration and increasing global economic wealth. Either way, potential stories of selfish economists not considering the well-being of their fellow human beings should probably be revised.

3. Economic Experts or Laypeople? How Teachers and Journalists Judge Trade and Immigration Policies

3.1. Introduction

"The fact that there is a wide divergence between many of the practical conclusions of economic science, as laid down by its professional exponents, and the thought of the public at large, as reflected in current discussion and in legislation, is one with which all are familiar" (Newcomb, 1893, p. 375). This statement was put forward more than a century ago, but has lost none of its relevance. The respective *professional exponents*, the economists, regularly deplore that their policy recommendations inadequately resonate in public debates and practical economic policy (Frey, 2000; Henderson, 1986; Stiglitz, 1998; Thorpe, 1940).

Numerous studies have shown that the *public at large*, predominated by laypeople without expert knowledge in economics, has a different view on economic phenomena and economic policies compared to professional economists (e.g., Baron & Kemp, 2004; Blendon et al., 1997; Caplan, 2002; Frey, 1986; Haferkamp et al., 2009; Walstad, 1997; Walstad & Rebeck, 2002; Williamson & Wearing, 1996). The disconnect between economists and economic laypeople appears particularly large in the trade and immigration policy domain. While economists favor free trade and free labor mobility (e.g., Alston et al., 1992; Coughlin, 2002), laypeople tend to support protectionist policies (e.g., Kemp, 2007; Rubin, 2003). Compared to economic experts, they also assume different economic consequences. For example, only 30% of laypeople in a survey by Jacob et al. (2010) expected lower overall consumer prices from globalization, but 90% of the economists did.

To elucidate these large differences, two groups of professionals deserve particular attention: journalists and teachers. They act as promoters for economic literacy because economic knowledge is mainly imparted through education and information regarding economic policies is predominantly transferred through the media. In this context, it becomes relevant what teachers and journalists know about economics and how they judge economic policies. However, these aspects have not been investigated so far. This study provides, for the first time, a closer look at their economic policy judgments. The major aim is to examine how teachers and journalists judge economic policies and whether they are closer to the lay or the expert way of thinking. If they were closer to the lay way of thinking, this could partly explain the observed gap between economic experts and laypeople.

Along the way, we also aim to extend existing findings on the differences in judgment of economic policies between economists and laypeople as well as the judgment criteria they apply.

Our analysis is based on two policy proposals from the trade and immigration policy domain. In telephone surveys we asked economists, laypeople, teachers, and journalists in Germany how they judged the two policies. For each of the respondent groups, we particularly explored if and how self-interest, efficiency and fairness judgments can explain the acceptance of the policies.

3.1.1. Lay and economists' judgments of economic policies

According to the *homo oeconomicus* paradigm of economic science, individuals are assumed to maximize their individual utility (Stigler, 1981; Schwartz, 1986) and to be perfectly informed about their choices. In the context of lay judgments of economic policies, these two assertions are not empirically warranted.

As to the first assertion, self-interest seems to be a subordinate factor in voting decisions and the evaluation of economic policies as a broad array of studies from both psychology and political science show (Baron, 2003; Citrin et al., 1997; Haferkamp et al., 2009; Kinder & Kiewit, 1979; Miller & Ratner, 1998; Sears & Funk, 1990). Public choice theory also concedes that voters base their political judgments on factors other than material self-interest (Brennan & Buchanan, 1984; Brennan & Lomasky, 1993). However, Coughlin (2002) as well as Scheve and Slaughter (2001) argue that citizens might oppose free trade because they fear its negative consequences on themselves, for example the loss of their jobs.

The second assertion, full information about the consequences of all policy alternatives, is even less appropriate. Numerous surveys show that laypeople possess only little factual knowledge of the economy and lack basic economic expertise (e.g., Caplan, 2003; Walstad & Larsen, 1993; Walstad, 1997). They misjudge basic mechanisms, such as long-term effects of economic growth (Christandl & Fetchenhauer, 2009). People also appear to have a rather weak understanding of the principle of comparative advantage (Baron & Kemp, 2004; Krugman, 1994), which lies at the heart of all arguments for free trade.

Given their lack of economic expertise, do laypeople judge economic policies in the same way as professional economists, or do they apply alternative judgment logic?

Professional economists base their judgments of economic policy proposals mainly on efficiency considerations (e.g., Haferkamp et al., 2009; Kirchgässner, 2005; Stiglitz, 1998). For example, economists support free trade and free labor mobility because they generally increase overall economic wealth (e.g., Alston et al., 1992; Coughlin, 2002). Economists do not neglect fairness considerations, but usually follow a utilitarian approach (Baron, 2004). They tend to find a policy that increases overall economic wealth to be fair (Haferkamp et al.,

2009). In our study, we expect economists to favor free trade and labor mobility both from an efficiency and a fairness point of view; with efficiency being the preponderant judgment criterion.

Do laypeople follow the judgment logic of economists? There is substantial evidence that they do not. Lay and expert judgments of economic policies widely diverge (e.g., Blendon et al, 1997; Caplan, 2002; Frey, 1986; Henderson, 1986; Haferkamp et al., 2009). For example, unlike economists, laypeople remain quite skeptical towards free trade policies (e.g., Cass, 2000; Kemp, 2008; Kemp, 2007; Rubin, 2003). Apparently, laypeople develop their own mental models and causal hypotheses about how the economy works (Caplan, 2007; Rubin, 2003; Williamson & Wearing, 1996). These mental models are not only based on daily life experience, but also on what young people learn in school and from the media (Furnham, 2008).

To derive their judgments of a policy's consequences for economic efficiency, laypeople revert to several cognitive heuristics, which, in turn, are prone to systematic biases (Baron et al., 2006; Caplan, 2007). Baron et al. (2006) and Kemp (2007) provide a detailed overview of heuristics and biases that are relevant in the trade and immigration policy context. They present, to name a few, the fixed-pie myth or zero-sum game assumption (Baron et al., 2006; Henderson, 1986), isolation effects (McCaffery & Baron, 2003; Read et al., 1999), parochialism or anti-foreign bias (Baron et al., 2006; Caplan, 2007; Schwartz-Shea & Simmons, 1991), the do-no-harm heuristic (Baron, 1995; Baron & Jurney, 1993) and the status-quo bias, amplified by loss aversion (Kemp, 2007; Kahneman, Knetsch & Thaler, 1986; Samuelson & Zeckhauser, 1988). Referring to these biases, we expect laypeople to judge free trade policies as less economically favorable, or less efficient, than economists do.

Moreover, laypeople not only succumb to cognitive biases when evaluating economic efficiency of policy proposals, but tend to base

their judgments on a different criterion: Is the policy proposal perceived as fair?

Fairness is known as a powerful decision factor. Many studies point to the importance of fairness (e. g., Tyler, 1994). Experimental evidence for its role in an economic context is extensive (cf. Camerer, 2003; Davidson et al., 2006). Haferkamp et al. (2009) recently showed the importance of fairness in the evaluation of labor market interventions. Furthermore, fairness judgments are generally derived rather intuitively and without much cognitive effort (Haidt, 2001). In contrast, the evaluation of economic efficiency is cognitively complex and requires sound economic knowledge. Thus, laypeople's fairness judgments may serve as cognitive shortcuts for deriving congruent efficiency judgments.

We therefore expect that, for laypeople, the influence of their efficiency judgments on the acceptance of a policy proposal is only significant if one does not control for fairness perception—which we expect to serve as the strongest predictor for the acceptance of a policy proposal.

3.1.2. The role of teachers and journalists

Teachers and journalists deserve particular attention when analyzing lay economic knowledge. By acting as promoters for economic literacy through school and media, they shape the way people judge economic policies (Haferkamp et al., 2009).

How does the process of promoting economic knowledge and attitudes towards economic policies basically work? School plays an important role in imparting economic knowledge (Furnham & Cleare, 1988; Lunt & Furnham, 1996). Explicit economics courses in secondary school significantly improve students' performance in tests of economic literacy (e.g., Walstad & Buckles, 2008; Walstad & Rebeck, 2001), although students still lack an understanding of

several basic concepts after a one-semester course (Walstad & Allgood, 1999). The more economics courses teachers have taken in university, the higher their students' achievements in economics (Allgood & Walstad, 1999; Bosshardt & Watts, 1990). The level of economic literacy, in turn, can shape economic policy judgments (Walstad & Rebeck, 2002). Thus, teachers have considerable leverage in transferring economic knowledge and attitudes. Besides, economic literacy can influence civic attitudes: Eriksen and Fallan (1996) found a positive effect of tax system knowledge on the perceived fairness of the tax system and intended tax compliance.

In Germany, where our study has been conducted, only few federal states offer a separate subject *Economics* (Burkard, 2004). However, the curriculum of *Social Studies*, which is a compulsory course in secondary schools across Germany, includes considerable economic content.

The promotional role of journalists rests upon the observation that people learn most of the things they know about economics and politics from the media (Luhmann, 2000). People state that they are generally interested in politics and regularly access the media to inform themselves (e.g., for the USA: Blinder & Krueger, 2004; for Germany: Noelle-Neumann & Köcher, 2002). Albaek, Christiansen, and Togeby (2003) detect a steady rise of references to experts from the social sciences in newspapers, which helps to transfer economic knowledge. The important role of the media in forming public opinion is generally acknowledged in political and mass communication research (e.g., Bennett, 2010; McCombs, 2004; Scheufele & Tewksbury, 2007), although the media's direct influence is seen nuanced and its magnitude remains controversial (Goidel, Procopio, Terrell & Wu, 2010; Kleinnijenhuis & Rietberg, 1995; Soroka, 2006; Takeshita, 2006). In Germany, Boomgaarden & Vliegenthart (2009) found a robust link between news coverage of immigration issues and anti-immigration attitudes.

What do teachers and journalists know about economics and how do they think about economic policies? These aspects have hardly been investigated so far. In one survey by Becker, Walstad, and Watts (1994), several economic propositions were presented to high school teachers in social studies and economics, journalists, and professional economists. The scores of the economists clearly differed from the scores of the two other groups. For Germany, there is no evidence regarding economic literacy and attitudes towards economic policies of teachers and journalists so far. However, the economic knowledge of German social studies teachers, who are responsible for teaching economic content in secondary schools, is expected to be rather modest. Only a relatively small number of teachers have taken courses at economics departments during their studies (Burkard, 2004). This should also be reflected in their economic policy judgments, which we expect to lie closer to the laypeople's than to the economists' answer pattern. For the journalists we likewise expect an answer pattern lying in between economists and laypeople. Although there is research on political dispositions of journalists (e.g., Kepplinger & Ehmig, 1997; Weischenberg, Malik & Scholl, 2006), nothing is known about their economic literacy from the literature so far. However, journalists who work in the economics departments of newspapers and TV stations are confronted with complex economic policy issues on a daily basis. They should therefore possess certain economic expertise.

The major aim of our study was to find out how teachers and journalists judge trade and immigration policies and whether their judgments are closer to the lay or the expert way of thinking. Additionally, we aimed to have a closer look at the relative importance of economic efficiency, fairness, and self-interest as judgment criteria for the acceptance of a policy proposal, again differentiated by respondent groups. We therefore conducted telephone surveys with economists, laypeople, teachers, and journalists.

3.2. Method

3.2.1. Participants

In order to compare the judgments of *laypeople, economists, teachers,* and *journalists*, four separate surveys were conducted in Germany. First, adults above the age of 18, randomly selected based on random telephone numbers, participated in telephone interviews (*N*=190). This representative sample of the German population formed the respondent group of *laypeople*. However, we did not control for the economic literacy of the participants. There may have been respondents who possess a certain degree of economic expertise and are not economic laypeople in a strict sense. The vast majority of the participants hold German citizenship (95%); 53% were female; 75% had grown up in the Western part of Germany. The participants' average age was 46 years (*SD*=17).

To control for effects of education, we formed a separate subgroup from the sample for more highly educated laypeople, holding university entrance qualification after a minimum 12 years of formal education (*N*=68; 92% German citizenship; 48% female; 74% West German; average age = 42 years with *SD*=16).

The other three surveys were dedicated to the three groups of professionals. They were likewise conducted via telephone. Among the economists, teachers and journalists interviewed, 99% had enjoyed higher education in the form of at least 12 years of formal school education. The *economist* sample was based on the member index of the “Verein für Socialpolitik”—the major association of economists in Germany, which has more than 3,600 members. In a two-step approach, university departments were randomly selected from the member index and then one faculty member was randomly chosen from each department (*N*=80; 96% German citizenship; 18% female; 93% West German; average age = 40 years with *SD*=13).

The teacher and the journalist samples were based on databases of specialized address retailers. We ordered the addresses of social science *teachers* who are responsible for the economic and political education of secondary school students. The questions were presented to *N*=97 teachers (96% German citizenship; 57% female; 52% West German; average age = 42 years with *SD*=9). In the fourth survey we focused on *journalists* working either in policy or economics editorial departments. The *N*=90 interviewees came from newspaper, radio station, or television station editorial offices in equal shares. 98% hold German citizenship; 26% were female; 91% had grown up in Western Germany and the average age was 43 years (*SD*=8).

3.2.2. Survey design

All interviewees in the four surveys were presented the same two policy proposals from the trade and immigration policy domain:

(1) Highly qualified foreigners should be explicitly attracted to Germany

(2) The government should financially support businesses that produce exclusively in Germany and not abroad.

While some of the laypeople were interviewed on only one of the two policy proposals, all participants in the other three groups were interviewed on both policies.

Although the policy proposals did not particularly mention trade barriers, they refer to the relation to foreign countries and to a free transnational exchange of workers. The two specific policies had been chosen because they were particularly likely to activate a wide array of the heuristics and biases described in the previous subchapter.

Table 4: Phrasing of the policy proposals and the questions asked for each proposal

Item	Concept	Phrasing
1	Acceptance	Are you in favor of or against this policy?
2	Unemployment	If the policy was implemented, what do you think the long-term consequences would be for the unemployment rate – an increase or decrease?
3	Economic growth	If the policy was implemented, what do you think the long-term consequences would be for the national economic growth – an increase or decrease?
4	Federal budget deficit	If the policy was implemented, what do you think the long-term consequences would be for the federal budget deficit – an increase or decrease?
5	Fairness	Do you consider the policy to be unfair or fair?
6	Self-interest	Does the policy serve your personal interests or those of close friends, that is, are the consequences for you negative, neutral or positive?
Policy Proposal 1 (German)		Deutschland sollte gezielt hoch qualifizierte Arbeitnehmer aus dem Ausland anwerben.
Policy Proposal 1 (English)		Highly qualified foreigners should be explicitly attracted to Germany.
Policy Proposal 2 (German)		Der Staat sollte Unternehmen finanziell unterstützen, die nur in Deutschland und nicht im Ausland produzieren.
Policy Proposal 2 (English)		The government should financially support businesses that produce exclusively in Germany and not abroad.

Admittedly, the policy proposals are not very specific in how they should be implemented. They therefore leave room for interpretation, particularly the second policy. For example, one could introduce either direct business subsidies or an additional tax on goods produced abroad. Also, it is very challenging from a practical point of view to identify those businesses that are actually producing exclusively in Germany. Economists and journalists might be more aware of these implementation issues than the other groups. However, we do not believe that this strongly biases our results. Rather, being aware of implementation issues is one major reason that the answers of experts and laypeople may differ.

For each policy proposal, the respondents first had to disclose if they were *in favor of* or *against* the policy. To investigate potential predictors of the acceptance rating, participants were subsequently

asked to judge the economic efficiency of the policy along three dimensions: long-term consequences for unemployment *(decrease or increase)*, for national economic growth *(increase or decrease),* and for the federal budget deficit *(decrease or increase).* A fifth question targeted the fairness of the policy *(fair or unfair)* and the last question asked whether the participants assumed the policy served their personal interest *(positive, neutral or negative*). Table 4 summarizes the six questions with their exact phrasing.

3.2.3. Scale building

Beyond the analysis of the different ratings for the policy proposals we aimed to find out to what extent efficiency, fairness, and self-interest served as predictors for the acceptance rating.

To keep the analysis tractable, we first verified if the answers from Policy 1 and Policy 2 could be integrated into one scale. Cronbach's α as a usual measure for internal consistency proved inappropriate in our case, because it is not robust when only two binary variables are concerned (Rosenthal & Rosnow, 2007). Instead, we computed the Holsti Index (Holsti, 1969), measuring the relative share of subjects that answered identically in both policy proposals. The Holsti Index fluctuated from 0.59 for the question on the budget deficit to 0.67 for the question on self-interest, which can be deemed acceptable. Furthermore, we examined post-hoc if the findings presented in the Results section significantly changed if the two policy proposals were analyzed separately. However, this was not the case.

Thus, we calculated six scales for acceptance, unemployment, economic growth, budget deficit, fairness, and self-interest, each ranging from 0 (e.g., both policies rejected) to 2 (e.g., both policies accepted). Coding of Policy 1 was inverted in the process to reflect that the two policies had been phrased differently: Policy 1 in a pro-free-market fashion, Policy 2 in anti-market fashion.

Subsequently, we created a single efficiency scale by integrating the answers to the three questions regarding unemployment, economic growth and federal budget deficit effects. The answers to these three questions proved to be quite consistent. A Holsti Index of 0.59 was computed and the Cronbach's α reached 0.86.

3.3. Results

3.3.1. Acceptance, efficiency, fairness, and self-Interest judgments of the policy proposals across the respondent groups

Based on existing evidence, we expected considerable differences in the policy judgments of economists and laypeople. We clearly observed those differences in the two presented policy proposals (see Tables 5 and 6). The judgments of teachers and journalists, however, did not clearly follow the answer pattern of either economists or laypeople.

In the first policy proposal, acceptance ratings as well as judgments of economic efficiency and fairness diverged widely. Among the economists, a large majority of 87% would attract highly qualified foreigners to Germany (Table 5). More than 90% assumed positive effects for economic growth and employment. In contrast, only 34% of laypeople with a lower level of education approved of the policy proposal and about 50% would see positive effects for growth or employment. All these differences are statistically significant based on Tukey's HSD test procedure (Toothacker, 1993).

The percentages of agreement to the first policy proposal of both teachers and journalists were rather close to the economists (Table 5). Consequently, they both differed considerably from the laypeople's answer pattern. Neither the acceptance ratings nor the fairness perceptions, the assumed effects on economic growth or the

assumed effects on the federal budget significantly differed from the economists' judgments. However, fewer teachers (64%) and journalists (76%) than economists (92%) counted on positive employment effects.

