Pluralism in economics teaching in Germany – evidence from a new dataset

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Abstract:

In this paper, we describe a newly-collected dataset evaluating the plurality of economics teaching at German universities. We investigate the module content of Economics Bachelor's degrees and analyse which subject areas dominate the curricula and which ones are underrepresented from the viewpoint of a pluralist concept of science. Our research is based on the approach of the French students' initiative PEPS (2014), and is applied as part of an international comparative project. We capture the topics of courses from module handbooks and examination regulations, and weight them using the attainable amount of ECTS credit points. Courses are assigned to 14 categories with regard to contents, of which three are qualified as important for pluralist teaching from the literature.

Descriptive results indicate a low average share of courses from economic history (0.45%) and of reflexive topics like philosophy of science, history of economic thought or ethics (1.36%), in which Germany also lies below the international average. The share of open modules (6.25%), i.e. free electives or courses from neighbouring social sciences, on offer at German universities is above the international average though. We also investigate geographical differences in Germany, and construct a ranking of curricula according to the three categories we deem important. In doing so, we moreover analyse a hypothetical scenario in which we assume that one were to take the maximum of courses of a certain category, hence indicating the leeway students have in choosing more pluralism. Finally, we propose comprehensive changes to improve the methodology and suggest avenues for further research.

JEL-Codes: A20, A22, B50

Keywords: pluralism, inderdisciplinarity, methodological pluralism, teaching of economics, undergraduate studies, Germany

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1. Introduction

The goal of this study is to get an overview about the content of undergraduate studies in economics in Germany. We analyse which subject areas dominate the curricula, and which ones are underrepresented with respect to a pluralist[1] understanding of science.

For several years, a more pluralist view of science in economics has been demanded by students, researchers and teachers at universities worldwide. The commitment of a French student group in the year 2000 has been the focal point of this movement in the recent past.[2] They had formulated an open letter (Autisme Economie 2000), which was directed against the lack of realism in economics (teaching, in particular). It received a lot of media attention and started a nationwide debate. In the following years, the movement spread to further countries (Dürmeier 2005). In Germany, an open letter initiated by the German Network for Pluralist Economics asked for pluralism of theories, methodologies and self-reflection of the discipline (Netzwerk Plurale Ökonomik 2012). Finally, a network called "ISIPE" (International Students Initiative for Pluralism in Economics) was formed, which wrote another open letter, this time for an international audience (ISIPE 2014). Adding to the aforementioned, also explicitly pluralist topics should be integrated into economics curricula. As such were defined courses on the history of economic thought, philosophy of science and interdisciplinary courses (ISIPE 2014).

This study seeks to contribute an analysis of the supply of these pluralist teaching elements in economics curricula. We use the approach of PEPS (2014), which was enhanced and extended to more countries by ISIPE in the years 2014 to 2016. Essentially, the study design gathers courses into categories on the basis of title and (short) description, and weights them according to attainable ECTS credit points. For this purpose, our investigation contributes the data about degree programmes in Germany. The descriptive statistical analysis is based on publicly available "module manuals", i.e. descriptions of possible course combinations in a

[1] A good overview about the different facets of pluralism in economics can be found in a roundtable discussion with different researchers in the *International Journal of Pluralism and Economics Education* (IJPEE 2015, 6(3), pp. 272- 307), an overview about different definitions of pluralism for instance in Mearman (2008, pp. 6-11), and a draft for a framweork of pluralist research in Dobusch & Kapeller (2012). In our study, pluralism in economics teaching is understood as in the open letter of ISIPE (2014), where three levels are important: Theoretical, methodological and interdisciplinary pluralism. This understanding hence includes the consideration of a bigger diversity of economic schools of thought, of different research methods in economics and of courses in other disciplines, particularly neighbouring social sciences and the humanities.

[2] Moreover, the call for more pluralism made by Hodgson et al. (1992) in the *American Economic Review* is noteworthy. For excellent overviews about the history of the dispute about pluralism in economics, see Garnett & Reardon (2011) as well as the Beckenbach et al. (2016, Chapter 4.1, pp. 28-33).

particular curriculum, but also on examination regulations and descriptions of degree programmes. These sources vary substantially in terms of detail, which is why an exact classification of teaching content, for example in terms of their consideration of different schools of thought, was not possible.t[3] Nevertheless, one is able to find out which subject areas receive more or less significance. Therefor, the courses were grouped according to topical categories, which create an overview as well as a basis for further analysis. From a student perspective moreover, module overviews and handbooks are among the most important information sources, which allow for the comparison of study contents.

The remainder of the paper is structured as follows: Section 2 provides a review of the literature on pluralism in economics teaching, thereby identifying subject areas that are considered important for a pluralist concept of science. Subsequently, section 3 explicates the methodology, discussing the data as well as restrictions of the approach. The fourth part presents and interprets the Germany results, which are then compared to the international figures. We further extend the analysis in section 5, by constructing a ranking of the universities for three selected categories. In this context, we use both the weighted averages of the respective topical categories and a scenario which assumes that students take the maximum amount of courses of a certain category wherever they may have the option. Finally, section 6 concludes and suggests avenues for further research.

2. Literature review: Pluralism in economics teaching

In addition to the above mentioned demands which arose in a more movement-oriented context, there is an ongoing debate concerning the whether, why and how of pluralism in economics teaching. It is noteworthy that this discussion takes place mostly in heterodox economics journals, and that heterodox economists contribute to this academic discussion almost exclusively. In contrast, it attracted very little interest among scholars of the so-called "neoclassical[4] mainstream".[5] Even before the financial crisis, a range of arguments was de-

[3] For a qualitative analysis of the contents of the "module handbooks", see Beckenbach et al. (2016, Chapter 6.2, pp. 86-99).

[4] For a critical history of thought perspective on the term "neoclassical economics", see Colander (2000).

[5] It is difficult to find any scientifically published negative answers to the call for pluralism, which is in line with the general finding that the mainstream largely ignores heterodox research (Dobusch & Kapeller 2012). As Colander (2014, p. 516) succinctly notes, heterodox economists "are essentially the only economists who talk of it". However, some representatives of the mainstream intervene in public debates, reacting to widespread media coverage of the critique directed against the economics profession (examples for Germany are Bachmann 2012, 2015, and Dreher 2014). They stress that the degree of pluralism with regard to contents is already high, and that pluralism of methods and theories should be restricted to the consent of the majority. Contrary to

veloped in favour of pluralism. These include the methodological monism caused by focusing too much on mathematical formalism, the allegedly misconceived political or social science character of the discipline, and the stimulation of critical and comparative thought among students (see for instance Stilwell 2006, Dow 2007). Arguments against pluralism therefore include challenges for lecturers when teaching competing approaches, and a possible excessive demand or confusion of students. On a more general level, De Langhe (2010, p. 795) identifies two problems of pluralism: First, it could be self-destructive, as it may not establish a truth claim on its own, due to the postulated equality of different views. Second, he sees the risk that pluralism without warranted choice slips into an arbitrary "anything goes". He calls this conflict between equality and choice the "paradox of pluralism". Another discussion of advantages and disadvantages of pluralism is provided for example by van Dalen (2007), who underlines the importance of epistemological, interdisciplinary, history of economic thought and economic history courses, even though he endorses the neoclassical methodology as a common language of economics.

After the 2008 financial crisis, the debate about mistakes of the economics profession received a substantial boost (see for instance Colander et al. 2010). Accordingly, the debate about pluralism in teaching was intensified, e.g. in a special issue of the *International Review of Economics Education* (2009, Vol. 8, Nr. 2). Contributions in this issue, but also further ones by Negru (2010), Badeen (2013) and Peterson (2013) mostly dealt with questions of which kind of pluralism should be strived for, and how it should be implemented in the classroom. For instance, it was debated whether a plurality of schools of thought should be integrated into standard curricula, or whether the focus should rather be on the empowerment of students to develop their capacity for critical thinking. By contrast, Colander (2014) questions the strategy to achieve more pluralism inside economics, instead proposing a stronger blending of social science departments. He argues that methodological pluralism on a whole is large, but poorly distributed among the departments.

The empirical literature about the prevalence and development of pluralist teaching content is rather small. A comprehensive country case study is supplied by Thornton (2013, pp. 129-176), who investigated degree programmes in economics in Australia, finding a decline of

Thomas Piketty for instance, who is part of the mainstream but puts forth an explicitly transdisciplinary research programme for economics (Fauser et al. 2016), they furthermore criticise interdisciplinarity as a bureaucratic research obstacle and an end in itself as part of research funding. A more nuanced position can be found with Dani Rodrik, who acknowledges problematic aspects like the lack of perspectives from neighbouring disciplines arising due to to the excessive focus on methods, but nevertheless holds on to the methodological core of the discipline (WEA 2013).

plurality between 1980 and 2011. Hence, the share of economic history in the curricula declined from 19.2% to 5.1%, the share of history of economic thought from 2.3% to 1.0%. At the same time, the share of courses with neoclassical content increased from 43.3% to 62.1%, and those from heterodox economics from 2.7 to 5.7%. Also Siegfried & Wilkinson (1982) conducted an investigation for the year 1980, analysing economics undergraduate curricula in the U.S. by exploiting a survey of the American Economics Association, which was repeated by Siegfried & Wallstad (2014) for the year 2013[6]. While in 1980 15.8% of the institutions under scrutiny still required to take courses on the history of economic thought, the number decreased to 11% of the Arts and Science Colleges and 9% of the Business Colleges in 2013[7]. Further evidence for a low degree of pluralism can be found in PEPS (2014), who have investigated contemporary undergraduate economics curricula in France (for caveats concerning the methodology, see section 3 and the appendix). They find that on average only 5.5% of ECTS credit points were assigned to reflexive, and 4.1% to interdisciplinary courses.

Qualitative, hence not representative and therefore not generalizable, results indicate a high demand for pluralist and reflexive courses, as well as a higher capacity to argue and higher satisfaction of students after taking the respective courses (e.g. Mearman et al. 2011 and Pilkington 2014). Cooper & Ramey (2014), who evaluate the alumni survey of a plurally-oriented U.S. college and survey data from 1072 students at 38 colleges in the U.S., likewise find an increase of the capacity for critical thinking and problem solving after a pluralist education. Finally, Thornton (2014) examines the claim that a pluralist education is better adopted to employer demand than the prevailing neoclassically-dominated teaching, hence increasing employability. Therefore, he uses a survey among Australian employers[8]. A large majority declares itself in favour of more economic history, history of economic thought and political economy courses in the economics education: 75,7% agree or strongly agree.

[6] Of roughly 900 institutions that offered four-year undergraduate programmes in 1980, 546 or 60.7% answered the survey. In 2013, the number of responses from institutions offering an economics major was 337, which constitutes a response rate of 43%. However, they represent 70% of all economics degrees in the U.S., because bigger institutions were more likely to respond.

[7] Additionally, 5% and 2% of these required to take courses in economic history in 2013, respectively (Siegfried & Wilkinson, pp. 152 f.). For 1980, there moreover is an interesting overview of the course offer by subject area: For instance, 65% of the institutions offered courses on the history of economic thought, 43.9% on American economic history, 9.8% on Marxist economics and 2.7% on criticisms of capitalism (Siegfried & Wilkinson 1982, p. 133).

