The trade (policy) discourse in top economic journals

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Abstract

In the aftermath of recent populist upheavals in Europe, nationalist economic policies challenge the overly positive view on economic integration and the reduction of trade barriers established by standard economic theory. For quite a long time the great majority of economists supported trade liberalization policies, at least those actively engaged in policy advice or public debates. In this paper, we examine the elite economics discourse on trade policies during the last 20 years regarding specific characteristics of authors, affiliations, citation patterns, the overall attitude towards trade, as well as the methodological approach applied in these papers. Our analysis yields the following results: First, the hierarchical structure of economics also manifests in the debate about trade. Second, while we found some indications of a shift towards more empirically oriented work, quite often empirical data is solely used to calibrate models rather than to challenge potentially biased theoretical assumptions. Third, top economic discourses on trade are predominantly characterised by a normative bias in favour of trade-liberalization-policies. Forth, we found that other-than-economic impacts and implications of trade policies (political, social and cultural as well as environmental issues) to a great extent either remain unmentioned or are rationalised by means of pure economic criteria.

Keywords: trade evaluation; trade policies; ‘empirical turn’; social studies of economics; bibliometric analysis; top economic journals

JEL: A12; A14; B41; F10
‘It has long been an unspoken rule of public engagement for economists that they should champion trade and not dwell too much on the fine print.’ (Rodrik 2018)

1 Introduction

In the course of recent populist upheavals it has become obvious that trade policy as well as its political and social consequences and its impact on the world economy are controversial issues. Although trade liberalization so far has been on the agenda of trade policy agreements during the neoliberal era in the last decades, there remain serious doubts among active policy-makers regarding the benefits of trade liberalization policies. Whereas the strongest and most longstanding criticism of trade liberalization comes from a (critical) developmental perspective, recently the most powerful nation in the world signalised its willingness to restrict its free-trade policy to protect the U.S. economy particularly from cheap Chinese imports. The new opponents of free-trade argue in favour of trade-barriers to protect (US) economic interests against ‘unfair’ treatment. The proponents of trade liberalization policies in turn emphasise a win-win situation that supposedly arises from trade liberalization as well as the inefficiency and overall welfare losses linked to protectionism. While this debate is strongly driven by political (and ideological) interests, our paper aims to explore the current debate in economic science. What is the current state of economic theory and research regarding the politically contested issue of trade policies? What kind of arguments are brought forward in favour of trade liberalization and to what extent are negative consequences (social, political and environmental impacts) of trade liberalization addressed? To what extent can we see an ‘empirical turn’ during the last 20 years? Furthermore, who are the dominant actors and institutions in elite economics trade debates and are there any indications for shifts in the debate in the course of the last two decades?
To answer these questions we analyse trade-related research articles published in the ‘top-five’ journals in economics (Card and DellaVigna 2013, Heckman and Moktan 2018) as well as highly cited articles published in other outlets. In doing so we follow a two-fold methodological approach: In a first step we apply bibliometric methods to inspect the overall structure of this debate regarding authorships, affiliations and cited references. In a second step, we conduct a quantitative and qualitative text analysis of the abstracts and partly the whole papers to examine the overall evaluation of trade and the methodology applied in the papers. Furthermore, we also inspect whether and to what extent economic, political, social and environmental implications of trade are being addressed in the papers. Hence, we will be able to develop a better understanding of how trade and implications of trade policies are referenced in the economics elite debate and show whether these are reflecting current political debates. Furthermore, we also aim to sketch recent trends by highlighting the relative importance of different impacts and implications as well as the overall normative evaluation of trade liberalization policies over time. The remainder of the paper is structured as follows. Section 2 offers an overview of the economic trade debate and the specific role of ‘top-five’ journals in economics. In doing so, we aim to provide a rationale for analysing trade-related research in these specific outlets. In section 3 we introduce our twofold analytical framework. In section 4 we discuss the main results of our empirical analysis comprising descriptive statistics and a thematic analysis of the elite economics trade debate in our sample. Section 5 offers a summary of our main results and some concluding remarks.
2 Trade debates in top economic journals

2.1 On trade debate(s) in the economics profession

Issues of free trade and related policies are heatedly debated in the public and among politicians of all stripes. Against this background, current IPE debates revolve around topics such as the multifaceted impacts of non-trade-issues in trade agreements (e.g. Lechner, 2016; Haggart, 2017) or the impact of cultural (Skonieczny 2018, Siles-Brügge 2019) as well as country-specific (institutional) peculiarities (Maher 2015, Solis and Katada 2015, Weatherall 2015). In contrast to these debates, economists engaging in political debates on trade quite often seem to speak with one voice (Rodrik 2018). For instance, Alan Blinder – presumably one of the most publicly visible U.S. economists – is quoted in the Wall Street Journal with the statement: ‘Like 99% of economists since the days of Adam Smith, I am a free trader down to my toes’ (Wessel and Davis 2007). Declaration like this lead Wilkinson (2017, p. 36) to conclude that ‘we should bear in mind that even the best (…) accounts of the genesis of multilateral trade offers a partisan narrative’.

On the level of academic economics, however, the debate is more controversial: On the one hand, there is the longstanding but largely marginalised camp of critical voices originating from economic heterodoxy which includes scholars stressing negative effects of trade from social (Kapeller et al. 2016, Crouch 2018), developmental (Shaikh 2007, Chang 2009, Aroche Reyes and Ugarteche Galarza 2018) or environmental perspectives (Newell 2012, Krausmann and Langthaler 2019). On the other hand, there is the longstanding tradition in mainstream economists to mainly argue in favour of free trade and related policies (Irwin 2015, Krugman et al. 2015), notwithstanding the existence of
theoretical results that indicate potentially negative consequences of increasing integration (e.g. Stolper and Samuelson 1941, Egger and Kreickemeier 2012).

In a review of economists’ role in public debates on free-trade Driskill (2012) deconstructs the main arguments posed by ‘free-trade-advocates’ and thus criticises short-sight reference to the Pareto criterion in international trade and the still dominant heuristic of Ricardo’s theory of comparative advantages. In doing so he claims that economists should be ‘forthright about the epistemological basis of their policy advocacy of free trade’ (Driskill 2012, p. 28).