Table 5: Percentages of agreement across all respondent groups to policy proposal 1: "Highly qualified foreigners should be explicitly attracted to Germany"

	Economists	Laypeople with low level of education	Laypeople with high level of education	Teachers	Journalists
Acceptance (yes)	87_{a}	34_{b}	46_{b}	72_{a}	88_{a}
Unemployment (positive consequences)	92_{a}	51_{b}	49_{b}	$64_{b,c}$	$76_{a,c}$
Economic growth (positive consequences)	95_{a}	56_{b}	63_{b}	92_{a}	94_{a}
Federal budget deficit (positive consequences)	88_{a}	58_{b}	62_{b}	88_{a}	89_{a}
Fairness (yes)	81_{a}	53_{b}	$55_{b,c}$	$74_{a,c}$	85_{a}
Self-interest (positive consequences)	$30_{a,c}$	12_{b}	$21_{a,b,c}$	$14_{a,b,c}$	$31_{a,c}$
Sample size	*N=80*	*N=122*	*N=68*	*N=97*	*N=90*

Note. Percentages of agreement that do not share a common subscript differ at p<.01 according to the q-statistics of Tukey's Honestly Significant Difference (HSD) test procedure (Toothacker, 1993).
Degrees of freedom for acceptance, unemployment, economic growth, federal budget, justice: *df* = 1. Degrees of freedom for self-interest: *df* = 2

Table 6: Percentages of agreement across all respondent groups to policy proposal 2: "The government should financially support businesses that produce exclusively in Germany and not abroad"

	Economists	Laypeople with low level of education	Laypeople with high level of education	Teachers	Journalists
Acceptance (yes)	8_{a}	80_{b}	78_{b}	62_{b}	32_{c}
Unemployment (positive consequences)	17_{a}	79_{b}	84_{b}	77_{b}	54_{c}
Economic growth (positive consequences)	10_{a}	84_{b}	81_{b}	$70_{b,c}$	51_{c}
Federal budget deficit (positive consequences)	8_{a}	73_{b}	73_{b}	$56_{b,c}$	36_{c}
Fairness (yes)	6_{a}	83_{b}	$73_{b,c}$	63_{c}	36_{d}
Self-interest (positive consequences)	4_{a}	40_{b}	$36_{b,c}$	$14_{c,d}$	$17_{a,d}$
Sample size	*N=80*	*N=124*	*N=64*	*N=97*	*N=90*

Note. Percentages of agreement that do not share a common subscript differ at p<.01 according to the q-statistics of Tukey's Honestly Significant Difference (HSD) test procedure (Toothacker, 1993).
Degrees of freedom for acceptance, unemployment, economic growth, federal budget, justice: *df* = 1. Degrees of freedom for self-interest: *df* = 2

In the second policy proposal, the gap between professional economists and laypeople is even more remarkable than in the first one (Table 6). Only 7% of the economists would financially support businesses that produce exclusively in Germany, but 80% of the laypeople with a lower level of education endorsed this proposal. This wide and highly significant gap persisted in the respective judgments on unemployment, economic growth, and the federal budget deficit as well as on the fairness and the self-interest dimensions.

In contrast to the first policy proposal, the answers of teachers and journalists to the second policy question clearly differed from those of the economists (Table 6). The teachers matched the laypeople's answer patterns quite closely. The agreement rates of teachers and laypeople were similar in most answer categories. In contrast, the difference between the teachers and the economists is large and statistically significant across all six answer categories. For example, a majority of the teachers (62%) agreed that businesses producing exclusively in Germany should be financially supported while only 8% of the economists argued the same way. For the journalists a less clear picture emerges. As for the teachers, their percentages of agreement differed significantly from the economists—across all the answer categories except self-interest. However, in contrast to the teachers' answers, they also clearly differed from the laypeople's percentages of agreement.

The level of education did not seem to play an important role in determining the judgments of the proposed policies. Thus, it cannot explain the observed differences between laypeople, teachers and journalists. There was no significant difference between laypeople with a higher versus lower level of education in any of the six questions of the two policy proposals. Besides, the differences between laypeople, teachers and journalists cannot be attributed to gender or to West vs. East German background. Adding these two demographic factors as control variables did not significantly change

the magnitude of the effects that the affiliation to the professional groups (economist, teacher or journalist) exerted on the acceptance ratings of the policy proposals.

To summarize, our initial hypothesis of considerable differences between economists and laypeople in judging trade and immigration policy proposals received clear empirical support. The judgments of the second policy proposal (support businesses that produce exclusively in Germany) diverged even more that the judgments of the first policy (attract highly qualified foreigners to Germany). Higher education did not significantly influence the agreement rates. Comparing the answer patterns of teachers and journalists to those of economists and laypeople gave a mixed picture. Teachers and journalists judged the first policy proposal similarly to the economists. However, they clearly differed from the economists on the second policy proposal. While the teachers' answer pattern strongly resembled that of the laypeople, the answers of the journalists lay somewhere in between economists and laypeople.

3.3.2. Relative importance of economic efficiency, fairness, and self-interest as judgment criteria for policy acceptance

As shown in the previous subchapter, teachers and journalists judge economic policies like neither economists nor laypeople. But what about the judgment criteria teachers and journalists apply? Do they more follow a lay or an expert way of forming their judgments of economic policies?

We performed a linear regression with the aggregated acceptance rating as the dependent variable and aggregated economic efficiency, fairness and self-interest ratings as independent variables. The regression coefficients were calculated separately for the four respondent groups of economists, laypeople, teachers, and journalists. We merged the two laypeople subgroups with a higher and lower level of education into one group, because the results in

chapter 3.3.1 indicated that answers did not strongly depend on level of education.

To shed some light on the interaction between the independent variables, we carried out the regression analysis in three steps. In the first step, we used the efficiency rating as the sole regressor. In the second step, the fairness variable was added to the model. Finally, self-interest was included. We hypothesized that, for laypeople, efficiency would only play a role as long as fairness is not included in the model. For economists, on the other hand, we hypothesized that they base their judgments on economic efficiency. Consequently, adding fairness should not change the efficiency parameter.

For the economists, the regression analysis reveals economic efficiency as the most important judgment criterion as we had expected (Table 7). The efficiency coefficient for the economists remains stable and highly significant (β=0.70; p<0.01) when fairness is added in the second step. Also, it is much larger in size than the fairness coefficient, which proves only marginally significant (β=0.16; p=0.05).

For laypeople, economic efficiency also appears to be a strong, significant predictor for the policy acceptance in the first step of the regression (β=0.72; p<0.01). However, the picture changes if fairness is added in the second step. The effect of economic efficiency virtually disappears (β=0.15; p=0.11) while the influence of fairness is strong and significant (β=0.64; p<0.01). These results suggest that laypeople's efficiency assessment is mediated by fairness perception, which is the most important predictor for policy acceptance.

Concerning teachers and journalists, do they rely more on an assessment of economic efficiency, as we expect from economists, or on perceived fairness, as we expect from laypeople? Teachers and journalists basically follow the same pattern as laypeople. The effect of economic efficiency in the first regression step turns insignificant in the second step (teachers: β=0.09; p=0.56; journalists: β=-0.09;

p=0.34). Fairness, however, strongly affects the acceptance rating (teachers: β=0.73; p<0.01; journalists: β=0.86; p<0.01). The respective parameters for laypeople, teachers, and journalists display similar effect sizes and confidence levels in all regression steps. This is a surprise, in that the percentages of agreement presented in chapter 3.3.1 revealed considerable differences between laypeople, teachers, and journalists. We will come back to this puzzling point in the Discussion.

Table 7: Results of linear regression of aggregated efficiency, fairness and self-interest ratings on aggregated acceptance rating for the four respondent groups

	Dependent Variable: Acceptance	Coefficients *(Standard Errors)*			
	Independent Variables	Economists	Laypeople	Teachers	Journalists
Step 1	Efficiency	0.80*** *(0.10)*	0.72*** *(0.10)*	0.81*** *(0.14)*	0.59*** *(0.11)*
	Constant	0.03 *(0.13)*	0.55*** *(0.04)*	0.12 *(0.15)*	0.08 *(0.09)*
Step 2	Efficiency	0.70*** *(0.11)*	0.15 *(0.11)*	0.09 *(0.15)*	-0.09 *(0.10)*
	Fairness	0.16* *(0.08)*	0.64*** *(0.09)*	0.73*** *(0.11)*	0.86*** *(0.09)*
	Constant	0.01 *(0.04)*	0.44*** *(0.11)*	0.14 *(0.11)*	0.06 *(0.06)*
Step 3	Efficiency	0.69*** *(0.12)*	0.17 *(0.11)*	0.09 *(0.15)*	-0.09 *(0.10)*
	Fairness	0.16* *(0.08)*	0.66*** *(0.10)*	0.73*** *(0.11)*	0.85*** *(0.09)*
	Self-Interest	0.02 *(0.09)*	-0.07 *(0.14)*	-0.02 *(0.16)*	0.03 *(0.10)*
	Constant	-0.05 *(0.08)*	0.49*** *(0.15)*	0.15 *(0.17)*	0.04 *(0.09)*
	Step 1: R2 Step 2: Δ R2 Step 3: Δ R2	0.50*** 0.03* 0.00	0.38*** 0.23*** 0.00	0.34*** 0.29*** 0.00	0.28*** 0.43*** 0.00
Sample size		*N=67*	*N=90*	*N=63*	*N=72*

*p<.10; **p<.05; ***p<.01

Consistent with existing evidence, self-interest appears to be a subordinate judgment criterion compared to fairness and economic efficiency for all respondent groups. In the third regression step, where self-interest is included in the model, the R^2 values do not improve compared to the second step. Across the groups, the self-interest coefficients are clearly smaller in size than the efficiency and fairness parameters and are not significant at any conventional confidence level.

3.4. Discussion

The major aim of this study was to analyze how teachers and journalists judge economic policies and whether they appear closer to an expert or lay way of thinking. For the first time, economists, laypeople, teachers, and journalists were asked to judge economic policies in four parallel surveys. Our results clearly showed that economists and non-economists think differently about economic policies and apply different judgment criteria. We could confirm what previous research had suggested: Economists favor free transnational markets and oppose subsidies. Non-economists endorse protectionist policies walling off the national labor market and supporting production within the home country.

Regarding teachers and journalists, their acceptance ratings as well as their respective fairness and economic efficiency judgments lay in between the laypeople's and the economists' answer patterns. Journalists tended more to economists, teachers more to laypeople. However, regression analyses revealed that teachers and journalists applied the same judgment logic as laypeople. For all three groups, the acceptance of a policy proposal depended predominantly on fairness considerations. Economists, on the other hand, relied primarily on efficiency as a judgment criterion.

We did not observe any significant influence of self-interest for any of the four respondent groups. This corresponds well with most of the literature on the topic (e.g., Haferkamp et al., 2009; Kinder & Kiewit, 1979; Sears & Funk, 1990), including a study by Citrin et al. (1997), which particularly dealt with immigration policy reform. In a political context, altruistic or parochialistic considerations seem to be more important than pure self-interest.

How can the systematic differences in judgments of economic policies between economists and non-economists be explained? Although we did not directly observe and test for them, it is likely that cognitive biases played a role that literature suggests as explanations for the diverging judgments of economic efficiency. For example, the present results for non-economists could be partly attributed to a parochialistic bias toward one's own nation's workers and businesses (Baron et al., 2006). In the first policy proposal, people could have assumed that foreigners would take jobs away from a presumably fixed pie of jobs currently held by Germans, who would then be harmed by unemployment. This relates to fixed-pie myth and the do-no-harm heuristic (Baron et al., 2006; Kemp, 2007).

What do the results of the regression analyses tell us about the interdependencies between acceptance, economic efficiency, and fairness? Definite causal inference is difficult, but the following hypotheses seem plausible. It is unlikely that economists derive their efficiency judgments from fairness perception, given that economic efficiency can be, at least from an economist's point of view, objectified by economic science. Moreover, the economists' fairness judgments substantially differ from those of the laypeople. Thus, economists clearly do not use the same intuitive heuristics as laypeople when it comes to judging fairness. Rather, economic efficiency, or enlarging the societal pie of economic wealth, may serve as a basis for what is considered to be fair and just by economists (Baron, 2004; Kirchgässner, 2005). For laypeople, teachers and

journalists, the opposite can be assumed. They may use fairness considerations as a heuristic for judging economic efficiency. Fairness judgments do not require much cognitive effort (Haidt, 2001) and most non-economists lack the expertise to comprehensively assess a policy's economic efficiency.

Economic journalists and social studies teachers have not adapted an economist's way of thinking, but apply a lay judgment logic, using fairness as the preponderant judgment criterion. On the other hand, their agreement rates as well as their efficiency and fairness judgments differ significantly from those of the laypeople and partly appear closer to the answers of the economists. How can this puzzling point be explained? From their daily experience, journalists might be more aware of actual implementation issues of the policies, particularly in the second proposal. What is more, teachers and journalists probably have a different understanding of fairness in the context of trade and immigration policies. They might be less prone to parochialism, because they might perceive themselves as more open-minded or cosmopolitan. Thus, they judge pro-immigration or non-protectionist policies as fairer than the average citizen. This also corresponds with their political preferences. The majority of journalists, for example, support moderate left-wing or ecologist parties (Weischenberg et al., 2006) that usually endorse more liberal immigration policies.

We found it important to have a closer look at teachers and journalists because they act as promoters for economic literacy and attitudes towards economic policies. Our results show that teachers, journalists, and laypeople apply a similar judgment logic, which significantly differs from the economist's way of thinking. This suggests that teachers and journalists shape the lay way of reasoning regarding economic policies. The magnitude of their promoter role remains unclear, but some anecdotal evidence from one author's family life may highlight its significance. At the dinner table, one of

the two teenage sons argued that one should not buy clothes if their manufacturing in developing countries involved bad working conditions. His brother objected that many people in the developing world might prefer bad working conditions over no work at all. Interestingly, both brothers founded their opinion on what they had learned in school.

4. Do Economists Have a Fatherland? How Global and National Efficiency Considerations Influence Economists' Policy Judgments

4.1. Introduction

Economists play an important role as policy advisors in modern society, shaping public policy through their work for governments, central banks, and transnational organizations. Policy advisory is not only about applying the findings of economic science to real-world situations, but it requires relating those findings to normative goals—what Colander (1992) describes as "the art of economics". Giving objective policy advice and discerning various normative goals remain a challenge. This challenge has become salient, for example, in the enduring debt crisis in the Eurozone. In July 2012, more than 150 German economists publicized an open letter that criticized political decisions to manage the debt crisis (FAZ, 2012). The letter was vividly discussed in the public and among German economists (e.g., Handelsblatt, 2012), also because economic analysis and normative goals in the letter were difficult to discern. One normative aspect is particularly important in this context: Do economists' views on economic policy imply a norm that favors their home country? Or more figuratively: Do economists have a fatherland?

On the one hand, modern economics develops and tests universally valid theories that are not limited to one country. There is a global research community in economics with a common methodological ground. On the other hand, economics as a discipline evolved as national economics (Greenfeld, 1995; Nakano, 2004), and the first magnum opus of economics explicitly addressed the "wealth of nations" (Smith, 1789). Moreover, even in these days of European

integration and global treaties on free trade or climate protection, most economic policy has basically remained *national* economic policy. Thus, an important question for economists, the general public, and political actors is whether economists are biased toward their home country when judging economic policy, albeit implicitly.

In the present study, we analyzed the extent to which economists' policy judgments were based on national or global economic efficiency considerations. In a telephone survey, 100 German economists were asked to decide how strongly they supported four selected policy proposals and what the economic consequences were for Germany and the world. Our main finding is that economists indeed have a fatherland. National economic efficiency was far more important than global economic efficiency as a judgment criterion. Overall, the national efficiency judgments significantly influenced the acceptance of the policy proposals, but the global efficiency judgments did not. In addition, the important role of national efficiency for a policy proposal's acceptance did not strongly depend on economists' self-assessments of being globally or nationally oriented. This result suggests that economists take a national perspective when judging economic policy, even if they might not be aware of doing so.

4.1.1. How economists judge economic policies

There is a long-standing joke, probably attributable to Paul Samuelson, that one would obtain seven answers when asking six economists for their opinion on an economic policy issue. Although economists regularly disagree on economic policy issues, they tacitly agree on the methodological core of economics. One of its important aspects is that economists generally adhere to consequentialist or utilitarian ethics (Baron, 2004; Sen, 1987). This ethics implies that economic policy measures should be judged based on their economic consequences. Therefore, economists generally support a policy proposal if it fosters economic growth, or more broadly defined, if it

increases the aggregated welfare of individuals (e.g., Kirchgässner, 2005; Stiglitz, 1998). Not surprisingly, studies by Haferkamp et al. (2009) and Jacob et al. (2011b) found that economists base their economic policy judgments mainly on economic efficiency considerations. German economists had been asked to judge various policy interventions, for example, a general minimum wage, a salary cap, or subsidies for businesses exclusively producing in Germany, along different dimensions, such as economic efficiency or fairness.

However, economists do not exclusively focus on economic efficiency when judging different policies. Friedman (1953) suggested that different political views on economic policies can be explained by different positive views, that is, descriptive judgments about economic phenomena and parameters. However, several surveys of economists showed that ideology and different ethical views also play an important role (e.g., de Benedictis & di Maio, 2011; Fuchs, Krueger & Poterba, 1998; Mayer, 2001; Ricketts & Shoesmith, 1992). This is not surprising, given that most policy judgments extend to topics outside the realm of economics, such as disaster aid or organ trade. According to the previously mentioned studies by Haferkamp et al. (2009) and Jacob et al. (2011b), economists additionally consider fairness when judging economic policies, although fairness proves less important than economic efficiency.

In taking the *homo oeconomicus* seriously, economic self-interest should drive economists' policy judgments. General evidence on the selfishness of economists is mixed. Some studies have detected more selfish behavior by economists (e.g., Frank et al., 1993; Frank & Schulze, 2000; Marwell & Ames, 1981). Other scholars could not confirm this conclusion and even observed less selfish behavior (Frey & Meier, 2005; Laband & Beil, 1999; Yezer et al., 1996). In the political context, Caplan (2002) found no evidence for a self-serving bias. Economists did not hold different beliefs on the economy and economic policy because it would increase their material wealth. This

additionally makes sense from a public choice perspective. A single economist does not strongly influence political decisions with her democratic voting decision, nor is the average economist an influential policy advisor. Hence, there is little incentive to have material self-interest drive policy judgments.

In our empirical study, we tested how the three major judgment criteria, economic efficiency, fairness, and self-interest, influenced the acceptance of selected policy proposals. However, it is unclear how broadly economists define who is part of their social welfare maximization calculus, whether just their own country or the whole world. We will turn to this issue in the following subchapter.

4.1.2. Economics and economists: cosmopolitan or nationally oriented?

Economists usually support free trade and liberal immigration policies, most likely because of their positive economic effects (e.g., Alston et al., 1992; Jacob et al., 2011a; Whaples, 2009). According to established economic theory, free exchange generally benefits both countries involved in the exchange, although the benefits may not be equally distributed between the countries or among the individuals within the countries. Hence, economists may approve of free trade and liberal immigration policies in their home country either because of the global economic blessings *(cosmopolitan hypothesis)* or the benefits for the home country *(fatherland hypothesis)*. What has previous research found in support of these two competing hypotheses?

When economists have a clear mandate, for example, as economic advisors of a national government or a global organization, their policy recommendations are likely to follow a respective national or global perspective. Following a national perspective may even be codified as a duty of national economic advisors (e.g., CEA, 2012).

There has been no research on economists' perspectives when they do not have an explicit advisory mandate. However, in their self-understanding as independent and objective scientists, economists should not be guided by any particular interest. This suggests that they follow a global perspective when thinking about economic policy, which would be consistent with the cosmopolitan hypothesis.

Approaching the question more indirectly, economists' personal values and beliefs might play a role in judging economic policy, as mentioned in the previous subchapter. For example, economists with cosmopolitan attitudes may take a more cosmopolitan perspective when judging economic policy. Unfortunately, there are, to the best of our knowledge, no studies surveying these attitudes among economists. To explore cosmopolitanism in the general public, several studies used data from the International Social Survey Programme (Olofsson & Öhman, 2007; Schrock-Jacobson, 2009) or the European Value Survey (Pichler, 2009). These studies identified several sociodemographic factors related to weaker nationalist, stronger cosmopolitan and less protectionist attitudes, including higher education, higher income, residence in urban communities, and some time spent abroad. These attributes are, by and large, typical characteristics of economists. Thus, economists are likely to have a relatively cosmopolitan orientation compared to the general public.

A different indirect approach to our research question lends support to the fatherland hypothesis. Classical economics developed as "national economics". Historically, one motivation for pursuing economic science was to augment national power (Greenfeld, 1995; Helleiner, 2002; Nakano, 2004). Several economic thinkers of the 19th century, such as Friedrich List or Alexander Hamilton, explicitly defined economics as a science aiming to obtain the prosperity of a given nation (Helleiner, 2002; Preparata & Elliot, 1996). According to Greenfeld (1995, p. 581), "nationalism should be seen as, to some extent, an explanation of the emergence of economics". Today, the

traditionally strong role of national states persists and, in most instances, economic policy is still understood as national economic policy. Economists may adapt to this environment by generally supporting policies that increase national economic wealth.

