

DISCUSSION PAPER

No 188

Asymmetric Perceptions of the Economy: Media, Firms, Consumers, and Experts

Konstantin Kholodilin,
Christian Kolmer,
Tobias Thomas,
Dirk Ulbricht

June 2015

IMPRINT

DICE DISCUSSION PAPER

Published by

düsseldorf university press (dup) on behalf of
Heinrich-Heine-Universität Düsseldorf, Faculty of Economics,
Düsseldorf Institute for Competition Economics (DICE), Universitätsstraße 1,
40225 Düsseldorf, Germany
www.dice.hhu.de

Editor:

Prof. Dr. Hans-Theo Normann
Düsseldorf Institute for Competition Economics (DICE)
Phone: +49(0) 211-81-15125, e-mail: normann@dice.hhu.de

DICE DISCUSSION PAPER

All rights reserved. Düsseldorf, Germany, 2015

ISSN 2190-9938 (online) – ISBN 978-3-86304-187-8

The working papers published in the Series constitute work in progress circulated to stimulate discussion and critical comments. Views expressed represent exclusively the authors' own opinions and do not necessarily reflect those of the editor.

Asymmetric Perceptions of the Economy: Media, Firms, Consumers, and Experts¹

Konstantin Kholodilin², Christian Kolmer³, Tobias Thomas⁴, Dirk Ulbricht⁵

June 2015

Abstract

This article sheds light on the interaction of media, economic actors, and economic experts. Based on a unique data set of 86,000 news items rated by professional analysts of Media Tenor International and survey data, we first analyze the overall tone of the media, consumers', firms', and economic experts' opinions on the state and outlook of the economy. Second, we assess the protagonist's ability at correctly predicting GDP. Third, we use Granger causality tests to uncover who is influencing whom when it comes to the formation of opinions on the economy. We find that media reports have a significant negative bias. The economic sentiment of the media, consumers and firms does not reflect the actual situation. Finally, we find that media sentiment is not influenced by any other actor. In contrast, media appear to affect all other actors.

JEL codes: E32; E37; L82

Key words: media bias; consensus forecasts; consumer and business sentiment

¹ This paper was presented at the 15th International Agenda Setting Conference, February 19-21, 2015 in Vienna, Austria. We are thankful to participants for their comments.

² Research Associate, DIW Berlin, Mohrenstraße 58, 10117 Berlin, Germany, E-mail: kkhodilin@diw.de.

³ Head of Political Research, Media Tenor International, Alte Jonastraße 48, 8640, Switzerland, E-mail: c.kolmer@mediatenor.com.

⁴ Head of Research, Media Tenor International, Alte Jonastraße 48, 8640, Switzerland, and Research Affiliate, Düsseldorf Institute for Competition Economics (DICE), Heinrich-Heine-Universität, Universitätsstraße 1, 40225 Düsseldorf, E-mail: t.thomas@mediatenor.com.

⁵ Research associate, DIW Berlin, Mohrenstraße 58, 10117 Berlin, Germany, E-mail: dulbricht@diw.de.

1. Introduction

The concept of media bias is analyzed from many perspectives; the basic notion relating to a distorted representation of “real-world” conditions (*distortion bias*, Entman, 2007). From the perspective of communication science, a large number of studies focus on the impact of editorial slant on political processes, maintaining that “news favors one side rather than providing equivalent treatment to both sides in a political conflict (*content bias*)” (Entman, 2007). There is widespread evidence that news media editorial positions influence media content and this, in turn, impacts voters’ attitudes and decisions, e.g., Druckman and Parkin (2005). From this perspective media bias can be traced back not only to ideological preconceptions of journalists but also to the influence of competition between media businesses, insofar as taking a partisan stance can be a sensible business strategy (Bernhardt, Krasa, and Polborn, 2008). Measuring editorial slant is controversial, with, e.g., expert opinion related to individuals’ political stances (Groseclose and Milyo, 2005).

As media coverage is shaped by editorial decisions in the production process of media content, media bias flowing from the editorial decisions (*decision bias*, Entman, 2007) can affect the selection of news, the evaluation of the protagonists and the described developments as well as the framing of the reported events. Conceptions of media bias are, therefore, related to several theories of media effects that address the perception of the importance of topics – agenda-setting (Coleman, McCombs, and Shaw, 2009); the tonality of reporting – defined as second level agenda-setting (Weaver, McCombs, and Shaw, 2004); and the way certain “facets of events or issues” are highlighted, while other aspects are downplayed (Entman, 2004), which can then be traced back not only to editorial positions but also to production routines. There is extensive evidence that media coverage can structure the perception of electoral candidates with regard to the categories, by which they are judged by the public, with the media “priming” the electoral decisions (Pan and Kosicki, 1997).

From a wider perspective, the concept of media bias can be related as well to the phenomenon of “negativism.” News is proverbially “inherently negative,” as maintained by the theory of news factors (Staab, 1990). However, the focus on potentially negative or dangerous developments can also be traced back to a general asymmetry of good and bad news both at the level of media content and in the way information is processed by individuals (Soroka, 2006). Economic coverage is observed to be mostly negative over time and cross-country (Brettschneider, 2000 and Ju, 2008). This observation, in turn, relates back to the impact of media coverage on political decisions. Based on the economic theory of voting, the news selection on the economy and the framing of economic development can potentially have a big influence on elections (Sheafer, 2008).

From an economic perspective, a growing literature employs media data to explain economic sentiment. For Nadeau et al. (2000) and Soroka (2006), the assessment of the state of the economy depends at least in parts on the media reporting. Doms and Morin (2004) show that there is clear

evidence that economic coverage influences the attitudes and decisions of economic decision-makers. Both Goidel and Langley (1995) as well as Doms and Morin (2004) show an impact of media reporting on the consumer climate. Uhl (2010, 2011) uses sentiment data of newspaper and TV-news to forecast US private consumption. The role of media coverage of the economy is also analyzed with regard to its contribution to economic forecasting (Abberger, 2007 Hüfner and Schröder, 2002) and to predict German industrial production (Grossarth-Maticek and Mayr, 2008 and Kholodilin, Thomas, and Ulbricht, 2014).

A contingent distortion bias in media coverage of the economy has, therefore, a potentially strong impact both on economic activity and political decisions. While there are several possible causes of bias, some countervailing factors – in the sense of “corrective” input – can also be named. Economic forecasting is not only based on observed hard factors, like output or unemployment, but it also takes the expectations of businesses and consumers into consideration. The regular surveys by economic institutes are fed back to the media, as well as the economic projections by government experts and economic institutions. These routine events are highly newsworthy and contribute strongly to the media coverage of economic research institutes.

However, as media coverage clearly impacts the perceptions and decisions of individuals in the economic context, possible distortions in reporting the state of the economy and the anticipated developments not only negatively influence the quality of economic forecasts but also contribute to the materialization of the predicted developments. This “self-fulfilling” prophecy phenomenon was observed for the activities of consumers for instance with regard to the 1972 oil shock in Germany (Kepplinger 1978). The shortages that the media predicted led to hoarding of petrol, a run on the filling stations and, ultimately, to severe shortages. In the end, the government was forced to introduce “car-free Sundays.”

These observations led to the questions that this contribution seeks to address: A distortion bias in economic news exerts a potentially damaging influence on households and companies that may even affect the forecasts and recommendations of economic experts. Based on the clear evidence of a negative asymmetry of perceptions and media coverage of the state of the economy, we first look for the extent of negativity in media reports, consumer and business confidence, and economic forecasts. In a second step, we analyze how strong these predictions deviated from actual developments. Finally, we look at the question of how the different types of protagonists influenced each other with regard to their assessments of the state of the economy and their forecasts of the development.