[8] The sample, drawn by the Economic Society of Australia, contains 530 answers. Thereof, 122 are from the private sector, 158 from the public sector, 181 from academia, 19 from non-profits and 49 without sectoral specification.

From this literature review, a number of insights should be noted for the empirical analysis that follows: Firstly, the debate about pluralism in economics is anything but new, until the 1970s the teaching was supposedly often more plural in Germany as well than thereafter, at least the subsequent development of heterodox economics at German universities seems to indicate this (Heise & Thieme 2015). Arguments in favour of pluralism underline among others the importance of some topics, in particular economic history, history of economic thought, philosophy of science and interdisciplinarity. Results results from a employer survey seem to support their stronger implementation in economics curricula. Caution is necessary however as the relevant empirical literature is still in its infancy, also regarding an overview about the implementation of pluralist content.

3. Methodology

3.1 Data

We use data generated by manually extracting information from module manuals, degree programme descriptions, and examination regulations for 54 curricula in economics at 54 German universities.[9] Therefore, the respective documents were identified by searching online, followed by the extraction of the relevant information. The selection of universities and curricula was carried out externally, under the framework of the "EconPlus"-project at the University of Kassel which this study is a part of (see Beckenbach et al. 2016, Ch. 5.1.3.1, p. 41)[10].

The module manuals usually provide a comprehensive overview of all courses that can be accredited to a degree programme. From examination regulations and programme descrip-

[9] To ensure comparability to the qualitative analysis of the "EconPlus" project, we excluded three curricula that were part of the study beforehand. Moreover, for some universities the raw data were revised to improve data quality. Hence, there are small changes compared to the figures presented in a press release of the German Network for Pluralist Economics on March 24, 2016. Since the international database was enlarged by another country, this also pertains to the international comparison. The overall results and conclusion remain unchanged, however.

[10] In contrast to the module manuals considered there, we partially use more up-to-date documents. The reason for this is the temporal distance between the measurement periods: We assembled the data in December 2015 and January 2016, while the other data collection was conducted in 2014. A precise breakdown of the differences by universities, which affect 42.6% of the sample, is available from the authors. We are confident that possible discrepancies between the two studies are negligible, since most curricula do not change significantly over the course of one year. At least, we do not have any indication that substantial changes occurred for any of the universities concerning the topical focus. We abstained from an ex post harmonisation of the data sets for two more reasons: First, the necessary effort to sight additional documents exceeds our voluntary resources, and second, the expected benefit exceeds the expected cost by far. We are glad to share the raw data with interested researches for critically examining and revising them.

tions, the exact structure of the curricular design can be extracted. Moreover, one may tell which courses are obligatory, obligatory electives, i.e. a choice between a defined set of courses, or free electives. In turn, individual courses are assigned to the modules and have to be taken in order to complete the module.

Sighting the material led us to think that the module/course descriptions differ substantially concerning the amount of information that can be extracted from them. Many include information on the shares of the respective examination requirements, many others do not. Some provide detailed descriptions of the courses, others only the name and some general notes. Besides, the actual teaching may of course deviate greatly from the module handbook's description.[11] This notwithstanding, these documents allow for a comparison of the course offer as well as an appraisal of the importance of individual subject areas at the universities under scrutiny. In accordance with the international conception of the study, only undergraduate courses were investigated, because these are generally less specialised and therefore more readily comparable.

3.2 Procedure applied

The survey procedure is based on work by our French colleagues conducted already in 2012 (PEPS 2014). The basis of the research approach consists in aggregating courses in different topical categories and weighting them according to the attainable ECTS credit points. Adding to this, the obligatory, obligatory elective or free elective type of courses is taken into account. Because the actual choice of students is not observable to us, the idea behind weighting (obligatory) electives is to capture the average course offer. The bigger the options to choose from, the smaller is hence the weight of the individual course in the final result. A typical German Bachelor's degree contains 30 ECTS per semester, therefore 180 ECTS for the full six semesters. The total required number of credit points is finally used to calculate the relative shares of the topical categories in the respective curriculum.

Thus, we proceed as follows: The smallest level on which we assembled data are individual courses[12]. Firstly, these are assigned to module groups, which are mostly already laid out in

[11] Additional, potentially relevant information concerning the individual courses on offer may be found in university calendars, but these are often not fully publicly available or do not contain more information than the module manuals.

[12] The largely administrative intermediate level of “modules” has no additional analytical value in our investigation, hence we discarded it. Collecting the data at the course level moreover exploits the information available in the module manuals better. As an example, going to the module level would mean that the introductory module at Humboldt-University Berlin, which contains both an introduction to economics (3 ECTS) and to economic history (3 ECTS) would have to be assigned either one of the respective categories, hence disregarding

the curricula, for instance as “basic studies”, “specialisation in economics” or the like. In turn, the module groups are labelled as obligatory, obligatory elective or elective, henceforth referred to as “module type”.

Furthermore, every course is assigned to a topical category. These categories were taken over from PEPS to ensure international comparability. In detail, they are called *Methods*, *Microeconomics*, *Macroeconomics, Introduction, Reflexive, Economic history, International, Money/Banking, Skills, Topics in economics, Business/Management/Law, Other economics, Open* and *Professionalisation*. A breakdown of the typical course names they include is provided in table 1.

The module types are used to aggregate and weight the courses accordingly. Finally, obligatory courses exhibit a weight of one, while obligatory elective and elective courses typically have weight smaller than one. The detailed individual steps to construct the dataset are to be found in the appendix.

available information.

Table 1: Categories and associated courses

Methods	Mathematics	Statistics, Probability	Econometrics	Data analysis	Optimisation	*Experimental economics*
Microeconomics	Microeconomics	Game theory	Industrial economics	Contract theory	*Behavioural Economics*	*Decision theory*
Macroeconomics	Macroeconomics, including growth	National Accounts	Public policies, public policy	Public Finance	Economics of the public sector, Public economics	Economic policy
Introduction	(Introduction to) Economic analysis	Introduction to economics				
Reflexive	History of economic thought	Epistemology, Philiosophy of science	Economic theories	*Business ethics*	*Ethics of the social market economy*	
Economic history	Economic problems	Economic history				
International	International economics	Economic geography	Development economics	European economics		
Money/Banking	Monetary theory – and policy	Banking	Financial economics			
Skills	Methodology	Foreign languages	Computer courses	*IT-related courses*		
Topics in economics	Economics of inequality	Communication economics, Internet economics	Environmental economics, health economics	Labour economics, economics of organisations	Tax	Other topics in economics (e.g. Economics of sth.)
Business/Management/Law	Management, *Fundamentals of Business Administration*	Law	Accounting	Human resources	*Production & Organisation, Logistics*	*Marketing*
Other economics	Political economy	Choice of any course in economics or management	Others (e.g. sports)			
Open	Social sciences (including demography)	Choice of any course, without restriction	General knowledge			
Professionalisation	Projects	Internships				

Topical categories and corresponding courses/course titles following PEPS (2014). Courses/course titles added by the authors are in italics.

It should be noted already that this methodology leaves room for substantial improvement, especially concerning the categorisation (see methodological remarks in the appendix). Nonetheless, we left the categories unchanged to make sure the results are internationally combarable. The data thus generated may contribute to gain a first descriptive overview about the importance of the subject areas under consideration, in individual degree programs as well as on the national level. The figures may then be compared to results from twelve other countries (see section 4.2). They moreover enable us to build a ranking of the universities concerning the share of selected categories (see section 5), which were before identified as important for a pluralist teaching in economics in section 2. These are the subject areas *Reflexive*, *Economic history* and *Open.* On one hand, they embed the prevalent economic theories and debates historically. On the other hand, topics which are mostly covered in a mathematical-formal way by economists, may be covered by other social scientists with theories from political science or sociology (of science), or using qualitative as well as quantitative methods, hence providing other or additional perspectives. We specifically examine the prevalence of methodological pluralism by separately analysing the offer of qualitative methods. As is stressed by PEPS (2014) and in section 2.1, no general evidence about the pluralism of theories in the courses may be extracted however.

Beyond the average weighting, we furthermore calculated a scenario in which it is assumend that students choose the maximum amount of credit points attainable in a certain subject area. This is possible, because the options that students have were captured sufficiently well from the examination regulations. Of course, due to the sometimes complex combination possibilities, a certain error margin remains of the statistical recording. For the calculation of the shares of the topical categories, the ECTS points of every module category are added up until the maximally attainable amount of credit points for that module category is reached, and the sum is related to the total number of ECTS of the curriculum. Thus, it may be derived how big the share of courses of a certain topical category is on average or at individual universities.[13]

[13] From this calculation method, another possible caveat for our analysis may be noted, which is due to the category *Open*: There, we find in particular completely free elective modules, where in principle also courses from the other 13 categories may be accredited, hence biasing our results. Because the categories we analyse in greater detail apart from *Open* (*Reflexive* and *Economic history*) are rather small (see section 4.1) though, the combined restriction that the corresponding formula, which states that the amount of ECTS credits that may be chosen from must be smaller than the maximally creditable amount of ECTS in that module category, comes into play plus there being a free elective module in the curriculum, is practically never violated however.

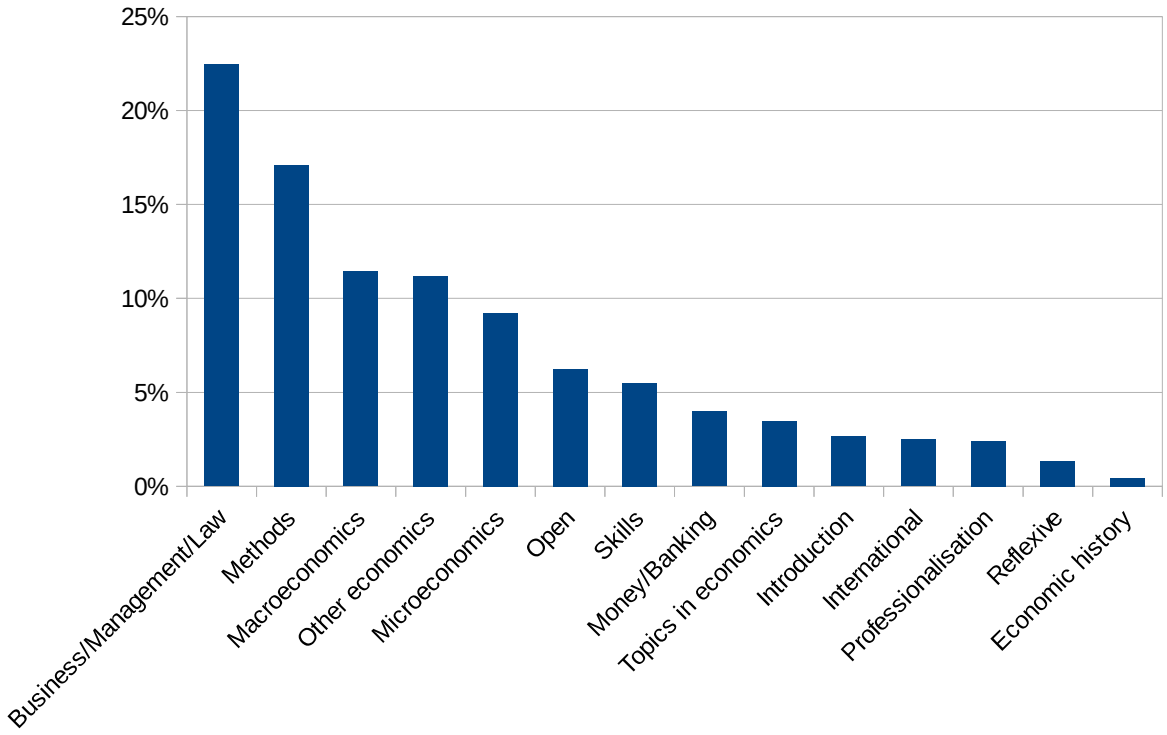
4. Results

In what follows, we firstly summarise the results for the average shares of the subject areas in the average undergraduate economics curriculum at the 54 universities considered in our study. Afterwards, the data are further analysed descriptively, and compared to international results from 13 countries overall. The outcomes of the hypothetical summary that assumes students take the maximally possible amount of courses of a topical category, are found in table 9 and figure 6 in the appendix.