Overall, there are indications for the cosmopolitan hypothesis and the fatherland hypothesis. Beyond those indications, any advanced theory and empirical research on the subject are lacking. The following empirical study is a first step to close this gap because it will allow us to discriminate between the two hypotheses.

4.2. Method

4.2.1. Participants

We conducted a telephone survey of randomly selected German economists between September and November 2011. A telephone survey was preferred to an online survey because response rates are usually higher. In addition, the direct interaction with the interviewee helped to avoid misunderstandings. All interviews were conducted by the same interviewer.

Each potential participant was selected by a three-step process. First, a German university's department of economics or economic research institute was chosen by a weighted sampling procedure: a member of the "Verein für Socialpolitik", Germany's association of economists, was randomly drawn from the member index and the member's academic institution was selected. Second, we decided randomly whether a full professor, a post-doctoral researcher or assistant professor, or a Ph.D. candidate should be interviewed at the selected academic institution. Third, a potential interviewee in the chosen academic position (e.g., a full professor) was randomly selected from all of the individuals with the chosen position (e.g., all full professors) at the selected academic institution.

The potential participants were then contacted via letter or email to schedule an interview. Out of the 149 economists contacted, 100 were available for the interview. We interviewed 34 full professors, 30 post-doctoral researchers or assistant professors, and 36 Ph.D. candidates. The mean age was 37.4 (*SD*=9.3). Our sample contained more male than female economists (female: 19), 68 economists had spent at least one year abroad, and 95 held German citizenship. Because our research design explicitly treats *national* economic policy as *German* economic policy, we removed the 5 participants from the sample that did not hold German citizenship.

4.2.2. Survey design

To determine whether economists support certain policies because of the policies' national or global economic effects, we developed hypothetical policy proposals for the survey that met two criteria.

First, the policy proposals had relevant national and global economic effects. Second, these effects differed at the national and global level. Developing proposals with these restrictions might sound easier than it is. Many national policy interventions do not induce relevant international effects. Even if national policy interventions have international relevance, national and global economic consequences are often similar or at least not antipodal. For example, the abolition of tariffs usually benefits both the national and the foreign trade partners' economies. This type of policy would not allow us to determine statistically whether economists supported the respective policy because of its national or global economic effects.

We drafted 15 policy proposals and tested them with 40 German economists from two German universities. We ranked the proposals based on the two criteria described above. For the following four proposals, we observed strong assessments of national and global economic effects that differed significantly. The proposals were therefore selected for the main study:

(1) All foreigners who want to immigrate to Germany should be allowed to do so.

(2) Germany should actively attract highly qualified foreigners.

(3) Germany should not export any military equipment to other countries.

(4) Germany should significantly reduce its CO_2 emissions even if other countries do not reduce their emissions.

In the main study, we briefly introduced the telephone interviews as a study on general attitudes toward economic policy. Details on the intended comparison of national and global judgments were not given beforehand.

During the interviews, participants first said whether they supported the four selected policy proposals or not. We used a 5-point Likert scale (*1=strongly disagree* to *5=strongly agree* with the mean value *3=Neither disagree nor agree*). To avoid consistency effects, the policy proposals (1) and (2), which both focus on immigration, were not presented consecutively. Instead, proposal (1) was followed by proposal (3) dealing with the export ban on military equipment, followed by proposals (2) and (4).

Subsequently, the respondents were presented the four proposals a second time. They rated the proposals along the dimensions of economic efficiency, fairness, and self-interest, which we had introduced as the most relevant judgment criteria for economic policy in chapter 4.1.1. Again, a 5-point Likert scale was used for all items. Thus, a mean value of M=3.00 in the sample would represent, on average, a neutral assessment. Table 8 gives the exact wording of the questions and scales. Respondents indicated whether they expected positive or negative effects for economic growth and for employment in Germany from the proposed policy. They then assessed the effects on growth and employment worldwide, our measures of economic efficiency. Given that German economic policy may trigger small

effects in the global economy in absolute terms, we specified during the interviews that we were interested in marginal effects. Finally, the respondents were asked to decide whether the policy proposal was fair or unfair and to judge the material consequences for themselves.

Table 8: Phrasing of the items of the policy proposal questions

Dimension	Phrasing of item	Phrasing of scale				
		1	2	3	4	5
Accep-tance	How strongly would you agree with this policy?	Strongly disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Strongly agree
National economic efficiency	Would this policy, in the long run, be positive or negative for employment in Germany?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
	Would this policy, in the long run, be positive or negative for economic growth in Germany?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
Global economic efficiency	Would this policy, in the long run, be positive or negative for employment worldwide?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
	Would this policy, in the long run, be positive or negative for economic growth worldwide?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
Fairness	Would you consider this policy fair or unfair?	Clearly unfair	Rather unfair	Neither fair nor unfair	Rather positive	Clearly fair
Self-Interest	How would you judge the consequences of this policy for yourself or people you feel close to?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive

At the end of the interview, we included the following self-assessment question in the questionnaire: *"Have you answered the questions on the policy proposals from a national German or global perspective?"* We hypothesized that the economists' subjective answers might be associated with how they judge the different policy proposals and their judgment criteria. The questions were again answered on a five-point scale, ranging from *1=clearly German perspective* to *5=clearly global perspective*, with *3=Does not make a difference*.

Additionally, we collected several sociodemographic characteristics. We asked for each respondent's age in years, and we created an ordinal variable for position in the academic hierarchy (full professor=*3*, assistant professor=*2*, Ph.D. candidate=*1*) as well as dummies for gender (*1*=male), East or West German origin (*1*=West German origin), and whether the respondent had spent time abroad (*1*=at least one year spent abroad).

4.2.3. Data aggregation for statistical analysis

Survey participants were asked to judge the effects of the policy proposals on economic growth and employment in Germany and globally. Because both dimensions refer to economic effects, we integrated the answers to those two questions into one economic efficiency scale by calculating their mean. Integrating the two into one scale was feasible because the answers to the two questions on economic effects were highly consistent. The Pearson coefficients of the two items across all policy proposals ranged between ρ=0.66 and ρ=0.87. The Cronbach's Alphas, regularly used to assess the reliability of a psychometric scale, ranged from a=0.79 to a=0.93. Thus, we created one national economic efficiency variable and one global economic efficiency variable for each of the four policy proposals.

4.3. Results

4.3.1. Judgments of the policy proposals: descriptive results

Our results show that economists do not hold homogeneous views on the selected policy proposals (see Table 9). However, some general patterns can be identified.

Economists were skeptical about allowing the unrestricted immigration of foreigners into Germany (mean acceptance rating *M*=2.33; *SD*=1.08). In addition, most economists expected negative effects for the German economy from this policy measure (*M*=2.68; *SD*=0.96). The potential effects for the global economy, however, were estimated more positively (*M*=3.53; *SD*=0.74). The difference between the mean ratings of national and global economic effects proved highly significant (*t*=8.16; *p*<0.01). Regarding the fairness dimension, respondents perceived the unrestricted immigration of foreigners as slightly more fair than unfair (*M*=3.33; *SD*=0.93). Personal consequences for own well-being were assessed neutrally on average (*M*=2.99; *SD*=0.75).

The patterns are different for policy proposal (2), which likewise focuses on immigration. The proposal to actively attract highly qualified foreigners to Germany reflects a shortage of skilled labor, which several economists forecast for Germany in the near future. The economists strongly supported this proposal (*M*=4.32; *SD*=0.83). In contrast to policy proposal (1) (all foreigners are allowed to immigrate), a majority of the economists expected positive consequences for the German economy (*M*=4.41; *SD*=0.65) if highly qualified foreigners were actively attracted to Germany, but significantly less so for the global economy (*M*=3.44; *SD*=0.68, with *t*=11.24; *p*<0.01, when comparing the means). Fairness was evaluated positively on average (*M*=3.61; *SD*=0.97), as were the consequences for own material well-being (*M*=3.38; *SD*=0.76).

Table 9: Descriptive statistics of acceptance ratings and all judgment criteria

Sample size N=95	Means *(Standard Deviations)*				
Policy Proposal	Acceptance	National efficiency	Global efficiency	Fairness	Self-interest
(1) All foreigners allowed to immigrate	2.33 *(1.08)*	2.68 *(0.96)*	3.53 *(0.74)*	3.33 *(0.93)*	2.99 *(0.75)*
(2) Attract highly qualified foreigners	4.32 *(0.83)*	4.41 *(0.65)*	3.44 *(0.68)*	3.61 *(0.97)*	3.38 *(0.76)*
(3) An export ban on military equipment	2.66 *(1.23)*	2.21 *(0.74)*	3.53 *(0.74)*	3.24 *(1.13)*	3.15 *(0.58)*
(4) A unilateral CO_2 emissions reduction	3.75 *(1.02)*	3.04 *(0.95)*	3.31 *(0.68)*	3.45 *(1.05)*	3.40 *(0.76)*

Now, we turn to the remaining policy proposals (3) and (4). A minority of the economists felt that a complete export ban on military equipment would be appropriate (M=2.66; SD=1.23). With Germany being the third largest exporter of military goods worldwide (SIPRI, 2012), the German defense industry is not negligible. Consequently, the economic consequences of an export ban for Germany were assessed negatively (M=2.21; SD=0.74). Global economic effects, on the contrary, were seen positively on average (M=3.53; SD=0.74). This difference between national and global economic efficiency judgments was clearly significant (t=12.16; p<0.01). The policy proposal was perceived as slightly more fair than unfair (M=3.24; SD=1.13), but the relatively high standard deviation indicates that the policy proposal was controversial from a normative point of view. On the self-interest dimension, there were no clear indications for strong positive or negative effects (M=3.15; SD=0.58).

Germany has traditionally taken a leading role in global climate policy and pursues more ambitious CO_2 emission reduction targets than most other large countries (WWF European Policy Programme, 2012). Economists generally endorsed a policy to unilaterally reduce CO_2 emissions in Germany (M=3.75; SD=1.02). The economic consequences for Germany, however, are evaluated ambiguously (M=3.04; SD=0.95). Alternatively, the economists estimated the global

economic effects of a unilateral German emissions reductions slightly more positively (*M*=3.31; *SD*=0.68 with *t*=3.32; *p*<0.01, when comparing the means). They perceived the policy proposal to be fair (*M*=3.45; *SD*=1.05) and positive for their well-being (*M*=3.40; *SD*=0.76).

It is noteworthy that the average acceptance and national efficiency ratings for each policy proposal are very similar. The patterns for global efficiency, fairness, and self-interest, however, are less clear. In the following subchapter, we analyze to what extent the different judgment dimensions can explain the variation in the economists' acceptance ratings.

4.3.2. National or global efficiency? An explanatory model

We explored whether economists base their policy judgments on assumed national or global economic effects. We therefore developed the following model explaining how economist *i* derives the acceptance rating of a selected policy proposal:

$$\begin{aligned} Acceptance_i &= \beta_0 + \beta_1 NationalEfficiency_i + \beta_2 GlobalEfficiency_i + \\ &+ \beta_3 Fairness_i + \beta_4 SelfInterest_i + u_i; \qquad i = 1,\ldots,n \end{aligned} \tag{M0}$$

We assumed that an economist *i* reverts to four major judgment criteria when evaluating a policy proposal: national economic consequences (*national efficiency*), global economic efficiency (*global efficiency*), perceived *fairness*, and *self-interest*. Large *national efficiency* coefficients would be consistent with the fatherland hypothesis, while large *global efficiency* coefficients would support the cosmopolitan hypothesis.

In model version M1, we added a vector x'_i of sociodemographic characteristics:

$$\begin{aligned} Acceptance_i &= \beta_0 + \beta_1 NationalEfficiency_i + \beta_2 GlobalEfficiency_i + \\ &+ \beta_3 Fairness_i + \beta_4 SelfInterest_i + \beta_5 x'_i + u_i; \qquad i = 1,\ldots,n \end{aligned} \tag{M1}$$

Given that we were primarily interested in the general magnitude of the effects, the simple linear model with OLS was appropriate. The usual assumptions regarding the properties of the error term u_i apply.

As the answers to the four different policy proposals could not be integrated into one scale, we conducted four separate linear regressions for each of the four policy proposals. We checked for multicollinearity in advance based on Variance Inflation Factor and Condition Number. Bivariate correlations between the independent variables were moderate. Moreover, the relatively moderate correlations between the national and the global efficiency variables (between .0 and .5) suggest that the national and global consequences of the four policy proposals were not judged congruently. Independent judgments of national and global economic effects allow us to differentiate between the fatherland and the cosmopolitan hypotheses and therefore represent a precondition for a meaningful interpretation of the estimation results.

4.3.3. National or global efficiency? Estimation results

One clear pattern emerges across all four policy proposals: national economic effects are more important than global economic effects for the acceptance of a policy proposal (see Table 10 for complete results). This clearly supports the *fatherland hypothesis* implying that economists support a certain policy because of its positive economic effects for the home country. Although the parameter estimates differ between the policy proposals in absolute size, the regression coefficients of *national efficiency* are consistently larger than those of *global efficiency*. The *global efficiency* parameter is close to zero and is not statistically significant in three of the four regressions. For policy proposal (2) (attract highly qualified foreigners), the *global efficiency* parameter even reaches a significant negative value (β_2=-0.278; p<.01). However, given the non-existent bivariate correlation between

acceptance and *global efficiency* (ρ=-.117; p=.24), this value should be interpreted carefully.

Table 10: Results of linear regressions of judgment criteria on acceptance ratings

Sample size N=93	Coefficients (*Standard errors)*	(1) All foreigners allowed to immigrate	(2) Attract highly qualified foreigners	(3) An export ban on military equipment	(4) A uni-lateral CO_2 emissions reduction
M0	constant	-0.208 *(0.574)*	1.359* *(0.561)*	-0.479 *(0.856)*	0.665 *(0.513)*
	NationalEfficiency	0.394** *(0.116)*	0.613** *(0.112)*	0.176 *(0.144)*	0.340** *(0.113)*
	GlobalEfficiency	-0.048 *(0.132)*	-0.278** *(0.101)*	-0.020 *(0.141)*	0.119 *(0.163)*
	Fairness	0.382** *(0.106)*	0.298** *(0.073)*	0.554** *(0.103)*	0.202* *(0.099)*
	SelfInterest	0.121 *(0.140)*	0.036 *(0.094)*	0.327 *(0.201)*	0.280* *(0.126)*
	Adj. R^2	.332**	.396**	.366**	.356**
M1	constant	0.745 *(0.787)*	1.062 *(0.673)*	0.419 *(1.016)*	1.128 *(0.666)*
	NationalEfficiency	0.387** *(0.120)*	0.645** *(0.127)*	0.165 *(0.153)*	0.320** *(0.119)*
	GlobalEfficiency	-0.054 *(0.130)*	-0.314** *(0.103)*	-0.027 *(0.143)*	0.162 *(0.166)*
	Fairness	0.392** *(0.106)*	0.308** *(0.072)*	0.530** *(0.109)*	0.207* *(0.102)*
	SelfInterest	0.074 *(0.140)*	0.053 *(0.094)*	0.383 *(0.208)*	0.254 *(0.133)*
	Age	-0.019 *(0.014)*	0.018 *(0.010)*	-0.011 *(0.016)*	-0.011 *(0.013)*
	AcademicPos	-0.064 *(0.160)*	-0.144 *(0.115)*	0.042 *(0.181)*	0.079 *(0.147)*
	Gender	0.014 *(0.245)*	-0.196 *(0.185)*	-0.415 *(0.290)*	-0.351 *(0.234)*
	EastWest	0.212 *(0.307)*	-0.227 *(0.240)*	-0.110 *(0.359)*	0.285 *(0.299)*
	TimeAbroad	-0.315 *(0.192)*	0.283* *(0.147)*	-0.280 *(0.225)*	-0.137 *(0.191)*
	Δ R^2 to M1	.057	.055	.033	.034

*p<.05; **p<.01

In contrast, *national efficiency* is the most important and a statistically highly significant predictor of the acceptance rating for three of the four policy proposals. The coefficients reach values of β_1=0.394 (p<.01) for policy proposal (1) (all foreigners allowed to immigrate), β_1=0.613 (p<.01) for proposal (2) (attract highly qualified foreigners) and β_1=0.340 (p<.01) for proposal (4) (a unilateral CO_2 emissions reduction). If, for example, economists' national efficiency judgments of attracting highly qualified foreigners to Germany vary by one point on the 5-point Likert scale, their acceptance ratings should, on average, differ by approximately 0.6 points. Only in explaining the acceptance of an export ban on military equipment (policy proposal (3)) does *national efficiency* not play a significant role (β_1=0.176; p=0.22).

From past research, we expected that economists primarily focused on economic efficiency considerations, but *fairness* should represent an important secondary factor. In fact, perceived fairness is a significant predictor of the acceptance rating in all four regressions. The *fairness* parameter is particularly important for policy proposal (3), suggesting an export ban on military equipment (β_3=0.554; p<0.01). In the other policy proposals, *fairness* coefficients are smaller in size than the *national efficiency* coefficients, but the *fairness* coefficients are still highly significant in policy proposals (1) and (2) that focus on immigration policy (β_3=0.382; p<0.01 and β_3=0.298; p<0.01) and in policy (4), which proposes unilateral CO_2 emissions reductions (β_3=0.202; p=0.04).

As expected, *self-interest* did not represent a major judgment criterion in our survey. The *self-interest* coefficients are, on average, smaller than the *national efficiency* or *fairness* coefficients and are not statistically significant in three of the four regressions. The only exception was policy proposal (4), the unilateral reduction of CO_2 emissions (β_4=0.280; p=0.03).

The statistical patterns of *national efficiency*, *global efficiency*, *fairness*, and *self-interest* did not change when sociodemographic characteristics were included in the regressions (model M1). The level of determination R^2 did not significantly increase from M0 to M1, and the regression coefficients for age, academic position, gender, West vs. East German origin, and time spent abroad did not add significant explanatory value to the model.

4.3.4. The role of the globally or nationally oriented self-assessment

At the end of the survey, we asked German economists whether they had taken a German or a global perspective when judging the policy proposals. While 24% of the respondents indicated a German perspective, 19% held a global perspective in the survey. More than half of the economists, however, responded that this self-categorization would not make any difference for their policy judgments.

We hypothesized that taking a national or global perspective (variable *PerspGlobal*) may interact with the economic efficiency judgments in explaining the acceptance of the policy proposals. The economists with a national perspective might place a stronger emphasis on the national economic effects than the economists with a global perspective. The globally oriented economists might focus on global economic effects. Hence, the national efficiency parameter should be larger for nationally oriented economists, which should be indicated by a significant and relevant interaction term in the regression analysis. In the first step (model M2), the self-assessment variable *PerspGlobal* was introduced to the basic explanatory model. In the second step, interactions of *PerspGlobal* with either the *global efficiency* variable (model M3a) or *national efficiency* (model M3b) were added:

$$Acceptance_i = \beta_0 + \beta_1 NationalEfficiency_i + \beta_2 GlobalEfficiency_i + \beta_3 Fairness_i + \\ + \beta_4 SelfInterest_i + \beta_5 PerspGlobal_i + \beta_6 PerspGlobal_i * GlobalEfficiency_i + u_i;$$

$$i = 1,..., n \qquad \textit{(M3a)}$$

$$Acceptance_i = \beta_0 + \beta_1 NationalEfficiency_i + \beta_2 GlobalEfficiency_i + \beta_3 Fairness_i + \\ + \beta_4 SelfInterest_i + \beta_5 PerspGlobal_i + \beta_6 PerspGlobal_i * NationalEfficiency_i + u_i;$$

$$i = 1,..., n \qquad \textit{(M3b)}$$

As suggested by Cohen, Cohen, West, and Aiken (2003), all independent variables were centered on their means to avoid multicollinearity in the interaction terms. The centering procedure changed the constant terms β_0, (cf. Tables 10 and 11) but did not bias the parameter estimates. Again, each of the four policy proposals was analyzed separately.