The pertinent negativity of economic news leads to the following research questions:

R1: How negative is media coverage of the economy compared to the perceptions of decision makers and economic experts?

R2: How much do the predictions of economic development by the media, economic decision makers, and economic experts deviate from real development?

R3: How strong is the influence of media coverage on the perceptions of the economy by economic decision makers and economic experts compared to the influence of these groups on each other and on media content?

In order to answer these questions, we track German consumer confidence, business sentiment, and forecasts by economic experts, comparing the expectations with the coverage of the economy by opinion-leading media for a period of 14 years and analyze the patterns of predictive power.

The second section presents the data and the methodology, third section shows the results, and the last section concludes.

2. The data and methodology

2.1. The data

The media indicators are a result of a content analysis of the economic coverage of opinion-leading German TV and print media by the Swiss-based Media Tenor International institute. News coverage was analyzed by human coders using a codebook that includes references to the protagonist (politicians, entrepreneurs, managers, celebrities, etc.) and institutions (political parties, companies, football clubs, etc.), topic (unemployment, inflation, etc.), region of reference (i.e., Germany, EU, USA, UK, BRIC, worldwide), time reference (past, present, and future), source of information (journalist, politician, expert, etc.), as well as with regard to the tone of the information (negative, no clear tone, or neutral).⁶ News items referring to 336 topics unified in 54 more general topic groups were analyzed over the period from January 1, 2001 through January 31, 2015. Overall, there are 86,367 news items in the data set.⁷ This news comes from 8 media sources, including five TV news shows (heute, heute journal, RTL Aktuell, Tagesschau, Tagesthemen) and three print media in the form of one newspaper (Bild-Zeitung) and two magazines (Focus, and Spiegel). TV news shows are analyzed entirely, while print media analysis is limited to the politics and business sections.

Based on the ratings, we compute media indices as the differences between the percentage share of the positive ratings and that of the negative ratings:

⁶ Media Tenor International employs professional coders to carry out media-analysis. Only coders that achieved a minimum reliability of 0.85 are cleared for coding. That means that the coding of these coders deviate at most by 0.15 from the trainers' master-versions. The reliability of the coding is checked on an ongoing basis both with quarterly standard tests and random spot checks. For each month and coder, three analyzed reports are selected randomly and checked. Coders scoring lower than 0.80 are removed from the coding process. In none of the months the mean deviation among all coders was above 0.15.

⁷ See Table 1 for a detailed description of the structure of the analyzed media set.

$$B_{i,j,t} = 100 \times \frac{A_{i,j,t}^+ - A_{i,j,t}^-}{A_{i,j,t}^+ - A_{i,j,t}^- + A_{i,j,t}^0}, \quad (1)$$

Where $A_{i,j,t}^+$ is the number of positive ratings of medium reports about events happening in the time i in the country j published in period t , $A_{i,j,t}^-$ is the number of negative ratings, and $A_{i,j,t}^0$ is the number of neutral rankings. The index varies between -100 (all reports are rated negatively) and 100 (all reports are rated positively). We consider two types of media indicators. The first one only uses the ratings that refer to the current situation and reflects the assessment of the current economic situation. The second one only uses reports that are related to events happening in the future, reflecting expectations inherent in the media.

Consumer confidence: We measure consumer confidence in Germany using two European Commission indicators: 1) general economic situation over last 12 months (which can be considered as a measure of past and present economic situation from the standpoint of households) and 2) general economic situation over next 12 months (which can be treated as households' expectations about the near future). The data are monthly starting in January 1985 and ending in February 2015.⁸

Business confidence: The Ifo Institute for Economic Research in Munich asks firms working in manufacturing, construction, wholesaling and retailing to assess 1) business situation (evaluation of the current state of affairs) and 2) business expectations (the expected changes in state of affairs within the next six months). Both series are monthly and cover the period from January 1991 through February 2015.⁹

Economic experts: The opinions of experts are based on forecasts made by individual forecasters and collected in form of surveys by Consensus Economics¹⁰ (January 1989 till May 2010) and Focus Economics¹¹ (June 2010 till December 2014). The forecasts are published on a monthly basis and refer to the annual growth rates of real GDP in the current and the next year. For each forecaster, a deviation between its forecast, F_{it} , and the actual growth rate as reflected in the most recent available vintage of national accounts data is computed, Y_{it} : $D_{it} = F_{it} - Y_{it}$.¹² Based on the sign of the deviation, the forecasters are divided into two groups: 1) "pessimistic" if $D_{it} < 0$ and 2) "optimistic", otherwise. The expert sentiment is then constructed as a difference between the percentage share of optimists and pessimists. In such a way, we arrive at the sentiment indicators that can be compared to those for consumers and businesses.

⁸ For more details see http://ec.europa.eu/economy_finance/db_indicators/surveys/index_en.htm.

⁹ See <http://www.cesifo-group.de/ifoHome/facts/Time-series-and-Diagrams/Zeitreihen/Reihen-Geschaeftsklima-Deutschland.html>.

¹⁰ <http://www.consensuseconomics.com>.

¹¹ <http://www.focus-economics.com>.

¹² Statistisches Bundesamt (2015) Volkswirtschaftliche Gesamtrechnungen. Inlandsproduktsberechnung Vierteljahresergebnisse. 4. Vierteljahr 2014. Stand: Februar 2015.

2.2. The methodology

The media, consumers, and companies do not make explicit forecasts. However, the implicit forecasts can be deduced in the following way: If the value of the expectations, E_t , at time t exceeds (is lower than) the value of the assessment of the current situation, A_t , this implies an improvement of the economic situation, which is equivalent to positive (negative) GDP growth. Therefore, the forecasts computed here merely represent sign forecasts, resulting in $F_t = 1$, if $E_t > A_t$ reflecting a forecast of a positive GDP growth, and in $F_t = -1$, if $E_t < A_t$ reflecting a forecast of negative growth.

For the computation of the forecast errors, the corresponding GDP numbers are employed. In doing this, we assume that consumers predict 12 months and firms 6 months ahead as in the surveys they are asked to give their expectations for the next 12 or 6 months, respectively. The forecast horizon of the experts is clearly stated in the Consensus survey: it is the current and the next year. For media, we tested both the 6 months and the 12 months horizon forecast. Here, we report only the 12 months horizon results, as the 6 months horizon forecasts give essentially the same results. Thus, the value of the actual economic development given by the quarterly GDP numbers is recoded accordingly. If the quarterly GDP at the point in time the forecasts are made grows over the subsequent 6 month, it is recoded to 1, if it shrinks it is recoded to -1. If both the forecasts and the recoded GDP take the same values, the sign is correctly predicted, if not, it represents a forecast error. The results are robust to the assumed forecast horizon. If the procedure is implemented using year-on-year growth, the results are essentially the same.

In case of the economic experts, in order to make the results comparable, we report the results of the mere sign forecasts. First, the difference of each single forecast and the real development was calculated. On this basis a new variable was constructed, which become 1, if the expert over-estimates the real development and -1, if the expert underestimates the real development. Then, the balance of overestimations and underestimations was calculated. For economic forecasts the horizon is clearly stated in the consensus survey and is one year.