4.1 Summary

The results show that the courses in German undergraduate economics degree programmes are dominated by the categories *Business/Management/Law* (22.45%), *Methods* (17.11%), *Macroeconomics* (11.43%) und *Microeconomics* (9.23%), see figure 1. The level of these average values can be explained by the methodology to a smaller extent because partially, too many courses are included in these categories (see methodological remarks in the appendix). Nevertheless, they mark the key areas of economic teaching in Germany. In contrast, other categories are underrepresented, especially those which were most likely identified as plural: Particularly weak are *Reflexive* (1.36%) and *Economic history* (0.45%) courses. The subject area *Open*, which combines free electives and courses from neighbouring social sciences, is midrange (6.25%). The category *Topics in economics,* which contains courses like labour economics or the economics of inequality, also comes in rather low at 3.48%. We evaluate the size of the category *Other economics* (11.19%) mainly as a statistical artefact stemming from its composition: It contains Bachelor's thesis modules as well as electives from economics and business studies, and the very number of political economy courses. The comparably small share of the category *Professionalisation* (2.42%), which captures for instance internships and projects, could indicate that the importance of employability is below average. However, this possibility is mitigated by the somewhat bigger category *Skills* (5.49%), because it includes capabilities and qualifications like presentation skills, which are likewise relevant for graduate labour market performance. If all more or less “pure” economics subject areas (*Methods, Microeconomics, Macroeconomics, Introduction, Economic history, International, Money/Banking, Topics in economics, Other economics*) are added up, we get a share of 63.18% of the average curriculum.

Figure 1: Category shares, German economics undergraduate curricula



Mean values for 54 curricula. Source: Own calculations.

Additionally, it is worth looking at the distribution of the data in more detail, for instance at the histograms of the categories (see figures 7 and 8 in the appendix). Most noticeably, courses from *Economic history* are practically absent from almost three quarters (bin ranging from 0 to 0.43%), *Reflexive* courses from two thirds (bin ranging from 0 to 1%) and *Open* courses from almost half (bin ranging from 0 to 0.34%) of the universities. The value is actually zero at 38 (*Economic history*), 20 (*Reflexive*) and 10 (*Open*) universities, respectively. This means that in 70% of the curricula under scrutiny there is no room for economic history, in 37% there are no ethics, philosophy of science or history of economic thought and in 18.5% no courses from neighbouring social sciences or free electives are available. Other widespread topics can of course be found everywhere, like *Methods*, *Macro, Micro* and *Other economics.* The shares of the biggest category *Business/Management/Law* are even approximately normally distributed over the universities. In the face of the Bologna reforms which should have fostered employability over their implementation in the last 15 years, it is surprising that in half of the curricula (bin ranging from 0 to 1%), practically no internships or

projects are fixed. The share of this category *Professionalisation* is actually zero at 21 universities, which corresponds to 38.9% of the sample.

We furthermore analysed the availability of qualitative research methods in the Geman degree programmes. Despite the high share of the *Methods* category, there was not a single course teaching qualitative methods in any of the obligatory modules. Only 15 universities explicitly offer to economics students to take such courses in (obligatory) elective parts of the curriculum, these are 27.8% of the sample. Another 15 universities offer free elective modules, where students probably may take qualitative methods, even though it is not explicitly mentioned. Therefore, it is often (for 44.4% of degree programmes) not true to say that „interested students may easily close existing gaps in the economics curriculumby attending lectures at other departments *(translation by the authors)*", as Dreher (2014) postulates.

Adding to this, we disaggregated the data along geographical regions. Analysing the universities in East and West Germany separately uncovers some interesting differences: The ten degree programmes at East German universities[14] exhibit more courses from *Business/Management/Law* in the curriculum (21.7% West vs. 25.77% East), alike more from the categories *Reflexive* (1.19% vs. 2.11%) and *Skills* (5.21% vs. 6.74%). A smaller share is found for *Micro* (9.71% West vs. 7.14% East), *Money/Banking* (4.38% vs. 2.23%) and *International* (2.74% vs. 1.43%). Admittedly, the reported differences are only significantly different from zero for *Micro*, Money*/Banking* and *International*. This is not the case for *Business/Management/Law*, *Reflexive* and *Skills.* Consequently, only the East German deviations to below are significant, the ones to above are probably driven by single degree programmes. This indicates a high variance, not surprising for n=10. Further results of the West-East analysis are to be found in table 8 in the appendix.[15]

4.2 International Comparison

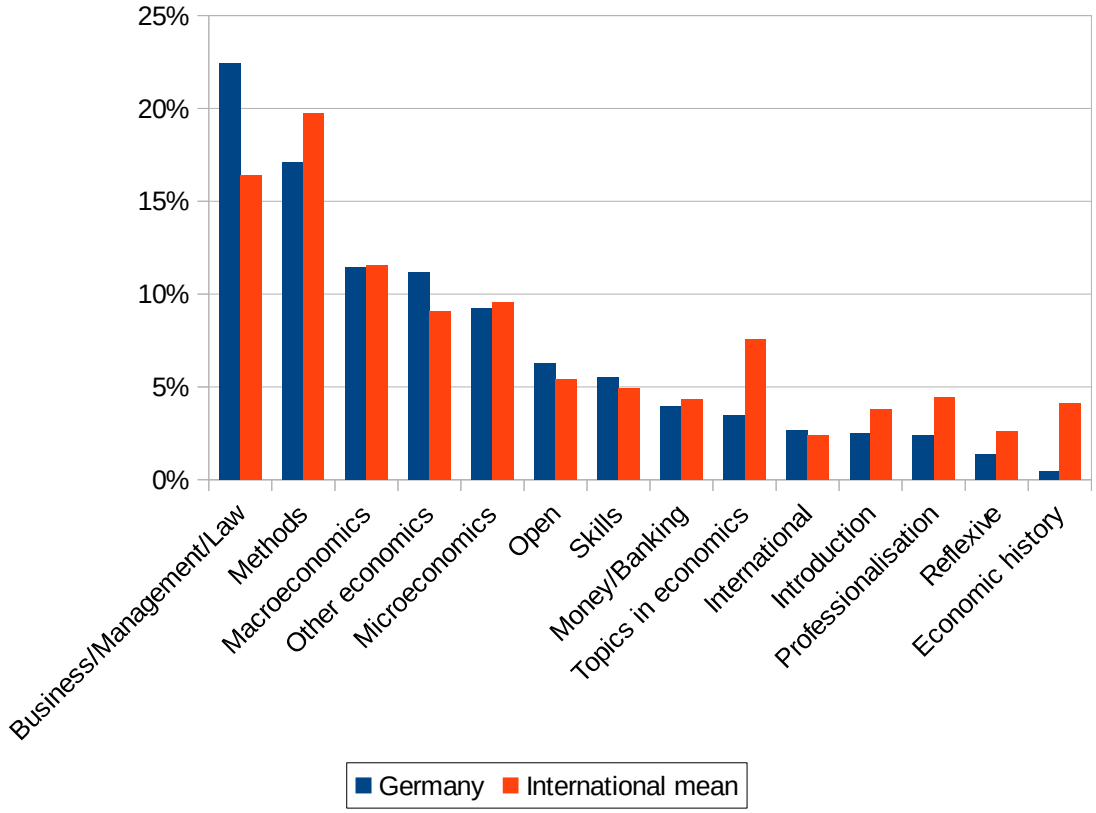
In twelve more countries (Argentina, Brazil, Chile, Denmark, France, Israel, Italy, Mexico, Portugal, Spain, Turkey and Uruguay) data which are comparable to ours were collected by local

[14] These are the universities in Rostock, Potsdam, Magdeburg, Halle-Wittenberg, Leipzig, Chemnitz, Dresden, Jena, Erfurt and the Humboldt University Berlin. The latter counts as East German, because it is located in former East Berlin and its economics department was massively reshaped in 1992, equivalently to how it was done in other East German universities already earlier. For a case study of these transformation processes, which had strong effects on the personal and topical plurality of the departments, see Düppe (2015).

[15] Some additional calculations by means of different definitions of North and South Germany are available from the authors.

ISIPE groups[16]. Including the German ones, 418 curricula are in the sample. In international comparison, the following picture emerges (see figures 2 and 3 and table 2): German universities offer little *Reflexive* und *Economic history* courses, but are above average for the *Open* category. Over all countries, only 12.4% of courses are in subject areas which were identified as important for a pluralist concept of teaching in section 2. The focus of universities, both in Germany and internationally, clearly lays on the categories *Methods*, *Business/Management/Law*, *Macro* and *Micro*. Unsurprisingly, they form the core of economic teaching (see also Jatteau 2016).

Figure 2: Category shares in international comparison



International: Mean value over 13 countries, Germany: Mean value over 54 curricula. Sources: Jatteau (2016), own calculations.