Overall, economists' self-assessments are of little importance in the judgments of the policy proposals. Taking a national or a global perspective did not considerably change the acceptance ratings (Table 11, M2). None of the four regression coefficients of *PerspGlobal,* ranging from β_5=0.008 (p=0.94) for proposal (4) (a unilateral CO_2 emissions reduction) to β_5=0.216 (p=0.08) for proposal (1) (all foreigners allowed to immigrate), proved highly significant. The same is true for the interaction parameters of *PerspGlobal* with *global efficiency* (M3a). Apparently, the economists' self-assessments as nationally or globally oriented did not significantly influence the importance that economists attached to the global efficiency judgment. The role of the self-assessments for explaining the acceptance of the different policy proposals remained very limited.

For the national efficiency judgment, the results are similar, although less clear. For three out of four policy proposals, *PerspGlobal* did not significantly change the importance of *national efficiency* for the acceptance of the policy proposals (M3b).

Table 11: Results of linear regressions including interaction effects

Sample size N=94	Coefficients (*Standard errors)*	1. All foreigners allowed to immigrate	2. Attract highly qualified foreigners	3. An export ban on military equipment	4. A uni-lateral CO_2 emissions reduction
M2 – Base model with main effect national vs. global perspective	constant	2.337** *(0.089)*	4.318** *(0.068)*	2.676** (0.101)	3.731** *(0.084)*
	NationalEfficiency	0.346** *(0.117)*	0.617** *(0.115)*	0.176 *(0.143)*	0.344** *(0.113)*
	GlobalEfficiency	-0.061 *(0.131)*	-0.271* *(0.104)*	-0.046 *(0.143)*	0.108 *(0.165)*
	Fairness	0.366** *(0.106)*	0.275** *(0.074)*	0.542** *(0.103)*	0.202* *(0.099)*
	SelfInterest	0.176 *(0.139)*	0.003 *(0.096)*	0.350 *(0.197)*	0.275* *(0.125)*
	PerspGlobal	0.216 *(0.122)*	0.032 *(0.089)*	0.123 *(0.136)*	0.008 *(0.114)*
	Adj. R^2	.351**	.360**	.367**	.352**
M3a – Model with global efficiency interaction	constant	2.326** *(0.091)*	4.319** *(0.068)*	2.698** *(0.102)*	3.742** *(0.086)*
	NationalEfficiency	0.334** *(0.119)*	0.620** *(0.116)*	0.136 *(0.147)*	0.339** *(0.114)*
	GlobalEfficiency	-0.066 *(0.132)*	-0.295** *(0.112)*	-0.018 *(0.144)*	0.113 *(0.165)*
	Fairness	0.366** *(0.107)*	0.276** *(0.075)*	0.553** *(0.103)*	0.204* *(0.099)*
	SelfInterest	0.179 *(0.140)*	0.011 *(0.097)*	0.393 *(0.199)*	0.269* *(0.126)*
	PerspGlobal	0.227 *(0.124)*	0.035 *(0.090)*	0.106 *(0.137)*	-0.009 *(0.116)*
	PerspGlobal * GlobalEfficiency	0.094 *(0.144)*	-0.082 *(0.143)*	-0.204 *(0.167)*	-0.128 *(0.169)*
	Δ R^2 to M2	.003	.002	.010	.004
M3b – Model with national efficiency interaction	constant	2.341** (0.092)	4.308** (0.062)	2.675** (0.100)	3.731** (0.085)
	NationalEfficiency	0.343** (0.118)	0.603** (0.105)	0.160 (0.142)	0.334** (0.115)
	GlobalEfficiency	-0.055 (0.135)	-0.240** (0.095)	-0.005 (0.142)	0.113 (0.166)
	Fairness	0.366** (0.107)	0.192** (0.070)	0.549** (0.102)	0.203* (0.099)
	SelfInterest	0.179 (0.141)	-0.084 (0.090)	0.313 (0.195)	0.273* (0.126)
	PerspGlobal	0.218 (0.123)	0.006 (0.082)	0.166 (0.136)	0.002 (0.115)
	PerspGlobal * NationalEfficiency	-0.027 (0.137)	-0.543** (0.124)	0.366 (0.197)	-0.063 (0.104)
	Δ R2 to M2	.000	.108**	.023	.003

*p<.05; **p<.01

Whether economists held a national or a global perspective, the national efficiency rating remained a robust and important judgment criterion for a policy proposal's acceptance.

Only for policy proposal (2) are the results different. When thinking about actively attracting highly qualified foreigners to Germany, national economic effects were clearly less important for economists with a global perspective than for nationally oriented economists. This difference was indicated by a significant increase of R^2 (p<0.01) from M2 to M3b and by the highly significant and sizeable interaction coefficient in the regression (β_6=-0.543; p<0.01). However, this result did not, in return, lead to a stronger role for the global efficiency judgment for globally oriented economists (cf. M3a).

4.4. Discussion

Our study explored if economists base their views on economic policy on global economic effects *(cosmopolitan hypothesis*) or on national economic effects (*fatherland hypothesis*). Therefore, we conducted a telephone survey with 100 economists from German academia and asked them to judge four hypothetical policy proposals along different dimensions.

Overall, the *fatherland hypothesis* received strong empirical support. Judgments of national economic effects were, by and large, the most important predictor for the acceptance of the policy proposals. Global economic efficiency considerations, in contrast, did not exert a significant positive effect on the acceptance ratings. In addition, in three out of four policy proposals, the importance of the national and global economic efficiency judgments for the policies' acceptance did not depend on the economists' self-assessments as nationally or globally oriented.

Our results suggest that economists implicitly take a national perspective when they are asked to evaluate national economic policy. This bias appears natural when economists have a clear mandate, for example, as national economic advisors. However, this finding is robust in our study, where there was no explicit national framing. Economists were asked to disclose their personal opinion and had been free to choose a national, European, or global perspective on the policy proposals. The bias toward the home country in the policy judgments seems to be rather implicit, however, and economists may not be fully aware of it. Even economists who reported that they had taken a global perspective in the survey based their policy judgments primarily on national, and not on global, efficiency considerations. Their answer patterns did not strongly differ from those of the respondents who had reported a national perspective. The partly implicit bias toward the home country may be explained by a "national priming" that economists experience throughout their lives. They may feel attached to their home country, which influences political attitudes.

We additionally asked the survey participants whether they perceived the different policy proposals as positive or negative for themselves and as generally fair or unfair. Self-interest did not exert a strong effect on the acceptance of the policy proposals, as we had expected based on past research. The direct economic consequences of the policy proposals for a single economist are rather limited anyway.

Perceived fairness, on the other hand, emerged as a significant and important judgment criterion in three of the four policy proposals. At first, this finding is surprising. Economists usually are at odds with the concept of fairness because it is not analytically precise. Fairness norms are hard to operationalize and including them in economic models makes models more complex and less parsimonious (Akerlof, 2007). Past studies with economists showed that fairness is only of minor importance as a judgment criterion for economic policy but

highlighted that fairness is not completely neglected (Haferkamp et al., 2009; Jacob et al., 2011b; Rubinstein, 2006). One explanation for the more important role of fairness in our study is that, in contrast to previous studies, we selected policy proposals that did not exclusively relate to economic phenomena. The policies evoked more general considerations, including ethical ones. Even very rigorous economists likely do not judge an export ban on military equipment from a purely economic efficiency perspective. Correspondingly, the national and global efficiency parameters for the respective policy proposals did not prove significant.

What qualifications should be made regarding the validity of our results? One important methodological challenge is that the economic consequences of the selected policy proposals might have been difficult to evaluate, particularly the global consequences. The potential implications of the policies were rather complex and additional assumptions had to be made to derive clear conclusions. What is more, unilateral changes in German economic policy might have little effect on the global economy. To address this point, we specified during the interviews that we were interested in marginal effects. Besides, economic effects are not necessarily negligible. For example, Germany is the world's third largest exporter of military goods. Regarding climate policy, Germany maintains an important position in energy generation from renewable sources as well as in climate policy debates and may serve as a role model for other countries. Nevertheless, the global economic effects of the policy proposals might have been difficult to predict and might be less cognitively available. However, these difficulties do not corrupt our main conclusion. If economists with clearly cosmopolitan views were confronted with policy proposals whose global economic effects they evaluated ambiguously or negligibly, they should have shied away from a clear decision to agree or not to agree with the policy proposal. However, most economists pronounced a clear opinion. The share of

economists choosing the middle option “neither agree nor disagree” ranged from only 7 to 26% across the four policy proposals.

Another qualification concerns the generalizability of our results. Our study focused on German economists and does not allow for conclusions for the entire economic profession. Data from the European Social Survey suggest that economists’ personal values are more homogeneous than personal values in the general population (Lucey & Delaney, 2007), but their sample size (*N*=67 for all countries) does not allow cross-country comparisons. The few existing cross-country surveys of economists compare views on issues of primary economic interest (e.g., Frey, Pommerehne, Schneider & Gilbert, 1984), but not on national attachment or patriotism. In general, national attachment and a focus on the interests of own country is not limited to Germany and German economists. From surveys in the general population, we know that Germans feel less attached to their nation and have less nationalist attitudes than citizens of most other developed countries (Shulman, 2002). Whether economists from other countries show a weaker or a stronger bias toward their home country when judging economic policy remains speculative, however.

To further substantiate our findings, future research should not exclusively focus on national economic policy proposals and their effects in one country. Instead, European or global policy arrangements could be selected. Alternatively, the effects of a certain policy’s implementation in the home country and its neighboring country could be contrasted. Cross-country comparisons would also be desirable.

The economist bias toward home country that we detected may be comforting for national politicians seeking economic advice. In international contexts, more prudence regarding the objectivity of economists may be well advised. Certainly, our results do not suggest that economists are nationally biased in every context. Economists

may be able to switch to an international perspective if they, for example, act as policy advisors for an international organization. However, there remains some doubt whether a German economist and a Greek economist would come to the same conclusions when analyzing the ongoing sovereign debt crisis in the Eurozone and developing appropriate policy recommendations. They might disagree for positive reasons, for example, because they have access to different information or use different assumptions in their models. Alternatively, their conclusions might differ because they just have different fatherlands.

5. Economists Are Human, Too. How Economic Experts and Laypeople Think about Immigration Policies, CO_2 Emissions Reduction, and Military Exports

5.1. Introduction

If you ask a random person on the street in Germany whether he or she supports a minimum wage, the most frequent answer will be, "Yes, I do, because everyone should be able to make a decent living from what he earns." If you ask an economist the same question, you will most likely hear the answer, "No, I don't, because it will reduce labor supply, employment, and economic wealth." (German Council of Economic Experts, 2008, p. 334ff; Haferkamp et al., 2009). Apart from the empirical question of whether the economist's argument is actually true, the two answers reveal two different ways of reasoning about economic policy. Economic laypeople base their decisions on a general justice principle or on what they deem to be fair. Economic experts consider the potential economic consequences of the policy or, more simply, economic efficiency. Studies by Haferkamp et al. (2009) and Jacob et al. (2011b) have shown this dichotomy in judgments about various labor market, trade and immigration policy proposals. Further evidence about the differences between economists and laypeople is manifold (e.g., Blendon et al., 1997; Caplan, 2002; Frey, 1986; Henderson, 1986).

However, things are not always as clear as in the minimum wage example, where economists voice a firm opinion based on efficiency considerations, which clearly conflicts with the lay perspective. What about relevant political issues that involve strong non-economic or ethical considerations, such as immigration policy, CO_2 emissions reduction, or military exports? From surveys conducted with

economists, we know that economists' political views are influenced by different value judgments and that the variance in their answers increases if the political issues discussed involve ethical concerns (Fuchs et al., 1998; Ricketts & Shoesmith, 1992). In the end, economists are still human, not purely utilitarian materialists.

In our study, we aim to discover how economists judge three national policy proposals dealing with the immigration of highly qualified foreigners, CO_2 emissions reduction, and an export ban on military equipment. Does the typical consequentialist way of reasoning about economic policy issues persist among economists, or do they apply judgment logic that is similar to the logic laypeople apply? How do economists judge policies if a recommendation based on economic analysis is either unavailable because of the novelty of the issue or inappropriate because of ethical concerns?

Based on two telephone surveys, we contrasted the views of economists and laypeople on the selected policy proposals. Survey participants had to reveal whether they accepted the policy proposals and whether they judged the proposals to be economically efficient, fair, and good for their self-interests. We start with a brief review of the research on the general differences between the economic policy judgments of economic experts and laypeople. Subsequently, we present what economic research says about the immigration of highly qualified foreigners, CO_2 emissions reduction, and exports of military equipment. This introduction into the topic is followed by the empirical part of the article.

5.1.1. Why economists and non-economists are different

Numerous studies show that professional economists and non-economists, or economic laypeople, think differently about economic phenomena and economic policy (e.g., Baron & Kemp, 2004; Blendon et al., 1997; Caplan, 2002; Frey, 1986; Haferkamp et al., 2009; Henderson, 1986; Jacob et al., 2011b). For example, in a study on

labor market interventions in Germany by Haferkamp et al. (2009), 74% of laypeople supported a nationwide minimum wage and 75% supported a legal salary cap, but only 15% and 6%, respectively, of the economists did.

Several reasons for these differences can be identified.

First, laypeople do not possess expert knowledge about economic facts and basic economic principles (Caplan, 2003; Walstad & Larsen, 1993; Walstad, 1997). They misjudge basic economic mechanisms, such as the long-term effects of economic growth (Christandl & Fetchenhauer, 2009) or the macroeconomic consequences of economically relevant and irrelevant events (Roos, 2007b).

Second, the perception of economic phenomena is affected by cognitive heuristics and biases. Heuristics and simple psychological algorithms often lead to surprisingly accurate inferences and decisions (Gigerenzer & Goldstein, 1996, Todd & Gigerenzer, 2003). In the context of judgments about economic policy, however, they are also prone to systematic biases (for overviews, see Baron et al., 2006; Caplan, 2007; Rubin, 2003). For example, people tend to follow the fixed-pie myth (Baron et al., 2006), believing that the economy is a zero-sum game. They assume, for example, that immigrants take jobs away from locals, assuming that the total number of jobs in a country is fixed. This conclusion is generally refuted by economic science.

Third, economists and laypeople apply different criteria when evaluating economic policies. On the one hand, fairness plays a preponderant role for laypeople. Policy measures are judged in light of general principles and norms, such as procedural and distributive justice (Tyler, 1994). In the economic policy context, Haferkamp et al. (2009) showed the high importance of fairness considerations in the approval of labor market policies, such as a minimum wage or a legal salary cap. Professional economists, on the other hand, focus on economic efficiency considerations (Haferkamp et al., 2009; Jacob et

al., 2011b, Kirchgässner, 2005; Stiglitz, 1998). They primarily judge economic policy measures based on their economic consequences, for example, the additional national economic wealth created by jobs, even low-paying jobs.

Overall, many of the differences between economists and laypeople can be explained by the specific way of thinking that economists apply. They use their scientific expertise to assess the expected material consequences of a certain policy proposal and decide accordingly.

However, the literature does not suggest that economists are *homines oeconomici* in the strict sense of their own models. Several surveys of economists have shown that ideology and different ethical views also play an important role in the judgment of economic policies (e.g., de Benedictis & di Maio, 2011; Fuchs et al., 1998; Mayer, 2001; Ricketts & Shoesmith, 1992). According to studies by Haferkamp et al. (2009) and Jacob et al. (2011b), economists consider fairness when they judge economic policies, although fairness was clearly a less important judgment criterion than economic efficiency.

Furthermore, economists do not appear to be more selfish than laypeople. Although some studies have detected more selfish behavior by economists (e.g., Carter & Irons, 1991, Frank et al., 1993; Frank & Schulze, 2000; Marwell & Ames, 1981), other scholars observed less selfish behavior in various situations (Frey & Meier, 2005; Laband & Beil, 1999; Yezer et al., 1996). The studies by Haferkamp et al. (2009) and Jacob et al. (2011b) did not detect an important influence of self-interest as a judgment criterion for economic policy for economists or laypeople.

Finally, the personal values (cf. Schwartz, 1994) of economists differ only slightly from the values shared by the average population, as studies by Lucey and Delaney (2007) and Gandal, Roccas, Sagiv, and Wrzesniewski (2005) have shown.

Do the similarities between economists and laypeople result in more similar policy judgments if the policy proposals are less related to mainstream academic economics and involve ethical considerations? Before answering this research question, we will discuss how economists generally think about the three policy proposals we selected for our study.

5.1.2. What economic research says about immigration, CO_2 emissions reduction, and military exports

The aim of our survey was to confront economists with policy proposals that involve ethical considerations and that are difficult to judge by simply relying on textbook knowledge of economics. Therefore, we selected three hypothetical policy proposals from the domains of immigration, climate policy, and security policy:

(1) Germany should actively attract highly qualified foreigners.

(2) Germany should significantly reduce its CO_2 emissions even if other countries do not reduce their emissions.

(3) Germany should not export any military equipment to other countries.

To what extent are these issues covered by economic science and economic policy analysis? What do economists recommend regarding these issues?

To answer these questions, we searched the leading economics research database "Econlit" and the annual reports of the "Sachverständigenrat", the German Council of Economic Experts (GCEE), from the past 10 years for references to immigration of skilled labor, climate policy, and exports of military equipment (reflecting the three selected policy proposals).

With the general keyword "immigration," Econlit produced more than 4,000 results. For "immigration policy," there were 587 hits, and the combined search of "immigration" and "skilled labor" still yielded 409

results. These results indicate that immigration is recognized as a relevant issue and is well-covered in the economics literature. The GCEE discussed immigration policy or the shortage of skilled labor in 3 out of 10 recent annual reports. The members of the GCEE recommend the immigration of highly qualified foreigners to remedy the shortage of skilled labor, which experts have diagnosed in certain industries in Germany (GCEE 2007, p.359; GCEE 2001, p.104ff). Generally, there is a consensus among economists that the immigration of highly qualified workers has positive economic effects for the receiving country (e.g., OECD 2002, Storesletten, 2000).

CO_2 abatement is a relatively new research topic, at least in the field of economics, but its importance is rising quickly. The keyword "emissions reduction" was associated with 684 entries, and the combination of "emissions reduction" and "economic growth" yielded 128 results. The GCEE covered energy policy and CO_2 emissions reduction in only 1 of 10 recent annual reports. The authors of the report are skeptical that Germany or the European Union should play a pioneering role in climate protection, which would imply ambitious unilateral targets to reduce CO_2 emissions (GCEE 2011, p.241ff). There might be some efficiency gains from investing in more CO_2-efficient technologies, and a study by Tiwari (2011) even detected that having a higher share of renewable energy sources had a positive effect on economic growth. However, the significant cost burden for energy-intensive industries is believed to result in negative economic effects. In addition, in the view of economic theory, unilateral emissions reductions lead to a "crowding-out". They reduce the reduction efforts of other countries, diminishing the positive effects for the global climate (Feld, Konrad & Thum, 2011; Sinn, 2008). Therefore, economists do not recommend unilateral emissions reductions, at least not in the long-term.

The economic consequences of export restrictions on military equipment do not receive substantial attention in economic research.

Of the various search terms we used, the combined keywords “military” and “export” yielded the highest number of results: 117. In the last 10 GCEE reports, arms exports and the role of the defense industry have not been mentioned. Two reasons for this lack of attention can be identified. First, the overall importance of the defense industry for the national economy might be considered negligible. This is only partly true. Military exports amounted to approximately 1% of the German gross domestic product in 2010 (Federal Ministry of Economics and Technology, 2011). However, Germany is the third-largest exporter of military equipment in the world, with a market share of approximately 10% (SIPRI, 2012). A second reason is put forward in one of the few economic papers on the arms trade itself. Trading in military equipment is considered controversial because of its moral, military, and political dimensions (Levine & Smith, 1997). Most likely, economists are aware of these considerations when evaluating exports of military equipment.