It is next to impossible to empirically uncover economic causalities. However, Granger (1969) provides a framework for at least testing for a necessary condition of causality. Nevertheless, Granger causality should not be confused with a true causality: if a variable Granger causes another variable, it implies that it is useful for the forecasts of the latter but not necessarily causes it. Let t be a time index. If one variable y_t is Granger caused by another variable x_t , both variables need to be correlated and changes of x_t should precede changes of y_t . This can easily be tested by regressing y_t on its own lagged values (to account for autocorrelation) and lags of x_t . If lags of x_t , are significant, while lags of y_t are not significant in the corresponding regression of x_t , on lags of y_t and x_t , x_t is said to Granger cause y_t . Thus, the null hypothesis that x_t does not Granger cause y_t is tested using the following expression:

$$y_t = \gamma + \alpha_1 y_{t-1} + \alpha_j y_{t-j} + \beta_1 x_{t-1} + \dots + \beta_l x_{t-l} + \epsilon_t, \quad (2)$$

where j and l are the maximum lag lengths of y_t and x_t , respectively; and α , β , and γ are regression coefficients. In order to improve upon the standard approach, gaps in the lag structure are allowed, as well, determining significance using Bayesian model averaging (Kass and Raftery, 1995). This means that it is not only tested for lags, e.g., $j = 5$, versus $j = 4$. Here, gaps in the lag sequences are allowed and each possible combination of lagged y_t and x_t values are possible.

3. Results

3.1. Negativity of media coverage of the economy in comparison to the perceptions by decision makers and economic experts

In Table 2 the assessment of the current state of the economy/expectations is displayed from different protagonists' perspectives. It includes news coverage on the state for the economy in the media, companies' confidence index, consumers' confidence index, and economic experts' forecasts.

For the analysis the mean values for the period between January 2001 and February 2015 are calculated. The values in the table show the balance of positive assessment and negative assessments in percent.

With respect to the media coverage we differentiate between the time reference (past/present/future) as well as between the region of reference (Germany and rest of the world).

All actors, except for the economic experts, are characterized by a markedly negative perceptions of the economy, with media coverage being most pronouncedly negative. During the period under study, German opinion leading media were more negative with respect to the rest of the world than to Germany and more negative with respect to the present in comparison to the past and the future. With respect to the current economic situation in Germany the balance of positive and negative reports is -24.7%, while regarding the future economic situation the prevalence of the negative opinions is much smaller with -14.2%.

A similar pattern is observed for consumer confidence index: the balance of the positive and negative assessment is -17.7% when concerning past and present, but -11.0% when referring to future development. Thereby, consumers are a little bit less negative than the media.

A different picture emerges when the sentiment of the companies is considered: Both the assessment of the situation and the expectations for the future are nearly balanced. With respect to the current situation, the balance of positive and negative assessments is with -0.5% slightly negative. When it comes to the expectations the value becomes -2.1%. Thus, German companies are neither particularly optimistic nor pessimistic about the current situation or the near future.

Much more optimism can be seen in the forecasts of economic experts: The balance of the over- and underestimations is 10.2% when it comes to the current economic situation and 23.7% when the future development is concerned. Economic experts seem to be rather optimistic, especially when it comes to predicting the future.

Focusing on the time series displayed in Figure 1, one can see that both consumer confidence and company confidence fully recovered after the financial crisis (2008-2009) in the 2010 and 2011, while experiencing a downswing in 2012 and 2013. By 2014, confidence is again positive. In contrast, media coverage of the economy has not recovered permanently from the impact of the financial crisis of the years 2008-2009 and reverted to an overall negative tone in the years 2013-2014.

While expectations of companies and consumers are consistently more positive than the assessment of the present, media coverage of the future has been more positive than reports on the present only for the period before the year 2011. Apparently, this pattern results from the intensive coverage of the Greek debt crisis, which has been more prominent than other news on foreign economies due to its political implications.

3.2. Deviation of the predictions by the media, decision-makers, and economic experts from real development

Another interesting outcome of the financial crisis is seen in Figure 2: While reports on Germany were aligned to reports on the rest of the world until the inception of the financial crisis in 2007, after that media coverage on Germany was significantly more positive than for other countries. This can be explained by a more favorable shape of German economy compared to other countries, particularly those EU member states facing recently an economic slowdown. Moreover, media reports about the political reaction to the challenges of the banking crisis and, later on, the rescue of the highly indebted countries in Southern Europe, have emphasized the situation outside of Germany.

Table 3 shows the results for all four groups of actors: the media, firms, consumers, and economic experts. It presents the mean prediction error, the percentage of time the forecasts were too positive, too negative, and correct. One (two) stars indicate significance at the 5% (1%) level, according to the Wilcoxon (1945) sign rank test, which tests the null hypothesis of the errors having a mean of zero against the alternative of having a positive or negative bias (one-sided tests).

The mean error of the implicit forecasts of media, firms, and consumers is negative; that is, the three actors systematically underpredict growth. The percentage of negative errors is relatively large and it is significant for firms and consumers giving values of 42% and 53%, respectively. However, the bias is very small and not significant for media. The percentage of correct forecasts ranges between 42 and

53%. Thus, only in the case of media they are slightly better than flipping a coin. In contrast to the aforementioned results, experts, represented by the Consensus forecast, have a positive error revealing overly optimism in about 15% of the forecasts made. The bias is significant at the 1% level. Looking at the percentage of correct answers, the experts are by far more accurate in predicting the evolution of GDP.

3.3. Estimating the influence of media coverage on the perception of decision makers and economic experts

Table 4 and 5 in the appendix give the regression results of the pairwise regression for those equations for which Granger causality was found. Figure 3 shows the Granger causalities between the media, consumer, business, and expert indices of the current situation and expectations as single-headed arrows. The heads point in the direction of causality. Thus, $x \rightarrow y$ means that x is Granger causing y . Two-sided arrows indicate that both variables are mutually Granger causing. The Granger causalities demonstrate multiple connections between the analyzed time series, as information about economic activity flows not only directly to the individual decision-makers but also indirectly through the media, involving feedback processes. Strikingly, both media variables are not Granger caused by any other actor's opinions. However, media assessment of the current situation Granger causes the assessment of current situation and future expectations by forecasters and consumers as well as the evaluation of the current situation by businesses. Future expectations of media only Granger cause consumer expectations in the way they assess the current situation and future developments. In addition, consumer expectations and assessment of the current situation by firms are Granger caused exclusively by media sentiment. Interestingly, the media sentiment appears to be not influenced by any other actor.

It is noteworthy that the business expectations are only Granger caused by the business assessment of the current situation and by the consumer expectations. Neither media nor economic experts appear to exert an impact upon the formation of expectations by the firms.

4. Discussion

This paper examines the sentiment of consumers, companies, economic experts, and the media over the period between January 2001 and February 2015. The results are the following:

First, all timelines, aside from that of the economic experts, are characterized by a marked overall surplus of negative descriptions of the economy, with media coverage being most pronouncedly negative on both the current situation and on future development. A similar result is shown by the consumer confidence index, with little less negativity than in the media. A different picture is given by the assessments of the companies and economic experts. Whereas both the assessment of the situation and the expectations for the future of the companies are nearly balanced, the assessments and forecasts of economic experts seem to be rather optimistic, especially when it comes to future development.

Second, economic experts deserve their title: in comparison to consumers, companies, and the media, expert's assessments and forecasts are much more often correct. In 84% of the cases they are right. All others (media, consumers, and companies) achieve an accuracy of around 50%, which is as accurate as flipping a coin.

Third, the analysis of Granger causality demonstrates multiple connections between the assessments and the expectations of the groups analyzed. Nevertheless, media coverage of the economy, both with regard to the present and the future, is not Granger caused by any of the confidence indicators or the experts' forecasts.

The study confirms not only the assumption of a basic asymmetry in economic news but underscores the role of negativism as a basic element of media bias. This distortion bias exerts a possible strong influence on economic decisions, as our analysis confirms hypotheses of a strong media influence on attitudes and behavior of economic decision makers.