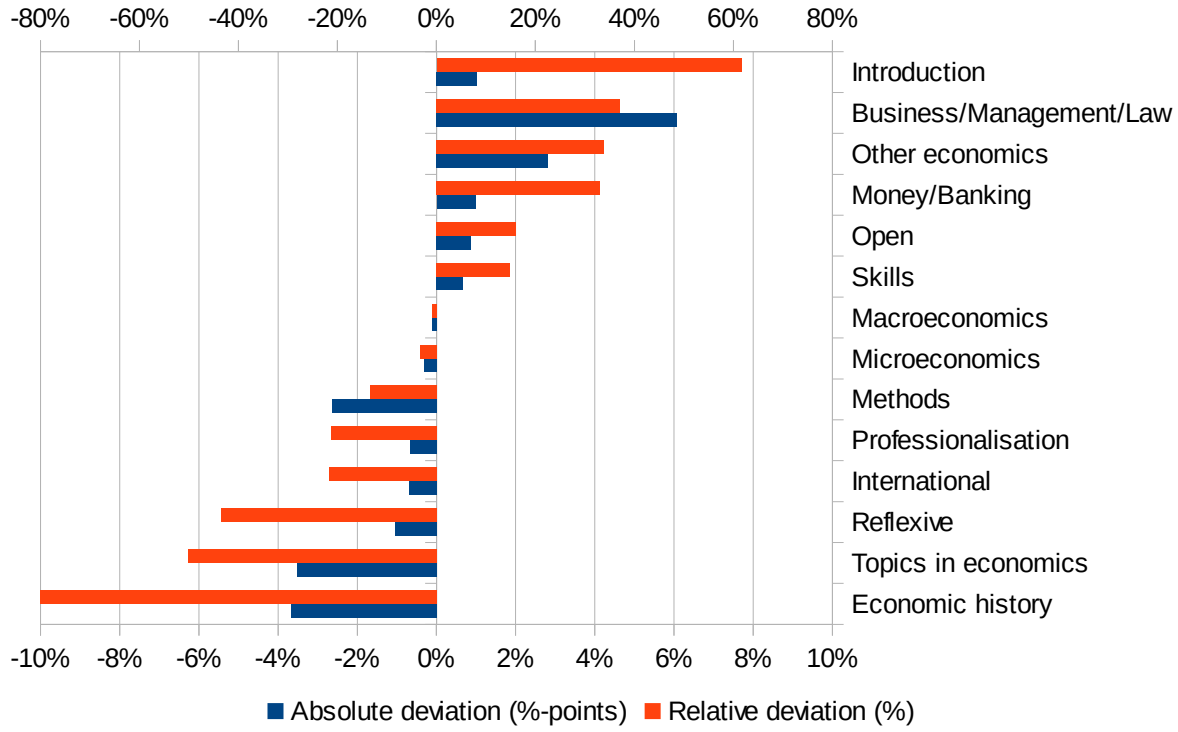
Anyhow, the comparably high share of *Business/Management/Law* in Germany is noticeable. It may partially be explained by the fact that a third of the degree programmes we analyse carry "Wirtschaftswissenschaft"[17] in the title. Curricula thus entitled combine economics and business studies contents, hence they contain a structurally higher amount of business ad-

[16] Even though all participants used the same approach, some margin of error possibly arises due to subjective decisions, particularly when sorting the courses into the categories.

ministration courses than a "classical" economics curriculum. This hypothesis seems to carry some explanatory power in our sample, as because the sub-sample of the 18 "Wirtschaft-swissenschaft" curricula indeed shows a bigger share of *Business/Management/Law* than the remaining 36 curricula (28.5% vs. 19.4%)[18].

The further absolute and relative deviations from the international mean can be found in table 2 and figure 3. Noteworthy for Germany are downward deviations for *Topics in economics*, and upward deviations for *Other economics*, *Introduction* and *Money/Banking*.

Figure 3: German deviations from the international average



International: Mean value over 13 countries, Germany: Mean value over 54 curricula. Sources: Jatteau (2016), own calculations.

[17] This German term literally means "economic science" and comprises both economics and business studies, which are traditionally somewhat more separated in Germany.

[18] In a standard (Welch) t-test, the difference between the two sub-samples is significantly different from 0 (p=0.0003) and obviously greater than 0 (p=0.0001).

Table 2: German economics undergraduate curricula in international comparison

Categories	International	Germany	Absolute deviation (%-points)	Relative deviation (%)
Economic history	4.11%	0.45%	-3.7	-89.0
Topics in economics	6.99%	3.48%	-3.5	-50.2
Reflexive	2.40%	1.36%	-1.0	-43.5
International	3.19%	2.66%	-0.7	-21.7
Professionalisation	3.07%	2.42%	-0.7	-21.3
Methods	19.73%	17.11%	-2.6	-13.3
Microeconomics	9.54%	9.23%	-0.3	-3.2
Macroeconomics	11.53%	11.43%	-0.1	-0.9
Skills	4.53%	5.49%	0.7	14.8
Open	5.38%	6.25%	0.9	16.1
Money/Banking	2.99%	3.98%	1.0	33.1
Other economics	8.36%	11.19%	2.8	33.8
Business/Management/Law	16.38%	22.45%	6.1	37.1
Introduction	1.64%	2.50%	1.0	61.6

International: Mean value over 13 countries, Germany: Mean value over 54 curricula. Sources: Jatteau (2016), own calculations.

5. Ranking of German universities

The upcoming section attempts explore in greater detail the three categories in our analysis which on the one hand allow for a reflexive view on economic topics and on the other hand include the highest share of plural elements. In two of these categories, German universities come off badly compared to the international average.

Below, a ranking of the universities is constructed along two dimensions: Firstly, according to the average shares that their curricula exhibit in the categories *Reflexive*, *Economic history* and *Open*. These figures may serve as an indicator for the prevalence of such courses in the core of the curricula, because obligatory courses receive a bigger weight than (obligatory) electives. It is thus estimated how much students on average make contact with these topics as they complete their studies.
Secondly, another column of analysis analyses the how much pluralism is possible when choosing elective courses accordingly. Hence, me may tell at which universities a particularly plural education may be received when striving for it. Therefore, we have calculated how many ECTS credit points may be accredited from the respective categories in a curriculum (see section 3.2).
Here, we report the shares of universities in the top ten, including the name of the curriculum.[19]

Already the category *Reflexive* shows that the results of the ranking differ with respect to the evaluation method (table 3). Frankfurt comes in first twice, which indicates that the university's undergraduate economics curriculum has incorporated the biggest share of pluralist content of this category in its core. The weighted average share is 9.75%, which increases to 18.89% if students were to align their studies according to a pluralist agenda. Another strong competitor in this category is the University of Halle-Wittenberg which ranks third or fourth in the two scenarios. Also in Mannheim and Oldenbourg, roughly 17% of the ECTS credit points may at maximum be achieved in this category. Here, the courses offered are predominantly (obligatory) electives, which is why the two curricula do no not show up in the weighted average top ten. Erfurt is midrange of the top ten in both scenarios, which reflects

[19] The complete Ranking is available from the authors.

that “reflexive” courses are taught in obligatory courses, but some additional offer is available as well.

Table 3: ***Ranking in the category Reflexive*** *(History of economic thought, Ethics, Philosophy of science, Epistemology)*

PLACE	WEIGHTED AVERAGE	MAXIMUM CREDITS TAKEN
1	**Frankfurt** Bachelor of Science Wirtschaftswissenschaft Vertiefung Economics (9.75%)	**Frankfurt** Bachelor of Science Wirtschaftswissenschaft Vertiefung Economics (18.89%)
2	**Lüneburg** Bachelor of Science VWL (8.33%)	**Mannheim** Bachelor of Science Wirtschaftswissenschaften (17.02%)
3	**Halle-Wittenberg** Bachelor of Science VWL (7.16%)	**Oldenburg** Bachelor of Arts Wirtschaftswissenschaften (16.67%)
4	**Dresden** Bachelor of Science Wirtschaftswissenschaften Schwerpunkt VWL (5.56%)	**Halle-Wittenberg** Bachelor of Science Volkswirtschaftslehre (13,89%)
5	**Siegen** Bachelor of Science VWL (4.44%)	**Erfurt** Bachelor of Arts Staatswissenschaften mit Hauptstudienrichtung Wirtschaftswissenschaften (11.67%)
6	**Erfurt** Bachelor of Arts Staatswissenschaften mit Hauptstudienrichtung Wirtschaftswissenschaften (4.42%)	**Leipzig** Bachelor of Science Wirtschaftswissenschaften (11.11%), **Erlangen- Nürnberg** Bachelor of Arts Wirtschaftswissenschaften (11.11%)
7	**Hamburg** Bachelor of Science VWL (3.33%), **Bremen** Bachelor of Science VWL (3.33%)	**Bremen** Bachelor of Science Volkswirtschaftslehre (10.00%)
8	**Kassel** Bachelor of Science Wirtschaftswissenschaften (2.86%)	**Lüneburg** Bachelor of Science Volkswirtschaftslehre (8.33%)
9	**Hamburg Bundeswehr** Bachelor of Science Volkswirtschaftslehre (2.78%); **Kiel** Bachelor of Science Volkswirtschaftslehre (2.78%)	**Magdeburg** Bachelor of Science Volkswirtschaftslehre (6.67%); **Düsseldorf** Bachelor of Science Volkswirtschaftslehre (6.67%)

Source: Own calculations.

Table 4: ***Ranking in the category Economic history*** *(Economic history and selected economic problems)*

PLACE	WEIGHTED AVERAGE	MAXIMUM CREDITS TAKEN
1	**Siegen** Bachelor of Science Volkswirtschaftslehre (4.29%)	**Mannheim** Bachelor of Science Wirtschaftswissenschaften (15.96%)
2	**Tübingen** Bachelor of Science Economics & Business Administration (2.84%)	**Hohenheim** Bachelor of Science Wirtschaftswissenschaften (11.67%), **Berlin HU** Bachelor of Science Volkswirtschaftslehre (11.67%)
3	**Berlin HU** Bachelor of Science Volkswirtschaftslehre (2.62%)	**München** Bachelor of Science Volkswirtschaftslehre (10.00%), **Siegen** Bachelor of Science Volkswirtschaftslehre (10.00%)
4	**Jena** Bachelor of Science Wirtschaftswissenschaften (2.35%)	**Jena** Bachelor of Science Wirtschaftswissenschaften (8.33%)
5	**Mannheim** Bachelor of Science Wirtschaftswissenschaften (2.21%)	**Hannover** Bachelor of Science Wirtschaftswissenschaft (6.25%)
6	**Cologne** Bachelor of Science Volkswirtschaftslehre sozialwissenschaftliche Richtung (1.67%), **Munich** Bachelor of Science Volkswirtschaftslehre (1.67%)	**Tübingen** Bachelor of Science Economics & Business Administration (5.00%)
7	**Kiel** Bachelor of Science Volkswirtschaftslehre (1.31%)	**Bonn** Bachelor of Science Volkswirtschaftslehre (4.17%)
8	**Berlin FU** Bachelor of Science Volkswirtschaftslehre (1.15%)	**Berlin FU** Bachelor of Science Volkswirtschaftslehre (3.33%), **Cologne** Bachelor of Science Volkswirtschaftslehre (3.33%)
9	**Magdeburg** Bachelor of Science Volkswirtschaftslehre (0.94%)	

Source: Own calculations.

Also for *Economic history,* the rankign shows both intersections and differences between the two scenarios. At Humboldt University Berlin and at the University of Siegen, economic history is part of the obligatory part of the curriculum, which is why they are present in the top three in both. Mannheim exhibits the biggest elective offer, but also Tübingen, München and and Free University Berlin score well overall. However, it becomes apparent that the average

figures in the top ten of the curricula fall short of the shares of *Reflexive* courses. They are roughly half their size only, even though the former are below 10% as well.

