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Beliefs about Economics and Economic Policies: How Different Are Prospective Economists and Teachers at the Beginning of Their Studies?

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Abstract

We present results from a survey of 1,399 first-year university students of economics and of courses designed for prospective teachers in Germany. We find strong *self-selection effects* in terms of students' interests, their views about economics as a discipline and selected economic policy proposals: Students in political and social science education are systematically more sceptical of free-market policies than students of economics and economics education. Regression analysis further suggests that economics and economics education students place lesser emphasis on fairness in their acceptance judgments about policy proposals. Comparison with previous surveys suggest that *indoctrination effects* at university level may be stronger for economists than for teachers.

JEL Codes: A13, A20, A21, F5, H0

1. Introduction

In recent years, the state of economics as an academic discipline and the role of economics education for society at large have been the object of controversial debates. Three different aspects of this debate can be highlighted here. Firstly, especially since the global financial crisis that started in 2007, prominent critics have put forward the view that the mainstream of the economics profession has become dominated by an excessive free-market orientation (e.g., Krugman 2009). Likewise, it has been argued that the economic policy agenda of "neoliberalism" with its focus on financial and labour market deregulation, increased international competition and fiscal austerity has not deliv-

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ered economic growth but instead contributed to the rise in inequality (Ostry, Loungani, and Furceri 2016).

Secondly, the argument has been made that "an important reason for the crisis was […] (a) failure in teaching" (Shiller 2010). Indeed, students have complained about a lack of pluralism and a one-sided orientation towards pro-market theories and an unrealistic focus on rational economic agents in the teaching of economics at university level (*ibid.*; ISIPE 2014). Related to this, there has been growing concern about the notion that the ideas promoted by economists are both highly influential politically and guided by a relatively conservative and selfish value system (Fourcade, Ollion, and Algan 2015). As Haucap and Just, put it: "If economics really makes students less cooperative, one may also be left to wonder about the social benefits of teaching economics" (2010). An alternative explanation to this "indoctrination hypothesis" is that economists are so different from the rest of society because less selfish students self-select away from economics courses in the first place. According to this "self-selection hypothesis," students of other subjects shy away from economics courses either because they are intrinsically less interested in economic matters or because they are discouraged by their perception of the ideological bias underlying the current mainstream of economics.

Thirdly, there have been intense debates about the role that economics education should play at the secondary school level and whether a separate subject matter "Economics" should become the norm in secondary level education. Some argue that the appropriate answer to the deregulation of markets and the privatisation of pension and other insurance arrangements is to equip the young generation with a more comprehensive financial and entrepreneurship education (e.g., OECD 2004). Others, on the contrary, fear that a separate subject matter "Economics" might only replicate at the secondary school level the same pro-market bias of economics that has led to the dissatisfaction with economics education at the university level. It may thus be expected that self-selection and indoctrination effects will be present also in teacher training programmes in economics at the university level, i.e., prospective teachers who already have a strong free-market orientation will decide to study economics and become even more pro-market throughout their studies. Hence, some critics also fear that the introduction of a new subject matter "Economics" may compromise the long tradition of critical and interdisciplinary social science education that exists, for example, in Germany (e.g., Famulla et al. 2011). Following this tradition, in most German states economics, political science and sociology are taught together as one subject matter ("Social Sciences" or "Citizenship Education") at the secondary school level. The defenders of this tradition forcefully argue that the interdisciplinary nature of social science education in Germany provides a necessary corrective of the pro-market bias of mainstream economics (e.g., *ibid.*). Haferkamp et al. (2009) and Jacob, Christandl, and Fetchenhauer (2011) have analysed the attitudes of professional economists

and social science teachers empirically and found that economists held much more strongly pro-market views and placed a relatively greater importance on efficiency and a relatively smaller importance on fairness considerations than social science teachers when judging specific economic policy proposals.

The present article contributes to these debates as follows. We compare the beliefs about economics and selected economic policy issues held by four groups of first-year university students in Germany enrolled in the following courses: (1) economics and business administration; (2) social sciences with an orientation towards secondary education; (3) economics with an orientation towards secondary education; (4) political science with an orientation towards secondary education. In the autumn and winter of 2016/17, when our survey was conducted, the first two groups of respondents studied at three universities in Northrhine-Westphalia, Germany's most populous state. The third and fourth groups of respondents studied at six universities in Baden-Württemberg, Germany's third most populous state. The comparison between the two latter groups of students in Baden-Württemberg is particularly interesting since Baden-Württemberg introduced a separate compulsory subject matter "Economics" starting from grade 7 at the secondary school level in 2016. Ever since prospective teachers have to choose between the newly established courses "Politics" and "Economics," whereas prospective teachers in other German states such as Northrhine-Westphalia pursue interdisciplinary social science courses combining economics, political science, and sociology. The setup of our survey provides us with the unique opportunity to test the "self-selection hypothesis" in two different, but related contexts: Firstly, do economics and business students and prospective social science educators in Northrhine-Westphalia hold systematically divergent beliefs about economics and economic policies already at the beginning of their studies? And secondly, do the newly established courses in economics education in Baden-Württemberg attract students with attitudes more akin to those of economics students or to those of prospective political and social science teachers?

Our main findings can be summarised as follows. Students differ with respect to their preferred fields of interest, with students in economics and business and economics education showing a stronger interest for personal finances and employers' topics, and students in political and social science education showing more interest in political-economic and employees' topics. Moreover, we also find some differences with respect to students' beliefs about economics as a discipline. In particular, political and social science students are more interested in distributional issues when it comes to economic policy discussions than students in economics and business and in economics education. Finally, we asked students about their views about six specific proposals in four different domains of economic policy that have been the object of great controversy in recent years. We find that while a majority of all first-year students across the respondent groups reject central "neoliberal" policy proposals, students in

political and social science education are systematically more sceptical towards such policies than students enrolled in courses with a stronger economics focus. Regression analysis also suggests that economics and business students and economics education students consistently place a lesser emphasis on fairness considerations in their acceptance judgments, compared with, respectively, social and political science students.

In sum, we find significant self-selection effects when comparing either economics and business students with social science education students or prospective political science with economics educators. While our survey is, by construction, not suitable for testing the indoctrination hypothesis, we can compare our results with those from previous surveys of professional economists and teachers. We tentatively conclude that indoctrination effects seem to be much stronger for economists than for teachers. We can thus tentatively conclude that the introduction of a separate subject matter "Economics" at the secondary school level may lead to a stronger pro-market orientation in the teaching of economic issues, compared to interdisciplinary subject matters such as "Social Sciences" or "Citizenship Education."

The remainder of this article is organised as follows. In the next section, we review the related literature. Section 3 presents the method, and section 4 the results of our survey analysis. We conclude with a discussion of our results in light of previous findings in the literature in section 5.

2. Current Controversies about Economics and Economics Education

It is commonplace nowadays to argue that the free-market orientation of mainstream economics has laid the basis for a political agenda of deregulating the financial, labour and product markets at both the national and the international levels during the decades prior to the latest global financial crisis. With right-wing and left-wing political populism on the rise and established centrist political parties losing ground in most rich countries, the question has been posed whether economics and economic policies have gone too far in downplaying, *inter alia*, the potentially destabilising macroeconomic and political effects of rising income inequality (Krugman 2009; Stiglitz 2012; Piketty 2014, Atkinson 2015; Dabla-Norris et al. 2015; OECD 2015), free-market oriented globalisation (Rodrik 2011; Chang 2010), and the role of fiscal policy in stabilising volatile private demand (IMF 2012; Gechert and Rannenberg 2018 for a survey).