The results confirm several long-standing assumptions of communications research. The disconnections between assessments of the personal economic situation and the assessment of the overall state of the economy observed in opinion polls can be traced back to the impact of the media that inform consumers about economic trends outside of their personal experience. Moreover, the overall tonality of media coverage on the economy influences as well the assessments of decision makers in the business world, whose assessment of opportunities and risks seems to be not exclusively dominated by their order books. The tone of economic news affects the overall framing of the information available on the individual level.

While consumers and companies are affected more directly by the media coverage, the forecasts of economic experts are indirectly affected, as the confidence indices are utilized both systematically as statistical input and in the context of economic news.

Economic news varies strongly in terms of both tonality – notwithstanding the strong overall negativity – and volume. Negativity is partially driven by the news value of bad news, but also by the communications of interest groups and institutions, which are potentially interested in highlighting problems and demands for action with regard to their own goals, like, e.g., environmental activists, trade unions, or charities. In the last decade of the 20th century, unemployment, for instance, was consistently labelled as the most urgent problem by politicians and was, accordingly, invariably at the top of the polls on the most important problem facing the community.¹³ In this context, information offered by economic experts not only plays a minor role in terms of salience, but may also be used by journalists in a selective way.

¹³ Faas & Rattinger (2003) interpret this relationship in a reverse way, with opinion polls motivating politicians to address unemployment in their political rhetoric.

The results of the study suggest a strong distortion bias of economic uses with potential adverse consequences for decision-making both in the economy and in the politics.

References:

Abberger K. (2007). Forecasting quarter-on-quarter changes of German GDP with monthly business tendency survey results. *Ifo Working Paper*, No. 40, Ifo Institute for Economic Research at the University of Munich.

Bernhardt D., Krasa S., and Polborn M. (2008). Political polarization and the electoral effects of media bias. *Journal of Public Economics*, 92 (5-6), 1092–1104.

Brettschneider F. (2000). Reality Bytes: Wie die Medienberichterstattung die Wahrnehmung der Wirtschaftslage beeinflusst. Wirklich ein Volk? In: Falter J., Gabriel O., and Rattinger, H. (Eds.) *Wirklich ein Volk? Die politischen Orientierungen von Ost- und Westdeutschen im Vergleich*. Wiesbaden: Springer, 539-569.

Coleman R., McCombs M., and Shaw D. (2009). Agenda setting. . In: Wahl-Jorgenson K., and Hanitzsch, T. (Eds): *The Handbook of Journalism Studies*. London/New York: Routledge, 147-160.

Doms M. E. and Morin N. J. (2004). Consumer sentiment, the economy, and the news media. *Federal Reserve Bank of San Francisco Working Paper* No. 2004-09.

Druckman J. N. and Parkin M. (2005). The Impact of Media Bias: How Editorial Slant Affects Voters. *Journal of Politics*, 67 (4), 1030-1049. doi:10.1111/j.1468-2508.2005.00349.x

Entman R. M. (2004). *Projections of Power: Framing news, public opinion, and US. Foreign Policy*, Chicago: University of Chicago Press.

Entman R. M. (2007). Framing Bias: Media in the Distribution of Power. *Journal of Communication*, 57(1), 163-173. doi:10.1111/j.1460-2466.2006.00336.x

Faas, T. and Rattinger, H. (2003). Politische Konsequenzen von Arbeitslosigkeit: Eine Analyse der Bundestagswahlen 1980 bis 2002. In: Wüst, A. M. (Ed.). *Politbarometer*. Wiesbaden: Springer, 205-238.

Goidel, R. K. and Langley, R. E. (1995). Media coverage of the economy and aggregate economic evaluations: Uncovering evidence of indirect media effects. *Political Research Quarterly* 48, 313-328.

Granger C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, 37 (3), 424-438.

Groseclose T. and Milyo J. (2005). A measure of media bias. *The Quarterly Journal of Economics*, 120 (4): 1191-1237.

Grossarth-Maticek J. and Mayr J. (2008). Medienberichte als Konjunkturindikator. *Ifo-Schnelldienst* 61, 17-29.

Haucap J, Thomas T. and Wagner G.G (2015). Zu wenig Einfluss des ökonomischen Sachverstands? Empirische Befunde zum Einfluss von Ökonomen und anderen Wissenschaftlern auf die Wirtschaftspolitik. *List Forum für Wirtschafts- und Finanzpolitik*, 40, 422-435.

Hüfner F. P. and Schröder M. (2002). Forecasting economic activity in Germany-how useful are sentiment indicators? *ZEW Discussion Papers* No. 02-56.

- Ju Y. (2008). The asymmetry in economic news coverage and its impact on public perception in South Korea. *International Journal of Public Opinion Research*, 20 (2), 237-249
- Kass R. E. and Raftery A. E. (1995), Bayes factors, *Journal of the American Statistical Association*, 90 (430): 773-795.
- Kepplinger H. M. and Roth H. (1978). Kommunikation in der Ölkrise des Winters 1973/74. Ein Paradigma für Wirkungsstudien. *Publizistik* 78.
- Kholodilin K. A., Thomas T., and Ulbricht D. (2014). Do media data help to predict German industrial production? *DIW Discussion Paper* No. 1193, Deutsches Institut für Wirtschaftsforschung Berlin (DIW).
- Nadeau R., Niemi R. G., and Amato T. (2000). Elite economic forecasts, economic news, mass economic expectations, and voting intentions in Great Britain. *European Journal of Political Research* 38, 135-170.
- Pan Z. and Kosicki G. M. (1997). Priming and Media Impact on the Evaluations of the President's Performance. *Communication Research*, 24(1), 3-30. doi:10.1177/009365097024001001
- Sheafer T. (2008). The media and economic voting in Israel. *International Journal of Public Opinion Research*. *International Journal of Public Opinion Research*. 20 (1), 33-51
- Soroka S. N. (2006). Good news and bad news: Asymmetric responses to economic information. *Journal of Politics*, 68 (2), 372-385.
- Staab J. F. (1990). Nachrichtenwert-Theorie: formale Struktur und empirischer Gehalt. Freiburg/München: Alber.
- Weaver D., McCombs M., and Shaw D. L. (2004). Agenda-setting research: Issues, attributes, and influences. In: Kaid, L. (Ed.). *Handbook of Political Communication Research*. Mahwah/London: Erlbaum.
- Wilcoxon, Frank. "Individual comparisons by ranking methods." *Biometrics Bulletin* (1945): 80-83.

Appendix:

Table 1: Analyzed media set:

TV-program/Print medium	Number of news items analyzed
TV-news shows	
ARD Tagesschau	12,146
ARD Tagesthemen	15,847
ZDF heute	10,600
ZDF heute journal	16,394
RTL Aktuell	6,167
Weekly magazines	
Spiegel	5,786
Focus	8,082
Daily newspaper	
Bild-Zeitung	11,345
Total	86,367

Table 2: Assessment of the state of the economy/expectations of different protagonists, %

Protagonists	Measurement	Location	Past	Present	Future
Media	News coverage	Rest of world	-36.3***	-43.2***	-25.8***
		Germany	-17.4***	-24.7***	-14.2***
Consumers	Confidence index	Germany	-17.7***		-11.0***
Companies	Confidence index	Germany		-0.5	-2.1**
Experts	Forecast accuracy	Germany		10.2	23.7***

Note: *** (**) stands for statistical significance at 1% (5%) level.