However, as recent studies on the consensus among economists on economic policy issues showed that the support for trade liberalization to increase potential economic welfare is a rather consensus position among economists (e.g. Gordon and Dahl 2013). Hence only about 5% of the respondents of a survey among economists disagreed with the statement that ‘tariffs and import quotas usually reduce general welfare’ (Fuller and Geide-Stevenson 2014, p. 134). While this negative stance against tariffs is quite stable over the last three decades, there is also broad consensus among the members of the IGM economic expert panel that import tariffs are even more costly than they would have been 25 years ago (IGM Forum 2018). In a similar vein, Krugman et al. in their textbook on international trade assert:

1 In fact about 90% of the IGM forum at the Chicago Booth School agreed or strongly agreed with the following statement: ‘Trade Disruptions: Because global supply chains are more important now, import tariffs are likely substantially more costly than they would have been 25 years ago’.
‘Most economists, while acknowledging the effects of international trade on income distribution, believe it is more important to stress the overall potential gains from trade than the possible losses to some groups in a country.’ (Krugman et al. 2015, p. 100)

This one-sidedness has recently evoked some individual (but prominent) criticisms originating from the orthodoxy itself (Stiglitz 2017, Arkolakis et al. 2018, Rodrik 2018). For instance, in his ‘straight talk on trade’ Rodrik (2018) asks whether economists’ siding with globalization’s cheerleaders’ in the public has been responsible for the increasing rise in right-wing populism in the US (Trumpism) and the resulting questioning of the current global trade regime. In a similar vein, Stiglitz (2017) recently argued that the gains of globalization have long been oversold during the last years by politicians and economists alike. In what follows, we are elaborating Rodrik’s line of argument, as he is explicitly focusing on the role the alleged public one-sidedness of economists has played for public and political debates on trade.

‘In short, had economists gone public with the caveats, uncertainties, and skepticism of the seminar room, they might have become better defenders of the world economy. Unfortunately, their zeal to defend trade from its enemies has backfired. If the demagogues making nonsensical claims about trade are now getting a hearing—and actually winning power—it is trade’s academic boosters who deserve at least part of the blame.’ (Rodrik 2018, xii)

According to Rodrik (2018), economists avoid discussing trade issues with (scientific) sobriety because they fear that the ambiguities of their research findings might be misinterpreted or even worse, abused by political populists in demanding misguided (in

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2 Newbery and Stiglitz (1984) represent a noteworthy exception of an earlier balanced ‘mainstream’ position on the gains and challenges of trade liberalization.
particular protectionist) policies. While this explanation would imply that the current trade debate held in the public runs counter to the normative and ethical claims scientists should adhere to, the question remains to what extent this behaviour is restricted only to the public engagement of economists. For instance recent surveys among economists report that 41% of the respondents disagreed with the statement that ‘it is possible for economists to separate their policy prescriptions form their normative values’ (Fuller and Geide-Stevenson 2014, p. 141).

As Rodrik further argues, when celebrating consensus economists make two central errors: errors of omission prevent economists from seeing the blind spots emanating from e.g. a one-sided focus on trade models which assume away real-world complications. Errors of commission then result in a next step by administering policies which can be derived from such models. While the latter clearly relates to the public engagement of economists (policy advise), the former (errors of omission) rather seem to happen within the discipline. So, if Rodrik’s argument holds, the observed public one-sidedness of the trade debate held by economists is to some extent reflecting an internal one-sidedness of the debate, which is rooted deeply in the discipline. By focusing on the elite debate in economics, in this paper we aim to empirically clarify this extent of academic one-sidedness.

2.2 On the institutional peculiarities of economics: the power of the ‘top-five’

Compared to other social sciences, modern (mainstream) economics shows greater signs of stratification among various dimensions: For instance, in the context of women and ethnic minority groups (Bayer and Rouse 2016), editor- and authorships in top-journals

3 The reliance on empirical models in the field of trade policies could even be more concerning, since Linsi and Mügge (2019) have recently shown that official trade statistics are much less accurate then often assumed in research as well as public debates.
(Hodgson and Rothman 1999), the marginalization of alternative theoretical, ‘heterodox’ approaches (Dobusch and Kapeller 2009, Lee and Elsner 2011), or the recruitment of officials in academic associations (Fourcade et al. 2015), economics is coined by stark internal differentiations and hierarchies.

An archetypical example, where this stratification in particular has crystallised, are the disciplines most prominent outlets, the so-called ‘top-five’ in economics (Card and DellaVigna 2013): For decades now, the American Economic Review, Journal of Political Economy, Quarterly Journal of Economics, Econometrica, and Review of Economic Studies serve as a powerful proxy for scientific quality and reputation within the discipline. Due to its popularity and gate-keeping power, these five outlets significantly influence tenure decisions at top economics departments (Heckman and Moktan 2018). Seen from a scientometric perspective, the ‘top-five’ are responsible for a remarkable amount of concentration. For instance, in analysing a large-scale sample of publications in economics, Gloetzl and Aigner (2019) found, that the ‘top-five’ account for nearly 30% of all citations within the economics discipline. Moreover, almost 60% of the 1000 most-cited articles are published in ‘top-five’ journals (see also Laband (2013)).

It is also remarkable, that – measured in terms of cited references – the discourse within the ‘top-five’ journals is also highly concentrated: On average, one out of four citations made in a ‘top-five’ journal either stem from the same journal (self-citation) or from its four ‘best buddies’ (Aistleitner et al. 2019).

In sum, this evidence on the ‘superiority of economists’ (Fourcade et al. 2015) in both institutional and scientometric terms strongly suggests, that economic research published in the ‘top-five’ captures significant parts of the discipline’s elite discourse. This research gains not only disproportionate high attention within the discipline (see, Arrow et al. (2011) for instance). It can be considered as a source of established expertise
which lays out the basis for current and future advances in economic science. Furthermore, a bibliographic analysis reveals a strong relationship between economists’ public engagement in policy-making and publishing in these outlets: On average, one out of five journal articles (21.7%) authored by members of the Council of Economic Advisers (CEA) and the Congressional Budget Office (CBO) are published in a ‘top-five’ journal\(^4\). This indicates that, while ‘[e]conomists do not, however, often have the deciding voice in economic policy, especially when conflicting interests are at stake’ (Krugman \textit{et al.} 2015, p. 100), economic research published in these outlets may still be of significant relevance for the overall policy-making process.

3 Methodology and data

Our analysis of the debate in top economic journals on trade and trade policies in this paper is based on a mixed-method approach combining quantitative (bibliographic, textual and citation analysis) and qualitative methods (qualitative content analysis). Due to the typically very technical language of economic papers we decided to base our two-level analysis of the trade debate in economic-elite discourse mainly on the abstracts of the papers\(^5\). However, we used the full texts of the papers for the classification of paper types and in cases of disagreement on the coding of papers\(^6\). Although this approach

\(^4\) We analysed the publication history of 65 CBO members (2001-2019) and 30 CEA members (since 2000) listed in the EconLit database (in total 4689 journal articles). Correcting for overlapping members, we found that only 21% of the members have no publication in ‘top-five’ journals (within the CEA members only two have no publication). The average value is 11.3 ‘top-five’ publications per author, the median value is 8.5 publications.