Meanwhile, students and junior economists have voiced increasingly widespread concerns about the lack of pluralism in the teaching of economics in universities which many students perceive as being characterised by a one-

sided focus on pro-market schools of thought while neglecting other paradigms including Keynesian and other heterodox approaches as well as insights from other social sciences (ISIPE 2014). Indeed, survey studies suggest that economists hold more morally conservative and more strongly pro-market views than non-economists (e.g., Marwell and Ames 1981; Frey 1986; Gandal et al. 2005; Haferkamp et al. 2009; Jacob, Christandl, and Fetchenhauer 2011; Jacob, Fetchenhauer, and Christandl 2013) and that their moral convictions also affect their views about supposedly positive propositions (Randazzo and Haidt 2015). In the economics education literature, different explanations of these findings have been discussed. One strand in the literature has defended the "indoctrination hypothesis," arguing that economics students are initially not much different compared to other students, but that they become different over the course of their studies (e.g., Frank, Gilovich, and Regan 1993; Whaples 1995; Wang, Malhotra, and Murninghan 2011). This view is, however, contested by proponents of the "self-selection" hypothesis (e.g., Frey, Pommerehne, and Gygi 1993; Frank and Schulze 2000; Frey and Meier 2003; Gandal et al. 2005; Vedel and Thomsen 2017), according to which "economics students are already more selfish, conservative and more convinced of the market mechanism before they start studying economics" (Haucap and Just 2010, 241). The findings by Haucap and Just (*ibid.*) suggest that both self-selection and indoctrination effects may be at play in the "nature and nurture of economists."

Against this background, it is interesting to note that there has been a highly ideologically charged debate in Germany over the last decade or so whether the dose of economics education at the secondary education level is insufficient and, therefore, a compulsory subject matter "Economics" should be introduced on a compulsory level and replace such interdisciplinary subject matters as "Social Sciences," "Politics," "Citizenship Education," or "Politics and Economics," which have a long tradition in different German states.

Baden-Württemberg, Germany's third most populous state recently introduced a compulsory subject matter "Economics: Professional and Academic Orientation" at the secondary school level with three to four lessons per week from grade 7 or 8 onwards (MKJS 2016). This has been accompanied by an intense debate over how the so-called "imperative of controversy," which is one of the cornerstones of the "Beutelsbach consensus," the unofficial constitution of citizenship education in Germany, can be safeguarded with the introduction of economics education in secondary schools. The Beutelsbach consensus states that matters which are controversial in intellectual and political affairs must also be taught as controversial in educational instruction. If differing points of view are lost, options suppressed, and alternatives remain undiscussed, then the path to indoctrination is being trodden. In fact, some observers are concerned that teachers of the subject matter "Economics" will become the target of lobbying activities by employers' associations, corporations, trade unions as well as private think tanks which have all put considerable effort in

recent years into the production and propagation of freely available (online) educational resources (Kamella 2013). Over the past decade or so, researchers specialising in economics education alongside employers' associations have lobbied for a larger share of business topics and financial literacy in secondary education. An important reference point in this debate has been the draft for a competency model and scholastic standards of economics education (Retzmann et al. 2010) that was initially funded by the Association of German Banks and later served as a blueprint for the newly introduced subject matter "Economics" in Baden-Württemberg. Meanwhile, researchers specialising in social science or citizenship education, many of which are close to the trade unions, have highlighted the importance of pluralist and interdisciplinary approaches and of employee-related topics (see Hedtke et al. 2010).

Conceptually, advocates of a separate subject matter "Economics" argue that interdisciplinary social science classes leave too little room for developing the specifically "economic way of thinking" about the world in terms of the rational choice decision model. Others argue that the young generation needs to be equipped with "financial literacy" and "entrepreneurship education" in a globalised world in which the financial markets are largely deregulated and social security partly privatised (OECD 2004). On the other hand, advocates of interdisciplinary subject matters are concerned that a separate subject matter "Economics" might also attract less cooperative and less critical teachers and replicate the one-sided conservative or neoliberal bias which they argue has characterised economics as an academic discipline. They also fear that a separate subject matter "Economics" might focus excessively on microeconomic and business-oriented topics, at the expense of political-economic topics (e.g., Reifner and Shelhowe 2010).

Advocates (e.g., May 2011; Loerwald and Schröder 2011) and opponents (e.g., Famulla et al. 2011; Engartner 2013) of a separate subject "Economics" have gone to great lengths to highlight their pedagogical and, indeed, ideological differences so that any cold-minded discussion about the respective benefits of disciplinary and interdisciplinary approaches to economics education has become rather difficult. In fact, empirically founded analyses of teachers' attitudes towards economics and economics policy issues in the German context are relatively rare.[1] Notable exceptions are Haferkamp et al. (2009) and Jacob, Christandl, and Fetchenhauer (2011) who show that professional economists hold much more pro-market and anti-government regulation views, compared with political and social science teachers, about a number of labour market, trade and immigration policies. Perhaps more surprisingly, political and social science teachers are more similar to laypeople and journalists than to economists regarding their judgment criteria for accepting or rejecting specific eco-

[1] See Becker, Walstad, and Watts (1994) for a survey on divergent attitudes of economists, economics educators and other teachers in the United States.

nomic policy proposals. Social science teachers much like journalists and laypeople base their decisions of whether to favour or reject various policy proposals predominantly on fairness considerations whereas economists focus much more strongly on efficiency considerations.

In summary, existing research on the attitudes of economists branches into two directions. On the one hand, a large number of studies have aimed at an analysis of how the beliefs of experienced economists differ from those of laypeople or other professional groups including teachers. On the other hand, economics students have been an object of inquiry since at least the early 1980s. These studies focus on students' attitudes throughout their university studies. In contrast, the formation of attitudes of prospective teachers concerning economic topics has been an issue of minor priority. This paper contributes to filling this gap by comparing attitudes of prospective economists and prospective teachers. Against the background of the long-lasting debates about the potential merits and normative biases of different school subjects, as well as the recent separation of political science and economics education in Baden-Württemberg, studying the beliefs, interests and values of prospective teachers may help to shift the focus of attention from ideological *a priori* reasoning towards empirical evidence. Knowledge about the beliefs of (prospective) teachers in different subjects may facilitate educated guesses about how future economics classes might look like once the first generation of specialised economics educators have completed their university studies. If it turns out that (prospective) teachers of the subject matter "Economics" hold systematically more pro-market views than teachers of such subject matters as "Politics" or "Social Sciences," the "imperative of controversy" may be at risk when it comes to discussing economic issues at the secondary school level.

3. Method

3.1 Survey Participants

Our survey was conducted among first-year students at the very beginning of their studies at six universities in Baden-Württemberg and three universities in Northrhine-Westphalia. In particular we made an effort to reach as many students as possible with an orientation towards economics education in Baden-Württemberg, as to them our main research interest was dedicated. Moreover, we wanted to survey teacher students enrolled in "Politics" in Baden-Württemberg, teacher students of "Social Sciences" in Northrhine-Westphalia and economics and business students in Northrhine-Westphalia.

In Baden-Württemberg we were able to survey teacher students at all six universities which offer the course "Economics" that was newly established in 2015. These are the universities of Freiburg, Heidelberg, Mannheim, Stuttgart,

Tübingen and Ulm. We also conducted our survey among the politics teacher students at these universities (except for the university of Ulm which does not offer this course). In Northrhine-Westphalia we conducted our survey among prospective social science teachers at five of seven possible universities. These are the universities of Cologne, Münster, Siegen, Bielefeld and Essen. Unfortunately, we could only survey economics students at the universities of Siegen, Bielefeld and Essen. Hence, for the benefit of comparability we omitted Cologne and Münster from our data analysis.

A minor deficit with respect to the comparability of the surveys from Northrhine-Westphalia and Baden-Württemberg results from the federal organisation of the tertiary educational system in Germany: All students at the universities of Bielefeld, Duisburg-Essen and Siegen are enrolled in an undergraduate, interdisciplinary teacher training programme in social sciences (combining economics, political science and sociology) which is specifically designed for prospective teachers in secondary education. Students can typically choose between teacher trainings for either secondary modern schools (grades 5 – 10) or high schools (grades 5 – 12 / 13) whose curricula differ only slightly. The teacher training system in Baden-Württemberg is based on two pillars: prospective high school teachers (grades 5 – 12 / 13) enrol at universities whereas prospective modern school teachers (grades 5 – 10) attend pedagogical colleges. We only surveyed university students. Moreover, while the universities in Northrhine-Westphalia in our sample offer specific teacher training programmes, universities in Baden-Württemberg offer bachelor's programmes in political science or economics with an optional teacher training component. Hence, we do not know exactly whether all the respondents in our survey actually plan towards a career as a teacher. The same is true, however, for respondents in Northrhine-Westphalia because graduates from teacher training programmes can also pursue other professional careers. Our main interest is to compare the attitudes between economics and business students and students in social science education in Northrhine-Westphalia on the one hand and between potential future political science and economics teachers in Baden-Württemberg on the other hand.