Table 3: “Forecast errors” of media, consumer, companies, and economic experts

	Mean error	% of positive errors	% of negative errors	% of correct forecasts
Media	-0.04	22	25	53
Consumers	-0.18	18	36**	47
Companies	-0.26	16	42**	42
Experts	0.14	15**	1	84

Table 4: Granger causality, regression results

Endogenous		X1	X2	X1(-1)	X1(2)	X1(3)	X1(4)	X1(5)	X1(6)	X1(7)	X1(8)	X1(9)	X1(10)	X1(11)	X1(12)	X2(1)	X2(2)	X2(3)	X2(4)	X2(5)	X2(6)	X2(7)	X2(8)	X2(9)	X2(10)	X2(11)	X2(12)								
X1	Cons_expectation		Cons_situation	1.07**																															
	Cons_expectation		Cons_situation	0.3**	-0.27**																														
X2	ifo_situation		Cons_situation	1.1**		0.3**	-0.43**																												
	ifo_situation		Cons_situation	0.38**				-0.24**																											
X1	ifo_situation		Cons_expectation	1.03**		0.31**	-0.35**																												
	ifo_situation		Cons_expectation	0.24**				-0.16**																											
X2	ifo_expectation		Cons_situation	1.31**	-0.25*		-0.14**																												
	ifo_expectation		Cons_situation	0.50**	-0.28**																														
X1	ifo_expectation		Cons_expectation	1.14**			-0.27**																												
	ifo_expectation		Cons_expectation	0.49**	-0.29**																														
X2	ifo_expectation		ifo_situation	1.42**	-0.53**																														
	ifo_expectation		ifo_situation	0.32**		-0.43**	0.26**																												
X1	Consensus_expectation		Cons_situation	0.91**																															
	Consensus_expectation		Cons_situation	0.92**																															
X2	Consensus_expectation		Cons_expectation	1.72**	-1.75*	-1.94**	1.94**																												
	Consensus_expectation		ifo_situation	0.87**																															
X1	Consensus_expectation		ifo_situation	0.89**																															
	Consensus_expectation		ifo_expectation	0.89**																															
X2	Consensus_expectation		Cons_situation	0.66**																															
	Consensus_expectation		Cons_situation	0.66**																															
X1	Consensus_expectation		Cons_expectation	0.62**																															
	Consensus_expectation		ifo_situation	0.62**																															
X2	Consensus_expectation		ifo_situation	0.88*																															
	Consensus_expectation		ifo_expectation	0.58**																															
X1	Consensus_expectation		Consensus_situation	0.8**																															
	Consensus_expectation		Consensus_situation	0.8**																															
X2	Consensus_expectation		Consensus_situation	0.3**																															
	Consensus_expectation		Cons_situation	0.55**		0.27**																													
X1	Consensus_expectation		Cons_situation	0.10**																															
	Consensus_expectation		Cons_expectation	0.55**		0.27**																													
X2	Consensus_expectation		Cons_expectation	0.11**	-0.07*																														
	Consensus_expectation		ifo_situation	0.55**		0.27**																													
X1	Consensus_expectation		ifo_situation	0.55**		0.27**																													
	Consensus_expectation		ifo_expectation	0.55**		0.27**																													
X2	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X1	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X2	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X1	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X2	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X1	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
X2	Consensus_expectation		Consensus_situation	0.55**		0.27**																													
	Consensus_expectation		Consensus_situation	0.55**		0.27**																													

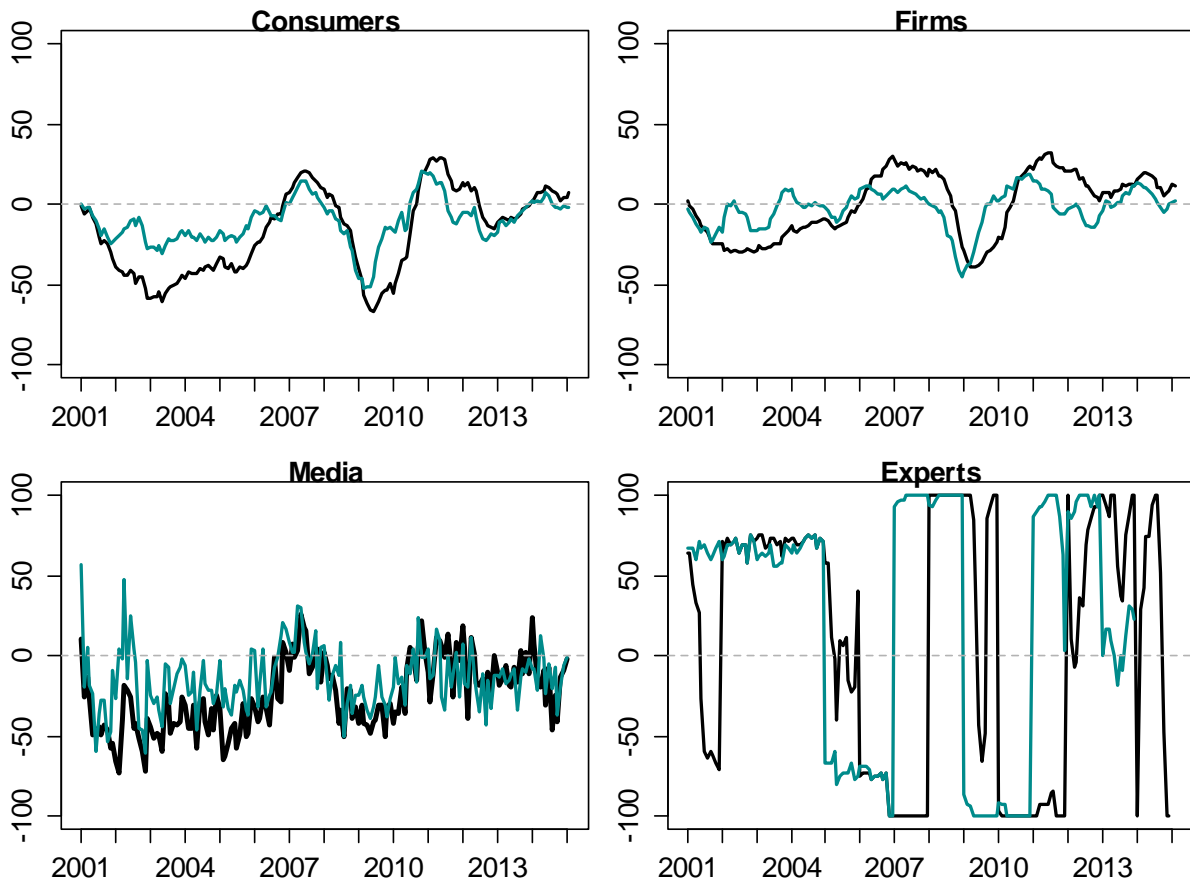
Note: This table shows the pairwise OLS regressions for testing for Granger causality. (-) indicates a lag of L, * indicates significance at the 5 percent level, and ** at the one percent level. The specification is selected using Bayesian model averaging.