\(^5\) It should be noted, that about 6% of the papers which enter our final analysis do not contain an abstract (see next section). In this case we compiled ‘pseudo-abstracts’ and analysed those first paragraphs (and if necessary, the conclusion) of a paper until we were able answer the three questions which define an abstract discussed above (i-iii).

\(^6\) Overall the inter-coder-reliability for the coding of overall trade evaluation, trade implications and paper type ranged around 95%.
obviously reduces our text corpus, we argue that (extended) abstracts are a reliable source for our analyses for at least two reasons: First, the definition of a scientific abstract implies that it should clarify (i) why the research was conducted, (ii) what the paper is about and what are the main conclusions of the research and (iii), how and based on which specific methodology the authors arrived at their conclusions. Thus an abstract aims to call attention to the most important information of a paper (Holtz 2011, Ermakova et al. 2018). Second, due to its role of communicating research results to a broader public at least within the economics profession, abstracts ought to be and in most cases are written in rather plain language, which in turn enables us to apply qualitative content analytical methods in the first place.

In order to obtain representative data of the elite discourse in economics related to trade, we draw our sample from two different data sources. Each sub-sample is based on different data bases and selection criteria. The first sample is compiled from the EconLit\(^7\) database and is restricted to papers published in the ‘top-five’ journals in economics (hereafter TOP5) between 1997 and 2017\(^8\). The second sample is obtained from the Web of Science\(^9\) database and is restricted to the 100 most cited papers in the field (hereafter TOPCITED) by the end of 2017. All raw data are available upon request. Table 1 provides an overview and summary statistics of the total sample.

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\(^7\) EconLit is published by the American Economic Association (AEA)

\(^8\) Although not being part of the ‘top-five’ in terms of evaluation ranking, we decided to include the papers in the ‘papers and proceedings’-section of the AER, since these papers (i) are published in the leading economics journal and thus are highly visible in the professional discourse and (ii) due to their presentation and discussion in the Annual Conferences of the American Economic Association also reflect more current debates in the discipline.

\(^9\) Web of Science (WoS) is maintained by Clarivate Analytics.
For the TOP5 sample we selected those papers which contain at least one JEL code listed in EconLit\textsuperscript{10} that relates to trade in a broad sense\textsuperscript{11}.

In this paper, we focus on economic research addressing economic, political, social, environmental or cultural impacts of trade in general or trade-specific policies (e.g. trade agreements, tariffs) from a theoretical or empirical perspective\textsuperscript{12}. Thus, in a next step we manually excluded those papers containing JEL codes related to trade but engage with topics other than international trade such as financial integration or monetary policy. We also excluded paper types such as notes, short comments, replies, corrigenda and errata since we found that such papers did not contain sufficient data for our analysis.

For the TOPCITED sample we draw on a set of top 1000 cited papers\textsuperscript{13} published between 1957 and 2017. These papers include ‘trade’ either in the title, the abstract (if available) or in the keywords (if available). In order to capture the more recent debate on economic integration we restricted our TOPCITED sample to papers published in the TOP5 period (1997-2017) instead of calculating the annual citation rate per year (total citations divided by years since publication)\textsuperscript{14}. After screening for papers not relevant to international trade (e.g. ‘trade(-)off’, ‘trade(ers)’ and as described above), we selected the 100 most cited papers.

\textsuperscript{10} In EconLit, the ‘Subjects’ field corresponds to the definition of the JEL Codes which we used for our sample selection. However, it should be mentioned, that these JEL Codes do not always correspond to the JEL Codes explicitly indicated in the paper. Moreover, we also included 9 papers dealing with trade issues albeit not containing a relevant JEL code.

\textsuperscript{11} For a detailed list of the relevant JEL Codes see Appendix A1.

\textsuperscript{12} Recently, Lechner (2016) stressed the increasing importance of non-trade issues (NTI) in bilateral trade agreements as well as the huge variation in terms of precision, obligation and delegation of these issues. However, in the economics debate NTIs are mainly only referred to as non-tariff trade barriers.

\textsuperscript{13} We are grateful to Ernest Aigner and Florentin Gloetzl for providing the dataset for this sample.

\textsuperscript{14} However, in either case the problem of missing upcoming top cited papers remains. Since citations also need time to accumulate, in our research setting we are not able to screen for potential high-impact papers published towards the end of the period. This limitation becomes visible in the publication history depicted in Table 1 where the publication period of top cited papers ends almost immediately five years before the observation period.
In sum, both sub-samples together consist of 422 unique papers dealing with issues related to trade and thus represent a comprehensive picture of the current trade debate in (mainstream) economics (see Appendix A2 for a detailed list). Table 1 also reveals that the half of TOPCITED papers are also published in a TOP5 journal. This coincidence of top journals and citation impact strongly supports our argument of the elite discourse taking place in these journals.

Table 1: Sample summary statistics. *The share of papers containing no abstract is higher in the original sample. Where available, we used abstract of the papers listed in databases such as AEAweb, RePec, ResearchGate etc… **For a detailed list of all journals see Appendix A.

| Published in Journal                                      | Absolute | Relative |
|-----------------------------------------------------------|----------|----------|
| American Economic Review                                   | 228      | 54,0%    |
| Quarterly Journal of Economics                             | 51       | 12,1%    |
| Review of Economic Studies                                 | 43       | 10,2%    |
| Journal of Political Economy                               | 34       | 8,1%     |
| Journal of International Economics                         | 17       | 4,0%     |
| Econometrica                                               | 16       | 3,8%     |
| Review of Economics and Statistics                         | 5        | 1,2%     |
| Journal of Economic Literature                             | 5        | 1,2%     |
| European Economic Review                                   | 4        | 0,9%     |
| World Bank Economic Review                                 | 3        | 0,7%     |
| Journal of Economic Perspectives                           | 3        | 0,7%     |
| Rest**                                                     | 13       | 3,1%     |

4 Results & discussion:

The results section is divided into three parts and basically mirrors our mixed-methods approach. The first part provides some descriptive statistics on the properties of our sample with regard to the distributions of authors and affiliations involved in the elite debate. In the second part we take a closer look at the methodology applied in the papers. In doing so, we contribute to the debate whether and to what extent there can be identified
an ‘empirical’ (Angrist et al. 2017) or an ‘applied’ (Backhouse and Cherrier 2014) turn in economics during the last two decades. The third part illustrates our results on the overall trade discourse and divides into three sub-sections: a quantitative analysis of word frequencies and cited references, qualitative coding of abstracts according to their reference to trade implications, and the explicit and implicit normative evaluations of trade.