The survey data were collected at the beginning of the respondents' university studies in the autumn of 2016. Altogether, the data include answers from 1,399 students. 105 were enrolled in teacher studies "Politics," 85 in teacher studies "Economics," 397 were enrolled in teacher studies "social science," and 812 participants were enrolled in economics courses which can be subdivided into 433 in business administration (*Betriebswirtschaftslehre*), 79 in economics (*Volkswirtschaftslehre*), and 300 in economics and business administration (*Wirtschaftswissenschaften*). The responses from students in economics, business administration, and economics and business administration turned out to be very similar overall.

3.2 Survey Design

The survey was conducted based on a paper-pencil questionnaire. The students answered the questionnaire anonymously. The participants were explicitly advised that they were not asked to show their knowledge but to express their attitudes. The questionnaire was either filled out during information meetings for new students or immediately before a regular lecture.

The questionnaire consists of six separate item blocks. In this paper, we report the findings from the analyses of three blocks pertaining to the students' interests in different fields of economics, students' attitudes about specific policy proposals, and their beliefs about economics as a discipline.[2]

In the first block, respondents were asked the following question: "Which importance would you like the following topics to have in your future job life?" The possible answers were: "Personal saving and portfolio decisions," "Political-economic topics," "Business topics," and "Employee topics." The students could respond to the question on a three-point Likert scale with the options "low importance," "medium importance," and "high importance." This first item block should yield some *prima facie* evidence about not only whether economics and business students have different interests than potential future educators, but also in how far different courses designed for potential future teachers attract students with different visions about what economics education ought to be about.

The second block constituted the major part of the questionnaire with six policy proposals the respondents were asked to evaluate. The first three proposals, pertaining to labour market regulation, were either identical or essentially equivalent to those included in the study by Haferkamp et al. (2009): "The legal minimum wage should be abolished."; "Dismissal protection legislation should be relaxed."; "Profitable enterprises should not be allowed to lay off employees." Haferkamp et al. (*ibid.*) aggregated these three and a fourth item into a scale representing the respondents' attitudes towards labour market regulation. Using an established set of items has the additional advantage that we can compare our results for prospective economists and teachers with those obtained by Haferkamp et al. (*ibid.*) for professional economists and teachers, which may give us at least a rough idea about the importance, if any, of "indoctrination effects." In addition, three further proposals were added to cover different aspects of "neoliberalism" as described by, e.g., Ostry, Loungani, and

[2] Three further blocks of the questionnaire relate to students' views about European integration, the crisis of the eurozone and economic policy proposals for the future of the eurozone. The results of these parts of the questionnaire are reported in a separate paper. In the following we refer to the three blocks relating to the topic of the present paper as the first, the second and the third block, although the original order arrangement was different.

Furceri (2016): "The European Union (EU) should seal the free trade agreement 'TTIP' with the United States."; "The government should reduce income inequality through increased redistribution."; "In times of high unemployment the government should increase its spending, even if this leads to a higher increase in the public debt." In each case, acceptance or rejection of the proposals was surveyed on a dichotomous scale: "Are you in favour of this proposal? Yes or no?" In a second step the respondents were asked about the consequences of the measures a) for economic growth, b) for the unemployment rate, c) in terms of fairness and d) for themselves. Again, the scales were dichotomous for economic growth and for the unemployment rate (increase / decrease) and concerning fairness (fair / unfair). On self-interest, however, a three-point scale was used (positive / neutral / negative). We used this information for a regression analysis in order to investigate the students' motivation for accepting or rejecting the different policy proposals, following Jacob, Christandl, and Fetchenhauer (2011) and Jacob, Fetchenhauer, and Christandl (2013).

In the third block of the questionnaire, the respondents were asked in how far they agreed (disagree / partly agree / agree) with the following five statements about economics as a discipline: "Economic problems should be solved according to objective criteria, and should not be part of political controversies."; "In order to understand economic problems, knowledge from other disciplines such as sociology, political science and history is important."; "Economists agree on the fundamental issues."; "Economics today faces a crisis of legitimacy."; "Distributional issues should be taken into account in all economic policies." The same or similar items were used by Fricke (2015) in his latest survey among members of the *Verein für Socialpolitik*, Germany's largest association of professional economists. In the last section of the questionnaire, socio-demographic variables as well as the self-perceived political orientation and political party preferences were surveyed.

We used our sample for a number of regression analyses. We applied simple linear models with ordinary least squares (OLS), to ensure comparability with the previous studies by Jacob, Christandl, and Fetchenhauer (2011) and Jacob, Fetchenhauer, and Christandl (2013).[3]

4. Results

4.1 Socio-Demographic Characteristics and Political Preferences

Table 1 provides an overview of socio-demographic characteristics for our sample. Apart from gender and age, we have collected information about the

[3] As a robustness check, we also estimated the models with ordered logits and obtained qualitatively similar results.

students' previous educational achievement in terms of their high school grades, their immigration background and their political orientation. 49.2% of all participants were female, with a somewhat higher percentage of female students in social science education in Northrhine-Westphalia and in economics education in Baden-Württemberg. The mean age was 20.3 (with a standard deviation of 2.5 years), and the mean *Abitur* grade was 2.4 for all participants. 82.7% of all respondents reported that they did not feel a stronger connection to another nation than Germany. In general, respondents from Baden-Württemberg had better high school grades than students from Northrhine-Westphalia.[4] Students in economics and business studies in Northrhine-Westphalia had significantly lesser marks in their final high school years than students in social science education. Respondents who studied towards political education in Baden-Württemberg on average had significantly better marks than respondents who studied towards economics education. Interestingly, economics and business students place themselves significantly further to the right politically than prospective social science teachers in Northrhine-Westphalia and than students in both economics education and political education in Baden-Württemberg.

Table 1

Socio-Demographic Characteristics

	Econ a	T Social b	T Econ c	T Political d
Gender (0 = female, 1 = male)	0.46 b*, c***	0.52 a*, c*	0.64 a***, b*, d*	0.50 c*
Age	20.19 b***	20.66 a***, d*	20.44	20.19 b*
Abitur grade	2.46 b**, c***, d***	2.38 a**, c***, d***	2.06 a***, b***, d*	1.92 a***, b***, c*
German nation (0 = Non-German, 1 = German)	0.79 b***, c***, d***	0.86 a***, d***	0.91 a***	0.96 a***, b***
Political orientation (1 = left to 7 = right)	3.64 b***, c***, d***	3.25 a***	3.17 a***	3.13 a***
No. of respondents	812	397	85	105

Note: Subscripts a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***).

4 The average high school grade of all students graduating in 2016 was 2.45 in Northrhine-Westphalia and 2.43 in Baden-Württemberg.

4.2 Students' Fields of Interest

Table 2 shows that the four groups of students included in our survey differ considerably in their preferred fields of interest. Economics and business students are significantly more interested in personal savings and portfolio decisions, less interested in political-economic topics, more interested in business topics and less interested in employee topics than the three other groups.

Economics and business students in Northrhine-Westphalia place by far the highest importance on business topics (mean importance: 1.65), followed by employee topics (1.16) and personal savings and portfolio decisions (1.09). Political-economic topics (0.96) are least important to them. The priorities of prospective social science teachers in Northrhine-Westphalia are completely different: They would like to see political-economic topics have the greatest importance in their future work life (average importance: 1.52), followed by employee topics (1.42). Personal savings and portfolio decision (0.95) and business topics (0.89) are relatively unimportant to them.