Table 5: Granger causality, regression results (continued)

Endogenous	X1	X2	X1(-1)	X1(-2)	X1(-3)	X1(-4)	X1(-5)	X1(-6)	X1(-7)	X1(-8)	X1(-9)	X1(-10)	X1(-11)	X1(-12)	X2(-1)	X2(-2)	X2(-3)	X2(-4)	X2(-5)	X2(-6)	X2(-7)	X2(-8)	X2(-9)	X2(-10)	X2(-11)	X2(-12)
X1	MTI_situation	Consensus_expectation	0.55**		0.27**																					
X2	MTI_situation	Consensus_expectation													0.68**											0.14**
X1	MTI_expectation	Cons_situation	0.39**	0.26**																						
X2	MTI_expectation	Cons_situation	0.05**												1.15**											-0.18**
X1	MTI_expectation	Cons_expectation	0.39**	0.26**																						
X2	MTI_expectation	Cons_expectation	0.08**												1.04**											-0.20**
X1	MTI_all_Konjunktur	Cons_situation	0.75**																							
X2	MTI_all_Konjunktur	Cons_situation	0.05**												1.12**											-0.16**
X1	MTI_all_Konjunktur	Cons_expectation	0.75**																							
X2	MTI_all_Konjunktur	Cons_expectation	0.04**												1**											-0.13**
X1	MTI_all_Konjunktur	Ifo_situation	0.60**												1.16**											-0.96**
X2	MTI_all_Konjunktur	Ifo_situation													1.1**											0.3**
X1	MTI_all_Konjunktur	Ifo_expectation	0.58**												0.71**											-0.43**
X2	MTI_all_Konjunktur	Ifo_expectation													1.31**											-0.14**
X1	MTI_all_Konjunktur	Consensus_expectation	0.75**																							
X2	MTI_all_Konjunktur	Consensus_expectation													0.00**											0.16**
X1	MTI_all_Konjunktur	MTI_situation	0.68**												0.42**											-0.30**
X2	MTI_all_Konjunktur	MTI_situation	0.09*												0.27**											
X1	MTI_all_Arbeitsmarkt	Cons_situation													0.73**											-1.76**
X2	MTI_all_Arbeitsmarkt	Cons_situation	0.04*												1.14**											-0.19**
X1	MTI_all_Arbeitsmarkt	Cons_expectation	0.27**												0.48**											0.48**
X2	MTI_all_Arbeitsmarkt	Cons_expectation	0.06**												1.05**											-0.15**
X1	MTI_all_Arbeitsmarkt	Ifo_situation	0.25**												0.34**											
X2	MTI_all_Arbeitsmarkt	Ifo_situation													1.10**											0.30**
X1	MTI_all_Arbeitsmarkt	Ifo_expectation	0.19*												0.45**											-0.43**
X2	MTI_all_Arbeitsmarkt	Ifo_expectation													1.37**											0.43**
X1	MTI_all_Arbeitsmarkt	Consensus_situation	0.27**	0.20*	0.21*																					
X2	MTI_all_Arbeitsmarkt	Consensus_situation													0.91**											-0.01**
X1	MTI_all_Arbeitsmarkt	Consensus_expectation	0.27**	0.20*	0.21*																					
X2	MTI_all_Arbeitsmarkt	Consensus_expectation													0.73**											0.11*
X1	MTI_all_Arbeitsmarkt	MTI_situation	0.32**												0.41**											-0.44**
X2	MTI_all_Arbeitsmarkt	MTI_situation													0.55**											0.49**
X1	MTI_all_Arbeitsmarkt	MTI_expectation	0.27**																							0.27**
X2	MTI_all_Arbeitsmarkt	MTI_expectation													0.55**											0.26**
X1	MTI_all_Arbeitsmarkt	MTI_all_Konjunktur	0.25**												0.39**											0.28**
X2	MTI_all_Arbeitsmarkt	MTI_all_Konjunktur													0.20**											0.17**
X1	MTI_all_Arbeitsmarkt	MTI_all_Konjunktur	0.25**																							0.18**
X2	MTI_all_Arbeitsmarkt	MTI_all_Konjunktur													-0.34**											

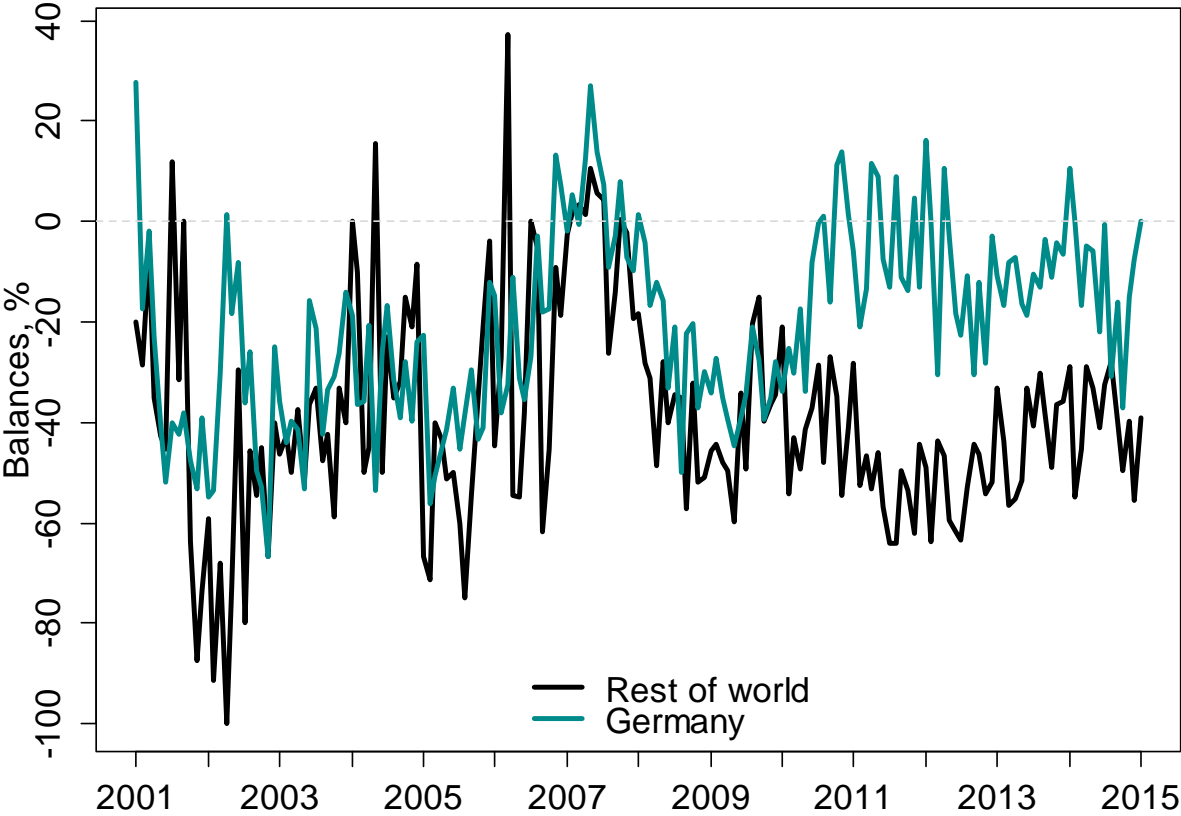
Note: This table shows the pairwise OLS regressions for testing for Granger causality. (L) indicates a lag of L, * indicates significance at the 5 percent level, and ** at the one percent level. The specification is selected using Bayesian model averaging.

Figure 1: Negative bias of news and confidence indicators



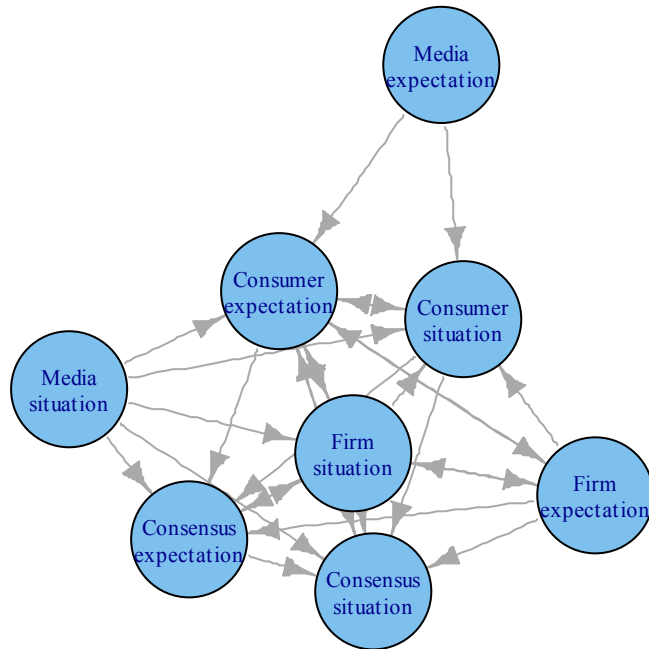
Here, the lines represent the balance of positive and negative sentiment of consumers, firms, media and experts over time, where a value of 100 reflects completely positive and -100 completely negative sentiment.