4.1 Authors and affiliations

Analysing the authors and their institutional affiliations obtained from our sample strongly confirms previous results on the high stratification and concentration of the discipline in general (see above). In our sample, we identified 873 authorships distributed across 462 unique authors. Figure 1 shows the distribution across the 100 most common authors. Measured in terms of publication output, the top-30 authors account for 240 (27.5%) of total authorships. In turn, more than the half (51%) of all authorships is spread across 378 authors with only one or two publications.
The levels of concentration are similar high when looking at the institutional composition. In our analysis, we distinguished between university (figure 2a) and non-university affiliations (figure 2b). The top-30 university affiliations account for the half (50.7%) of the 1096 affiliations listed in our overall sample. Rather unsurprisingly, the top institutions are also highly renowned universities such as five of the eight ‘Ivy League’-universities\(^\text{15}\) the MIT, the University of Chicago or the LSE. Moreover, a very high degree of geographical concentration becomes visible. 25 of the top-30 institutions are from the US, which also means that the elite scientific discourse in trade is dominated by US-based (elite) institutions. Also remarkable is the high share of a small group of non-university affiliations (figure 2b). Five out of the top-10 institutions listed are economic.

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\(^\text{15}\) These are Princeton, Harvard, Columbia, Yale and Dartmouth.
(policy) think tanks or banking institutions.

The *National Bureau of Economic Research* (NBER) is ranked first place (and is, almost always, listed as a secondary affiliation). Given its reputation as a platform in disseminating ‘[economic] research findings among academics, public policy makers, and business professionals’ (NBER 2019) the high number of NBER affiliations indicate that the elite discourse on trade is (or at least should be) able to spill over into the sphere of economic policy makers. The same holds also for the Federal Reserve System (ranked second place), followed by the UK-based non-partisan *Centre for Economic Policy Research* (CEPR)\textsuperscript{16}. Taken together, these institutions either aim to provide policy-relevant research and information for the public with regard to major policy debates or are actively engaged in economic policy-making. Thus, economists affiliated to these institutions presumably have special opportunities to influence public policy debates (Hirschman and Berman 2014, Lepers 2018).

\textsuperscript{16} It is important to note, that in the case of multiple affiliations, EconLit does not always lists all affiliations of an author (as listed in the paper). Wherever we found such inconsistencies, we complemented this information manually.
4.2 Methodological approaches

In a second step, we analysed the principal methodological design applied in addressing issues of trade. Therefore, we analysed the full papers in our sample and classified them according to two main categories of paper types: (1) empirical studies and (2) theoretical/technical/methodological (ttm) studies. Overall, our classification scheme assumes a continuum of methodological approaches from pure theoretical models with
far-reaching assumptions to pure empirical papers, directly referring to real economic data and phenomena.

The empirical studies are classified into two sub-categories: papers that aim to explore empirical relationships by focusing on real-world data in the first place (and then e.g. use statistical analytical tools) labelled as ‘empirical pure’ (1a); and papers that introduce an (empirical) economic model and then use real-world data to estimate the model parameters, labelled as ‘model estimation’ (1b). The ttm studies can be classified into two sub-categories: papers that introduce (theoretical) economic models and then use real-world data to calibrate and/or simulate the performance of these models, labelled as ‘ttm applied’ (2a) and papers that solely focus on the theoretical analysis of economic models (including the use of fictitious data), labelled as ‘ttm pure’ (2b). Finally, all, remaining papers which cannot be assigned to either of the other sub-categories such as trade-related meta-studies or review papers are classified as ‘other’.

Figure 4: Composition of paper types according to their methodological approach.

Figure 3 shows some revealing developments over time. First, we found an increase of empirical papers and conversely a decline of papers addressing trade-issues from a pure
theoretical point. This trend is in line with a general ‘empirical turn’ (Angrist et al. 2017, Angrist et al. 2020) in economics and also aligns well with our word frequency analysis presented below (see figure 4)\(^17\). Second, the economics trade discourse seems to have been undergone an even stronger ‘empirical turn’ compared to the overall economics debate (Hamermesh 2013), regarding the strong decline of pure theoretical papers in the last years. Third, however, among the empirical papers the share of ‘pure empirical papers’ is also decreasing over time. Contrary, the share of ‘ttm applied’ papers is increasing particularly during the last ten years.

This way, we conclude that much of the ‘empirical turn’ is not really a shift away from the application of theoretical trade models. Instead empirical data is often rather used to estimate (‘empirical estimation’) or even simply to calibrate and parametrise (‘ttm applied’) theoretical trade models. To sum up, our analysis of the methodological approach indicates an ‘applied turn’ (Backhouse and Cherrier 2014, Backhouse and Cherrier 2017) rather than a real ‘empirical turn’, in the sense of an opening up to the empirical investigation of real economic phenomena.

### 4.3 The structure of the trade debate

Following our methodological approach of a two-level analysis of the trade debate in economics elite discourse we first conducted a thematic analysis. For this purpose, we applied a mixed-method approach combining quantitative and qualitative methods. To get a first thematic overview of the debate, we looked at lemmatised word frequencies using the lemmatise analysis tool of MAXQDA. The three most important tokens in the overall trade debate are ‘countr*’, ‘model*’ and ‘firm*’. The result of this overall token

\(^{17}\) However, temporal developments have to be interpreted carefully since there are substantial time lags between submitting a paper to a (top) journal and final date of publication (Ellison, 2002)
analysis is unsurprising, given the fact that we analyse an economic debate on trade in goods and services. Nevertheless, we also found some evidence for changes in the trade debate during the last 20 years (see figure 4), which also allows us to draw some careful conclusions about the overall structure of the debate. First, the token ‘firm’ increases over time and is by far the most mentioned term in the last years. In contrast the tokens ‘countr*’ and even more pronounced ‘international*’, typically stronger associated with macroeconomic approaches, decline over times. Thus, the overall token analysis indicates a trend towards microeconomic analysis in the economic trade literature during the last 20 years. Second, the steady increase of the term ‘data’ (and on a lower overall level also the tokens ‘estimate*’ and ‘calibrate*’) provides further evidence for a stronger empirical orientation in economics, which was also reported in recent research (Angrist et al. 2017, Angrist et al. 2020). Third, social and environmental issues are hardly ever mentioned in the debate, while the relative importance of policy issues (tokens ‘polic*’, ‘political’ and ‘government*’) is declining.

Figure 4: Word frequency development in the elite-economics discourse (sample of selected lemmatised words).
Another quantitative exercise we conduct, is analysing the composition of cited references in our sample. As already mentioned above, measured in terms of citation flows, the overall discourse in the ‘top-five’ journals is highly concentrated (Heckman and Moktan 2018, Aistleitner et al. 2019). Referring to their results, Aistleitner et al. (2019) emphasise two different ways in which citation data may be interpreted: Either as an indicator for the quality of a publication (evaluative interpretation) or as a specific form of communication (cognitive interpretation). They conclude that, depending on the interpretation, research published in the ‘top-five’ journals is either simply ‘superior’ because these outlets manage to concentrate high research quality (and thus receive many citations), or the discourse in these outlets is simply stronger self-contained and/or highly self-referential (as evidenced by receiving many citations).