Table 5: ***Ranking in the category Open*** *(Social sciences, general knowledge and free electives)*

PLACE	WEIGHTED AVERAGE	MAXIMUM CREDITS TAKEN
1	**Erfurt** Bachelor of Arts Staatswissenschaften Hauptstudienrichtung Wirtschaftswissenschaften (34.80%)	**Erfurt** Bachelor of Science Staatswissenschaft Hauptrichtung Wirtschaftswissenschaften (53.33%)
2	**Bamberg** Bachelor of Science European Economic Studies (28.44%)	**Würzburg** Bachelor of Science Wirtschaftswissenschaften (38.89%)
3	**Konstanz** Bachelor of Science Wirtschaftswissenschaften (24.62%)	**Trier** Bachelor of Science Economics and Finance (36.11%)
4	**Heidelberg** Bachelor of Science Economics (Politische Ökonomik) (18.89%)	**Konstanz** Bachelor of Science Wirtschaftswissenschaften (34.44%)
5	**Trier** Bachelor of Science Economics and Finance (17.78%)	**Bamberg** Bachelor of Science European Economic Studies (33.33%)
6	**Dortmund** Bachelor of Science Volkswirtschaftslehre (12.78%)	**Mannheim** Bachelor of Science Wirtschaftswissenschaften (30.32%)
7	**Karlsruhe** Bachelor of Science Technische Volkswirtschaftslehre (12.29%)	**Potsdam** Bachelor of Science Volkswirtschaftslehre mit Ergänzungsfach BWL. Rechtswissenschaft oder Soziologie (23.33%), **Oldenburg** Bachelor of Arts Wirtschaftswissenschaften (23.33%)
8	**Hamburg Bundeswehr** Bachelor of Science Volkswirtschaftslehre (11.67%)	**Halle-Wittenberg** Bachelor of Science Volkswirtschaftslehre (22.22%)
9	**Kassel** Bachelor of Science Wirtschaftswissenschaften (11.43%)	**Gießen** Bachelor of Science Wirtschaftswissenschaften (21.67%)
10	**Leipzig** Bachelor of Science Wirtschaftswissenschaften (10.06%)	

Source: Own calculations.

The category *Open* exemplifies that many courses from neighbouring social sciences, especially political science and sociology, are offered in the top bracket. Economic theories may hence be complemented or contrasted, for instance the neoclassical labour market model with sociological precarity research, or the analysis of economic policy institions through the analysis of political systems and their capacity to act. For example in Erfurt, this interdisciplinary self-concept is explicitly fixed in the description of the degree programme. But also Würzburg, Bamberg, Konstanz or Trier exhibit large elective areas in the curricula, which may be filled with courses from neighbouring social sciences or allow to gain insights from further disciplines like psychology or the natural sciences.

In the above section, we constructed rankings for three categories (*Reflexive, Eonomic history, Open*) which comprised of both the average weighted by the attainable number of ECTS credit points, and a hypothetical scenario which assumes that the maximum amount of courses of the respective category is taken[20]. In the overall view, some universities show up several times, but none is always among the top three. Frankfurt for instance leads in the *Reflexive* category, but is absent from the top 10 in the other two categories. The University of Mannheim seems to offer a lot of (obligatory) elective courses, which is not surprising as the economics department is rather large for German standards. It shows up as one of the top ten in the hypothetical maximum attendance scenario of all three categories. This examples illustrate that it is worth taking a disaggregated look at the data: On average over 54 universities, only 1.36% and 0.5% of courses in economics curricula in Germany are taught in economic history or "reflexive" subject areas. However, upward deviations are possible for individual curricula, in the weighted average up to almost 10% for *Reflexive* and 4.3% for *Economic history.* In the category *Open*, which measures courses from neighbouring social sciences and free elective areas, a whole range of universities exhibits shares of well above 10%.

[20] The difference between the two arises due to the (obligatory) electives in the curricula, see section 3.

6. Conclusions and outlook

This paper analyses which topics dominate the undergraduate economics curricula in Germany, and which ones are underrepresented. Therefore, we assembled a whole new data set based on module manuals, examination regulations and degree programme descriptions at 54 universities. We assign the courses therein to 14 topical categories, three of which we deem important for a pluralist concept of teaching acording to the literature on pluralism in economic teaching. These are “reflexive” (Ethics, Philosophy of science, History of economic thought, and alike), economic history and “open” (free elective areas and courses from neighbouring social sciences) courses. Courses are recorded with their respective ECTS credit points, so that shares of the curriculum can be calculated. Firstly, courses are weighted acording to the credit points that can be accredited by taking them, which implicitly assumes that students on average have no preference for specific topics. Thus, obligatory courses contribute to the final results with a bigger weight than (obligatory) electives. In a second scenario, we assume that the attainable amount of credit points of some category is maxed.

This approach allows us to throw a first glimpse on the state of the methodological pluralism and the interdisciplinarity of the curricula, but we can say close to nothing about the pluralism of theories in teaching due to the quantitative nature of the study. We find that relatively few courses dealing with economic history (0.45%) or the philosophy of science, business ethics and other “reflexive” content (1.36%) are part of the curricula on average. The interdisciplinary offer is somewhat bigger (6.25%), nevertheless all three categories combined still make up less then ten percent of the average curriculum. Moreover, the collection of data in twelve more countries by local pluralist student groups allows for a, yet limited, international comparison. German universities do particularly poorly for economic history and “reflexive” courses, which are 89% and 47.8% below the international mean, respectively. Hence, we interpret this a confirmation of criticisms of university economics teaching, which lament the lack of “reflexive”, economic history and qualitative method courses. The prevalence of the latter is analysed separately, showing that they are completely absent from 44.4% of the curricula.

Finalising, rankings for the three rather plural categories were constructed using the two scenarios. Complementing the points of criticism mentioned before, they make visible which

universities have already implemented more plural courses in their curricula.[21] Some, like the universities in Erfurt or Mannheim, take leading positions in several of the three categories. Others are represented stronly in some, like Humboldt-University Berlin and the University of Siegen for economic history, or the universities in Frankfurt and Halle-Wittenberg for reflexive courses. Still, no university is among the top three in all categories, which indicated that none of the analysed curricula completely covers all dimensions of pluralism under scrutiny.

This paper is no more than a first step and could be extended. For instance, interesting isnights might be gained from some information we have gathered for the German part of the project on top of the international default. These are so far only included in the raw data and have not been included in the final results. Especially, we collected the type (seminar, lecture, exercise, hybrids, etc.) and the (recommended) semester of the courses, as well as information on the examination method. The latter contain the type (written exam, oral exam, essay, etc.) on a [0,1] scale. Unfortunately, this type of information was unavailable for a large number of universities.

Another possible avenue to improve the results could consist in weighting the curricula, for instance according to the number of students enrolled in a particular programme. So far, all curricula are weighted equally in the national result, which does not take into account that some universities are far more important than others.

Adding to that, it would of course be desirable to extend the study to include more curricula. A prime target would be universities of applied sciences, and curricula with a major-minor structure which so far were mostly not included due to capacity constraints. Examples include the interdisciplinarily oriented “Economics” undergraduate programme at the Berlin School of Economics and Law (HWR), or the Bachelor's degree “VWL sozialwissenschaftlicher Richtung”[22] at the University of Cologne, which is not included in the study in contrast to the standard “VWL” degree at the same place. It could be expected that a bigger plurality is present in the aforementioned curricula, on the hand because minor subjects bring impulses

[21] With respect to the definition introduced in footnote 1, “plural” refers mostly to pluralism of methods and interdisciplinarity, because we can say very little about the pluralism of theories taught. Telling whether there are history of economic thought courses is possible, telling which theories are taught in macroeconomics classes is not.

[22] Economics with a social science minor.

from other disciplines. On the other, it is save to assume that heterodox schools of economic thought have survived rather at universities of applied sciences like the HWR.

In this context, it would moreover be interesting to capture and interpret the development of the module manuals over time. The time dimension would add another source of variation to the data. Such an analysis could tie up with Thornton (2013), and also compare the development of the German curricula in terms of pluralism relative to a base year, say 1980. This could help to empirically test the hypothesis that heterodox economists, and hence their contribution to teaching, were increasingly marginalised in economics departments over the course of the 1980s and 90s (see Dow 2007, for Germany Heise & Thieme 2015). Another interesting avenue for further research could be a comparison to the pre-financial crisis of 2008 situation, in order to detect any shifts in the teaching of economics since then. Here, the year 2000 presents itself as a base year, as it coincides with the start of the latest critical students' movement (see introduction).

A final proposal would be the extenstion of the so far exclusively quantitative approach: If the full raw data were distributed to local groups of the Network for Pluralist Economics, possibly intersting information could be gathered on the actual teaching content of different courses, for instance from personal experience or analysing university calendars. However, this approach would be limited to universities with interested groups or individuals, who would have to spend time and effort. Besides that, it could introduce even more subjectivity to the study, as a larger number of participants may have difficulties agreeing on standards for the appraisal of courses.

7. References

Autisme Economie (2000): "Lettre ouverte des étudiants en économie aux professeurs et responsables de l'enseignement de cette discipline", accessed on May 11, 2016, http://www.autisme-economie.org/article2.html.

Bachmann, R. (2012): "Lernt unsere Sprache, bevor ihr mitredet", Spiegel Online, accessed on May 14, 2016, http://www.spiegel.de/unispiegel/studium/ein-uni-oekonom-teilt-aus-lernt-unsere-sprache-bevor-ihr-mitredet-a-807029.html.

Bachmann, R. (2015): "Bachmanns Konferenzgeflüster (5): Was heißt hier Mainstream?", Fazit, accessed on May 14, 2016, http://blogs.faz.net/fazit/2015/09/14/bachmanns-konferenzgefluester-5-was-heisst-hier-mainstream-6514/.

Badeen, D. (2013): "Ontology, pluralism, and economics education", *Int. J. Pluralism and Economics Education*, 4 (2), pp. 210–223.

Beckenbach, F., Daskalakis, M. & Hofmann, D. (2016): "Zur Pluralität der volkswirtschaftlichen Lehre in Deutschland. Eine empirische Untersuchung des Lehrangebotes und der Einstellung der Lehrenden", Final report of the project EconPlus, forthcoming November 2016.

Colander, D. (2000): "The Death of Neoclassical Economics", *Journal of the History of Economic Thought* 22, pp. 127-143.

Colander, D., Föllmer, H., Haas, A., Juselius, K., Goldberg, M., Kirman, A., Lux, T., & Sloth, B. (2010): "The financial crisis and the systemic failure of academic economics". *VOPROSY ECONOMIKI* 6.

Cooper, B. & Ramey, E. A. (2014): "Pluralism at work: Alumni assess an economics education", *International Review of Economics Education* 16 (B), pp. 63-72.

De Langhe, R. (2010): "How monist is heterodoxy?", *Cambridge Journal of Economics* 34, pp. 793-805.

Dobusch, L. and Kapeller, J. (2012): "Heterodox United vs. Mainstream City? Sketching a framework for interested pluralism in economics", *Journal of Economic Issues* 46 (4), pp. 1035–57.

Dow, S. (2007): "Pluralism in Economics", in J. Groenewegen (Ed.): *Teaching Pluralism in Economics*. Cheltenham: Edward Elgar, pp. 22-39.