Focusing on the two groups of students in Baden-Württemberg, we find similar differences as in Northrhine-Westphalia. Prospective economics educators are relatively more interested in personal savings and portfolio decisions and business topics, and less interested in political and economic topics and employee topics than their counterparts enrolled in political science education. However, unlike economics and business students, the group of potential future economics teachers places a greater importance on political-economic topics (1.54) than on personal savings and portfolio topics (0.94), business topics (1.21), and employee topics (1.28). Potential future political science teachers prioritise political-economic topics significantly more strongly (average importance: 1.76), and business topics (0.91) significantly less strongly than students enrolled in economics education courses. They also place lesser importance on personal savings and portfolio decisions (0.79) and greater importance on employee topics (1.40), though these differences are not statistically significant, owing to the relatively small number of observations for these two groups of students.

Comparing the three sub-groups of potential future teachers, we find that the would-be political science educators are most strongly interested in political-economic topics, and least interested in personal savings and portfolio decisions. Students in social science education and economics education do not differ significantly in their interest in these two domains of economics. At the same time, both political and social science education students are significantly less interested in business topics and more interested in employee topics than economics education students.

Almost all the above-mentioned differences in the prioritised domains of economics persist when we control for socio-demographic characteristics and political orientation. For example, prospective social science teachers in North-

Table 2

Interest in Different Domains of Economics

	Econ a	T Social b	T Econ c	T Political d
Personal saving and portfolio decisions				
No controls	1.09 b***, c*, d***	Δ –0.14 a***, d**	Δ –0.15 a*	Δ –0.30 a***, b**
+ Age, gender, migration, grades	b***, c*, d***	Δ –0.14 a***	Δ –0.15 a*	Δ –0.25 a***
+ Political orientation	b**, d***	Δ –0.10 a**	Δ –0.11	Δ –0.21 a***
Political-economical topics				
No controls	0.96 b***, c***, d***	Δ0.57 a***, d***	Δ 0.58 a***, d**	Δ 0.80 a***, b***, c**
+ Age, gender, migration, grades	b***, c***, d***	Δ0.58 a***, d***	Δ 0.58 a***, d**	Δ 0.76 a***, b***, c**
+ Political orientation	b***, c***, d***	Δ 0.56 a***, d**	Δ 0.54 a***, d**	Δ 0.74 a***, b**, c**
Business topics				
No controls	1.65 b***, c***, d***	Δ –0.76 a***, c***	Δ –0.44 a***, b***, d***	Δ –0.74 a***, c***
+ Age, gender, migration, grades	b***, c***, d***	Δ –0.78 a***, c***	Δ –0.41 a***, b***, d***	Δ –0.72 a***, c***
+ Political orientation	b***, c***, d***	Δ –0.76 a***, c***	Δ –0.37 a***, b***, d***	Δ –0.69 a***, c***
Employee topics				
No controls	1.16 b***, d***	Δ 0.26 a***, c*	Δ 0.12 b*	Δ0.24 a***
+ Age, gender, migration, grades	b***, d***	Δ 0.26 a***, c**	Δ 0.09 b**	Δ 0.20 a***
+ Political orientation	b***, d***	Δ 0.24 a***, c**	Δ 0.07 b**	Δ 0.18 a***

Note: Respondents were asked the following question: "Which importance would you like the following topics to have in your future job life: little importance (0), medium importance (1), or high importance (2)?" Δs denote the coefficients of dummy variables for the respective respondent groups based on OLS regressions. a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$ (*), $p < .05$(**), or $p < .01$(***).

rhine-Westphalia on average attribute a by 0.56 points greater importance to political-economic topics and a by 0.76 points lesser importance to business topics than first-year students in economics and business studies, even when taking into account differences in gender, age, migration background, high

school grades, and political orientation. The corresponding differences between prospective political science teachers and economics teachers are also statistically significant and as large as 0.2 and 0.32 points, respectively.

4.3 Students' Beliefs about Economics as a Discipline

Students of economics and business studies also differ from the other groups of students in their beliefs about economics as a discipline (Table 3). In particular, economics and business students see significantly less value than the three other groups of students in the insights of other social sciences about economic issues.

Table 3

Beliefs about Economics as a Discipline

	Econ a	T Social b	T Econ c	T Political d
Economic problems should be solved according to objective criteria, and should not be part of political controversy.				
No controls	1.25 d***	Δ 0.01 d**	Δ –0.07	Δ –0.17 a***, b**
+ Age, gender, migration, grades	d***	Δ –0.01 d***	Δ –0.08	Δ –0.22 a***, b***
+ Political orientation	d***	Δ 0.01 d***	Δ –0.06	Δ –0.21 a***, b***
In order to understand economic problems, knowledge from other disciplines such as sociology, political science and history is important.				
No controls	1.42 b***, c***, d***	Δ 0.33 a***	Δ 0.36 a***	Δ 0.44 a***
+ Age, gender, migration, grades	b***, c***, d***	Δ 0.32 a***	Δ 0.32 a***	Δ 0.41 a***
+ Political orientation	b***, c***, d***	Δ 0.31 a***	Δ 0.30 a***	Δ 0.39 a***
Economists agree on the fundamental issues.				
No controls	0.57 b***, d***	Δ –0.11 a***	Δ –0.06	Δ –0.18 a***
+ Age, gender, migration, grades	b***	Δ –0.11 a***	Δ –0.03	Δ –0.11
+ Political orientation	b**	Δ –0.09 a**	Δ –0.004	Δ –0.07
Economics today faces a crisis of legitimacy.				
No controls	0.87	Δ 0.05	Δ 0.06	Δ –0.001
+ Age, gender, migration, grades	b*	Δ 0.07 a*	Δ 0.03	Δ –0.01
+ Political orientation	b*	Δ 0.07 a*	Δ 0.02	Δ –0.01

Distributional issues should be taken into account in all economic policies.				
No controls	1.19 b***, d***	Δ 0.14 a***	Δ 0.07 d*	Δ 0.24 a***, c*
+ Age, gender, migration, grades	 b***, d***	Δ 0.15 a***	Δ 0.05 d**	Δ 0.25 a***, c**
+ Political orientation	 b***, d***	Δ 0.12 a***, c*	Δ –0.01 b*, d**	Δ 0.19 a***, c**

Note: Respondents were asked the following question: "To what extent do you agree with the following statements: disagree (0), partly agree (1), agree (2)?" Δs denote the coefficients of dummy variables for the respective respondent groups based on OLS regressions. a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$(**), or $p < .01$(***).

We also asked the respondents whether they believed that economic problems should be solved according to objective criteria, and not be part of political controversies. In this regard, students studying towards political science education stand out, expressing significantly weaker agreement with this statement than economics and business students (also when controlling for socio-demographics and political orientation). The difference with economics education students is also considerable, though not statistically significant at conventional levels. Somewhat surprisingly perhaps, social science students in Northrhine-Westphalia expressed rather similar beliefs about the objectivity of economic problem-solving as economics and business students.

Although economics and business students do not generally believe that economists agree on the fundamental issues, they are significantly less sceptical about the degree of agreement among economists than students in social science education in Northrhine-Westphalia and students in political education in Baden-Württemberg. When controlling for socio-demographic factors, these differences persist for students in social science education in Northrhine-Westphalia, but not for political science education students in Baden-Württemberg.[5]

Interestingly, first-year students in economics and business are not generally of the opinion that economics faces a crisis of legitimacy today, with an average acceptance of 0.87. However, average acceptance levels are not much different in the three other groups of respondents. When controlling for socio-demographic characteristics and political orientation, only students in social science education are significantly more strongly of the opinion that economics faces a crisis of legitimacy than economics and business students.

Very clearly divergent attitudes between the different groups can be observed with respect to their beliefs about the role of distributional issues for economics. Potential future teachers in political and social science education tend more

[5] Students with lesser high school marks and non-German nationality tend to consider economic issues as less controversial than students with better marks, *ceteris paribus*.

strongly towards the view that distributional issues should be taken into account in all economic policies than students of economics and business and of economics education. These differences are also statistically significant, especially when controlling for socio-demographic characteristics and political orientation.

4.4 Students' Attitudes about Economic Policies

4.4.1 Three Labour Market Measures

Table 4 shows students' attitudes towards three labour market policies in the four different groups of our sample as well as in different respondent groups from previous studies. Two of the suggested policies (removal of the minimum wage and relaxation of dismissal protection) are oriented towards a deregulation of the labour market, whereas one measure (complete ban of dismissals for profitable companies) is a rather radical regulatory measure.