Overall, the intensity of coverage of these issues in the economic literature declines from the first to the third policy proposal. In parallel, the need for ethical considerations increases. For these two reasons, we expect that economists’ policy judgments will become more similar to laypeople’s judgments from the first to the third policy proposal.

Regarding the first reason, the less a topic is covered by mainstream economics, the less likely it is that economists will be able to apply economic expertise. Reasons for sparse coverage in the economics literature could be the sheer complexity of the issue, which makes clear and reliable recommendations difficult, or the novelty of the research topic. For example, labor economics has a longer history and offers a wider array of theories and empirical studies than climate economics. Therefore, on average, labor market issues should be more routinely judged based on findings from economics than climate policy issues.

Regarding the second reason, the more a policy issue involves ethical considerations, the less economists will judge it purely on its economic effects. Politics always has a moral dimension, although its importance differs for each case and may be debatable. Even if a clear-cut economic analysis is available, an issue such as emergency relief after an earthquake in a developing country will not be decided based purely on economic considerations.

To summarize, we hypothesize that the less policy issues are analyzed and discussed based on the findings of economic science, the less economists' views on those policy issues will differ from the views of laypeople.

5.2. Method

5.2.1. Participants

To compare the views of *economists* and *laypeople*, we conducted two parallel telephone surveys between September and November 2011. Telephone surveys were chosen instead of online surveys because their response rates are usually higher, and a representative sample is easier to achieve. In addition, direct interaction with the interviewees helps to avoid misunderstandings.

In the first survey *(economists)*, we interviewed academics from German university departments of economics or economics research institutes (N=100). The participants were randomly selected in a three-step process. First, a German university's department of economics or economic research institute was chosen by a weighted sampling procedure: a member of the "Verein für Socialpolitik", Germany's association of economists, was randomly drawn from the member index, and the member's academic institution was selected. Second, we decided randomly whether a full professor, a post-doctoral researcher or assistant professor, or a Ph.D. candidate

would be interviewed at the selected academic institution. Third, a potential interviewee in the chosen academic position (e.g., a full professor) was randomly selected from all of the individuals with the chosen position (e.g., all full professors) at the selected academic institution. The potential participants were then contacted via letter or email to schedule an interview. Out of the 149 economists contacted, 100 were available for the interview. We interviewed 34 full professors, 30 post-doctoral researchers or assistant professors, and 36 Ph.D. candidates. Most participants were German citizens (*N*=95); 19 were female; the mean age was 37.4 (*SD*=9.3).

In the second survey *(laypeople)*, we interviewed randomly selected adults over the age of 18 (*N*=100). The potential participants were selected based on randomly generated German telephone numbers. Out of the 620 candidates contacted by phone, 100 were available for the interview. The vast majority of the participants were German citizens (*N*=91); 51 were female; the mean age was 45.3 years (*SD*=17.9). More than a third of the participants (*N*=38) had successfully completed a college or university education. No professional economists were included in the sample of laypeople.

5.2.2. Survey procedure and data aggregation for statistical analysis

Both respondent groups were presented the same three policy proposals that addressed the immigration of highly qualified foreigners, CO_2 emissions reduction, and military exports, as stated in the introductory section. During the telephone interviews, participants first had to disclose whether they supported the three policy proposals or not. We used a 5-point Likert scale (*1=strongly disagree* to *5=strongly agree* with the mean value *3=Neither disagree nor agree*). Subsequently, the respondents were presented the three proposals a second time. They rated the proposals on the dimensions of economic efficiency, fairness, and self-interest. Again, a 5-point

Likert scale was used for all items. Thus, a mean value of M=3.00 in the sample would represent, on average, a neutral assessment. Table 12 gives the exact wording of the questions and scales. The respondents indicated whether they expected the proposed policy to have positive or negative effects on economic growth and on employment in Germany. Finally, the respondents were asked to decide whether the policy proposal was fair or unfair and to judge the direct consequences for themselves.

The participants in both surveys were asked to judge the effects of the policy proposals on economic growth and employment in Germany. As both dimensions refer to economic effects, we integrated these two questions into one economic efficiency scale by calculating the mean of the answers. Integrating the two into one scale was feasible because the answers to the two questions about economic effects were highly consistent in both respondent groups. The Pearson coefficients of the two items across all policy proposals ranged from ρ=0.66 and ρ=0.87 for economists and from ρ=0.68 and ρ=0.93 for laypeople. Cronbach's Alpha ranged from α=0.79 to α=0.93 for economists and from α=0.81 to α=0.96 for laypeople. Thus, we created one national economic efficiency variable and one global economic efficiency variable for each of the three policy proposals.

Although we had collected sociodemographic information, including age, gender, and level of education, we did not include these variables in the presentation of the results. By and large, the effects of sociodemographic variables were rather inconclusive and not significant. This is particularly remarkable for education level, which explained part of the gap between economists and laypeople in former studies (Caplan, 2002; Jacob et al., 2011b; Walstad & Rebeck, 2002).

Table 12: Phrasing of the items of the policy proposal questions

Dimension	Phrasing of item	Phrasing of scale				
		1	2	3	4	5
Accep-tance	How strongly would you agree with this policy?	Strongly disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Strongly agree
Economic efficiency	Would this policy, in the long run, be positive or negative for employment in Germany?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
	Would this policy, in the long run, be positive or negative for economic growth in Germany?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive
Fairness	Would you consider this policy fair or unfair?	Clearly unfair	Rather unfair	Neither fair nor unfair	Rather positive	Clearly fair
Self-Interest	How would you judge the consequences of this policy for yourself or people you feel close to?	Clearly negative	Rather negative	Neither negative nor positive	Rather positive	Clearly positive

5.3. Results

5.3.1. Judgments of the policy proposals: descriptive results

We will first present the mean ratings of the three policy proposals provided by economists and laypeople in the dimensions of acceptance, economic efficiency, fairness, and self-interest (Table 13). For some selected cases, we will also present relative frequencies because the percentages of agreement may be more tangible than the arithmetic means alone. Overall, we observed considerable differences between the answers of economists and laypeople. The differences tended to be smaller, however, on the second and third policy proposals (unilateral reduction of CO_2 emissions and an export ban on military equipment).

Table 13: Descriptive statistics of the judgments of the three policy proposals by economists and laypeople

Mean ratings *(Standard deviations)*	Respondent Group	Acceptance	Economic Efficiency	Fairness	Self-interest
1. Attract highly qualified foreigners	Economists	4.33** *(0.82)*	4.41** *(0.65)*	3.61 *(0.98)*	3.40** *(0.75)*
	Laypeople	3.38 *(1.46)*	3.37 *(1.15)*	3.36 *(1.34)*	3.01 *(0.81)*
2. Reduce CO_2 emissions unilaterally	Economists	3.73** *(1.03)*	3.02** *(0.95)*	3.45** *(1.05)*	3.37* *(0.77)*
	Laypeople	4.19 *(1.05)*	3.53 *(1.02)*	3.94 *(1.35)*	3.61 *(1.06)*
3. Export ban on military equipment	Economists	2.67** *(1.21)*	2.22 *(0.73)*	3.26* *(1.12)*	3.14* *(0.57)*
	Laypeople	3.52 *(1.35)*	2.22 *(0.94)*	3.74 *(1.35)*	2.94 *(0.81)*

Note. Asterisks behind the mean ratings of the economists indicate a significant difference between these ratings and the respective mean ratings of laypeople according to the *t*-statistic; **p*<.05; ***p*<.01

On the first policy proposal, the differences between economists and laypeople were large. Economists strongly favored the immigration of highly qualified foreigners. The mean acceptance rating was *M*=4.33 (*SD*=0.82), which reflects that 89% of the economists fully agreed or tended to agree with the policy proposal. Laypeople were far more skeptical (*M*=3.38; *SD*=1.46), showing an approval rate (agree + tend to agree) of 52%. The difference in the mean ratings between economists and laypeople was highly significant (*t*=5.67; *p*<.01). Similarly, most economists expected positive economic effects from attracting highly qualified foreigners (*M*=4.41; *SD*=0.65), while laypeople were rather undecided, with an average rating closer to the mean value of the 5-point scale (*M*=3.37; *SD*=1.15; *t*=7.82; *p*<.01, when comparing the means). The differences were less pronounced in the fairness judgments. Economists (*M*=3.62; *SD*=0.98) did not feel that the proposal was significantly more fair than the laypeople felt it was (*M*=3.36; *SD*=1.34; *t*=1.50; *p*=.14). Finally, economists (*M*=3.40; *SD*=0.75) were significantly more likely than laypeople (*M*=3.01; *SD*=0.81; *t*=3.53; *p*<.01) to agree that qualified immigration would serve their own interests. One among various possible explanations

may be that laypeople fear, more than economists do, that they would have to compete with immigrants for the same jobs.

A unilateral reduction of German CO_2 emissions found support among 64% of the economists, with a mean acceptance rating of *M*=3.73; *SD*=1.03. This approval rate appeared surprisingly high, given that the economic literature remains skeptical about unilateral emissions reductions (see Introduction). Laypeople expressed even stronger approval of climate protection, with 74% supporting the policy proposal and a significantly higher mean acceptance rating than the economists (*M*=4.19; *SD*=1.05; *t*=3.12; *p*<.01). Likewise, the lay judgments of economic efficiency (*M*=3.53; *SD*=1.03) and fairness (*M*=3.94; *SD*=1.35) were significantly more positive than the economists' judgments of efficiency (*M*=3.02; *SD*=0.95, *t*=3.63; *p*<.01) and fairness (*M*=3.45; *SD*=1.05; *t*=2.87; *p*=.01). Regarding self-interest, both respondent groups expected more positive consequences than negative consequences for themselves from CO_2 emissions reductions.

On average, the economists disapproved of a complete export ban on military equipment (*M*=2.67; *SD*=1.21). Still, the relatively high standard deviation suggests that there was no consensus among the economic experts. Approval of an export ban among the laypeople was significantly higher (*M*=3.52; *SD*=1.35; *t*=4.68; *p*<.01). Neither of the two respondent groups, however, had a clear majority (i.e., more than 50%) for or against the policy proposal. Both respondent groups agreed that an export ban on military equipment would have negative economic effects for Germany. On the fairness dimension, a significant gap between economists and laypeople reappeared. A lower proportion of economists (*M*=3.26; *SD*=1.12) than laypeople (*M*=3.74; *SD*=1.35; *t*=2.73; *p*=.01) found it fair to stop all exports of military equipment. Apparently, economists and laypeople have a different understanding of what is fair in this context. On the self-

interest question, neither economists nor laypeople saw, on average, considerable positive or negative consequences for their well-being.

Overall, the judgments of economists and laypeople differed across all three policy proposals. The differences appear largest for the first policy proposal (attract highly qualified foreigners to Germany). For this proposal, the economists' policy judgments seem to be driven by an assessment of economic efficiency, indicated by the congruent mean ratings of acceptance and economic efficiency. For the remaining two policy proposals, the link between economic efficiency and acceptance is less apparent from the descriptive results. This result suggests that ethical considerations or other considerations could have been more important. The regression analysis in the following subchapter will help to verify these observations.

5.3.2. Economic efficiency or fairness? Regression analysis

We carried out a separate regression analysis for each of the three policy proposals and each respondent group. The aim was to quantify the roles that judgments about economic efficiency, fairness, and self-interest play in the acceptance of the policy proposals. We hypothesized that economists would primarily base their policy judgment on economic efficiency. However, for the unilateral reduction of CO_2 emissions and the export ban on military equipment, issues with less coverage in the economic literature and a higher demand for ethical considerations, we expected that fairness would be an important judgment criterion for economists, maybe even more important than economic efficiency. For laypeople, we expected fairness to be the major predictor of acceptance across the three policy proposals.

The regression results for the first policy proposal confirmed our basic hypothesis about the judgment criteria used by the economists (Table 14). Economists approved of the immigration of highly qualified foreigners mainly because they expected positive effects for

the German economy (regression coefficient β=0.56; p<0.01). The effect of fairness was clearly smaller, albeit significant (β=0.24; p<0.01). Self-interest had no statistically significant influence (β=0.02; p=0.80). The regression coefficients can be interpreted as follows. If, for example, economists' economic efficiency judgments about attracting highly qualified foreigners to Germany vary by one point on the 5-point Likert scale, their acceptance ratings should, on average, differ by 0.56 points.

For laypeople, fairness was the most important judgment criterion, as we had hypothesized (β=0.58; p<0.01). However, the economic effects of attracting highly qualified foreigners to Germany played an important role as well (β=0.50; p<0.01). Surprisingly, material self-interest had a negative effect on the acceptance of the policy proposal (β=-0.39; p=0.01). However, the bivariate correlation between acceptance and self-interest (ρ=.167) suggests that this coefficient should not be overemphasized. The negative effect only appears if the fairness variable is included in the regression model. Thus, it can be explained by a mediation effect, which we will briefly revisit in the Discussion section.

Table 14: Results of the linear regression of efficiency, fairness and self-interest ratings on acceptance ratings for economists and laypeople

Coefficients *(Standard Errors)*	1. Attract highly qualified foreigners		3. Reduce CO_2 emissions unilaterally		3. Export ban on military equipment	
	Economists	Laypeople	Economists	Laypeople	Economists	Laypeople
Constant	0.92 *(0.50)*	0.94* *(0.41)*	0.76 *(0.40)*	2.41** *(0.42)*	-0.60 *(0.58)*	1.92** *(0.56)*
Efficiency	0.56** *(0.11)*	0.50** *(0.11)*	0.39** *(0.10)*	0.13 *(0.11)*	0.20** *(0.14)*	-0.17 *(0.14)*
Fairness	0.24** *(0.07)*	0.58** *(0.09)*	0.20* *(0.09)*	0.27** *(0.08)*	0.53 *(0.10)*	0.39** *(0.10)*
Self-interest	0.02 *(0.09)*	-0.39* *(0.14)*	0.32** *(0.12)*	0.07 *(0.11)*	0.35 *(0.19)*	0.16 *(0.16)*
R^2	0.56**	0.36**	0.41**	0.21**	0.38**	0.18**
Sample Size	*N*=99	*N*=98	*N*=99	*N*=96	*N*=99	*N*=97

*p<.05; **p<.01

Again, when judging unilateral CO_2 emissions reductions, the potential effects for the German economy were the most important factor for economists (β=0.39; p<0.01), although with lower magnitude than for the first policy proposal. The fairness coefficient was smaller in size (β=0.20; p=0.03). The consequences for one's own well-being also played a significant role in the acceptance of CO_2 emissions reductions (β=0.32; p<0.01). Laypeople primarily based their judgments about a unilateral CO_2 emissions reduction on perceived fairness (β=0.27; p<0.01). However, the effect size of the fairness coefficient and the overall explanatory power of the regression model (R^2=*.21*) for the laypeople group were only moderate. Economic efficiency (β=0.13; p=0.22) and self-interest (β=0.07; p=0.51) did not add any significant explanatory value to the model.

To make a judgment on an export ban on military equipment, economic efficiency considerations did not play a significant role for economists (β=0.20; p=0.16). Instead, fairness emerged as the major judgment criterion (β=0.53; p<0.01). Apparently, economic effects are of secondary importance, even for economists, and security or ethical concerns dominate the decision process. The magnitude of the self-interest coefficient was considerable but proved only marginally statistically significant (β=0.35; p=0.07). For the laypeople, the results were similar. The fairness judgment was the most important predictor of an export ban on military equipment (β=0.39; p<0.01). Economic efficiency (β=-0.17; p=0.24) and self-interest (β=0.16; p=0.31) did not significantly influence the acceptance rating.

5.4. Discussion

In this study, we aimed to determine how economists judge three national policy proposals dealing with the immigration of highly qualified foreigners, a unilateral reduction of CO_2 emissions, and an export ban on military equipment compared to economic laypeople.

We had hypothesized that the less policy issues are covered in the economic literature and the more they involve ethical considerations, the less economists' views will differ from the views of laypeople. In two telephone surveys, 100 German economists and 100 randomly selected laypeople were asked how strongly they supported the selected policy proposals and if they found them economically efficient, fair, and good for their self-interest. The intensity of coverage in the economic literature was greatest for the first policy proposal (attract highly qualified foreigners), less for the second one (CO_2 emissions), and least for the third one (export ban for military equipment). The demand for ethical considerations increased in parallel.

As expected, the first policy proposal that addressed the immigration of highly qualified foreigners was judged in accordance with the evidence from former studies (Haferkamp et al., 2009; Jacob et al. 2011b). Economists clearly supported the proposal because of its positive economic effects. Laypeople based their judgments on a mixture of fairness and economic efficiency considerations, slightly dominated by fairness. Interestingly, any influence of self-interest on the acceptance of the policy was fully mediated, and even reversed, by the fairness judgment. Haferkamp et al. (2009) detected a similar mediation effect in judgments about various labor market policies. Self-interest indeed had some relevance, but it primarily influenced the fairness judgment, not the acceptance of the policy proposal.

For the second policy proposal, the results were more mixed. A majority of the economists and the laypeople supported a unilateral reduction of CO_2 emissions in Germany. For economists, economic efficiency remained the most important judgment criterion, but the coefficients for fairness and self-interest were also significant. For the laypeople, fairness was the only significant predictor of the acceptance of the emissions reduction proposal.

The third policy proposal, an export ban on military equipment in Germany, had received the least coverage in the economic literature and was likely to evoke stronger ethical concerns. Congruent with our hypothesis, the logic that both the economists and the laypeople applied to their judgments was very similar. Both respondent groups relied on fairness as the most important (and the only significant) judgment criterion. However, the two groups did not come to the same conclusions. While laypeople, on average, endorsed an export ban on military equipment, economists did not. Consequently, economists and laypeople disagreed on the fairness of an export ban. Although economists did not base their judgment on economic efficiency considerations, they still have, on average, a different idea of what is fair than laypeople did. Economists and laypeople might both apply a deontological ethics, but follow different principles of justice. For example, some economists might judge an export ban to be unfair because they value the individual freedom of domestic companies to produce and export the products they prefer. Laypeople, in contrast, might follow a moral rule that it is not appropriate to earn money by providing other countries with arms.

These speculations show that there are many potential interpretations of the notion of fairness. It remains a challenge for future research to better understand the considerations that lead to the fairness judgment in the context of economic policy. Several economists, for example, remarked during the interviews that fairness was not a clear concept, that it had to be more precisely defined and that it was not a valid criterion for analyzing economic policy.

Compared to the previous studies on judgment criteria for economic policy by Haferkamp et al. (2009) and Jacob et al. (2011), some of the results of this study, such as the differences between economists and laypeople or the regression coefficients, appear less clear and convincing at first sight. One reason is that we used a 5-point Likert

scale in our survey, compared to the dichotomous scale used in the previous studies. Our scale may have increased the accuracy of the measurements, but it also decreased the clarity of the results. For example, the respondents could choose a neutral option, which reduces approval or disapproval rates per se. A second reason for the more diverse results is that we intentionally selected policy proposals for our study that could not be easily answered referring to an economics textbook. This created considerable variance in the respondents' answers. What is more, the selected policy proposals apparently required additional considerations (e.g., ethical ones) that were not covered by the judgment criteria economic efficiency, fairness, and self-interest. A relatively large part of the variance remained unexplained by the regression analysis, with coefficients of determination ranging from R^2=.18 to R^2=.56.

Our conclusions about the factors that lead economists to judge policies in the same manner as laypeople are still preliminary. It may be simplistic to count database entries or mentions in reports of the German Council of Economic Experts to assess how thoroughly a policy issue is covered by economic literature. For example, the neglect of military exports in GCEE reports may reflect that the issue is of minor importance, at least economically. Furthermore, identifying the political issues that involve stronger ethical considerations than other issues is difficult and leaves much room for debate. Notwithstanding these limitations, we find it remarkable that the judgments of economists and laypeople *can* be similar and that economists do not *always* rely on economic efficiency considerations.