Dreher, A. (2014): “Verteidigung der Ökonomie“, Ökonomenstimme, accessed on May 14, 2016, http://oekonomenstimme.org/a/733/.

Düppe, T. (2015): “Border cases between autonomy and relevance. Economic sciences in Berlin – A natural experiment“, *Studies in History and Philosophy of Science* 51, pp. 22-32.

Dürmeier, T. (2005): „Post-Autistic Economics. Eine studentische Intervention für plurale Ökonomik“, *Intervention* 2 (2), pp. 65–76.

Fauser, H., Kersting, F., Müller-Hansen, F. & Sacharow, A. (2016): "Missing bridges: A pluralist analysis of the debate on *Capital in the Twenty-First Century*", *Int. J. Pluralism and Economics Education*, forthcoming.

Garnett, R. F. & Reardon, J. (2011): "Pluralism in Economics Education", in: K. McGoldrick & G. Hoyt (Ed.): *International Handbook on Teaching and Learning Economics*, Chapter 23, Edward Elgar Publishing.

Heise, A. & Thieme, S. (2015): "What happened to heterodox economics in Germany after the 1970s", Discussion Paper 49, University of Hamburg, Centre for Economic and Sociological Studies (CESS/ZÖSS).

Hodgson, G.M., Mäki, U., McCloskey, D. N. (1992): "Plea for a pluralistic and rigorous economics.", *American Economic Review* 82 (2), p. 25.

ISIPE - International Student Initiative for Pluralism in Economics (2014): „An international student call for pluralism in economics“, accessed on April 29, 2016, http://www.isipe.net/open-letter/.

Jatteau, A. (2016): “An International Survey of Bachelor of Economics. Methodology, first results and evidence of lack in pluralism”, Presentation at the 1st ISIPE General Assembly in Paris, mimeo.

Mearman, A. (2008): “Pluralism and heterodoxy: Introduction to the Special Issue“, *Journal of Philosophical Economics* 1 (2), pp. 5–25.

Mearman, A, Wakeley, T., Shoib, G. & Webber, D. (2011): “Does Pluralism in Economics Education Make Better Educated, Happier Students? A Qualitative Analysis“, *International Review of Economics Education* 10 (2), pp. 50-62.

Negru, I. (2010): “Plurality to pluralism in economics pedagogy: the role of critical thinking“, *Int. J. Pluralism and Economics Education* 1 (3), pp. 185–193.

Netzwerk Plurale Ökonomik (2012): "Offener Brief", accessed on April 29, 2016, http://brief.plurale-oekonomik.de.

Peterson, J. (2013): "Economics Education after the Crisis: Pluralism, History, and Institutions", *Journal of Economic Issues*, 47(2), pp. 401-410.

Pilkington, M. (2014): "Economic theorising, discursive analysis and pluralism in the classroom: evidence from postgraduate teaching in a French university", *Int. J. Pluralism and Economics Education* 5 (4), pp. 308–326.

Siegfried, J. & Walstad, W. (2014): "Undergraduate Coursework in Economics: A Survey Perspective", *Journal of Economic Education* 45 (2), pp. 147-158.

Siegfried, J. & Wilkinson, T. (1982): "The Economics Curriculum in the United States: 1980", *American Economic Review* 72 (2), Papers and Proceedings, pp. 125-138.

Stilwell, F. (2006): "Four reasons for pluralism in the teaching of economics", *Australasian Journal of Economics Education* 3(1), pp. 42-55.

The Members of the **PEPS**-Economie Students' Association (2014): "The case for pluralism: what French undergraduate economics teaching is all about and how it can be improved", *Int. J. Pluralism and Economics Education* 5 (4), pp. 385–400.

Thornton, T. (2013): "The possibility of a pluralist economics economics curriculum in Australian universities: historical forces and contemporary strategies", PhD Thesis, La Trobe University Melbourne.

Thornton, T. (2014): "Are Employers Interested in Reforming the Economics Curriculum?" *Australasian Journal of Economics Education* 11(1), pp. 42-62.

Van Dalen, H. P. (2007): "Pluralism in Economics: A Public Good or a Public Bad?", in J. Groenewegen (Ed..): *Teaching Pluralism in Economics,* Cheltenham: Edward Elgar, pp. 40-63.

WEA (2013): "Interview with Dani Rodrik", WEA Newsletter 3(2), accessed on May 16, 2016, https://www.worldeconomicsassociation.org/files/newsletters/Issue3-2.pdf.

8. Appendix

Composition of the sample

Our sample includes 54 curricula at 54 universities (hence one curriculum per university), which are distributed over the federal German Länder as follows:

Table 6: Number of curricula per Bundesland

Bundesland	Number of curricula
Baden-Württemberg	8
Bayern	8
Berlin	3
Brandenburg	1
Bremen	1
Hamburg	2
Hessen	4
Mecklenburg-Vorpommern	1
Niedersachsen	5
Nordrhein-Westfalen	11
Rheinland-Pfalz	2
Saarland	0
Sachsen	3
Sachsen-Anhalt	2
Schleswig-Holstein	1
Thüringen	2
Sum	54

With full details, the curricula are:

Table 7: Curricula in the sample

No.	University	Name of curriculum	No.	University	Name of curriculum
1	Augsburg	Informationsorientierte VWL	28	Karlsruhe	Technische Volkswirtschaftslehre
2	Bamberg	European Economic Studies	29	Kassel	Wirtschaftswissenschaften
3	Bayreuth	Economics	30	Kiel	Volkswirtschaftslehre
4	Berlin FU	Volkswirtschaftslehre	31	Köln	Volkswirtschaftslehre
5	Berlin HU	Volkswirtschaftslehre	32	Konstanz	Wirtschaftswissenschaften
6	Berlin TU	Economics	33	Leipzig	Wirtschaftswissenschaften
7	Bielefeld	Wirtschaftswissenschaften	34	Lüneburg	Volkswirtschaftslehre
8	Bochum	Management and Economics	35	Magdeburg	Volkswirtschaftslehre
9	Bonn	Volkswirtschaftslehre	36	Mainz	Wirtschaftswissenschaften
10	Bremen	Volkswirtschaftslehre	37	Mannheim	Wirtschaftswissenschaften
11	Chemnitz	Wirtschaftswissenschaften	38	Marburg	Volkswirtschaftslehre
12	Dortmund	Volkswirtschaftslehre	39	München LMU	Volkswirtschaftslehre
13	Dresden	Wirtschftswissenschaften - Schwerpunkt Volkswirtschaftslehre	40	Münster	Volkswirtschaftslehre
14	Duisburg-Essen	Volkswirtschaftslehre	41	Erlangen-Nürnberg	Wirtschaftswissenschaften
15	Düsseldorf	Volkswirtschaftslehre	42	Oldenburg	Wirtschaftswissenschaften
16	Erfurt	Staatswissenschaften - Hauptstudienrichtung Wirtschaftswissenschaften	43	Osnabrück	Wirtschaftswissenschaften
17	Frankfurt (Main)	Wirtschaftswissenschaft (nur Vertiefung Economics)	44	Paderborn	Volkswirtschaftslehre
18	Freiburg	Volkswirtschaftslehre	45	Passau	Business Administration and Economics
19	Gießen	Wirtschaftswissenschaften	46	Potsdam	Volkswirtschaftslehre mit Ergänzungsfach BWL oder Rechtswissenschaft oder Soziologie
20	Göttingen	Volkswirtschaftslehre	47	Regensburg	Volkswirtschaftslehre
21	Halle-Wittenberg	Volkswirtschaftslehre	48	Rostock	Wirtschaftswissenschaften
22	Hamburg	Volkswirtschaftslehre	49	Siegen	Volkswirtschaftslehre
23	Hamburg BW	Volkswirtschaftslehre	50	Trier	Volkswirtschaftslehre
24	Hannover	Wirtschaftswissenschaft	51	Tübingen	Economics and Business Administration
25	Heidelberg	Economics (Politische Ökonomik)	52	Ulm	Wirtschaftswissenschaften
26	Hohenheim	Wirtschaftswissenschaften	53	Würzburg	Wirtschaftswissenschaften
27	Jena	Wirtschaftswissenschaften	54	Wuppertal	Wirtschaftswissenschaften

Methodological remarks

Concerning the categories provided by our French colleagues of PEPS (see table 1), we developed some doubts with respect to the rigour and coherence of the data while gathering and aggregating it.[23] For instance, it is unsatisfactory to have an *Other economics* category whose share is greater than 10% of the weighted average credit points. It combines Bachelor's Thesis modules, economics and business administration electives and political economy courses. Especially the latter may be more plural. At Free University Berlin for example, there is a course on Marxian political economy. This information is lost in the current set-up. Another issue arises for the *Macroeconomics* category, which currently contains also public finance and economic policy, which not necessarily have a macro focus. Adding to that, the *Money/Banking*-category includes some macroeconomics courses (particularly monetary theory and policy), but also many courses that could rather be assigned to business administration or finance. Moreover, an information technology category is missing, because the appropriate courses are currently inflating the *Skills* category, hence diminishing its meaningfulness. The same clearly holds for the *Business/Management/Law*-category, because it incomprehensibly comprises all law courses. Furthermore, little separation precision is given between the *Professionalisation* and *Skills* categories, we found the difference to be rather arbitrary in many cases. We see further room for improvement for courses in economic geography and economic policy, and for the category *Open*. For the latter the fundamental problem arises that free elective areas are not captured in a separate category, but mixed with other courses. This may be somewhat problematic for the hypothetical scenario which assumes the maximally possible amount of credit points is taken (see end of section 3.2).

Therefore, we propose the following changes for future studies or updates of the data set:

a) A new category *Public Finance* which captures courses formerly classified as *Macroeconomics*, as well as courses from *Topics in economics* that explicitly deal with taxation.

b) A new *Law* category.

c) The *Money/Banking* category should be modified such that macroeconomics-related courses are sorted into *Macroeconomics*, and business-related ones either into *Business/Management/Law* or a newly-created *Finance* category.

[23] It should be noted again at this point that the chronology of the drafting of the studies on the international level prevents us from changing the methodology for this paper. Because the German part was assembled after those in most other countries, we had to apply it unchanged for the sake of international comparability.

d) A new *Information technology* category, which should comprise of all IT content (both "pure" and business applications), except those that serve to acquire statistical programming skills – those should still be classified as *Methods*.

e) The *Open* category should be restricted to free electives.

f) A *Social science* category should be created.

g) Another category called *Other science* could be created, e.g. for natural science content.

h) The category *Other economics* should be restricted to (obligatory) electives in economics and business studies, sports and other remains could go elsewhere (see below).

i) *Professionalisation* and *Skills* should be merges as *Skills*, then containing courses on scientific work, internships, foreign languages, sports and general projects. Scientific projects would be sorted in their respective categories, interdisciplinary projects in *Open*.

j) *Economic geography* courses should be detached from *International* and either be made into a category of its own or attached to *Economic history*.

k) Political economy (currently *Other economics*) and economic policy (currently M*acroeconomics*) courses should be detached from their respective categories, merged into a new *Economic policy/political economy* category.