Figure 2: News coverage of the economy – Germany and the rest of the world



Here, the lines represent the balance of positive and negative sentiment of the media over time, where a value of 100 reflects completely positive and -100 completely negative media sentiment. The green line labeled *Germany* reflects the media sentiment in news reporting about Germany only while the black line labeled *Rest of the World* corresponds to news reporting about events outside Germany.

Figure 3: Granger causalities between the actors



The figure shows the Granger causalities between the media, consumer, business, and expert indices of the current situation and expectations as single-headed arrows. The heads point in the direction of causality. Thus, $x \rightarrow y$ means that x is Granger causing y . Two-sided arrows indicate that both variables are mutually Granger causing.

PREVIOUS DISCUSSION PAPERS

- 188 Kholodilin, Konstantin, Kolmer, Christian, Thomas, Tobias and Ulbricht, Dirk, Asymmetric Perceptions of the Economy: Media, Firms, Consumers, and Experts, June 2015.
- 187 Dertwinkel-Kalt, Markus and Wey, Christian, Merger Remedies in Oligopoly Under a Consumer Welfare Standard, June 2015.
Forthcoming in: Journal of Law, Economics, & Organization.
- 186 Dertwinkel-Kalt, Markus, Saliency and Health Campaigns, May 2015.
Forthcoming in: Forum for Health Economics & Policy.
- 185 Wrona, Jens, Border Effects without Borders: What Divides Japan's Internal Trade?, May 2015.
- 184 Amess, Kevin, Stiebale, Joel and Wright, Mike, The Impact of Private Equity on Firms' Innovation Activity, April 2015.
- 183 Ibañez, Marcela, Rai, Ashok and Riener, Gerhard, Sorting Through Affirmative Action: Three Field Experiments in Colombia, April 2015.
- 182 Baumann, Florian, Friehe, Tim and Rasch, Alexander, The Influence of Product Liability on Vertical Product Differentiation, April 2015.
- 181 Baumann, Florian and Friehe, Tim, Proof Beyond a Reasonable Doubt: Laboratory Evidence, March 2015.
- 180 Rasch, Alexander and Waibel, Christian, What Drives Fraud in a Credence Goods Market? – Evidence From a Field Study, March 2015.
- 179 Jeitschko, Thomas D., Incongruities of Real and Intellectual Property: Economic Concerns in Patent Policy and Practice, February 2015.
Forthcoming in: Michigan State Law Review.
- 178 Buchwald, Achim and Hottenrott, Hanna, Women on the Board and Executive Duration – Evidence for European Listed Firms, February 2015.
- 177 Heblich, Stephan, Lameli, Alfred and Riener, Gerhard, Regional Accents on Individual Economic Behavior: A Lab Experiment on Linguistic Performance, Cognitive Ratings and Economic Decisions, February 2015.
Published in: PLoS ONE, 10 (2015), e0113475.
- 176 Herr, Annika, Nguyen, Thu-Van and Schmitz, Hendrik, Does Quality Disclosure Improve Quality? Responses to the Introduction of Nursing Home Report Cards in Germany, February 2015.
- 175 Herr, Annika and Normann, Hans-Theo, Organ Donation in the Lab: Preferences and Votes on the Priority Rule, February 2015.
- 174 Buchwald, Achim, Competition, Outside Directors and Executive Turnover: Implications for Corporate Governance in the EU, February 2015.
- 173 Buchwald, Achim and Thorwarth, Susanne, Outside Directors on the Board, Competition and Innovation, February 2015.
- 172 Dewenter, Ralf and Giessing, Leonie, The Effects of Elite Sports Participation on Later Job Success, February 2015.

- 171 Haucap, Justus, Heimeshoff, Ulrich and Siekmann, Manuel, Price Dispersion and Station Heterogeneity on German Retail Gasoline Markets, January 2015.
- 170 Schweinberger, Albert G. and Suedekum, Jens, De-Industrialisation and Entrepreneurship under Monopolistic Competition, January 2015.
Forthcoming in: Oxford Economic Papers.
- 169 Nowak, Verena, Organizational Decisions in Multistage Production Processes, December 2014.
- 168 Benndorf, Volker, Kübler, Dorothea and Normann, Hans-Theo, Privacy Concerns, Voluntary Disclosure of Information, and Unraveling: An Experiment, November 2014.
Published in: European Economic Review, 75 (2015), pp. 43-59.
- 167 Rasch, Alexander and Wenzel, Tobias, The Impact of Piracy on Prominent and Non-prominent Software Developers, November 2014.
Forthcoming in: Telecommunications Policy.
- 166 Jeitschko, Thomas D. and Tremblay, Mark J., Homogeneous Platform Competition with Endogenous Homing, November 2014.
- 165 Gu, Yiquan, Rasch, Alexander and Wenzel, Tobias, Price-sensitive Demand and Market Entry, November 2014.
Forthcoming in: Papers in Regional Science.
- 164 Caprice, Stéphane, von Schlippenbach, Vanessa and Wey, Christian, Supplier Fixed Costs and Retail Market Monopolization, October 2014.
- 163 Klein, Gordon J. and Wendel, Julia, The Impact of Local Loop and Retail Unbundling Revisited, October 2014.
- 162 Dertwinkel-Kalt, Markus, Haucap, Justus and Wey, Christian, Raising Rivals' Costs Through Buyer Power, October 2014.
Published in: Economics Letters, 126 (2015), pp.181-184.
- 161 Dertwinkel-Kalt, Markus and Köhler, Katrin, Exchange Asymmetries for Bads? Experimental Evidence, October 2014.
- 160 Behrens, Kristian, Mion, Giordano, Murata, Yasusada and Suedekum, Jens, Spatial Frictions, September 2014.
- 159 Fonseca, Miguel A. and Normann, Hans-Theo, Endogenous Cartel Formation: Experimental Evidence, August 2014.
Published in: Economics Letters, 125 (2014), pp. 223-225.
- 158 Stiebale, Joel, Cross-Border M&As and Innovative Activity of Acquiring and Target Firms, August 2014.
- 157 Haucap, Justus and Heimeshoff, Ulrich, The Happiness of Economists: Estimating the Causal Effect of Studying Economics on Subjective Well-Being, August 2014.
Published in: International Review of Economics Education, 17 (2014), pp. 85-97.
- 156 Haucap, Justus, Heimeshoff, Ulrich and Lange, Mirjam R. J., The Impact of Tariff Diversity on Broadband Diffusion – An Empirical Analysis, August 2014.
- 155 Baumann, Florian and Friehe, Tim, On Discovery, Restricting Lawyers, and the Settlement Rate, August 2014.
- 154 Hottenrott, Hanna and Lopes-Bento, Cindy, R&D Partnerships and Innovation Performance: Can There be too Much of a Good Thing?, July 2014.