Given that both interpretations will eventually lead to different (research policy) implications, we therefore ask whether and to what extent this concentration within the ‘top-five’ journals is reflected in the particular debate on trade. Furthermore, we analyse the overall composition of cited journal references in our sample with regard to specific sub-fields in economics and other disciplines. The cited references data were obtained from Web of Science. We excluded books and monographies as well as unpublished material and working papers (with the notable exception of NBER literature). Figure 5 shows the results of these exercise by analysing the intra-group citation flows between the TOP5 journals in our sample plus the remaining 16 TOPCITED journals (treated as an aggregated journal (TOPCITED\textsubscript{16})).
In terms of (journal) citations, the discourse in the trade debate is highly concentrated:

On average, almost half (46.9%) of all citations remain within the same group of 21 (elite) journals. Furthermore, we found a substantial share of references to NBER publications (grey-shaded bars in figure 5). In contrast, we found a relatively minor share of references made to journals outside the discipline as well as specific ‘field’ journals (see Appendix C for a detailed list). Given the possibility of two competing interpretations to citation data, as outlined above, one can conclude, that the high level of concentration provides evidence either a) for the excellent quality (evaluative interpretation) or b) for the high degree of self-referentiality (cognitive interpretation) of this debate. However, at least in the case of the specific (elite) discourse on trade, we challenge Angrist et al. (2020), who argue that the increase of empirical papers also leads to a higher receptivity to findings from other social sciences.

Much of the critical literature on trade liberalization and globalization particularly raises social and ecological concerns on an increase in trade in goods and to a lesser extent
services. Economists, in turn are often blamed to ignore other-than-economic consequences of globalization and solely focus on the economic gains of trade (Rodrik 2018). Hence, we secondly also coded the papers in our sample according to whether the authors refer to different levels of implications of trade. In doing so, we distinguished between the four codes ‘economic’, ‘policy’, ‘social and cultural’ as well as ‘environmental’ implications. Unsurprisingly we found that nearly all papers (94%) even in their abstracts referred to the economic impacts and implications of trade. The code ‘economic’ implications includes various topics such as relative price developments, changes in exports and imports, economic efficiency and productivity of firms and sectors, changes in market structures or transport costs. The category ‘policy impact’ comprises tariffs, custom unions, international and bilateral trade agreements or references to issues such as policy institutions, liberalization and protectionism, trade barriers or government interventions in general.

We found that quite often policy changes are modelled as quasi-natural experiments to examine a set of economic consequences of changes in openness to trade. This means that many papers interpret political decisions as exogenous shocks and thus do not assess the interplay between economic and political developments by deliberately ignoring the economic, social or political causes for a distinct decision or policy change. Overall, about half of the papers referred to policy impacts of trade, while the social and cultural (22%) as well as environmental impacts of international economic integration (3%) play a minor role in the economics elite discourse on trade.
Most of the papers, which address social and cultural impacts of trade are concerned with changes in employment or income, rising unemployment or the living- and working-conditions of (low-income) workers or workers in distinct countries or sectors. A few papers furthermore also address different implications for workers of different gender, ethnicity and/or cultural background. Despite the fact that social and cultural concerns in general play a rather minor role in the trade discourse, our results show an increase in the share of papers addressing these issues over the last years. This finding points to a slight shift in the trade debate in top economic journals in this specific regard. In contrast, we did not find a similar trajectory for the relevance of environmental issues. Accordingly, there are hardly any papers, which refer to any kind of ecological impacts of trade throughout the whole sample.

In a last step we took a closer look at the content of the papers in our sample and followed a two-fold approach. First, we examined the overall evaluation of trade in the abstracts and distinguished between the four categories ‘positive’, ‘negative’, ‘neutral’ and ‘ambivalent’, the latter being a mixed evaluation, where positive and negative
consequences of trade are addressed\textsuperscript{18}. A positive evaluation of trade typically includes references to efficiency gains, welfare, productivity or product quality increases or the theory of comparative advantages of trade. Negative evaluations in turn stress issues such as increases in unemployment, negative distributional or environmental effects of trade increases. The category ‘neutral’ applies for papers without any kind of at least implicit normative evaluation of trade.

Considering the overall evaluation of trade in top economic journals discourse over the last 20 years we found that about half of the papers in our sample (48\%) primarily refer to positive implications of trade. In contrast, about 5\% report mainly negative implications of trade, while 38\% take a rather neutral stance on this issue. Furthermore, about 9\% are coded as ambivalent, as they report positive as well as negative implications of trade. Beside this general assessment of the issue of trade in the economics elite discourse, we furthermore examined changes in the evaluation of trade over the last 20 years. Figure 7 indicates a slight increase of rather critical contributions to the debate on trade and in turn a decrease of papers, offering a primary positive perspective on trade. Particularly the decrease of positive evaluations of trade from 2001 to 2004 could be interpreted as a reaction to the anti-globalization protests around the WTO ministerial conference in Seattle in 1999 (‘the battle of Seattle’) and the G8 Summit in Genoa in 2001.

\textsuperscript{18} Although we basically used the abstracts for the coding of the papers, we included the full papers in cases where we could not decide about a coding on the basis of an abstract; in particular when the abstracts were very short. To increase reliability, we both classified the papers separately and developed a common coding system after an initial pre-test, where we discussed uncertain cases. The overall inter-coder-reliability ranged between 95\% and 99\% for different categories. In cases of different classification of overall trade evaluation, we assigned the respective papers to the category ‘neutral’ or ‘ambivalent’, respectively.
Research in IPE and related fields often stress the influential role of political institutions such as NGOs (e.g. Holmes 2011, Nega and Schneider 2014), IGOs (e.g. Farnsworth and Irving 2018, Stephen and Parízek 2019) or domestic policy elites (e.g. Kaltenthaler and Mora 2002, Brennan 2013) in deepening international economic integration as part of a neoliberal agenda. With this paper, we point out another important aspect relevant in shaping the public opinion on international trade and trade liberalization: the scientific debate on trade within (mainstream) economics itself and, in particular, the research published in its most prestigious outlets.