These changes would greatly enhance the information content of the study, as they rearrange some improvable categories, especially in the cases of *Other economics*, *Macroeconomics a*nd *Business/Management/Law*.

Another shortcoming of the study arises from restrictions with respect to material and human resources, namely the nonexistent knowledge about the actually taught course contents. It is mostly impossible to judge how a course looks like in practice, which textbooks are used etc., from reading the module descriptions. A macroeconomics course for instance might be predominantly neoclassical or have some Post-Keynesian flavour – typically, we can rarely tell from the available sources. This restricts the extent of the PEPS approach to the effect that in order to evaluate how the credit points are distributed over different topics, we

can only sort courses into the topical categories. Unfortunately, we thus cannot make statements about the prevalence of different schools of thought.

Construction of the data set

The following steps lead up the finally calculated shares of the respective categories in the curricula:

(1) Courses at the individual universities are collected in a raw data table (see figure 5), in the column of the respective module group. Every module group ("Basic studies", "Specialisation in economics", etc.) is assigned a module type (obligatory, obligatory elective, elective) in the header.

(2) In the "Analysis" column situated behind every module group column, the credit points from every of the 14 categories of this module group are summed up. In the header ("Zu erzielende ECTS") it is noted how many credit points can be credited maximally according to the examination regulation. Furthermore, the total credit points ("Gesamt ECTS") of all categories in this module group are summed up there. The attainable amount fo credit points is hence always strictly smaller than or equal to the amount of total credit points.

(3) In the aggregation columns ("Analyse der Universitäten") at the far right of the table, the total credit points for the three different module types for the 14 topical categories are summed up. The crucial feature for the final result however is the **weighted** summing up, which works as follows:

The sum of all available credit points for any category in every module group are multiplied by the amount of credit points that can be accredited there, divided by the total amount of credit points of the module group. Without using indices for the sake of simplicity, this may be written as $\sum [\sum CP * \overset{max}{CP} / \sum \overset{total}{CP}]$, where $\sum CP$ is the sum of credit points in some category in some module group, $\overset{max}{CP}$ is the maximally creditable amount of points in that module group ("Zu erzielende ECTS"), and $\sum \overset{total}{CP}$ is the total available amount of ECTS credit points in all categories in that module group („Gesamt ECTS").[24]

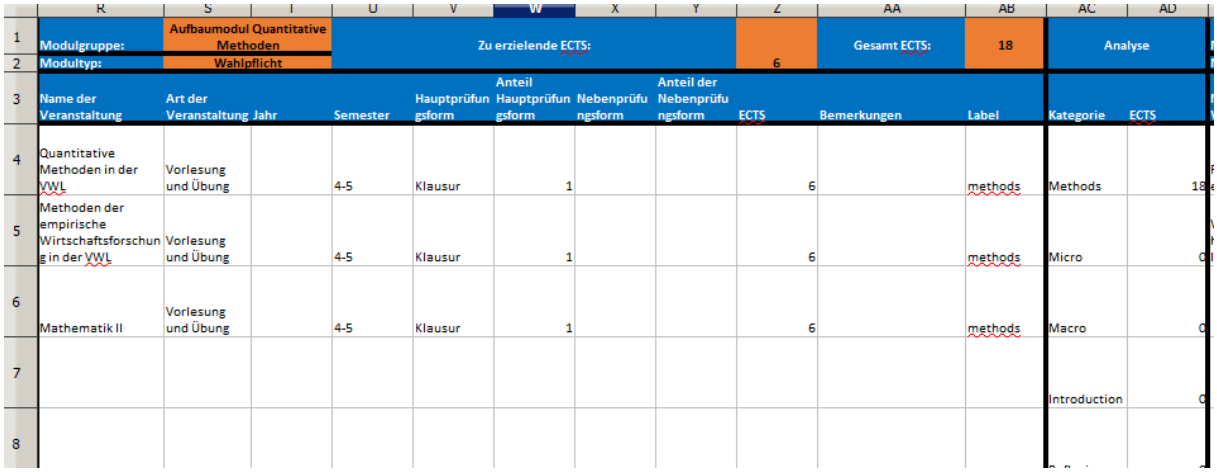
[24] A numerical example may be illuminating: Assume in the obligatory elective module "Finance and Economics", 6 ECTS credit points have to be reached according to the examination regulation. To achieve this, three courses are available: Two from the category *Money/Banking*, one from *Topics in economics*, each yielding 6

(4) These aggregates are then added up over the module groups, divided by the total ECTS credit points of the degree programme (typically 180). Hence, the shares of each category in the curriculum are calculated ("Creditable ECTS as share of total ECTS" in figure 5).

(5) These shares are subsequently aggregated on the national level by taking the un-weighted mean over all curricula.

(6) Alternatively, we calculate the hypothetical scenario which assumes that the maximally attainable amount of credit points is exhausted by students.

Figure 4: Raw data table of the German part



	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1	Modulgruppe:	Aufbaumodul Quantitative Methoden		Zu erzielende ECTS:					6	Gesamt ECTS:	18	Analyse	
2	Modultyp:	Wahlpflicht											
3	Name der Veranstaltung	Art der Veranstaltung	Jahr	Semester	Hauptprüfungsform	Anteil Hauptprüfungsform	Nebenprüfungsform	Anteil der Nebenprüfungsform	ECTS	Bemerkungen	Label	Kategorie	ECTS
4	Quantitative Methoden in der VWL	Vorlesung und Übung		4-5	Klausur	1			6		methods	Methods	18
5	Methoden der empirische Wirtschaftsforschung in der VWL	Vorlesung und Übung		4-5	Klausur	1			6		methods	Micro	0
6	Mathematik II	Vorlesung und Übung		4-5	Klausur	1			6		methods	Macro	0
7												Introduction	0
8													

The exemplary cutout shows a module group at the University of Cologne. Source: Own depiction.

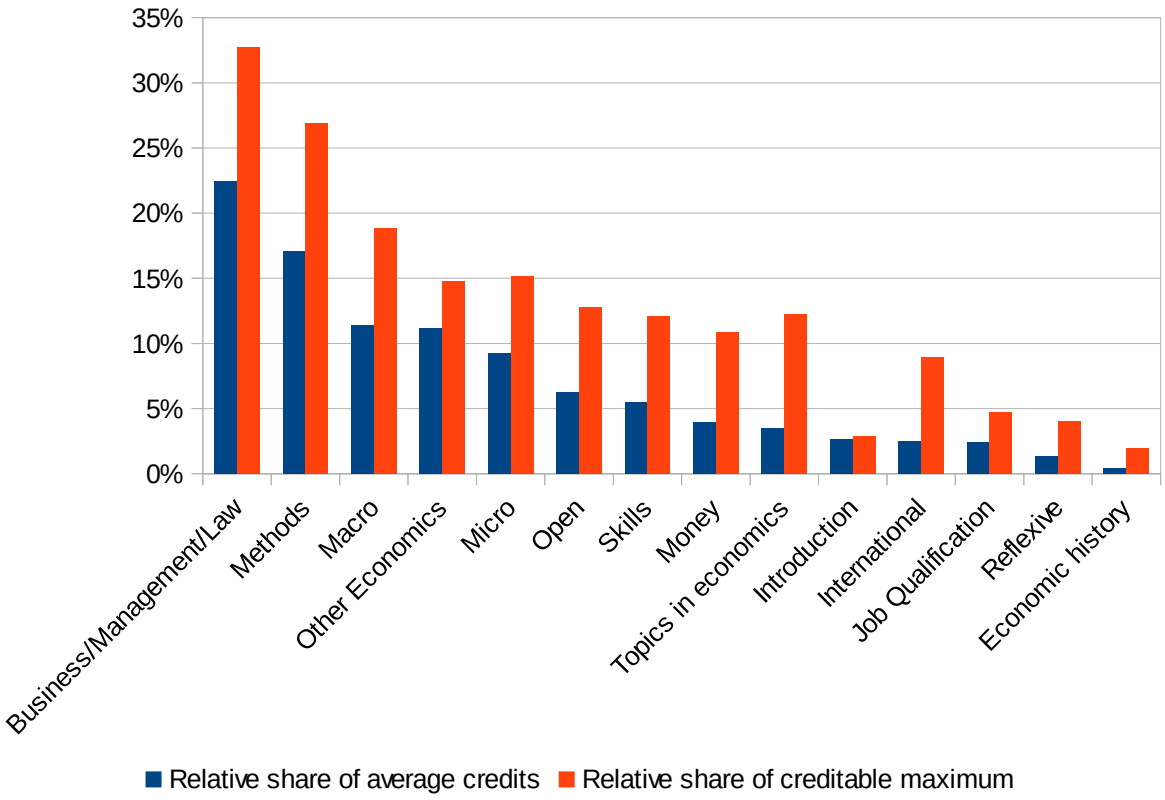
credit points when successfully completed. The two *Money/Banking* courses now contribute (6+6)*6/18 = 4 ECTS into the final weighted result, the single *Topics in economics* course is counted with 6*6/18 = 2 ECTS.

Figure 5: Analysis column of the raw data table

Analyse der Universitäten										
	Total theoretically available credits	Total credits from obligatory modules	Total credits from obligatory electives	Total credits from free electives	Weighted ECTS from obligatory modules	Weighted ECTS from obligatory electives	Weighted ECTS from free electives	Total weighted ECTS	Creditable ECTS as share of total ECTS	Theoretically creditable maximum
Methods	66	24	42	0	24.00	4.59	0.00	28.59	15,88%	54
Micro	28	10	18	0	10.00	1.52	0.00	11.52	6,40%	22
Macro	45	15	30	0	15.00	2.75	0.00	17.75	9,86%	33
Introduction	5	5	0	0	5.00	0.00	0.00	5.00	2,78%	5
Reflexive	0	0	0	0	0.00	0.00	0.00	0.00	0,00%	0
Economic facts	15	3	12	0	3.00	1.22	0.00	4.22	2,35%	15
International	6	0	6	0	0.00	0.92	0.00	0.92	0,51%	6
Money	18	6	12	0	6.00	1.22	0.00	7.22	4,01%	18
Methodology	52	16	36	0	16.00	4.92	0.00	20.92	11,62%	46
Topics in economics	12	0	12	0	0.00	1.85	0.00	1.85	1,03%	12
Business/Management	141	45	96	0	45.00	9.78	0.00	54.78	30,44%	75
Others	22	10	12	0	10.00	1.22	0.00	11.22	6,24%	22
Open	0	0	0	0	0.00	0.00	0.00	0.00	0,00%	0
Job Qualification	16	16	0	0	16.00	0.00	0.00	16.00	8,89%	16
totals	426	150	276	0	150	30	0	180	100,00%	324
Required ECTS in curriculum	180	150	30							

The cutout example shows the University of Jena. Source: Own depiction.

Figure 6: Category shares in German undergraduate economics curricula, weighted average vs. maximally possible credit points



Mean over 54 curricula. Source: Own calculation.