One final point is worth mentioning. A clear majority of the economists in our survey supported a unilateral reduction of CO_2 emissions in Germany, although standard economic reasoning recommends otherwise (Feld et al., 2011; Sinn, 2008). One explanation would be that the economists in our sample did not know the standard economic reasoning, which seems rather unlikely for

such a large group of professionals. An alternative explanation is that they do not believe in the empirical validity of the standard theoretical claims. They may have ignored the theoretical claims in favor of a personal preference, and they may have looked for post-hoc arguments that an emissions reduction would have positive economic effects to preserve their self-image as rational professional economists. One participant's comment during the interview supports this hypothesis: "As an environmental economist, I have to be for the reduction of CO_2 emissions." From the perspective of a rational scientist, this reasoning may seem problematic. However, it also reflects that the propositions of economic theory do not have the status of natural laws. Occasionally, taking personal preferences and beliefs into account may be a reasonable strategy for a skeptical economist. It makes economists look more human. In addition, it may help bridge the gap between economists' arguments and the general public, potentially addressing an obstacle to widely accepted *and* economically reasonable policy reform.

6. General Discussion

The research presented in the previous four chapters was based on two findings that have been well established by previous research. First, economic laypeople and economists differ considerably in their views on the economy and economic policy. Second, economists base their economic policy judgments primarily on economic efficiency considerations, whereas laypeople use fairness as the major decision criterion. Based on empirical studies using economic policy proposals from the trade and immigration policy domain, these observations have been confirmed in this dissertation (see chapters 2, 3, and 5). Beyond that, three major results stand out, which I will summarize and discuss in the following chapter 6.1.

In chapter 6.2, the dichotomy of fairness and efficiency in the judgments of economic policies will receive more attention. Preliminary ideas for future research will be presented in chapters 6.1 and 6.2 when appropriate rather than integrating them into a separate chapter. In chapter 6.3, I will present some normative considerations and potential implications of laypeople's and economists' views in an essay style. Chapter 6.4 will conclude this dissertation with practical recommendations for politicians, journalists, teachers, laypeople, and economists.

6.1. Summary and discussion of major results

6.1.1. Teachers and journalists do not apply the economists' way of reasoning

Teachers and journalists apply a judgment logic similar to that of laypeople. Their policy judgments in the trade and immigration policy domains are mainly based on perceived fairness (chapter 3). The study in chapter 3 focused on secondary school teachers of

economics or social sciences and journalists working in policy or economics editorial departments. These groups are important promoters of economic knowledge transfer given that economic education mainly occurs in schools, and background information on economic policies is primarily transferred through the media.

Empirical results regarding teachers and journalists indicate that the economist's way of reasoning about economic policy is more uncommon than economists might believe. The lay way of reasoning is not limited to people with low levels of education who are not used to routinely thinking about economic policy. Social science teachers and economic journalists usually hold academic degrees and deal with economic policy issues on a regular basis.

Evidence further suggests that teachers and journalists reinforce or even shape the lay way of reasoning about economic policy. Nevertheless, the magnitude of the promotional role of teachers and journalists in economic reasoning remains unclear.

Regarding the role of teachers and economic education, past research has shown that explicit economics courses in high school significantly improve students' performance in tests of economic literacy (Walstad & Buckles, 2008; Walstad & Rebeck, 2001). Students' level of economic literacy is positively influenced by the number of economics courses taken by their teachers at universities (Allgood & Walstad, 1999). The level of economic literacy, in turn, influences economic policy judgments (Walstad & Rebeck, 2002).

This evidence is limited to the USA, however. In Germany, only a few federal states offer *Economics* as a separate subject, and only a minority of economics and social science teachers have taken courses in economics departments during their studies (Burkard, 2004). Some experts generally oppose *Economics* as a separate subject in German secondary schools because they fear a curriculum shaped by the "neoliberal mainstream" (Neumaier, 2007; for an opposing position, cf. Kaminski, 2007). This widespread skepticism and

German federalism have resulted in very different approaches to teaching the basics of economics across the 16 federal states.

The fragmented educational landscape also suggests opportunities for future research on the effects of economic education. Such research is currently lacking in Germany (Seeber, 2008). Longitudinal surveys of students' economic literacy would help to assess the effectiveness of economic education in general. Cross-sectional surveys or panel studies across several states would help to understand the effectiveness of different teaching approaches as well as potential implications of normative views of students, such as the judgment criteria for economic policy. More general thoughts on economic education and its potential normative implications will follow in chapter 6.3.5.

Regarding journalists, political and mass communications research has generally confirmed an important role of the media as agenda setters for public opinion (e.g., Bennett, 2010, McCombs, 2004; Scheufele & Tewksbury, 2007). However, empirical effects are nuanced and complex (Goidel et al., 2010; Kleinnijenhuis & Rietberg, 1995; Soroka, 2006; Takeshita, 2006). Political and mass communications research generally explores opinions on political and economic issues. It would be interesting to examine whether the media's influence reaches deeper. Research could explore to what extent the media does shape the more complex and deeply rooted cognitive models that laypeople use to reason about economic phenomena and judge economic policies.

What would an experimental study investigating this research question look like?

Participants could be presented with different versions of a newspaper article on an economic issue. For example, a German newspaper reported last year that massive donations of clothing in Germany would ruin the apparel industry in Eastern Africa because clothes are exported to the region and resold there at very low prices

(Höft, 2011). The article concluded with the recommendation to destroy old clothes rather than to donate them to protect jobs in the African apparel industry. An economist would argue, however, that Eastern Africans would be economically better off if they bought cheap second-hand clothes from Europe. Additionally, economists would argue that workers in the apparel industry could be more productively employed in other industries.

Participants could be presented with two versions of the article in a between-subjects design. One version would include explicit arguments from economists, and the other would not. Participants would be asked to judge the fairness and economic effects in Germany and Eastern Africa of the status quo (exports of donated clothes) and an alternative (destruction or recycling of clothes). To explore potential effects on more deeply rooted cognitive models, participants should also make judgments on different economic issues. These issues should be unrelated to the clothing donation story but should draw on similar economic concepts, such as the issue of cheap coal and steel imports leading to the decline of the German coal and steel industry. Finally, subjects could be retested several weeks later to study the long-term effects of the intervention on economic reasoning. Beyond analyzing specific media effects, the results of this study would help to understand how laypeople generally acquire economic ideas.

6.1.2. Economists prefer free trade and immigration because of the positive effects for their home country

Economists show more positive views on free trade and immigration than do laypeople. However, economists do not share these views because they hold more cosmopolitan attitudes or because of the positive global economic effects of free exchange. Instead, economists support liberal immigration policies as well as other policies, such as

the reduction of CO_2 emissions, because of expected positive economic effects for their home country (chapters 2 and 4).

The results of chapter 5 show that economists judged the immigration of highly qualified foreigners and its economic effects for Germany significantly more positively than did laypeople (Table 13). When economists do not see a particular economic benefit, however, their perspective on immigration does not differ from the laypeople's perspective. Survey participants were also asked to make judgments about the unrestricted immigration of foreigners to Germany. Because this survey question was not covered in the chapter 5 study, I briefly report the results here. In contrast to their judgments about the immigration of highly qualified foreigners, economists expected, on average, negative economic effects from unrestricted immigration. Consequently, economists' acceptance ratings of unrestricted immigration were also more skeptical, and the views of laypeople and economists no longer differed significantly (mean acceptance ratings: M=2.34 for economists, M=2.44 for laypeople; t=0.59; p=.56; mean national economic efficiency ratings: M=2.70 for economists, M=2.59 for laypeople, t=0.75, p=0.45).

Economists might be objective, and unbiased by motives of national attachment, in their positive analysis of economic phenomena. With regard to policy recommendations, however, economists have a fatherland and base their policy judgments on national economic efficiency considerations. Furthermore, they might not be fully aware of this bias toward their home country. Economists who reported having held a global perspective throughout the survey based their policy judgment on national efficiency considerations as well.

Concerning the validity of those conclusions, two major limitations exist (see chapter 4.4), which offer fruitful avenues for future research. First, only German economists were interviewed. This limitation could be addressed through additional surveys across several countries. Second, global economic effects may have been

difficult to evaluate or may have been negligible. This issue may have decreased their potential importance as judgment criteria for the acceptance of national economic policies compared to national economic effects.

What would a study addressing this limitation look like?

Economists could be presented with various hypothetical "sandbox" policy scenarios that present fixed and quantified economic effects for the home country and either a neighboring country or the rest of the world. Economists would be asked to indicate whether they supported the policy scenario. As an example, lifting a certain trade restriction or business subsidy could be said to increase the gross domestic product in China by 100 million Euros while reducing the gross domestic product in Germany by 20 million Euros. Implementation of the policy would be efficient from a global, but not a German national, perspective.

The study design could be further extended by modifying direction and magnitude of the economic effects (positive global vs. negative national consequences and vice versa), the country concerned (e.g., China or France) and the category (different types of products imported, people immigrating, or climate protected). Assumptions on the resulting distribution of income could also be introduced into the scenarios to reflect fairness concerns. The results of such a study would deepen the understanding of economists' motivation to support certain national economic policies that entail significant global effects.

6.1.3. Economists and laypeople sometimes apply a similar same way of reasoning

Economists do not always base their policy judgments on economic efficiency considerations. The less policy issues are covered by economic science and the more they demand ethical considerations, the less the judgment logic economists apply differs from the

judgment logic of laypeople (chapter 5). For example, economists base their judgment of an export ban on military equipment, which is rarely discussed in the economic scientific community and clearly involves ethical issues, on fairness considerations, as laypeople do. Apparently, economists are not purely utilitarian technocrats; they are human beings with a conscience. They prefer economic policies that benefit their home country, as discussed in the previous subchapter. In addition, they revert to fairness as a judgment criterion for economic policy, at least when reliable economic expertise is not available.

The methodology of the study in chapter 5 may have underestimated the similarities between economists and laypeople. Economists were surveyed in the professional environment of their office. Therefore, the interviewed economists might have felt obliged to provide answers consistent with the professional economist's way of reasoning, which would imply a strong focus on economic efficiency. In the telephone survey, 54% of the economists reported that it would not make a difference for their policy judgments if they took a professional economist's or a private person's perspective. Thus, it remains speculative whether an economist's private opinion would actually be closer to the perspective of laypeople than his or her professional opinion.

A potential area for future research is to better understand why certain issues are analyzed and researched by economic science while other issues are not. One reason might be economic impact. Labor market regulation is likely to have higher economic importance than export restrictions on military equipment. A second reason might be pragmatism, such as data availability or convenience of formal modeling. A third reason might be that an issue is interpreted as "non-economic" or inappropriate for economic analysis because it demands strong ethical considerations. Most economists are likely to intuitively agree that organ trade or emergency relief after a natural

disaster involve more ethical or fairness considerations than does minimum wage legislation. Why this is the case, however, remains unclear. For laypeople, at least, *all* of the previously mentioned issues involve fairness considerations.

Potential studies are likely to initially be exploratory. For example, economists could be asked in an open-question format which issues they deem appropriate for economic analysis, which policy issues should be decided based on economic efficiency considerations, and what they judge as fair for which reasons in different policy domains, such as labor market regulations or immigration. Such studies would help to understand the implicit normative foundations of economics and how economists define fairness in an economic policy context.

In their academic work, economists are wary of using the concept of fairness because it is highly normative and not analytically precise (see chapter 4.4). Fairness norms are difficult to operationalize, and incorporating them into economic models makes those models more complex and less parsimonious (Akerlof, 2007). Skepticism (or even ignorance) regarding fairness became apparent during the telephone interviews with German economists, which were conducted for the studies of chapters 4 and 5. Numerous interviewees commented skeptically on the fairness item. They complained that it needed to be more precisely defined (e.g., fair for whom?) or that it would not be a valid category to analyze economic policy. I conclude the chapter with some exemplary quotes from the interview transcripts:

“Fairness? I do not have an opinion on such a topic.”
“Fairness is no analytical category for me.”
“These policy issues have nothing to do with fairness at all.”

6.2. The dichotomy of fairness and efficiency

The research presented in this dissertation corroborates previous research (e.g., Haferkamp & Fetchenhauer, 2007; Haferkamp et al., 2009). Material self-interest is a relatively weak predictor for the acceptance of economic policies. Perceived fairness and economic efficiency are the major criteria that influence the judgment of economic policies. Therefore, these two criteria will receive more attention in this chapter. First, I will propose a systematization of the role of fairness in the judgment logic applied by economists and laypeople (chapter 6.2.1). Subsequently, some background on the concept of fairness and potential drivers of fairness judgments will be given (chapter 6.2.2). In the following chapter 6.2.3, I will discuss how laypeople derive their efficiency judgments. Chapter 6.2.4 will examine why laypeople's models of how the economy works differ from the economic standard models. Finally, I will argue why cognitive heuristics to judge economic phenomena cannot be expected to be ecologically rational and effective (chapter 6.2.5). The designs of the empirical studies in this dissertation did not allow an inference of causality to be made. Therefore, some thoughts on potential causal relations between economic efficiency, fairness, and the acceptance of economic policy are also included in the following discussion.

6.2.1. Systematizing the role of fairness in the policy judgments of laypeople and economists

Laypeople base their judgment of economic policy measures on what they perceive as fair. In contrast to assessments of economic efficiency, fairness judgments can be reached rather intuitively and do not require much cognitive effort (Haidt, 2001). According to Baron (1993; 1998), individuals follow intuitive moral rules when they evaluate decisions or public policy. These intuitive moral rules often refer to what we deem fair or just. Such a rule-based approach

corresponds with a non-consequentialist, deontological ethics, which judges the morality of an action based on intentions and general moral principles. For example, people follow the do-no-harm-heuristic (Baron, 1995), stating that an action or policy should not cause harm to anyone. On these grounds, laypeople may even oppose political reforms if they are convinced that everyone would be better off on average, because the reform involves coercion and would thus harm people (Baron & Jurney, 1993). An example is compulsory vaccination legislation, which causes harm to people, who are coerced into vaccination.

For economists, this perspective on economic policy is rather unintuitive. They generally support a policy if it is economically efficient and thus increases overall welfare. They base their policy judgments on a policy's consequences, corresponding to a consequentialist or utilitarian ethics. The economic efficiency judgment, in turn, serves as a basis for what economists consider fair. Although this causal relation from efficiency to fairness could not be derived directly from the data, it is the most plausible interpretation (cf. chapter 3.6). Economists' fairness judgments were strongly mediated by the efficiency judgments. An inverse causation is rather unlikely. It would imply that economists make an intuitive fairness judgment, which they use as a basis for assessing economic efficiency.

As a consequence of these different ethical orientations, the fairness judgments of laypeople and economists may conflict. In the compulsory vaccination example from Baron and Jurney (1993) cited above, a utilitarian approach (everyone better off on average; thus, do vaccinate everyone) and a deontological approach (some harmed by vaccination; thus, do not vaccinate everyone) would arrive at different conclusions.

Furthermore, results of chapter 5 suggest that economists do not always or exclusively base their policy judgments on economic

efficiency considerations. If policy issues are not at the core of economic science or do involve strong ethical considerations, economists revert to fairness as a major judgment criterion.

Based on these considerations, the fairness judgments of economists and laypeople can be differentiated along two dimensions. The first dimension follows the guiding question: Do economists and laypeople base their policy judgment on the same judgment criterion, namely fairness, or do they use different judgment criteria? The second dimension follows the question: Do economists and laypeople arrive at the same fairness judgment or not? Table 15 reflects this logic in a *2x2* matrix.

Table 15: Systematization of the role of fairness in the policy judgments of economists and laypeople

	Different fairness judgments	Same fairness judgment
Different decision criteria (fairness for laypeople, economic efficiency for economists)	Laypeople with deontological, economists with utilitarian perspective Deontological ≠ utilitarian perspective Issue with high economic relevance and/or low ethical relevance *Example: minimum wage*	Laypeople with deontological, economists with utilitarian perspective Deontological = utilitarian perspective Issue with high economic relevance and/or low ethical relevance *Example: attraction of highly qualified foreigners*
Same decision criteria (fairness for laypeople and economists)	Laypeople and economists with deontological perspective Laypeople's deontological ≠ economists' deontological perspective Issue with low economic relevance and/or high ethical relevance *Example: military exports*	Laypeople and economists with deontological perspective Laypeople's deontological = economists' deontological perspective Issue with low economic relevance and/or high ethical relevance *Example: organ trade**

* Example speculative, underlying policy proposal not included in present empirical studies

The first case in the upper left corner reflects the standard case of economic reasoning for economists and laypeople. For example, laypeople perceive a minimum wage as fair and base their approval of a minimum wage on this judgment. Economists, on the contrary, expect negative economic consequences from a minimum wage. Therefore, they oppose a minimum wage and perceive it as unfair.

In other instances, fairness judgments of laypeople and economists may be congruent, although the two groups use different judgment criteria. Utilitarian reasoning and a deontological decision making approach may lead to the same results. This case is reflected in the upper right corner. Economists approve of the immigration of highly qualified foreigners because of its positive effects for the national economy. Therefore, they also judge this policy fair. Laypeople, however, support this policy proposal for fairness reasons. They might find it fair that highly qualified foreigners are allowed to move to Germany where they are able to earn more money than before.

In contrast to the top row, economists base their policy judgments in the bottom row on fairness considerations, because the issues involved have low economic relevance or require strong ethical considerations. Nevertheless, fairness judgments of economists and laypeople can differ. They might base their decisions on different moral rules, which is expressed in the lower left corner. Economists, for example, might judge an export ban on military exports as unfair because economists value the individual freedom of domestic companies to produce and export the products they prefer. Laypeople, on the contrary, might support an export ban because they find it unfair to earn money by providing other countries with arms.

Economists may also apply the same deontological decision-making process as laypeople and arrive at the same conclusions. This case is reflected in the lower right corner. An example would be trade with human organs. This issue was not tested in the empirical studies in

this dissertation. However, evidence from a survey among British economists (Ricketts & Shoesmith, 1992) suggests that economists are reluctant to apply utilitarian reasoning in this case. In that survey, they disagreed whether efficiency can be determined at all and whether it is a valid concept in this context.

Certainly, the proposed framework is rather idealized. It has at least three limitations. First, reality is not dichotomous and borders between one case and the other can be fuzzy. Second, the conclusions regarding the ethical considerations of economists and laypeople are just plausible hypotheses, given that these ethical considerations have not been investigated directly in the empirical studies. Third, the hypotheses regarding the ethical considerations in the four fields of Table 15 are exemplary, and not necessarily exhaustive. For example, an alternative scenario leading us to the lower right corner would be a utilitarian orientation among economists, which is based on non-monetary criteria, such as individual pain or happiness. Such reasoning could also result in fairness judgments that are congruent with laypeople's deontological fairness judgments.

Another general limitation concerns the explanatory value of the fairness variable in the present empirical studies. The regression analyses in the previous chapters left a considerable share of the variance unexplained. For example, the level of determination of the export of military equipment was only R^2=0.18 for laypeople, and R^2=0.38 for economists (cf. Table 14). This evidence suggests that the fairness notion does not capture all factors that influence the acceptance of economic policies beyond economic efficiency and self-interest. Additional factors not covered may include general ethical principles, social desirability, a preference for cultural diversity, or for protection of the environment. They are worth investigating in future studies.

The systematization in this subchapter was based on the observation that economists and laypeople have a different understanding of what is fair. Similarly, journalists and laypeople showed a different understanding of fairness in the chapter 3 study (Tables 5 and 6), although fairness was a judgment criterion of similar importance for both groups (Table 7). In the next subchapter, I will present potential factors that influence fairness judgments.

6.2.2. What lies behind fairness judgments?

The results presented in this dissertation have shown the diversity of fairness judgments. The variance of the fairness ratings was consistently higher than the variance of economic efficiency ratings for economists and laypeople (Tables 9 and 13). Moreover, the fairness judgments of economists and laypeople clearly diverged across all of the studies presented in this dissertation. These differences could even be observed for policy proposals where both economists and laypeople used fairness as the major judgment criterion, such as the export ban on military equipment (see chapter 5.3). This observation might be explained by different ethical orientations, as hypothesized in the previous subchapter.