Table 4

Percentages of Agreement in Different Groups for Labour Market Regulations

	Econ	T Social	T Econ	T Political	HFBE (2009)	
	a	b	c	d	Econ	Teachers
Pro minimum wage	91 b***	95 a***	92	95	15	81
Pro dismissals protection	85 b***, c***, d***	94 a***	92 a***	95 a***	22	78
Pro ban of dismissals	38 d***	56 a***, c***, d***	36 b***	41 b***	3	42

Note: Respondents were asked the following question: "Do you agree with the following policy proposals?" Yes or no? "Pro minimum wage" refers to the following items: "The legal minimum wage should be abolished" (per cent no); "A nationwide minimum wage should be introduced" (per cent yes) (Haferkamp et al. 2009); "Pro dismissals protection" refers to the following items: "The dismissal protection should be relaxed" (per cent no); "Dismissal protection should be maintained" (per cent yes) (Haferkamp et al. 2009). "Pro ban of dismissals" refers to the following item: "Profitable enterprises should not be allowed to dismiss employees" (per cent yes). Subscripts a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$(**), or $p < .01$(***). HFBE (2009) refers to Haferkamp et al. (2009).

An overwhelming majority of 91% of economics and business students reject the proposition that the minimum wage (which was introduced in Germany in 2015) should be abolished. The respective percentages for students in social science education, economics education and political science education are

95%, 92%, and 95%. The difference in the percentages of agreement between students of economics and business and students of social science education in Northrhine-Westphalia is statistically significant.

As many as 85% of the economic and business students are also against the relaxation of dismissal protection. The rejection of this policy proposal is even considerably, and statistically significantly, stronger, in the three other groups (social science education: 94%, economics education: 92%, political science education: 95%).

The rather radical anti-market proposition that profitable companies should not be allowed to dismiss employees is rejected by as many as 38% of the respondents who are enrolled in economics and business courses, by 40% of potential future economics educators and by 35% of potential future political science teachers (differences not statistically significant). Prospective social science teachers in Northrhine-Westphalia stand out as the only group where a majority of respondents (56%) agree with the proposal, and the difference with the other three respondent groups is statistically significant.

In sum, we find that all respondent groups express rather pronounced pro-regulation preferences when it comes to labour market policies. However, when comparing the two groups from Northrhine-Westphalia, the prospective social science teachers are significantly more strongly in favour of the maintenance of the legal minimum wage and dismissals protection, as well as of a ban of dismissals for profitable companies than students of economics and business. The same qualitative differences can be observed for the two groups of students in Baden-Württemberg, with the economics education students being more critical of labour market regulations. However, these differences are quantitatively smaller than for the two groups in Northrhine-Westphalia and they are not statistically significant.

We also asked about students' judgments regarding the economic efficiency, fairness and perceived self-interest of the policy measures. We then checked whether the three labour market items could be further aggregated. However, unlike Haferkamp et al. (2009) we found that the acceptance judgments for the three proposals were not sufficiently correlated for them to be integrated into one reliable scale (the Cronbach's α was smaller than 0.6 for all groups). We therefore refrained from estimating structural equation models that were used by Haferkamp et al. (*ibid.*) in order to explore the relations between perceived fairness, participants' self-interest, perceived economic efficiency, and acceptance of regulative labour market interventions. We will return to the comparison between our results and those by Haferkamp et al. (*ibid.*) in section 5.

4.4.2 Three Measures of Trade Liberalisation, Income Redistribution, and Fiscal Policy

Besides the deregulation of labour markets, three further ingredients of the "neoliberal" reform agenda as described by Ostry, Loungani, and Furceri (2016) have been the opening up of national economies to international competition, a reserved use of income redistribution policies, and fiscal austerity. Tables 5–7 report our respondents' attitudes towards three proposals pertaining to these policy areas.

Table 5

Percentages of Agreement in Different Groups for the Policy Proposal: "The European Union (EU) should seal the free trade agreement 'TTIP' with the United States"

	Econ a	T Social b	T Econ c	T Political d
Acceptance (0 = yes, 1 = no)	0.63 b***, d***	Δ 0.11 a***	Δ 0.03 d**	Δ 0.17 a***, c**
Unemployment (0 = less, 1 = more)	0.46 b**	Δ 0.07 a**	Δ 0.05	Δ 0.07
Economic growth (0 = increase, 1 = decrease)	0.36	Δ 0.03	Δ –0.03	Δ –0.05
Fairness (0 = fair, 1 = unfair)	0.56 b***, d***	Δ 0.12 a***	Δ 0.11	Δ 0.20 a***
Self-interest (0 = positive, 1 = negative)	0.57 b***, c*, d***	Δ 0.07 a***, d*	Δ 0.09 a*	Δ 0.15 a***, b*

Note: Subscripts a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***).

Only 37% of the economics and business students were in favour of the Transatlantic Trade and Investment Partnership (TTIP) which was controversially debated during the time of our survey (Table 5). This finding is interesting, because 54% and 64% of this group of students, respectively, estimated that TTIP would reduce unemployment and increase economic growth. However, 56% of the students considered TTIP unfair, and students on average also believed that it would go against their individual self-interest. Among the three other groups of students, the opposition against TTIP was considerably, and statistically significantly, larger (rejection levels for social science education, economics education, and political education were 74%, 66%, 80%, respectively). Interestingly, these three groups did not, in general, come to very different judgments in terms of TTIP's expected effects on unemployment and economic growth, but they felt significantly more negative about its implications

for fairness and their individual self-interest. 68% of prospective social science teachers in Northrhine-Westphalia found TTIP unfair, and the difference in comparison with the economics and business students is strongly statistically significant. In Baden-Württemberg, 67% and 76% of the potential future economics and political science teachers, respectively, found TTIP unfair.

Table 6

Percentages of Agreement in Different Groups for the Policy Proposal: "The government should reduce income inequality through increased redistribution"

	Econ a	T Social b	T Econ c	T Political d
Acceptance (0 = yes, 1 = no)	0.38 b*, d***	Δ –0.05 a*, c*, d**	Δ 0.06 b*, d***	Δ –0.16 a***, b**, c***
Unemployment (0 = less, 1 = more)	0.30 d**	Δ –0.04	Δ –0.03	Δ –0.10 a**
Economic growth (0 = increase, 1 = decrease)	0.41	Δ –0.03	Δ –0.02	Δ 0.04
Fairness (0 = fair, 1 = unfair)	0.37 b*, d**	Δ –0.06 a*	Δ 0.005 d*	Δ –0.12 a**, c*
Self-interest (0 = positive, 1 = negative)	0.40 b***	Δ–0.07 a***, c*	Δ0.02 b*	Δ–0.05

Note: Subscripts a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***).

62% of the respondents enrolled in economics and business courses agreed with the view that the government should reduce income inequality through increased redistribution. A majority of this group of students found that such a policy may decrease unemployment (70%) and increase economic growth (59%), and found it both fair (63%) and in line with their individual self-interest (60%). The prospective social science teachers in Northrhine-Westphalia (77%) and political science teachers in Baden-Württemberg (88%) agreed even more strongly with a policy of increased income redistribution. By contrast, the prospective economics teachers (66%) were less strongly in favour of such a policy. Again, the different groups differed more consistently in their judgments about fairness and self-interest than in their judgments about economic efficiency.

Finally, 56% of economics and business students pronounced themselves against fiscal austerity, i.e., in favour of higher government expenditure and higher fiscal deficits during times of high unemployment. The respective percentages for students in social science education, economics education, and political science education are 63%, 64%, and 71%. With respect to this policy,

the four groups differed rather strongly with regard to their judgments about the likely efficiency of such a policy in terms of its effect on unemployment and economic growth, but also with regard to its fairness. The differences in terms of self-interest were rather minor.