More specifically, we combine quantitative and qualitative methods in order to examine the specific characteristics of the debate in high impact papers dealing with trade and trade-policy issues. Capturing a substantial part of the economic Intelligentsia’s output, we argue, that the discourse on trade is crucial for the transmission of economic expertise into public debates and political decision-making alike.
To sum up, we found that the overall structure of the economic elite debate on trade mirrors the overall structure of the economic elite debate. Thus, our results correspond with recent literature claiming a strong degree of hierarchy and concentration in terms of academic institutions, citations and journals. We found a decrease of pure theoretical approaches and an increase in papers using real economic data, suggesting an ‘empirical turn’. However, quite often real data is rather used to calibrate or parameterise theoretical trade models than to empirically investigate real economic phenomena in complex social contexts. This way, what we observe should be rather dubbed as ‘applied turn’, rather informed by the availability of new data and more sophisticated analytical tools than by broader (interdisciplinary) perspectives.

Regarding the other-than-economic consequences and implications of trade and trade liberalization our results show two patterns. At first sight, a substantial share of papers addresses policy implications and impacts of trade (47%) and to a lesser extent also social and cultural implications and impacts of trade (about a fifth). This certainly is not true for environmental and ecological issues, which are only referred to in less than 3% of all papers in our sample. However, a closer look at the way these implications are addressed reveals, that the great majority of papers lack any critical engagement with the respective political or social contexts and causes of trade policies (see also: Watson 2017). The argument of a predominance of a rather narrow, pure economic approach to trade is also supported by our finding that only 4% of all citations in our sample of elite economic discourse goes to non-economic journals.

Concerning the qualitative results of our paper, we found that about half of the papers in our sample provide a positive overall evaluation of trade or trade-enhancing policies. In turn, only a minority (about 5%) provide a predominantly negative evaluation of the consequences and implications of trade. A rather large share of papers in our sample
however refrain from any explicit normative evaluations of trade (38%) or provide a balanced perspective comprising positive and negative impacts of trade (9%). This overall result leads us to conclude that the predominant trade narrative in economic elite discourse constitutes a fairly lopsided support for trade liberalization. It remains open however, whether this bias is caused by an explicit focus on gains from trade or simply by what was termed a theory-ladenness of observation and measurement (Kuhn 1970) in economic theorizing on trade.

Given the multifaceted socio-economic and ecological challenges we will be facing in the 21st century, we argue that a broader conceptualization of the complex implications and impacts of trade liberalization policies, taking into account the social embeddedness of economic action (Granovetter 1985, Polanyi 1985 [1944]) would allow a more comprehensive understanding of this issue. Furthermore, such a broader perspective would also lead to a more balanced view on trade liberalization policies in economic elite discourse, which in turn would also improve the credibility of economic expertise.
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Appendix A

Appendix A1: JEL Codes used for sample selection. (retrieved from AEAweb.org)

| JEL Code | Description                                                                 |
|----------|------------------------------------------------------------------------------|
| B17      | History of Economic Thought through 1925: International Trade and Finance    |
| B27      | History of Economic Thought since 1925: International Trade and Finance      |
| F02      | International Economic Order and Integration                                |
| F10      | Trade: General                                                               |
| F11      | Neoclassical Models of Trade                                                 |
| F12      | Models of Trade with Imperfect Competition and Scale Economics; Fragmentation |
| F13      | Trade Policy; International Trade Organizations                              |
| F14      | Empirical Studies of Trade                                                   |
| F15      | Economic Integration                                                         |
| F16      | Trade and Labor Market Interactions                                          |
| F17      | Trade: Forecasting and Simulation                                            |
| F18      | Trade and Environment                                                        |
| F19      | Trade: Other                                                                 |
| F36      | Financial Aspects of Economic Integration                                    |
| F40      | Macroeconomic Aspects of International Trade and Finance: General            |
| F41      | Open Economy Macroeconomics                                                  |
| F43      | Economic Growth of Open Economies                                            |
| F47      | Macroeconomic Aspects of International Trade and Finance: Forecasting and Simulation: Models and Applications |
| F49      | Macroeconomic Aspects of International Trade and Finance: Other              |
| N70      | Economic History: Transport, International and Domestic Trade, Energy, Technol    |
| N71      | ogy, and Other Services: General, International, or Comparative              |
| N72      | Economic History: Transport, Trade, Energy, Technology, and Other Services: U.S.; Canada: Pre-1913 |
| N73      | Economic History: Transport, Trade, Energy, Technology, and Other Services: U.S.; Canada: 1913-1983 |
| N74      | Economic History: Transport, Trade, Energy, Technology, and Other Services: Europe: Pre-1913 |
| N75      | Economic History: Transport, Trade, Energy, Technology, and Other Services: Europe: 1913-1983 |
| N76      | Economic History: Transport, Trade, Energy, Technology, and Other Services: Asia including Middle East |
| N77      | Economic History: Transport, Trade, Energy, Technology, and Other Services: Latin America; Caribbean |
| N78      | Economic History: Transport, Trade, Energy, Technology, and Other Services: Africa; Oceania |
| O24      | Development Planning and Policy: Trade Policy; Factor Movement; Foreign Exchange Policy |
| P33      | Socialist Institutions and Their Transitions: International Trade, Finance, Investment, Relations, and Aid |
| P45      | Other Economic Systems: International Trade, Finance, Investment and Aid       |
| Q17      | Agriculture in International Trade                                            |
| Q27      | Renewable Resources and Conservation: Issues in International Trade           |
| Q37      | Nonrenewable Resources and Conservation: Issues in International Trade        |
| Q56      | Environment and Development; Environment and Trade; Sustainability; Environmental Accounts and Accounting; Environmental Equity; Population Growth |
Appendix A2: data sample (short version)