Knowledge of the drivers of fairness judgments in the political context is rather limited, which seems surprising. The present research has demonstrated that fairness is a major decision criterion in the political context. Moreover, references to fairness and justice are omnipresent in political debates. To clarify, the concepts of fairness and justice can be used mostly synonymously in the political context (for disambiguation, see Velasquez, Andre, Shanks & Meyer, 1990).

Justice research has identified two major components of the concept of justice: procedural and distributive justice (Tyler, 1994). In the context of the studies presented here, distributive concerns were probably more important than procedural concerns. The policy proposals in the telephone surveys did not address concrete

procedures, such as decision processes, means of implementation, or the behavior of public authorities. In political reality, however, procedural justice is an important factor. People value fair decision-making procedures (Tyler, 2000). Procedural justice can even serve as a heuristic for determining if an outcome, which is often uncertain in advance, is seen as fair (Smith & Tyler, 1996).

What is true for fairness judgments in general also holds for judgments of distributive justice: they are not easy to explain. Two important aspects are (a) who is included in the ingroup, that is, who shall receive a fair share from the resources to be distributed and (b) what distributional principle shall be applied to distribute the resources.

Regarding the first aspect, the results of the studies in chapter 2 and 3 revealed that laypeople hold parochialistic views. Their fairness judgments depended on whether the individuals affected by the policy were part of the ingroup, that is, their own country. These results correspond with what Clayton and Opotow (2005) argued: social identity influences justice judgments. It is relevant for justice judgments whether people take the perspective of individuals or see themselves as representatives of a larger group.

Regarding the second aspect, judgments of distributive justice can relate to different moral principles of distribution (Mitchell, Tetlock, Mellers & Ordonez, 1993), such as equality (giving everyone the same share of income), efficiency (maximizing total income), or the maximin principle (maximizing the income share of the poorest). Which principle of distribution is preferred, depends on various factors. Yaari and Bar-Hillel (1993) synthesize philosophical literature as well as experimental evidence and conclude that individuals tend to accept different principles of distribution in different situations: equality for civil rights, maximin for basic needs, efficiency for capital goods or means of production. People accept less equal and more efficient allocations if the distribution of higher-level resources or

luxury goods is involved compared to the distribution of basic resources (Matania & Yaniv, 2007). In this context, the immigration of highly qualified foreigners, which was judged fair by a majority of laypeople (Table 5), could be interpreted as a "luxury problem." This policy measure does not directly influence basic needs or imperil low-paid jobs. This interpretation remains speculative, however, and it is difficult to say how other policy proposals, such as financial support for businesses exclusively producing in Germany or unilateral reductions of CO_2 emissions, fit into this logic.

These exemplary considerations indicate that the understanding of what drives fairness judgments of different policies is still in its early stages. One challenge for research is that fairness judgments in the political context do not primarily concern the individual who is making the judgments, but rather involve a social group that is sometimes not clearly defined, such as all people benefiting from a tax cut. Moreover, the potential consequences of a policy are often abstract and uncertain.

An interesting question for future research would be how distributive and procedural concerns and different general ethical principles do interact. One example from a different policy area may serve to illustrate this challenge. People in Germany prefer a certain level of redistribution of income (Schwarze & Härpfer, 2007), which requires a progressive tax system. At the same time, people prefer value-added tax increases over income tax increases (Noelle-Neumann & Köcher, 2002), although this effectively reduces the redistribution of income (Bach, Hahn, Hoffmeister & Steiner, 2006). It is unclear, however, why people prefer the value-added tax. Presumably, factors other than distributive concerns drive the fairness judgment of a tax system. People might judge a value-added tax as more transparent than an income tax or may prefer a taxation of consumption to a taxation of labor income. Additionally, it is possible that laypeople do not correctly judge the distributional effects of the different taxes,

which may result in a tax system that does not reflect people's preferences for redistribution. How and why laypeople can come to biased judgments about the consequences of economic policies, will be discussed in the next chapter.

6.2.3. What lies behind laypeople's economic efficiency judgments?

As discussed at length in the previous chapters (e.g., chapter 2.1), laypeople lack basic economic expertise. To overcome their knowledge deficits, laypeople could simply follow economists' recommendations. However, people react with mistrust and resistance to economic experts as communicators of economic policy proposals (Förg et al., 2007). The results of previous studies as well as the present research clearly show that laypeople derive their own economic efficiency judgments that do not necessarily correspond with economists' conclusions.

The results from the stepwise regression in chapter 3.3.2 indicate that laypeople's economic efficiency judgments are strongly mediated by their perceptions of fairness (Table 7). However, there remains a residual of the economic efficiency coefficient that is not explained by fairness. Thus, there appear to be two driving forces behind the economic efficiency considerations of economic laypeople. First, they use their intuitive fairness judgment as a heuristic for determining the economic efficiency of economic policies. Second, they develop their own mental models on how the economy works.

Regarding the first driving force, it has been mentioned that fairness judgments can be reached far more easily and intuitively than can conclusions from causal models on how the economy works. Using perceived fairness as a heuristic for the assessment of economic efficiency saves cognitive resources. The role of fairness as a heuristic can be observed in other situations as well. In group contexts, for

example, fair treatment by others or the fairness judgments of others serve as a heuristic for their trustworthiness (Lind, 2001).

It remains a question for future research if there actually is a causal relation from fairness to economic efficiency. What would a study that explores this assumed causation look like?

As a starting point, two policy scenarios should be selected that elicit different fairness judgments through, for example, different distributions of income. The economic consequences of the two scenarios should be the same or at least very similar. Participants would be asked to judge the fairness of the two scenarios in a between-subjects design. Subsequently, they would assess the overall economic consequences of the scenario. If laypeople derive efficiency judgments from their fairness judgments, the economic efficiency judgments of the two economically equivalent scenarios should differ significantly. The experimental design could be further modified by providing additional information between the questions on fairness and those on economic efficiency. Participants could be given either trivial, unrelated information, such as a newspaper article on show business, or an article providing economic background on the presented scenario. This extension would allow us to understand which factors tend to decouple the assumed causal relation between fairness and economic efficiency. The participants' level of economic literacy should also be measured because it can be assumed to be an important moderator for the fairness-efficiency relation.

Regarding the second driving force of laypeople's economic efficiency judgments, it is generally acknowledged in the literature that laypeople develop their own "cognitive models" (Williamson & Wearing, 1996) or "systems of positive beliefs" (Slembeck, 2003) on how the economy works. The resulting views of laypeople are not always consistent. For example, people regularly demand a higher level of social security and increased tax cuts at the same time (Noelle-Neumann & Köcher, 2002, p.635ff). Furthermore, cognitive

models and positive beliefs often deviate considerably from standard economic models and their conclusions. Measured against the economic consensus and the *homo oeconomicus* model, numerous biases can be identified in the lay models of the economy (for overviews, see Baron et al., 2006; Caplan, 2007; Henderson, 1986).

Research has rarely explored so far how biases exactly operate in the evaluation of economic policies. Likewise, the empirical methodology in this dissertation did not allow us to detect specific biases. One challenge for future research is that biases often interact when policy scenarios are evaluated. For example, people clearly disapprove of the loss of one job in their country even if five new jobs are created abroad in turn (chapter 2.3.2). This answer pattern reveals an *anti-foreign bias* (Caplan, 2007) as well as a *parochialistic* preference (Baron et al., 2006; Schwartz-Shea & Simmons, 1991) for a *status quo* (Samuelson & Zeckhauser, 1988) in order to *preserve* (loss aversion: Kahneman, Knetsch & Thaler, 1986) *existing employment* (make-work bias: Caplan, 2007) and thus to *prevent harm* (do-no-harm heuristic: Baron, 1995; Baron & Jurney, 1993) from the employed in the home country.

6.2.4. Why do laypeople's and economists' models of the economy differ?

There are different ways to explain inconsistencies, biases, and deviations from the economic consensus in lay economic models. According to Denzau and North (1994), the logical consistency and accuracy of mental models depend on (a) the complexity of the issue, (b) the availability of information, and (c) motivation, as measured by the potential impact of the issue on the individual and the individual's potential influence on the outcome.

Regarding the complexity of the issue and the availability of information, one would not expect laypeople to develop consistent and accurate models of the economy. Even economists do not always

agree on the consequences of different economic policies (e.g., GCEE, 2007, for a controversy on labor market policy). Economic reasoning is rather abstract and sometimes counter-intuitive, as Krugman (1994) and Baron and Kemp (2004) have illustrated with the principle of comparative advantage. Furthermore, in contrast to private judgments and decisions, there is no immediate negative feedback from holding an inaccurate view on, for example, free trade. If there is feedback, it might not deliver the full picture. For example, negative consequences of free trade, such as closed factories or lost jobs, are more visible, accessible, and intense than are future productivity gains or slightly lower prices for imported goods (Cass, 2000).

Motivation to develop consistent and accurate mental models about how the economy works is likely to be low because these models have little influence on daily decisions. These models only help to evaluate economic policy alternatives and to make informed voting decisions in democratic elections, where a single vote has a small impact. Based on such cost-benefit considerations, Caplan (2003) has claimed that it is rational to hold irrational views about economic policy issues because irrationality saves scarce mental resources.

The lack of motivation and the complexity of the issue directly influence the formation of lay models of the economy through a cognitive-psychological channel. A low level of motivation and the cognitive effort necessary to process information increase the need for cognitive closure (Kruglanski, 2012, Kruglanski & Webster, 1996). The need for cognitive closure is an important element of lay epistemic theory (Kruglanski 2012, 1989), which explains how laypeople achieve knowledge on cause-and-effect relationships. Laypeople constantly generate causal hypotheses about their environment, including the economy. To achieve confident knowledge, laypeople stop the hypothesis generation process at a certain point, “seize” the evidence that affords cognitive closure and then “freeze” the attained judgments or beliefs; that is, they maintain

these judgments for as long as possible (Kruglanski & Webster, 1996). Lay theories are generally stable and difficult to revise by contrary evidence. Furthermore, they may be both inconsistent and biased because the desire for cognitive closure impedes the processing of additional relevant information.

The difficulties in arriving at accurate economic efficiency judgments can also be explained by human evolution (e.g., Barkow, Cosmides & Tooby, 1992; Rubin, 2002). The human mind adapted to the exigencies of its environment, which, for the longest part of the history of human evolution, was the environment of a hunter-gatherer society. Rubin (2002, 2003) argues that there was comparably little opportunity for specialization, division of labor, and economic growth in the long history of the human species. The absence of significant economic growth and gains from free trade led, for example, to the prevalence of zero-sum thinking and the associated fixed-pie myth (Baron et al., 2006): the economic gain of one exchange partner must mean the economic loss of the other partner. For these evolutionary reasons, simple and accurate heuristics to judge economic phenomena could hardly emerge. The next subchapter provides more detailed arguments in this regard based on the concept of ecological rationality.

6.2.5. Ecologically rational heuristics to judge economic policies?

Following the concept of ecological rationality (e.g., Todd & Gigerenzer, 2000; Gigerenzer & Todd, 2003), heuristics may be simple rules that are fast, frugal, and effective. On the one hand, they enable individuals to make decisions with limited mental resources. On the other hand, they are well adapted to individuals' complex environments. In the context of economic policies, laypeople apply various heuristics. It has been hypothesized, for example, that they use their quick and intuitive fairness judgment as a heuristic to judge

the consequences of economic policies (chapter 6.2.3). This approach may make sense because it clearly requires fewer mental resources than does substantial economic reasoning. The approach may also make sense because the complex economic environment makes it difficult to come to reliable conclusions and predictions. There is generally little "hard evidence" in social science. Occasionally, there are conflicting viewpoints in the economic community (e.g., GCEE, 2007). The results of chapters 4 and 5 revealed considerable variance in the economic efficiency judgments of economic experts. If even experts do not come to definite conclusions, it may be more reasonable, or ecologically rational, to follow simple moral rules than to calculate and weigh individual utilities.

Although that argument has some appeal, the ecological rationality of the fairness heuristic as a fast and frugal heuristic to judge economic efficiency is questionable. Evidence does not suggest that the layperson's way of reasoning leads to better or similar results than the application of sound economic thinking. In fact, the contrary is true (e.g., Baron et al., 2006; Blendon et al., 1997; Caplan, 2003). An example introduced by Todd and Gigerenzer (2000) will illustrate why.

A ball player catches a ball without computing the spot where the ball would land by applying the gaze heuristic. The player simply keeps the angle of gaze to the ball constant and moves towards the ball accordingly (McLeod & Dienes, 1996). In the course of evolution, humans have continuously developed and optimized such heuristics to adapt to particular environmental structures (Todd & Gigerenzer, 2000). However, in the context of economic policy, such a heuristic would not have evolved for two reasons. First, one peculiarity of economic reasoning is that there has been little opportunity to adapt. Complex economic problems have not existed for a large part of human history (Rubin, 2002). That is, because the economic ball has been discovered very recently, there has been little opportunity to

practice catching. Second, learning and adapting are difficult because economic policy judgments are less about actual decision making with immediate consequences and direct feedback for the decision maker and more about abstract reasoning. That is, people sit at home and imagine what it would be like to catch a ball, but they have little opportunity or incentive to actually go out and catch a ball.

Further research is required to better evaluate the potentially fruitful role of fast and frugal heuristics in lay judgments about the economy. One starting point may be real-world decisions that are related to judgments about how the economy works and that entail direct consequences for the individual. In democratic elections, for example, people might follow simple decision rules based on few pieces of information about national economic conditions to choose their favorite party or candidate.

One methodological challenge is to evaluate what actually constitutes a good decision. This evaluation requires a normative judgment of what is a good or correct result. What may be easy for catching a ball and conceivable for economic facts and basic economic principles is difficult, if not impossible, for economic policy judgments. In the next chapter, I will discuss this normative challenge in more detail.

6.3. Are economists right and laypeople wrong?

Laypeople are prone to cognitive biases when judging the economic effects of economic policies. This well-established argument might suggest that there is a right or wrong way to judge economic policies. Certainly, there is not. The notion of biased views refers to the theoretical standard of a rational, utility-maximizing individual (i.e., *homo oeconomicus*). Developing and testing hypotheses regarding human behavior with respect to this standard does not imply that this standard is a superior norm that people should apply.

Empirical research observes that economists value economic efficiency when judging economic policies, whereas laypeople value fairness. Research cannot provide an answer to the question of who is right. Nevertheless, the different reasoning of economists and laypeople has particular implications, which I will discuss in this essay chapter. Regarding laypeople, inaccurate judgments of economic efficiency, which are partly reached by applying a fairness heuristic, may conflict with the actual consequences of economic policy (chapter 6.3.1). It is questionable, however, whether economists arrive at perfectly accurate judgments (chapters 6.3.2, 6.3.3, and 6.3.4). The chapter will conclude with some thoughts on economic education (6.2.5).

6.3.1. Caught between intuitive fairness principles and desired results?

The results of the present research suggest that laypeople base their judgments of the economic efficiency of economic policies at least partially on the perceived fairness of the policy (chapter 6.2.3). They use fairness as a heuristic to judge the consequences of economic policy. Thus, laypeople's assessments of economic consequences, which basically are descriptive or positive statements, are affected by the values they hold. For example, laypeople find a minimum wage fair. From this value judgment, they infer that a minimum wage has positive consequences for employment and economic growth (Haferkamp et al., 2009). In a transposition of the term "normative power of the factual," this logic of reasoning could be termed the "factual power of the normative." Jacob and Lehmann-Waffenschmidt (2007) called a similar observation from their survey of economic laypeople "normative contextualization."

This way of reasoning may have peculiar implications. The actual consequences of an economic policy are not necessarily congruent with lay expectations of the consequences derived from a fairness

judgment. For example, minimum wage may not *increase* but may *reduce* employment and economic growth. Laypeople may be surprised that the actual effects of a policy they favored are different from what they had expected because economic reality did not bend to their moral principles. Furthermore, this conflict may be inefficient from a public choice perspective. Voters may favor policies whose results do not maximize their utility function because the voters held biased beliefs about the policy's consequences (Caplan, 2007).

This potential inconsistency between prior beliefs and actual consequences is not necessarily a conflict between fairness and economic efficiency judgments. It may also involve conflicting fairness norms. For example, people prefer a value-added tax to an income tax based on an intuitive fairness judgment (cf. chapter 6.2.2). Subsequently, they may oppose the resulting distribution of income because the value-added tax does not reduce income inequality as much as a progressive income tax would.

The conflict between expected consequences, which are strongly influenced by value judgments, and actual consequences only arises if laypeople care about economic results. Laypeople may favor a minimum wage because they value decent pay for regular jobs. They may simply accept or consciously ignore potentially negative consequences for total employment or economic wealth. Do we know whether laypeople care about results in the economic policy context? We know that laypeople prefer a deontological approach valuing general fairness rules over a utilitarian approach focusing on economic consequences when judging economic policies ex ante. However, this observation does not preclude that laypeople care about economic consequences of those policies ex post.

Some evidence suggests that humans follow moral rules or intuitions *and* care about consequences: "So we are constantly facing conflicts between the intuitive principles that we all follow and the results we all want" (Baron, 1998, p.3). To some extent, people feel deonto-

logically, but think utilitarianly. Three lines of research are important to mention in this context.

First, Lerner (2003) argues that preferences for justice are replaced by efficiency or self-interest considerations if individuals are engaged in thoughtful decision making. In contrast, low impact situations tend to elicit intuitive heuristic judgments, such as a fairness judgment. In an experiment by Bazerman, White, and Lowenstein (1995), participants were presented with two scenarios where hypothetical outcomes had to be distributed. One outcome was distributed equally between the participant and an anonymous counterpart (i.e., $400 for both parties), whereas the other outcome was larger but distributed unequally (i.e., $700 for oneself, $500 for the counterpart). A larger share of participants favored the scenario with the equal but smaller outcome when the participants were confronted with just one scenario. However, when confronted with both scenarios and asked to make comparative judgments, most participants chose the efficient alternative that offered a higher outcome to both parties. Choosing between two alternatives engaged participants in thoughtful consideration of consequences, which made them override their initial fairness intuition.

A second line of explanation builds upon the general observation that consequences of certain policies for economic growth, national income, employment, or the federal budget are vividly discussed in the media. Apparently, economic consequences do matter in political discussions. A large body of literature finds that current economic conditions influence voting behavior and the popularity of political incumbents, for example, in presidential elections in the USA (for an overview, see Powell & Whitten, 1993; Kiewit, 1983).

A third argument can be derived from liberal paternalism (Thaler & Sunstein, 2003; 2008). Liberal paternalism builds on the assumption that a wise design of legal and organizational frames, based on findings from psychology and behavioral economics, can improve

individuals' decisions with respect to the standards of rational choice. It can be contested whether rational or utilitarian decisions are better decisions and whether the liberal paternalist approach yields the results for which it advocates (cf. Rizzo & Whitman, 2009; Schnellenbach, 2011). Nevertheless, literature on liberal paternalism suggests that people generally appreciate being nudged toward more utilitarian decisions through an alternative decision design, such as in retirement savings (Benartzi & Thaler, 2007).

From a normative point of view, empirical research cannot determine whether laypeople *ought to* come to judgments of consequences of economic policy that are unbiased by the laypeople's fairness perception. What we know, however, is that humans value a certain degree of rationality. Most people would agree that conclusions drawn from biased or incorrect information ought to be corrected if new information becomes available that is unbiased and correct.

The normative supposition that people should aim to reach unbiased judgments of economic consequences of policy measures has one prerequisite and one implication. The prerequisite is that unbiased and correct information must be available, which relates to the question of whether there is an objective truth in economics. This issue will be discussed in the following three subchapters. The implication would be that we ought to promote economic education to improve the quality of laypeople's judgments of economic efficiency. This implication will be the topic of the concluding subchapter.

6.3.2. Are economists right?

Classifying lay views of the economy as biased and inaccurate only makes sense if there is objective truth regarding economic phenomena and in economic science. Does this objective truth exist? There is most likely no universally valid answer to this question. One must distinguish between different levels of epistemic reliability in economics.