Table 7

Percentages of Agreement in Different Groups for the Policy Proposal: "In times of high unemployment the government should raise the public expenditure, even if the deficit goes up as a consequence"

	Econ a	T Social b	T Econ c	T Political d
Acceptance (0 = yes, 1 = no)	0.44 b**, d***	Δ –0.07 a**	Δ –0.08	Δ –0.15 a**
Unemployment (0 = less, 1 = more)	0.34 b**, c*, d***	Δ –0.07 a**, d**	Δ –0.09 a*, d*	Δ –0.22 a***, b**, c*
Economic growth (0 = increase, 1 = decrease)	0.45 b**, c*, d***	Δ –0.07 a**	Δ –0.06 a*	Δ –0.15 a***
Fairness (0 = fair, 1 = unfair)	0.39 b**, c*, d***	Δ –0.06 a**	Δ –0.10 a*	Δ –0.15 a***
Self-interest (0 = positive, 1 = negative)	0.42 d*	Δ –0.02	Δ –0.05	Δ –0.07 a*

Note: Subscripts a, b, c, and d, respectively, indicate that the mean answer of the respondent group differs from the mean answer of the other respondent groups at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***).

Taken together, our results indicate that the four groups of respondents rather strongly oppose important tenets of the "neoliberal" policy agenda as defined above. At the same time, the prospective social science educators are significantly more sceptical about such policies than students in economics and business in Northrhine-Westphalia. Likewise, the opposition against these policies is more pronounced among potential future politics teachers than among potential future economics teachers in Baden-Württemberg.

In the next step, we performed a regression analysis in an attempt to yield further insights into the relative importance of economic efficiency, fairness and self-interest as judgment criteria for students' acceptance of the different policy proposals, following Jacob, Christandl, and Fetchenhauer (2011) and Jacob, Fetchenhauer, and Christandl (2013). The results are reported in Tables 8 – 10. Following Jacob, Christandl, and Fetchenhauer (2011) and Jacob, Fetchenhauer, and Christandl (2013), we proceeded in a stepwise fashion and estimated the equations using ordinary least squares. To begin with, we regressed acceptance on an aggregated economic efficiency scale, by integrating students' judgments on the unemployment and growth effects of the proposed po-

licies. The answers to these two questions proved to be quite consistent.[6] We subsequently added students' judgments about fairness and self-interest to the estimation equation.

Table 8

Results of Linear Regression for Acceptance of the Policy Proposal: "The European Union (EU) should seal the free trade agreement TTIP with the United States"

	Econ a	T Social b	T Econ c	T Political d
Step 1				
Efficiency	0.64***	0.51***	0.71***	0.52***
Constant	0.37	0.50	0.37	0.58
Step 2				
Efficiency	0.24***	0.13***	0.23**	0.13*
Fairness	0.61***	0.70***	0.72***	0.72***
Constant	0.19	0.21	0.08	0.20
Step 3				
Efficiency	0.22***	0.14***	0.22**	0.12*
Fairness	0.49***	0.60***	0.66***	0.64***
Self-Interest	0.25***	0.18***	0.12	0.12
Constant	0.12	0.16	0.05	0.18
Step 1: Adjusted R^2	0.30	0.23	0.35	0.24
Step 2: Adjusted R^2	0.55***	0.62***	0.67***	0.69***
Step 3: Adjusted R^2	0.57***	0.63***	0.67	0.69
N	715	355	78	101

Note: The table shows coefficients from OLS regressions at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***). The same significance levels apply to likelihood ratio tests of the null hypothesis that the adjusted R-squared of model i + 1 is the same as the adjusted R-squared of model i for i = 1, 2.

[6] For the item on TTIP, the *Holsti Index* was 0.65, 0.65, 0.62, and 0.60 for, respectively, students of economics and business, social science education, economics education, and political science education. For the item on redistribution, the *Holsti Index* was 0.65, 0.66, 0.58, and 0.62, respectively, for the four respondent groups. For the item on government deficit spending, the *Holsti* Index was 0.66, 0.71, 0.67, and 0.66, respectively, for the four respondent groups.

Table 9

Results of Linear Regression for Acceptance of the Policy Proposal: "The government should reduce income inequality through increased redistribution"

	Econ a	T Social b	T Econ c	T Political d
Step 1				
Efficiency	0.60***	0.65***	0.83***	0.49***
Constant	0.16	0.11	0.15	0.06
Step 2				
Efficiency	0.21***	0.20***	0.39***	0.06
Fairness	0.62***	0.69***	0.61***	0.78***
Constant	0.07	0.04	0.07	-0.001
Step 3				
Efficiency	0.18***	0.15***	0.27**	0.03
Fairness	0.49***	0.54***	0.48***	0.71***
Self-Interest	0.28***	0.31***	0.42***	0.18**
Constant	0.02	–0.002	–0.02	–0.04
Step 1: Adjusted R^2	0.23	0.27	0.33	0.17
Step 2: Adjusted R^2	0.49***	0.58***	0.58***	0.67***
Step 3: Adjusted R^2	0.52***	0.61***	0.64***	0.68**
N	738	372	79	101

Note: The table shows coefficients from OLS regressions at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***). The same significance levels apply to likelihood ratio tests of the null hypothesis that the adjusted R-squared of model i + 1 is the same as the adjusted R-squared of model i for i = 1, 2.

Table 10

Results of Linear Regression for Acceptance of the Policy Proposal: "In times of high unemployment the government should raise the public expenditure, even if the deficit goes up as a consequence"

	Econ a	T Social b	T Econ c	T Political d
Step 1				
Efficiency	0.83***	0.84***	0.89***	0.84***
Constant	0.12	0.09	0.08	0.11
Step 2				
Efficiency	0.45***	0.39***	0.59***	0.37***
Fairness	0.51***	0.62***	0.43***	0.69***
Constant	0.07	0.04	0.05	0.05

Step 3				
Efficiency	0.40***	0.37***	0.50***	0.28**
Fairness	0.42***	0.57***	0.37****	0.61***
Self-Interest	0.26***	0.12**	0.31**	0.23**
Constant	0.01	0.01	–0.02	0.01
Step 1: Adjusted R^2	0.48	0.48	0.45	0.29
Step 2: Adjusted R^2	0.61***	0.69***	0.56***	0.59***
Step 3: Adjusted R^2	0.63***	0.69**	0.58**	0.60**
N	719	371	78	104

Note: The table shows coefficients from OLS regressions at significance levels $p < .1$(*), $p < .05$ (**), or $p < .01$(***). The same significance levels apply to likelihood ratio tests of the null hypothesis that the adjusted R-squared of model i + 1 is the same as the adjusted R-squared of model i for i = 1, 2.

The following results can be highlighted: For all four groups of students, both efficiency and fairness are significant predictors of their acceptance or rejection of the proposed policies. The contribution of self-interest considerations, when controlling for efficiency and fairness judgments, is very small throughout the different regression analyses for all respondent groups. However, when comparing the two groups from Northrhine-Westphalia, we find that for economics and business students the influence of their fairness judgments on the acceptance of the policies is consistently smaller than for students in social science education. Meanwhile, the contribution of efficiency judgments to the goodness-of-fit of the regressions does not differ nearly as strongly. In step 1 of the three regression analyses, which includes only the aggregated efficiency rating as an explanatory variable, the adjusted R-squared of the regression for the economics and business students is 0.30, 0.23, and 0.48 for the items on TTIP, income redistribution, and government deficit spending, respectively. For the students of social science education, the respective numbers for the R-squared are 0.23, 0.27, and 0.48. When adding fairness as an additional explanatory variable, aggregate efficiency remains significant as a regressor, but R-squared increased to 0.55, 0.49, and 0.61, respectively in the regressions for the economics and business students. For the students of social science education, the respective numbers for R-squared are 0.62, 0.58, and 0.69. These results suggest that students in social science education are guided relatively more strongly by fairness judgments, but not less by efficiency considerations, than students in economics and business.

The comparison of the potential future economics and political science teachers in Baden-Württemberg yields similar results. The influence of efficiency judgments on the acceptance of the policies is consistently larger for the former group than for the latter group (R-squared of 0.35 versus 0.24, 0.33 versus 0.17, 0.45 versus 0.29, respectively, in step 1 of the regression analyses). However, and similar to the comparison between the two groups of respondents in

Northrhine-Westphalia, the contribution of fairness judgments, when added to the models, is smaller for students studying with an orientation towards economics education than for potential future political science teachers (R-squared of 0.67 versus 0.69, 0.58 versus 0.67, 0.56 versus 0.59, respectively, in step 2 of the regression analyses). These results suggest that students in political science education are guided relatively much more strongly by fairness judgments, and somewhat less strongly by efficiency considerations, than students in economics education.