| SOURCE | YEAR | TITLE |
|--------|------|-------|
| Journal of Political Economy | 2017 | International Trade, Technology, and the Skill Premium |
| Journal of Political Economy | 2017 | Matching, Sorting, and the Distributional Effects of International Trade |
| American Economic Review | 2017 | Nonparametric Counterfactual Predictions in Neoclassical Models of International Trade |
| American Economic Review | 2017 | Policy Uncertainty, Trade, and Welfare: Theory and Evidence for China and the United States |
| American Economic Review | 2017 | The Wind of Change: Maritime Technology, Trade, and Economic Development |
| Review of Economic Studies | 2017 | Trade and Inequality: From Theory to Estimation |
| American Economic Review | 2017 | Trade and Manufacturing Jobs in Germany |
| American Economic Review | 2017 | Trade Liberalization and Regional Dynamics |
| American Economic Review | 2017 | Not So Demanding: Demand Structure and Firm Behavior |
| American Economic Review | 2017 | Exporter Dynamics and Partial-Year Effects |
| American Economic Review | 2017 | Financial Intermediation, International Risk Sharing, and Reserve Currencies |
| American Economic Review | 2017 | WTO Accession and Performance of Chinese Manufacturing Firms |
| American Economic Review | 2017 | The Margins of Global Sourcing: Theory and Evidence from US Firms |
| Quarterly Journal of Economics | 2017 | Exporting and Firm Performance: Evidence from a Randomized Experiment |
| Quarterly Journal of Economics | 2017 | Global Production with Export Platforms |
| Journal of Political Economy | 2017 | Globalization, Markups, and US Welfare |
| Review of Economic Studies | 2017 | The Determinants of Quality Specialization |
| Journal of Political Economy | 2016 | Capabilities, Wealth, and Trade |
| American Economic Review | 2016 | Corruption, Trade Costs, and Gains from Tariff Liberalization: Evidence from Southern Africa |
| Quarterly Journal of Economics | 2016 | Dynamic Selection: An Idea Flow Theory of Entry, Trade, and Growth |
| Quarterly Journal of Economics | 2016 | Measuring the Unequal Gains from Trade |
| Econometrica | 2016 | Prices, Markups, and Trade Reform |
| American Economic Review | 2016 | Trade and the Global Recession |
| Review of Economic Studies | 2016 | Trade Induced Technical Change: The Impact of Chinese Imports on Innovation, IT and Productivity |
| American Economic Review | 2016 | Trade, Domestic frictions, and Scale Effects |
| American Economic Review | 2016 | Income-Induced Expenditure Switching |
| American Economic Review | 2016 | Endogenous Skill Acquisition and Export Manufacturing in Mexico |
| American Economic Review | 2016 | Tracing Value-Added and Double Counting in Gross Exports: Comment |
| American Economic Review | 2016 | The Surprisingly Swift Decline of US Manufacturing Employment |
| American Economic Review | 2016 | Domestic Value Added in Exports: Theory and Firm Evidence from China |
| American Economic Review | 2016 | Firm Dynamics, Job Turnover, and Wage Distributions in an Open Economy |
| Quarterly Journal of Economics | 2016 | Railroads and American Economic Growth: ‘A Market Access’ Approach |
| Quarterly Journal of Economics | 2016 | A Unified Theory of Firm Selection and Growth |
| Econometrica | 2016 | IV Quantile Regression for Group-Level Treatments, with an Application to the Distributional Effects of Trade |
| Review of Economic Studies | 2016 | Estimating Strategic Models of International Treaty Formation |
| Review of Economic Studies | 2016 | Do Prices Determine Vertical Integration? |
| American Economic Review | 2015 | Import Advantage and Optimal Trade Policy |
| American Economic Review | 2015 | Competition, Markups, and the Gains from International Trade |
| Review of Economic Studies | 2015 | Dissecting the Effect of Credit Supply on Trade: Evidence from Matched Credit-Export Data |
| Review of Economic Studies | 2015 | Estimates of the Trade and Welfare Effects of NAFTA |
| American Economic Review | 2015 | How Well Is US Intrafirm Trade Measured? |
| American Economic Review | 2015 | New Trade Models, New Welfare Implications |
| Journal of Political Economy | 2015 | Poultry in Motion: A Study of International Trade Finance Practices |
| American Economic Review | 2015 | Trade Liberalization and the Skill Premium: A Local Labor Markets Approach |
| American Economic Review | 2015 | R&D, International Sourcing, and the Joint Impact on Firm Performance |
| American Economic Review | 2015 | Import-Driven Productivity |
| American Economic Review | 2015 | The Value of Relationships: Evidence from a Supply Shock to Kenyan Rose Exports |
| Quarterly Journal of Economics | 2015 | Risk, Returns, and Multinational Production |
| Review of Economic Studies | 2015 | Income Differences and Prices of Tradables: Insights from an Online Retailer |
| Review of Economic Studies | 2015 | Financial Fragility in Small Open Economies: Firm Balance Sheets and the Sectoral Structure |
| Review of Economic Studies | 2015 | Quo Pro Quo: Technology Capital Transfers for Market Access in China |
| Review of Economic Studies | 2015 | A Linder Hypothesis for Foreign Direct Investment |
| American Economic Review | 2014 | A Balls-and-Bins Model of Trade |
| Journal of Political Economy | 2014 | A Theory of Capital Controls as Dynamic Terms-of-Trade Manipulation |
| Journal of Political Economy | 2014 | An Alternative Theory of the Plant Size Distribution, with Geography and Intra- and International Trade |
| Econometrica | 2014 | Information Frictions in Trade |
| Quarterly Journal of Economics | 2014 | International Trade and Institutional Change: Medieval Venice’s Response to Globalization |
| Review of Economic Studies | 2014 | International Trade and Labour Income Risk in the U.S. |
| Quarterly Journal of Economics | 2014 | International Trade Puzzles: A Solution Linking Production and Preferences |
| American Economic Review | 2014 | Missing Gains from Trade? |
| Review of Economic Studies | 2014 | Roads and Trade: Evidence from the US |
| American Economic Review | 2014 | The Network Structure of International Trade |
| American Economic Review | 2014 | Together at Last: Trade Costs, Demand Structure, and Welfare |
| American Economic Review | 2014 | Trade Adjustment and Productivity in Large Crises |
| Quarterly Journal of Economics | 2014 | Trade Adjustment: Worker-Level Evidence |
| Quarterly Journal of Economics | 2014 | Trade and the Topography of the Spatial Economy |
| Review of Economic Studies | 2014 | Trade Integration, Market Size, and Industrialization: Evidence from China’s National Trunk Highway System |
| Econometrica | 2014 | Trade Liberalization and Labor Market Dynamics |
| American Economic Review | 2014 | Trade Wars and Trade Talks with Data |
| American Economic Review | 2014 | Welfare and Trade without Pareto |
| American Economic Review | 2014 | Importers, Exporters, and Exchange Rate Disconnect |
| American Economic Review | 2014 | The Wage Effects of Offshoring: Evidence from Danish Matched Worker-Firm Data |
| American Economic Review | 2014 | Demand and Defective Growth Patterns: The Role of the Tradable and Non-tradable Sectors in an Open Economy |
| American Economic Review | 2014 | Market Size, Competition, and the Product Mix of Exporters |
| American Economic Review | 2014 | Trading Value-Added and Double Counting in Gross Exports |
Institutional Quality and International Trade

EXAMINING THE GLOBAL ENVIRONMENTAL IMPACT OF REGIONAL CONSUMPTION ACTIVITIES - PART 2: DO FREE TRADE AGREEMENTS ACTUALLY INCREASE MEMBERS' INTERNATIONAL TRADE?

Comparative Advantage and Heterogeneous Firms

Are Preferential Trade Agreements with Non-trade Objectives a Stumbling Block for Multilateral Trade Liberalization? Review of Economic Studies 2009

A Political-Economy Theory of Trade Agreements

Trading Tasks: A Simple Theory of Offshoring

Trade and Capital Flows: A Financial Frictions Perspective

Offshoring and Volatility: Evidence from Mexico's Maquiladora Industry

A Political-Economy Theory of Trade Agreements

Econometrika 2009

Endogenous Variety and the Gains from Trade

Quarterly Journal of Economics 2008

Cultural Biases in Economic Exchange?