On the first level, there are economic facts concerning topics such as unemployment, the structure of the federal budget, or the distribution of incomes within the society. These facts are more or less certain and objective, apart from methodological challenges to measure them consistently. On the next level, there are economic findings that are based on sound theoretical foundations and confirmed by a wide array of empirical research. These findings include, for example, the negative effects of monopolies on overall economic wealth (Varian, 2010) or education as an important precondition for economic development (Todaro & Smith, 2008). On the last level, there are economic findings, based on well-established theoretical conjectures but for which empirical results are still inconclusive or limited, such as the model of the rational voter (Brennan & Lomasky, 1993; Wittman, 1997; cf. Caplan, 2007) or the economic consequences of a minimum wage legislation (GCEE, 2007). The transition between the levels of epistemic uncertainty is gradual.

That some of the findings of economics are arguable does not imply that they might not be true in the end. Furthermore, economics often provides the best answer available. Naturally, the reliability of economic predictions decreases as the complexity of the environment increases because many side conditions and disturbing factors can be neither measured nor controlled. When implementing economic policy recommendations, the famous *ceteris paribus* condition of economic theory does not hold.

The conclusion that economic science is not omniscient might seem trivial, but it has implications for the identification of biases in laypeople's views of the economy. Biases always refer to a certain normative standard. Cognitive biases from the literature on classical heuristics and biases (Gilovich, Griffin & Kahneman, 2002; Kahneman, Slovic & Tversky, 1982) refer to the standard of the rational, utility-maximizing *homo oeconomicus*. Although some authors question if those heuristics actually lead to less rational

decisions (cf. Gigerenzer, Todd & ABC Research Group, 1999), it is undisputed that *homo oeconomicus* is a clear and consistent standard against which real human behavior can be conveniently measured. Other biases used to describe the views of laypeople on the economy do not refer to a clear theoretical standard but to empirical findings of economic science. These findings are characterized by a higher level of epistemic uncertainty. For example, the fixed-pie myth (Baron et al., 2006) presumes that the economy actually is *not* a zero-sum game, and the make-work bias presumes that preserving jobs for their own sake while disregarding their productivity *is* irrational (Caplan, 2007; for a differentiated position, cf. Kemp, 2007). As a consequence, those biases are relative to the current state of economic research as well as to normative presumptions on what is desirable and what is not.

These considerations illustrate that the notion of biased views of laypeople on the economy does not come without problems. In the following, I will present further reservations regarding the relativity of economic knowledge and the potential fallibility of economists.

6.3.3. What are the blind spots of economics?

Findings of economic science are imperfect, and economic models are imperfect representations of reality. On the one hand, economic methodology has proven that it is flexible enough to incorporate many facets of human life into models, such as altruistic behavior (Fehr & Gächter, 2000) or the external effects of climate change (Stern, 2007). On the other hand, some important aspects of reality are not sufficiently covered by economic analysis, such as the social cost of unemployment or migration (Rodrik, 1997; Schiff, 1992). This neglect may have pragmatic reasons. It may be more difficult to model and measure indirect social cost than direct benefits from efficiently working labor markets. As a result, economics may

overestimate the benefits from flexible labor markets and free immigration.

A second reservation regarding the accuracy of standard economic reasoning concerns the *homo oeconomicus* assumption. The basic problem is not that this assumption is unrealistic. Most economists agree that people are not perfectly rational. Economists stick to the rationality assumption because it is a useful reference point for parsimonious model building and empirical testing (Kirchgässner, 2008). They argue that it should not be generally condemned but should be judged based on its success in empirical testing. The problem is that empirical testing of the rationality assumption can lead to formally correct but unsound conclusions. That an empirical analysis in economics is consistent with the rationality assumption does not imply that the analysis is valid or true. Instead, alternative explanations may have been discarded beforehand because they contradict the rationality assumption. Two examples shall illustrate this problem.

Fernandez and Rodrik (1991) successfully explain the resistance to economic policy reform with specific uncertainty among the voters regarding the distribution of future gains and losses of policy reforms. Although individuals are not sure if they will be among the winners or losers of policy reforms, they are assumed to hold rational (i.e., correct and unbiased) expectations about the effects of policy reforms. An alternative explanation for resistance to policy reforms could be that economic laypeople underestimate their positive effects (cf. Caplan, 2007).

A second example addresses reasons for the disapproval of free trade policies. O'Rourke, Sinnott, Richardson, and Rodrik (2001) found that lower-skilled workers in developed countries whose jobs were more at risk due to free trade with developing countries held more negative views about free trade. They concluded that workers' trade policy preferences were obviously driven by self-interest. However, a

variable that is highly correlated with skill level was omitted from the analysis: economic education. Workers might hold negative attitudes toward free trade because they do not understand the basic economic principle of comparative advantage. A study by Baron and Kemp (2004) lends support to this alternative explanation.

The two example studies did not test alternative explanations because those alternative explanations violate the basic rationality assumption. This assumption implies that people have sufficient economic expertise to take economic policy judgments to their best advantage. Strangely, the research presented in this dissertation is based on evidence that suggests the opposite. What is more, economics measures the empirical success of conclusions by its static, descriptive success that holds all explanatory variables constant, not by the success of its predictive accuracy. To evaluate whether the rational choice model of O'Rourke et al. (2001) is empirically valid, one would have to test, for example, whether views about free trade among workers in sectors that are vulnerable to competition from overseas become more positive if the sectors are subsidized or bailed out by the government. Taking the psychological evidence from Baron and Kemp (2004), this seems unlikely.

The ball-catching example from chapter 6.2.5 can illustrate the problems which the described methodological approach may incur. If economists observe that ball players regularly succeed to catch a ball, they would conclude that the players' behavior is consistent with the rationality assumption. Certainly, players do not calculate the ballistic curve of the ball based on its initial speed, throwing angle, wind resistance, and other factors. But from an economist's perspective, players behave *as if* they perform these calculations. Economists may correctly predict that the probability of catching the ball increases if the throwing distance increases (because there is more time to perform calculations). In reality, players do not calculate, but have more time to apply the gaze heuristic and move

toward the ball (McLeod & Dienes, 1996). Nevertheless, the deliberately wrong rationality assumption works well in this case as an *as-if*-assumption. In other cases, however, economists would miserably fail. Imagine that the ball is thrown to the side of the ball player and one aims to predict the route that the player runs to reach the point where the ball drops. Based on the rationality assumption, economists would predict that players run straight to the point where the ball will land. In reality, however, players do not know this point in advance. Applying the gaze heuristic leads them to run a curve (Gigerenzer, 2004), because they continuously adjust their running direction to approach the ball. When confronted with this evidence, economists would probably try to find a more complicated rational choice explanation for the strange running behavior.

Interestingly, economists judge their analytical approach, which is built on an empirically dubious rationality assumption, as somewhat superior: "… [rational choice models explaining policy reform] confirm that we can do *better* than resort to myopia or irrationality when explaining social phenomena" (Rodrik, 1996; p.25; italics added by author). However, Rodrik does not provide further justification for this normative statement. Beyond this, Slembeck (2003) makes a more general point. Economics implicitly assumes that individuals whose behavior is to be modeled and explained hold the same beliefs as the model-builders. This observation is true for both positive beliefs, such as economic expertise, and normative beliefs, such as judgment criteria for economic policy.

6.3.4. What are blind spots of economists?

Few economists would characterize themselves as prototypical *homines oeconomici*. Economists are human, too. They are prone to cognitive heuristics and biases in their thinking. The results in chapter 4 revealed a certain bias toward the home country among economists. They preferred policy alternatives that benefitted their

home country even when they reported holding a global perspective throughout the survey. Furthermore, economists are not immune to the overconfidence bias (Angner, 2006; Fischhoff, Slovic & Lichtenstein, 1977) or the bias blind spot, that is, the inability to compensate for one's own biases even though one is aware of them (Pronin, Lin & Ross, 2002). Recent research suggests that the bias blind spot might be even larger for individuals with high cognitive sophistication, such as academics (West, Meserve & Stanovich, 2012).

In academic work, time and the capacity for deliberate thinking and extensive peer feedback might mitigate the above and other biases. Therefore, economists may be less susceptible to cognitive biases when they judge common economic problems or well-defined policy issues. For example, it is unlikely that a trained economist would fall prey to the fixed-pie myth when arguing about free trade in his or her academic work.

One problem arises from the fact that economists are not only independent academic observers but also actors in the politico-economic sphere—they act as policy advisors or communicators of their research. Attitudes and values influence their judgments of economic policy and are likely to influence their policy recommendations. Do economists share different values and attitudes than non-economists? Two studies used the Schwartz Personal Values Inventory (Schwartz, 1994) to compare the values of economists with the general population (Lucey & Delaney, 2007) and of economics students with students of other social sciences (Gandal, Roccas, Sagiv & Wrzesniewski, 2005). Neither study found a significant difference between the groups in the benevolence dimension, which helps to explain why economists do not behave more selfishly in real-life situations than do non-economists (chapter 4.1.2). However, the two studies revealed that economists attribute slightly more importance to openness to change or self-enhancement

values, such as self-direction. At the same time, economists attach less importance to universalist or conservative values, such as tradition and conformity. This tendency toward individualism and an appetite for change helps to explain why economists feel more at ease with economic policies promoting liberalization, deregulation and far-reaching reforms than laypeople do. Economists should not assume, however, that their values and attitudes are shared by the general population.

6.3.5. Is more economic education a blessing?

Few people would disagree that education is a good thing. More knowledge allows for more informed decisions. More economic knowledge allows for more informed individual economic decisions as well as more informed economic policy judgments. A call for more economic education, however, has normative implications. More informed economic policy judgments imply that laypeople's judgments of economic efficiency are less influenced by cognitive heuristics and biases. Particularly, more economic education may weaken the presumed causal connection between fairness perception and judgments of economic efficiency (chapter 6.2.3). Indeed, the higher their level of economic literacy, the more likely that individuals hold views on economic issues similar to the views of economists (Walstad & Rebeck, 2002).

More economic expertise may eventually change people's normative orientations. More economically educated laypeople might base their policy judgments on economic efficiency instead of fairness. It is not likely, however, that people would turn into economists so easily. Although economic courses in high school or college significantly improve economic literacy, absolute improvements are rather modest when compared to a professional economist's level of economic literacy (Walstad & Buckles, 2008; Walstad & Allgood, 1999). The results from chapter 3 provide additional evidence. Social science

teachers and economic journalists, who possess at least some economic expertise and who regularly deal with economic policy issues, applied the same judgment criteria as did laypeople. Finally, even trained economists know that there is something beyond economic efficiency, as chapter 5 illustrated.

Potential normative biases in the curricula and implications for students' political views are important reasons why some experts generally oppose *Economics* as a separate subject in German secondary schools (e.g., Tschirner, 2007; cf. Burkard, 2004, for a differentiated view). Fears of "neoliberal indoctrination" (Neumaier, 2007) or "brainwashing" (Kretz, 2012) characterize the debate on economic education. As a consequence, two debates are mixed that should be conducted separately: First, is more economic education useful? Second, what should an economics curriculum look like?

Regarding the second issue, several authors attempt to attenuate fears of indoctrination (Kaminski, 2007; Klein, 2012). On the one hand, opposition to explicit economic education is partly due to a misunderstanding of the methodological approach of economics. Teaching the rational choice model does not aim to turn innocent students into *homines oeconomici*. Learning basic economic concepts, such as marginal returns, individuals' sensitivity to incentives, or opportunity cost, is not likely to result in turning political views upside down. On the other hand, economic education is sensitive to normative influence, particularly because it is embedded in a societal and political context. Economics in school can hardly refrain from presenting different options for economic policy, including comparing and weighting the advantages and disadvantages of policy options. This comparison always involves value judgments. Moreover, the previous subchapters made clear that economics is a social science whose findings are far from being epistemically certain. Therefore, prudence is recommended to achieve a fair balance of different views in the curriculum on economic education.

To some extent, economic education can be interpreted as a type of liberal paternalism (Thaler & Sunstein, 2003, 2008). Students are made more aware of the economic consequences of individual and political decisions to enable them to make more informed decisions. In this context, Baron (1998) has suggested integrating economic content in a general high school course on social theory and decision making. The curriculum would include basic moral philosophy and an introduction to psychology to understand the role of biases in human judgment. More education in economics or social science allows people to still have a choice. They are not coerced to make more utilitarian decisions based on efficiency considerations. Nevertheless, this is a possible consequence, be it intentional or not.

6.4. Practical recommendations

The nature of practical recommendations depends on a normative judgment about the desired outcome. From my perspective, it would be desirable to bridge the gap between economic experts and laypeople regarding judgments of economic policies. In this chapter, I will briefly sketch some ideas on how this could be achieved. I will provide recommendations for the major actors in the politico-economic sphere: politicians, journalists, teachers, laypeople, and economists.

6.4.1. Politicians

Politicians often argue for fairness instead of economic effects, exploit voters' myopia when breaking election promises, or frame policy proposals in a positive way to circumvent the adverse effects of loss aversion. Thus, politicians seem to be aware of the relevant research from social psychology and public choice, for example, that people fall prey to cognitive biases or have little incentive to dedicate cognitive resources to reasoning about politics. Politicians may not actually

know this research; instead, they have successfully learned from experience. However, they may attempt to *systematically* benefit from psychological research on cognitive biases and the laypeople's way of reasoning about economic policy. This would allow them to avoid random mistakes that are inevitable when learning from experience, as in the following example.

In February 2012, a group of politicians around the Member of the Bundestag Marco Wanderwitz suggested introducing an extra tax for people without children. The group around Wanderwitz aimed to distribute the fiscal burden arising from demographic change more equally among people with and without children. Feedback from other politicians and the media was devastating, and the idea was dismissed very quickly (dpa, 2012; Sadigh, 2012). The negative reactions were partly the result of a framing effect. The following alternative framing of the Wanderwitz proposal would have basically equivalent distributional effects: an increase in the child allowance, which is paid in cash for every child in Germany, in addition to a moderate increase in the income tax or the value-added tax to rebalance the budget. Arguably, such a proposal would have received more positive feedback. In fact, increases in both child allowances and the value-added tax have been implemented several times in Germany without provoking significant protest. Thus, more knowledge about the importance of positive framing, loss aversion, and the do-no-harm heuristic would have helped Marco Wanderwitz and his followers.

Another recommendation for politicians would be to promote more economic education in schools. In the long run, more economic education may improve the quality of voters' economic policy judgments and increase the probability of economically efficient political reforms. It remains an open question, however, whether more informed voters' judgments are advantageous or disadvantageous for the work of politicians.

6.4.2. Journalists

Like politicians, journalists are well aware of which strategies do and do not work to attract the attention of the public. They use vivid examples, prefer catchy messages, and simplify, or sometimes oversimplify, complex issues. They are also likely to be aware of laypeople's priority for fairness. When searching the website of the most important German tabloid newspaper, "BILD", the search term "justice" ("Gerechtigkeit") yields 1326 hits, whereas "economic growth" ("Wirtschaftswachstum") provides only 657 results (as of October 28, 2012). The most important German quality newspaper, "Frankfurter Allgemeine Zeitung," places less emphasis on quickly catching the attention of the reader than does "BILD". Consequently, "justice" (4,420 hits) is relatively less important than "economic growth" (5,902 hits). This evidence is anecdotal, but it shows that journalists have the power to select and frame issues. They may attempt to use this power and their communication capabilities to promote economic knowledge and enable laypeople to reach more informed and balanced judgments on economic policy. Journalists could clarify in their arguments that economic policy always involves both economic efficiency *and* fairness considerations, not only one of the two. Furthermore, they could note more often that determining economic effects of any policy is essentially a matter of fact, not a matter of values and desires.

6.4.3. Teachers

Teachers could benefit from the present research findings when discussing current political issues in school. Based on the typical judgments of laypeople and economists, teachers could explain the difference between normative and positive judgment or describe the different goals of economic policy, such as efficiency and fairness. Additionally, they could apply different debiasing strategies for cognitive illusions (cf. Larrick, 2004). These debiasing strategies

include training in decision rules, the considering-the-opposite technique, or training in representations (e.g., using frequencies instead of probabilities).

6.4.4. Laypeople

Laypeople could attempt to avoid confounding normative judgments, such as fairness, with positive judgments, such as the consequences of economic policies. Moreover, laypeople could see basic economic and psychological education as useful for improving their judgments and decisions. Economics seems to have the image of being a dismal science, whereas psychology is seen as somewhat esoteric. If laypeople lack the necessary economic expertise, they could begin to trust economic experts, which they rarely do at the present time (Förg et al., 2007; Caplan, 2003). However, the reasons for this mistrust among laypeople can also be found in the attitudes and the way of communication of economists.

6.4.5. Economists

For economists, a general recommendation would be to understand that their way of reasoning about economic policies is not the only way or the only correct way of reasoning. There are at least two implications.

First, economists could keep in mind that they are also susceptible to certain biases and that their views are not independent of personal values and interests. This could facilitate, for example, more normatively balanced communication when developing teaching material for schools, which helps to mitigate the reproach of bias toward big business and free markets (chapter 6.3.5). Furthermore, economists could be careful not to accuse laypeople of ignorance or biased views. Those diagnoses are only valid with respect to a

normative standard of rationality and a utilitarian orientation, which are not objectively true but rather debatable.

Second, economists could realize that non-economic considerations, particularly intuitive fairness judgments, have a high relevance for laypeople. In addition, economic reasoning is often not intuitively understood by laypeople because they tend to follow a deontological instead of a consequentialist ethics. As a consequence, economists could make their communication in public more compatible with the lay way of thinking.

Why is the communication between economists and the public complicated? Economists' argumentations aim to be value-free and based on facts. Precisely because of these characteristics, however, the public accuses economists of being unsocial and theoretical, disregarding political feasibility and justice concerns. On the one hand, the public ignores that what *ought to* be implemented does not logically derive from what *is* described by economists. This phenomenon is particular to social science. No one would accuse a physicist of promoting a nuclear war against a country because he describes in detail how using nuclear weapons would destroy that country. On the other hand, economists ignore that they suggest what ought to be by giving policy recommendations. These recommendations are only valid if increasing economic wealth is the primary goal for society. Economists rightly argue that this goal is not imposed on society by the economists themselves. From their perspective, arguing with economic efficiency is simply a prerequisite for fact-based economic analysis that is not distorted by value judgments. Society is free to pursue different goals, such as distributional justice. However, two additional problems arise from this seemingly value-free communication.

First, economists' argumentations in public are not statements of independent observers standing outside society. These arguments retroact on society and may be partly self-fulfilling, which reflects the

problem of reflexivity. Reflexivity has been identified as a critical issue in social science in general (e.g., Flanagan, 1981) and in economics in particular (Soros, 2008; Lehmann-Waffenschmidt & Sandri, 2007). If economists' communication to the public focuses exclusively on how to increase national income, the public might eventually believe that a higher national income should be the primary goal for society.

The second problem is that the focus on economic efficiency provokes misunderstandings. It suggests that the implementation of economists' policy recommendations excludes other potential goals, such as distributional justice. On the contrary, economists' recommendations can help to achieve such social justice goals. Economists generally care about using given resources more efficiently to achieve certain goals. These goals, however, are not carved in stone.

Economists could include fairness arguments in their policy analyses and recommendations to avoid misunderstandings and to indicate that people care about more than just increasing national income. One starting point could be to highlight how certain economically efficient policy proposals help or fail to achieve social justice goals. Indeed, this makes economists' argumentations less analytically precise and more normative. However, economics is not analytically precise or value-free.

Fairness judgments are value judgments, but they are not arbitrary. There are consistent patterns that can be described and perhaps even formalized and translated into utility functions. This may sound unlikely, and it may be impossible. However, two decades ago, no one would have bet on an economic theory of altruism and reciprocity (Fehr & Gächter, 2000; Bolton & Ockenfels, 2000), which is well established by now.

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