5. Discussion

Our main results so far can be summarised as follows:

1. First-year economics and business students differ from first-year students of social science teaching programmes in Northrhine-Westphalia in that the former are more interested in personal savings and portfolio decision and employers' topics, and less interested in political economic topics and employees' topics. Interestingly, the same qualitative differences can be found for prospective teachers of the two subject matters "economics" and "politics" in Baden-Württemberg.
2. Economics and business students have a different attitude towards economics as a discipline. They are more strongly of the opinion, compared with students of social science education, that economists agree on the fundamental issues and see less value in an interdisciplinary exchange with such subjects as sociology, political science and history. They are also less interested in distributional issues when it comes to matters of economic policy. Similarly, though somewhat less pronounced, differences can be observed between first-year students with an orientation towards political education and those with an orientation towards economics education in Baden-Württemberg.
3. Respondents studying towards political and social science education are more strongly in favour of labour market regulations, of income redistribution by the government, and of government deficit-spending in times of high unemployment, but less strongly in favour of the plans for the trade-agreement "Trans-Atlantic Trade and Investment Partnership" (TTIP). Economics and business students and economics education students consistently place a lesser emphasis on fairness, while attributing similar importance to economic efficiency considerations, compared with, respectively, social and political science students.

Our results lend support to the "self-selection hypothesis" that even first-year economics and business students hold more neoliberal views compared with other students. They also suggest that similar self-selection effects are present

in the different courses newly designed for prospective teachers in the subject matters "Economics" and "Politics" in Baden-Württemberg.

While our study does not provide direct evidence of the "indoctrination hypothesis," a comparison of our results with previous literature is instructive in this regard. It should, however, be noted at the outset that comparing results across different survey studies is difficult for two main reasons: First, the overall political narrative and attitude might change, when surveys are conducted at different moments in time. Second, we cannot control for socio-demographic characteristics such as household income, gender, etc. across different surveys. Keeping these limitations in mind, we can compare our results for the economics and business students with those obtained by Fricke (2015).

Table 11

Comparison of Results for Beliefs about Economics with Fricke (2015)

	BT	Fricke (2015)
Other disciplines	1.42	1.39
Fundamental agreement	0.57	0.68
Crisis of legitimacy	0.87	0.93
Distributional issues	1.19	1.23

Note: Fricke (2015) refers to Fricke (2015). "Other disciplines" refers to the following items: "In order to understand economic problems, knowledge from other disciplines such as sociology, political science and history is important." (disagree = 0, partly agree = 1, agree = 2); "Economists should integrate insights from other disciplines (psychology, sociology, etc.) more into their models." (disagree = 0, partly agree = 1, agree = 2) (Fricke 2015). "Fundamental agreement" refers to the following item: "Economists agree on the fundamental issues." (disagree = 0, partly agree = 1, agree = 2). Crisis of legitimacy refers to the following item: "Economics today faces a crisis of legitimacy." (disagree = 0, partly agree = 1, agree = 2). Distributional issues refers to the following items: "Distributional issues should be taken into account in all economic policies." (disagree = 0, partly agree = 1, agree = 2); "Distributional issues should be taken into account more strongly for future economic policies." (disagree = 0, partly agree = 1, agree = 2) (Fricke 2015).

The last four of the five items reported in Table 3 are based on the latest survey among members of the *Verein für Socialpolitik*, conducted in the spring of 2015 and documented by Fricke (2015). Regarding the meta-debate about economics as a discipline underlying these four items, we do not find any major differences between the attitudes of students and professional economists (Table 11). In the two surveys compared here, both first-year students and professional economists agree on a relatively high relevance of interdisciplinary approaches and of distributional issues for economics. First-year students are somewhat less convinced that "economists agree on the fundamental issues," but the faith in such fundamental agreement is also rather low among professional economists. Both groups are not generally of the opinion that "econom-

ics today faces a crisis of legitimacy," and first year students are somewhat less critical about their newly chosen discipline than the senior economists.

By contrast, the views held by students and professional economists about labour market regulations diverge rather strongly (see Table 4). While 91% of our respondents enrolled in economics and business studies approved of Germany's legal minimum wage, only 15% of professional economists surveyed by Haferkamp et al. (2009) agreed with the view that "a nationwide minimum wage should be introduced." In principle, different explanations for these divergent attitudes are possible. One possibility is that there has been a general shift towards a more favourable view of the minimum wage across age and professional groups in Germany, because the introduction of a legal minimum wage in 2015 has not led to significant job losses so far.[7]

Two observations point, however, in a different direction (see Table 4). Firstly, similarly divergent views can be observed for the proposal that the dismissal protection should be relaxed. Such a policy was supported by 78% of the professional economists surveyed by Haferkamp et al. (2009), but by only 22% of first-year economics and business students. Similarly, while Haferkamp et al. (*ibid.*) report that only 3% of the surveyed economists supported the policy that "profitable enterprises should not be allowed to dismiss employees," as many as 38% of first-year economics and business students from our survey agreed with this proposal.

Secondly, similarly large divergences between students and professionals are absent for (prospective) teachers: The minimum wage was supported by 81% of the teachers surveyed by Haferkamp et al. (*ibid.*), and by between 92% and 95% by the three groups of potential future teachers from our survey. Similarly, current dismissal protection regulations were supported by 78% of teachers in the study by Haferkamp et al. (2009), and by 92% to 95% of students in political and social science and economics education in our sample. Furthermore, 42% of the social science teachers interviewed by Haferkamp et al. (2009) and 35%-56% of first-year students with an orientation towards a career as a teacher were in favour of banning dismissals by profitable companies. These findings suggest, therefore, that "indoctrination effects" may be much stronger for economists than for teachers.

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[7] In the spring of 2015, shortly after the introduction of the nationwide minimum wage in Germany, Fricke (2015) asked several hundred members of the *Verein für Socialpolitik*, Germany's largest academic economics association how they evaluated this policy. The responses were: "I consider the minimum wage overall necessary and sensible" (31.6%); "I consider the minimum wage necessary and sensible, but 8.50 euros at a nationwide level is too much" (25.7%); "I generally find a minimum wage wrong, independently of its level" (38.6%); "no opinion" (4%). That is, the respondents evaluated the minimum wage considerably more negatively than the first-year economics students in our survey.

Previous studies analysing the judgment criteria for accepting or rejecting various economic policy proposals suggested that non-economists focused mainly (*ibid.*) or even almost exclusively (Jacob, Christandl, and Fetchenhauer 2011) on fairness and less strongly, or even not at all on efficiency, whereas professional economists focused much more strongly on efficiency. Haferkamp et al. (2009) conjecture that fairness considerations may be dominant among teachers (as well as journalists and laypersons) because they require less economic expertise than efficiency judgments and may reflect an attachment to deontological ethics. Our results show that the attitudes of first-year students of economics and business are not in general more strongly related to efficiency considerations than those of students in social science education. However, they are less strongly related to fairness considerations. Again, these divergent findings may be explained by "indoctrination effects." Importantly, Haferkamp et al. emphasise that their "findings do not imply that economists know the normative correct way to judge on economic policies. Rather, economic theories in the past have been characterized by continual change and might never be carved in stone. Some economists recently, for instance, oppose the apparent neoclassical mainstream" (*ibid.*, 537). It is, therefore, possible that the different views of prospective social science teachers compared to prospective economists and economics teachers are not so much due to economic expertise. Rather, social science students may be influenced by other (non-neoclassical) economic theories and more interested in fairness considerations than students of economics.

The attitudes of economists as well as economics educators will likely continue to be closely monitored and widely discussed. An especially controversial debate is if and what kind of economics ought to be taught at the secondary school level. An interesting avenue for future research would be to analyse the economic beliefs of teachers in greater depth and in comparison with the results of the present paper.

References

Atkinson, A. B. 2015. *Inequality.* Cambridge, Mass.: Harvard University Press.