Table 8: Category shares, West vs. East Germany

Kategorie	Average West	Average East	Difference East-West (%-points)
Business/Management/Law	21.70%	25.77%	4.07
Economic history	0.41%	0.63%	0.22
International	2.74%	1.43%	-1.31
Introduction	2.62%	2.83%	0.22
Professionalisation	2.46%	2.23%	-0.22
Macro	11.42%	11.52%	0.10
Skills	5.21%	6.74%	1.53
Methods	17.32%	16.16%	-1.17
Micro	9.71%	7.14%	-2.57
Money/Banking	4.38%	2.23%	-2.15
Open	6.13%	6.78%	0.66
Other economics	11.19%	11.17%	-0.02
Reflexive	1.19%	2.11%	0.92
Topics in economics	3.53%	3.26%	-0.27

The differences between East (n=10) and West (n=44) are statistically significant for the categories Micro, Money/Banking and International. For the remainder, this is not the case. Source: Own calculations.

Table 9: Category shares in German undergraduate economics curricula, weighted average vs. maximally possible credit points

	Total theoretically available credits	Total credits from obligatory modules	Total credits from obligatory electives	Total credits from free electives	Weighted ECTS from obligatory modules	Weighted ECTS from obligatory electives	Weighted ECTS from free electives	Total weighted ECTS	Relative share of average credits	Theoretically creditable maximum	Relative share of creditable maximum
Business/Management/Law	123.20	26.05	92.01	5.15	25.82	14.31	0.82	40.96	0.22	59.74	0.33
Methods	56.46	25.42	28.99	2.06	25.33	5.57	0.23	31.13	0.17	49.11	0.27
Macro	37.80	15.42	21.06	1.31	15.34	5.24	0.13	20.71	0.11	34.14	0.19
Other Economics	36.76	13.22	21.55	1.99	13.22	5.79	1.32	20.33	0.11	26.90	0.15
Micro	30.02	13.64	15.71	0.67	13.57	3.09	0.07	16.72	0.09	27.55	0.15
Open	50.94	2.40	41.05	7.49	2.40	4.64	4.30	11.33	0.06	23.41	0.13
Skills	34.90	5.03	27.78	2.09	5.01	4.32	0.65	9.98	0.05	22.10	0.12
Money	23.03	4.03	18.78	0.22	3.98	3.26	0.02	7.26	0.04	19.99	0.11
Topics in economics	31.65	1.38	29.71	0.56	1.35	4.95	0.07	6.37	0.03	22.45	0.12
Introduction	5.17	4.63	0.39	0.72	4.71	0.09	0.01	4.80	0.03	5.17	0.03
International	17.94	1.22	15.69	1.02	1.20	3.15	0.19	4.55	0.02	16.44	0.09
Job Qualification	11.70	3.04	7.28	1.39	2.72	1.42	0.24	4.38	0.02	8.54	0.05
Reflexive	8.57	1.43	6.87	0.28	1.43	1.01	0.03	2.46	0.01	7.31	0.04
Economic history	3.88	0.22	3.12	0.54	0.22	0.51	0.09	0.82	0.00	3.62	0.02
totals	472.01	117.11	329.99	25.48	116.30	57.35	8.17	181.81	1.00	326.47	1.79

Mean over 54 curricula. Source: Own calculation.

Histograms of the average category shares:

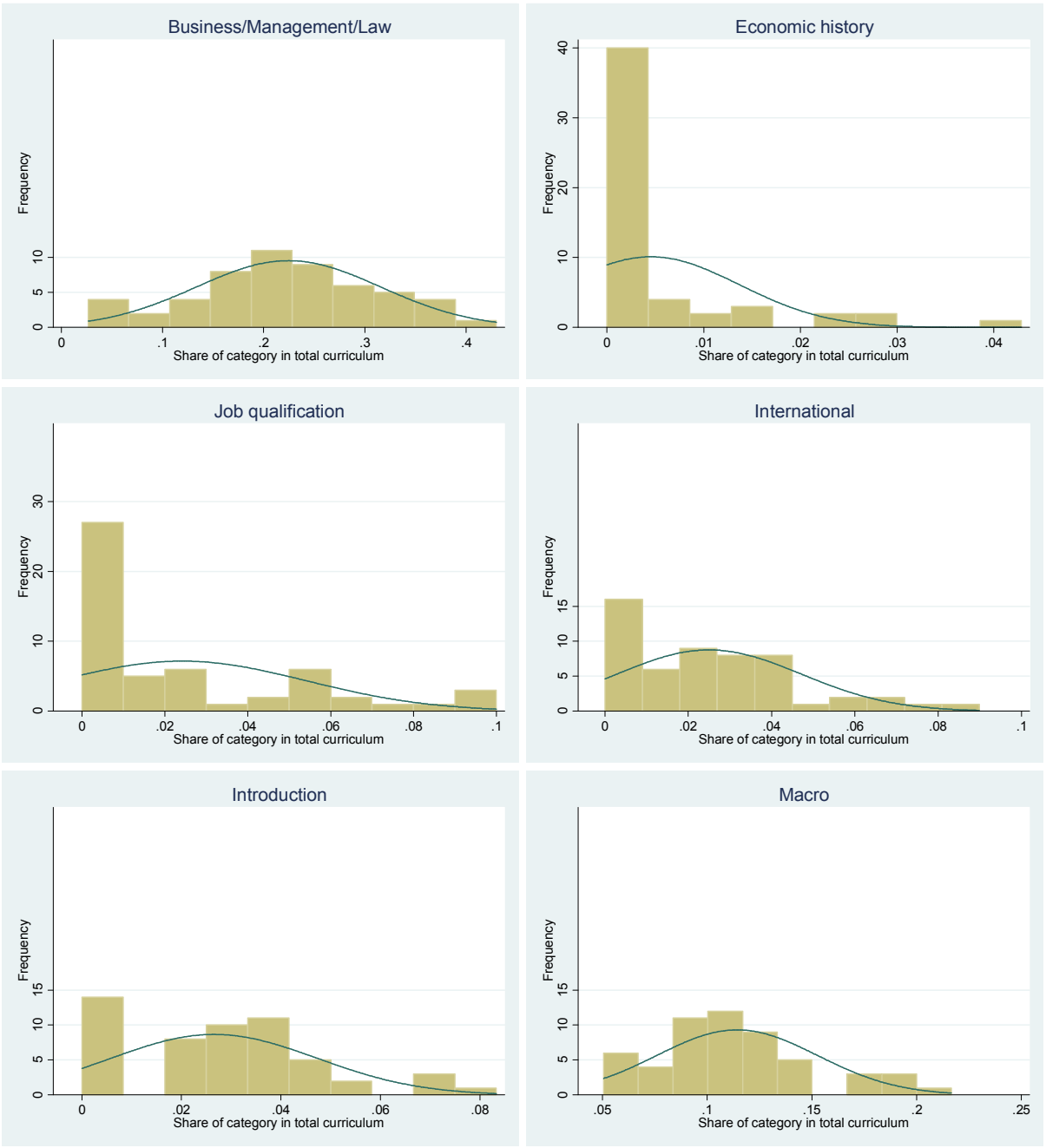


Figure 7: Histograms of 6 out of 14 of the categories in the 54 curricula. Source: Own calculations.

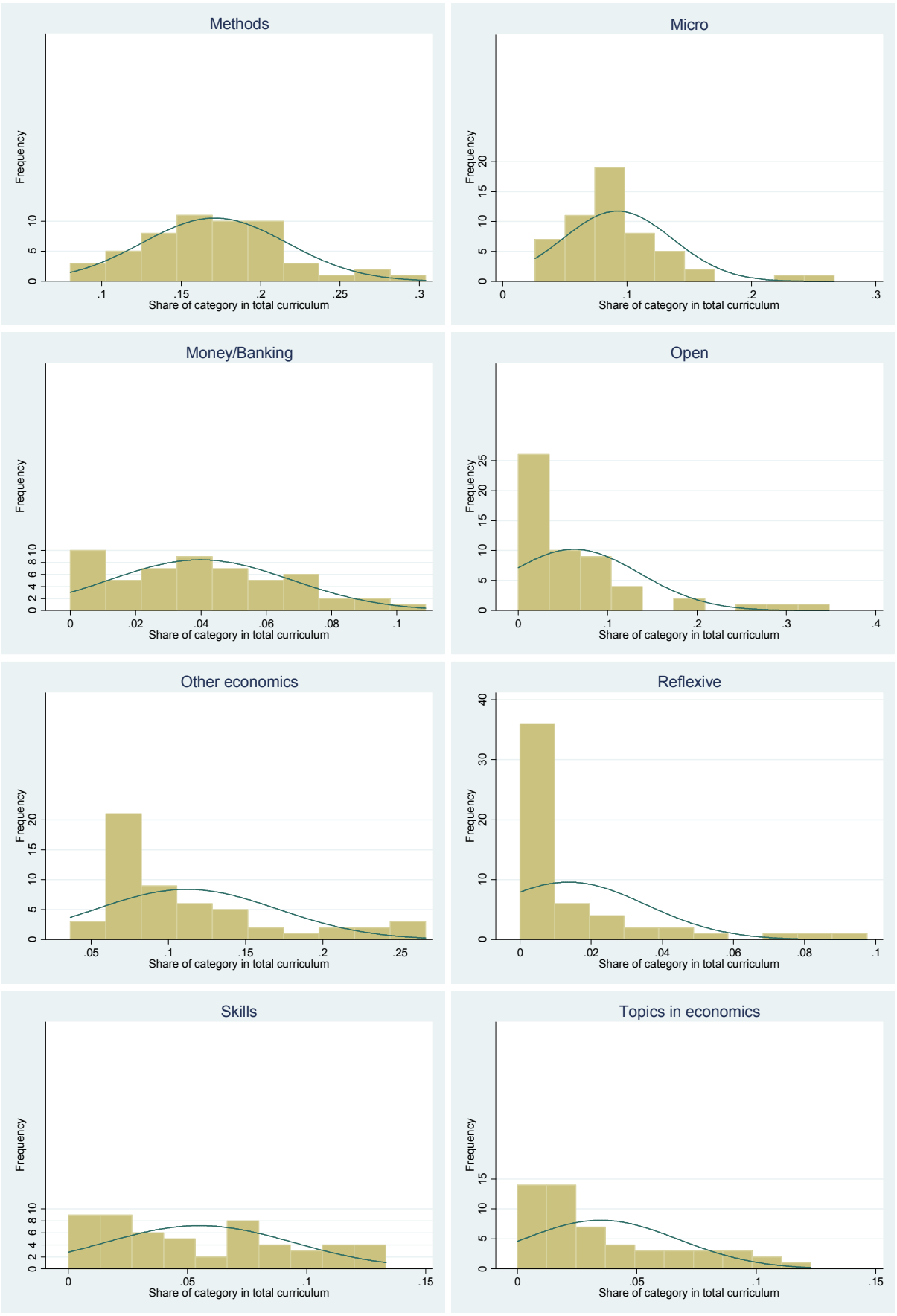


Figure 8: Histograms of 8 out of 14 of the categories in the 54 curricula. Source: Own calculations.