Econometrika 2009

Improved Access to Foreign Markets Raises Plant-Level Productivity . . . For Some Plants

Quarterly Journal of Economics 2010

The Long and Short (of) Quality Ladders

Quarterly Journal of Economics 2010

Cultural Biases in Economic Exchange?

Quarterly Journal of Economics 2009

The Long and Short (of) Quality Ladders

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The Long and Short (of) Quality Ladders

Quarterly Journal of Economics 2009

Cultural Biases in Economic Exchange?
American Economic Review 2007 PIDING-to-Market in a Ricardian Model of International Trade
Quarterly Journal of Economics 2007 Relationship-Specificity, Incomplete Contracts, and the Pattern of Trade
Journal of Political Economy 2007 Sorting It Out: International Trade with Heterogeneous Workers
American Economic Review 2007 Trade Flow Dynamics with Heterogeneous Firms
American Economic Review 2007 Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia
JOURNAL OF ECONOMIC PERSPECTIVES 2007 TRANSPORTATION COSTS AND INTERNATIONAL TRADE IN THE SECOND ERA OF GLOBALIZATION
American Economic Review 2007 Unbalanced Trade
American Economic Review 2007 Pricing to Habits and the Law of One Price
Econometrica 2007 Market Entry Costs, Producer Heterogeneity, and Export Dynamics
Review of Economic Studies 2007 Beyond Icebergs: Towards a Theory of Biased Globalization
American Economic Review 2006 Accounting for the Growth of MNC-Based Trade Using a Structural Model of U.S. MNCs
American Economic Review 2006 Do Labor Issues Matter in the Determination of U.S. Trade Policy? An Empirical Reevaluation
QUARTERLY JOURNAL OF ECONOMICS 2006 GLOBALIZATION AND THE GAINS FROM VARIETY
American Economic Review 2006 Helping Infant Economies Grow: Foundations of Trade Policies for Developing Countries
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Quarterly Journal of Economics 2005 International Trade and Macroeconomic Dynamics with Heterogeneous Firms
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| American Economic Review | 1999 | Voluntary Export Restraints on Automobiles: Evaluating a Trade Policy |
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| Review of Economic Studies | 1999 | Learning by Doing, Precommitment and Infant-Industry Promotion |
| EUROPEAN ECONOMIC REVIEW | 1998 | ARE INTERNATIONAL R & D SPILLOVERS TRADE-RELATED? ANALYZING SPILLOVERS AMONG RANDOMLY MATCHED TRADE PARTNERS |
| American Economic Review | 1998 | Change in U.S. Tariffs: The Role of Import Prices and Commercial Policies |
| American Economic Review | 1998 | Does European Unemployment Prop Up American Wages? National Labor Markets and Global Trade |
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| JOURNAL OF PUBLIC ECONOMICS | 1998 | OPENNESS, COUNTRY SIZE AND GOVERNMENT |
| ECONOMIC JOURNAL | 1998 | OPENNESS, PRODUCTIVITY AND GROWTH: WHAT DO WE REALLY KNOW? |
| ECONOMIC JOURNAL | 1998 | THE ENDOGENEITY OF THE OPTIMUM CURRENCY AREA CRITERIA |
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| Journal of Political Economy | 1997 | Gains from Trade, Inefficiency of Government Programs, and the Net Economic Effects of Trading |
| QUARTERLY JOURNAL OF ECONOMICS | 1997 | GROWTH AND INTERDEPENDENCE |
| WORLD BANK ECONOMIC REVIEW | 1997 | OPENNESS AND WAGE INEQUALITY IN DEVELOPING COUNTRIES: THE LATIN AMERICAN CHALLENGE TO EAST ASIAN CONVENTIONAL WISDOM |
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| American Economic Review | 1997 | Trade Liberalization Reforms and the World Bank |
| American Economic Review | 1997 | Trade Policy and Economic Development: How We Learn |
| American Economic Review | 1997 | Trade Policy, Growth, and Income Distribution |
| American Economic Review | 1997 | Trade Reform and Uniform Import Tariffs: The Chilean Experience |
| American Economic Review | 1997 | Using International and Japanese Regional Data to Determine When the Factor Abundance Theory of Trade Works |
Appendix B

Appendix B: word frequency development in the sample abstracts (the top 100 words)
Appendix C

Analysis of cited references in the trade debate sample

For the analysis of economic field journals, we classified journals in the cited references data according to the following fields:

| field                        | description                                                                 |
|------------------------------|-----------------------------------------------------------------------------|
| Econ and Agriculture         | Agricultural Economics and other topic linking economics with agriculture    |
| Econ and History             | Economic History and History of Economic (ideas)                             |
| Heterodox Economics          | Schools of Heterodox economic thought                                        |
| Econ and Social              | Economic Sociology, Socio-Economics and all other topics linking economics to social aspects |
| Econ and Development         | Economic Development and Development Economics                               |
| Econ and Environment         | Environmental and Resource Economics                                         |
| Econ and Geography           | Economic Geography and all fields linking Economics to aspects of geography   |
| Econ and Psychology          | Economic Psychology and all fields linking Economics with aspects of psychology |
| Econ and Law                 | Economic Law and economic analysis of Law                                    |

Note that we only classified journals which are not listed in our trade debate sample (For instance, the Journal of Development Economics is listed in TOPCITED and thus not included in “Econ and Development”)

For the analysis of non-economic disciplines, we classified journals in the cited references data according to the following disciplines:

| discipline                  | notes                                                                 |
|------------------------------|------------------------------------------------------------------------|
| Business and Management      | includes Organization Science                                          |
| Legal Studies                |                                                                        |
| Health Sciences              |                                                                        |
| Sociology                   |                                                                        |
| Political Science            |                                                                        |
| Psychology                  |                                                                        |
| Environmental Sciences       |                                                                        |
| Multidisciplinary            | includes generalist journals and journals covering multiple disciplines |
| Geography                   |                                                                        |
| History                      |                                                                        |
| Statistics and Mathematics   |                                                                        |
| Medicine                     |                                                                        |
| Natural Sciences             |                                                                        |
| Theology                     |                                                                        |
| Discipline               | Description                                      |
|-------------------------|--------------------------------------------------|
| Engineering             |                                                 |
| Criminology             |                                                 |
| Anthropology            |                                                 |
| Educational Science     |                                                 |
| Agriculture             |                                                 |
| Computer Science        |                                                 |
| Philosophy              |                                                 |
| Development             |                                                 |
| Political Economy       | journals that are neither classified in "Political Science" nor "Heterodox Economics" |
| Transportation Research |                                                 |