Becker, W., W. B. Walstad, and M. Watts. 1994. "A Comparison of the Views of Economists, Economic Educators, Teachers and Journalists on Economic Issues." In *An International Perspective on Economic Education*, edited by W. B. Walstad, 65 – 87. Dodrecht: Kluwer Academic Publishers.

Chang, H.-J. 2010. *Bad Samaritans: The Myth of Free Trade and the Secret History of Capitalism*. London: Random House.

Dabla-Norris, E., K. Kochhar, N. Suphaphiphat, F. Ricka, and E. Tsounta. 2015. "Causes and Consequences of Income Inequality: A Global Perspective." *IMF Staff Discussion Note*.

Engartner, T. 2013. "Das Fach Wirtschaft als Fach der Wirtschaft? Einige ausgewählte Aspekte vergangener und gegenwärtiger Debatten." *Gesellschaft – Wirtschaft – Politik* 62 (3): 439 – 46.

Famulla, G.-E., A. Fischer, R. Hedtke, B. Weber, and B. Zurstrassen. 2011. "Bessere ökonomische Bildung." *Aus Politik und Zeitgeschichte* 12: 48 – 54.

Fourcade, M., E. Ollion, and Y. Algan. 2015. "The Superiority of Economists." *Journal of Economic Perspectives* 29 (1): 89 – 114.

Frank, B. and G. G. Schulze. 2000. "Does Economics Make Citizens Corrupt?" *Journal of Economic Behavior & Organization* 43 (1): 101 – 13.

Frank, R. H., T. Gilovich, and D. T. Regan. 1993. "Does Studying Economics Inhibit Cooperation?" *Journal of Economic Perspectives* 7 (2): 159–71.

Frey, B. S. 1986. "Economists Favour the Price System: Who Else Does?" *Kyklos* 9 (4): 537 – 63.

Frey, B. S., and S. Meier. 2003. "Are Political Economists Selfish and Indoctrinated? Evidence from a Natural Experiment." *Economic Inquiry* 41 (3): 448–62.

Frey, B. S., W. W. Pommerehne, and B. Gygi. 1993. "Economics Indoctrination or Selection? Some Empirical Results." *The Journal of Economic Education* 223 (3): 271 – 81.

Fricke, T. 2015. "Ökonomen-Umfrage 2015. WirtschaftsWunder." Accessed 17 Oct. 2018. <https://neuewirtschaftswunder.de/2015/06/26/okonomen-umfrage-2015-neues-denken-alle-ergebnisse-teil-4/>.

Gandal, N., S. Roccas, L. Sagiv, and A. Wrzesniewski. 2005. "Personal Value Priorities of Economists." *Human Relations* 58 (10): 1227 – 52.

Gechert, S. and A. Rannenberg. 2018. "Which Fiscal Multipliers Regime Dependent? A Meta-Regression Analysis." *Journal of Economic Surveys* 32 (4): 1160 – 1182.

Haferkamp, A., D. Fetchenhauer, F. Belschak, and D. Enste. 2009. "Efficiency versus Fairness: The Evaluation of Labor Market Policies by Economists and Laypeople." *Journal of Economic Psychology* 30 (4): 527 – 39.

Haucap, J. and T. Just. 2010. "Not Guilty? Another Look at the Nature and Nurture of Economics Students." *European Journal of Law and Economics* 29 (2): 239 – 54.

Hedtke, R., G. E. Famulla, A. Fischer, B. Weber, and B. Zurstrassen. 2010. "Kurzexpertise zum Gutachten Ökonomische Bildung an allgemeinbildenden Schulen Bildungsstandards und Standards für die Lehrerbildung im Auftrag des Gemeinschaftsausschusses der Deutschen Gewerblichen Wirtschaft." Accessed 17 Oct. 2018. <https://www.leuphana.de/fileadmin/user_upload/lehrgebiet/bwp/files/expertise.pdf>.

IMF. 2012. "World Economic Outlook: Coping with High Debt and Sluggish Growth." World Economic and Financial Surveys.

ISIPE. 2014. "An International Student Call for Pluralism in Economics." Accessed 17 Oct. 2018. <http://www.isipe.net/open-letter/>.

Jacob, R., F. Christandl, and D. Fetchenhauer. 2011. "Economic Experts or Laypeople? How Teachers and Journalists Judge Trade and Immigration Policies." *Journal of Economic Psychology* 32 (5): 662–71.

Jacob, R., D. Fetchenhauer, and F. Christandl. 2013. "Do Economists Have a Fatherland? How Global and National Efficiency Considerations Influence Economists' Policy Judgements." *German Economic Review* 15 (4): 473–96.

Kamella, F. 2013. "Lobbyismus an Schulen: Ein Diskussionspapier über Einflussnahme auf den Unterricht und was man dagegen tun kann." LobbyControl – Initiative für Transparenz und Demokratie e. V. Accessed 17 Oct. 2018. <https://www.lobbycontrol.de/wp-content/uploads/Lobbyismus_an_Schulen.pdf#pk_campaign=Schulstudie>.

Krugman, P. 2009. "How Did Economists Get It So Wrong?" *The New York Times Magazine*. Accessed 17 Oct. 2018. <http://www.nytimes.com/2009/09/06/magazine/06Economic-t.html>.

Loerwald, D. and R. Schröder. 2011. "Zur Institutionalisierung ökonomischer Bildung im allgemeinbildenden Schulwesen." *Aus Politik und Zeitgeschichte* 12: 9 – 15.

Marwell, G. and R. E. Ames. 1981. "Economists Free Ride, Does Anyone Else? Experiments on the provision of public goods, IV." *Journal of Public Economics* 15 (3): 295–310.

May, H. 2011. "Ökonomische Bildung als Allgemeinbildung." *Aus Politik und Zeitgeschichte* 12: 3–9.

MKJS. 2016. "Bildungsplan: Wirtschaft / Studien- und Berufsorientierung." Ministerium für Kultus, Jugend und Sport Baden-Württemberg.

OECD. 2004. "OECD's Financial Education Project." *Financial Market Trends* 87: 223–28.

—. 2015. "In It Together: Why Less Inequality Benefits All." Accessed 17 Oct. 2018. <http://dx.doi.org/10.1787/9789264235120-en>.

Ostry, J., P. Loungani, and D. Furceri. 2016. "Neoliberalism: Oversold?" *IMF Finance and Development* 53 (2): 38 – 41.

Piketty, T. 2014. *Capital in the Twenty-First Century.* Cambridge, MA: Harvard University Press.

Randazzo, A. and J. Haidt. 2015. "Are Economists Influenced by Their Moral Worldviews? Evidence from the Moral Foundations of Economists Questionnaire." Accessed 17 Oct. 2018. <http://dx.doi.org/10.2139/ssrn.2700889>.

Reifner, U. and A. Shelhowe. 2010. "Financial Education." *Journal of Social Science Education* 9 (2): 32–42.

Retzmann, T., G. Seeber, B. Remmele, and H.-C. Jongebloed. 2010. "Ökonomische Bildung an allgemeinbildenden Schulen: Bildungsstandards – Standards für die Lehrerbildung. Abschlussbericht an den Gemeinschaftsausschuss der deutschen gewerblichen Wirtschaft." Accessed 17 Oct. 2018. <https://bankenverband.de/media/files/Oekonomische_Bildung_an_allgemeinbildenden_Schulen.pdf>.

Rodrik, D. 2011. *The Globalization Paradox: Democracy and the Future of the World Economy*. New York: W. W. Norton & Company.

Shiller, R. J. 2010. "How Should the Financial Crisis Change How We Teach Economics?" *The Journal of Economic Education* 41 (4): 403–09.

Stiglitz, J. E. 2012. *The Price of Inequality: How Today's Divided Society Endangers Our Future*. New York: W. W. Norton & Company.

Vedel, A. and D. K. Thomsen. 2017. "The Dark Triad across Academic Majors." *Personality and Individual Differences* 116 (1): 86–91.

Wang, L., D. Malhotra, and J. K. Murninghan. 2011. "Economics Education and Greed." *Academy of Management Learning and Education* 10 (4): 643–60.

Whaples, R. 1995. "Changes in Attitudes among College Economics Students about the Fairness of the Market." *The Journal of Economics Education* 26 (4): 308–13.