- 153 Hottenrott, Hanna and Lawson, Cornelia, Flying the Nest: How the Home Department Shapes Researchers' Career Paths, July 2014.
- 152 Hottenrott, Hanna, Lopes-Bento, Cindy and Veugelers, Reinhilde, Direct and Cross-Scheme Effects in a Research and Development Subsidy Program, July 2014.
- 151 Dewenter, Ralf and Heimeshoff, Ulrich, Do Expert Reviews Really Drive Demand? Evidence from a German Car Magazine, July 2014.
Forthcoming in: Applied Economics Letters.
- 150 Bataille, Marc, Steinmetz, Alexander and Thorwarth, Susanne, Screening Instruments for Monitoring Market Power in Wholesale Electricity Markets – Lessons from Applications in Germany, July 2014.
- 149 Kholodilin, Konstantin A., Thomas, Tobias and Ulbricht, Dirk, Do Media Data Help to Predict German Industrial Production?, July 2014.
- 148 Hogrefe, Jan and Wrona, Jens, Trade, Tasks, and Trading: The Effect of Offshoring on Individual Skill Upgrading, June 2014.
Forthcoming in: Canadian Journal of Economics.
- 147 Gaudin, Germain and White, Alexander, On the Antitrust Economics of the Electronic Books Industry, September 2014 (Previous Version May 2014).
- 146 Alipranti, Maria, Milliou, Chrysovalantou and Petrakis, Emmanuel, Price vs. Quantity Competition in a Vertically Related Market, May 2014.
Published in: Economics Letters, 124 (2014), pp. 122-126.
- 145 Blanco, Mariana, Engelmann, Dirk, Koch, Alexander K. and Normann, Hans-Theo, Preferences and Beliefs in a Sequential Social Dilemma: A Within-Subjects Analysis, May 2014.
Published in: Games and Economic Behavior, 87 (2014), pp. 122-135.
- 144 Jeitschko, Thomas D., Jung, Yeonjei and Kim, Jaesoo, Bundling and Joint Marketing by Rival Firms, May 2014.
- 143 Benndorf, Volker and Normann, Hans-Theo, The Willingness to Sell Personal Data, April 2014.
- 142 Dauth, Wolfgang and Suedekum, Jens, Globalization and Local Profiles of Economic Growth and Industrial Change, April 2014.
- 141 Nowak, Verena, Schwarz, Christian and Suedekum, Jens, Asymmetric Spiders: Supplier Heterogeneity and the Organization of Firms, April 2014.
- 140 Hasnas, Irina, A Note on Consumer Flexibility, Data Quality and Collusion, April 2014.
- 139 Baye, Irina and Hasnas, Irina, Consumer Flexibility, Data Quality and Location Choice, April 2014.
- 138 Aghadadashli, Hamid and Wey, Christian, Multi-Union Bargaining: Tariff Plurality and Tariff Competition, April 2014.
A revised version of the paper is forthcoming in: Journal of Institutional and Theoretical Economics.
- 137 Duso, Tomaso, Herr, Annika and Suppliet, Moritz, The Welfare Impact of Parallel Imports: A Structural Approach Applied to the German Market for Oral Anti-diabetics, April 2014.
Published in: Health Economics, 23 (2014), pp. 1036-1057.

- 136 Haucap, Justus and Müller, Andrea, Why are Economists so Different? Nature, Nurture and Gender Effects in a Simple Trust Game, March 2014.
- 135 Normann, Hans-Theo and Rau, Holger A., Simultaneous and Sequential Contributions to Step-Level Public Goods: One vs. Two Provision Levels, March 2014.
Forthcoming in: Journal of Conflict Resolution.
- 134 Bucher, Monika, Hauck, Achim and Neyer, Ulrike, Frictions in the Interbank Market and Uncertain Liquidity Needs: Implications for Monetary Policy Implementation, July 2014 (First Version March 2014).
- 133 Czarnitzki, Dirk, Hall, Bronwyn, H. and Hottenrott, Hanna, Patents as Quality Signals? The Implications for Financing Constraints on R&D?, February 2014.
- 132 Dewenter, Ralf and Heimeshoff, Ulrich, Media Bias and Advertising: Evidence from a German Car Magazine, February 2014.
Published in: Review of Economics, 65 (2014), pp. 77-94.
- 131 Baye, Irina and Sapi, Geza, Targeted Pricing, Consumer Myopia and Investment in Customer-Tracking Technology, February 2014.
- 130 Clemens, Georg and Rau, Holger A., Do Leniency Policies Facilitate Collusion? Experimental Evidence, January 2014.
- 129 Hottenrott, Hanna and Lawson, Cornelia, Fishing for Complementarities: Competitive Research Funding and Research Productivity, December 2013.
- 128 Hottenrott, Hanna and Rexhäuser, Sascha, Policy-Induced Environmental Technology and Inventive Efforts: Is There a Crowding Out?, December 2013.
Forthcoming in: Industry and Innovation.
- 127 Dauth, Wolfgang, Findeisen, Sebastian and Suedekum, Jens, The Rise of the East and the Far East: German Labor Markets and Trade Integration, December 2013.
Published in: Journal of the European Economic Association, 12 (2014), pp. 1643-1675.
- 126 Wenzel, Tobias, Consumer Myopia, Competition and the Incentives to Unshroud Add-on Information, December 2013.
Published in: Journal of Economic Behavior and Organization, 98 (2014), pp. 89-96.
- 125 Schwarz, Christian and Suedekum, Jens, Global Sourcing of Complex Production Processes, December 2013.
Published in: Journal of International Economics, 93 (2014), pp. 123-139.
- 124 Defever, Fabrice and Suedekum, Jens, Financial Liberalization and the Relationship-Specificity of Exports, December 2013.
Published in: Economics Letters, 122 (2014), pp. 375-379.
- 123 Bauernschuster, Stefan, Falck, Oliver, Heblich, Stephan and Suedekum, Jens, Why Are Educated and Risk-Loving Persons More Mobile Across Regions?, December 2013.
Published in: Journal of Economic Behavior and Organization, 98 (2014), pp. 56-69.
- 122 Hottenrott, Hanna and Lopes-Bento, Cindy, Quantity or Quality? Knowledge Alliances and their Effects on Patenting, December 2013.
Forthcoming in: Industrial and Corporate Change.

- 121 Hottenrott, Hanna and Lopes-Bento, Cindy, (International) R&D Collaboration and SMEs: The Effectiveness of Targeted Public R&D Support Schemes, December 2013.
Published in: *Research Policy*, 43 (2014), pp.1055-1066.
- 120 Giesen, Kristian and Suedekum, Jens, City Age and City Size, November 2013.
Published in: *European Economic Review*, 71 (2014), pp. 193-208.
- 119 Trax, Michaela, Brunow, Stephan and Suedekum, Jens, Cultural Diversity and Plant-Level Productivity, November 2013.
- 118 Manasakis, Constantine and Vlassis, Minas, Downstream Mode of Competition with Upstream Market Power, November 2013.
Published in: *Research in Economics*, 68 (2014), pp. 84-93.
- 117 Sapi, Geza and Suleymanova, Irina, Consumer Flexibility, Data Quality and Targeted Pricing, November 2013.
- 116 Hinlopen, Jeroen, Müller, Wieland and Normann, Hans-Theo, Output Commitment Through Product Bundling: Experimental Evidence, November 2013.
Published in: *European Economic Review*, 65 (2014), pp. 164-180.
- 115 Baumann, Florian, Denter, Philipp and Friehe Tim, Hide or Show? Endogenous Observability of Private Precautions Against Crime When Property Value is Private Information, November 2013.
- 114 Fan, Ying, Kühn, Kai-Uwe and Lafontaine, Francine, Financial Constraints and Moral Hazard: The Case of Franchising, November 2013.
- 113 Aguzzoni, Luca, Argentesi, Elena, Buccirossi, Paolo, Ciari, Lorenzo, Duso, Tomaso, Tognoni, Massimo and Vitale, Cristiana, They Played the Merger Game: A Retrospective Analysis in the UK Videogames Market, October 2013.
Published in: *Journal of Competition Law and Economics* under the title: "A Retrospective Merger Analysis in the UK Videogame Market", (10) (2014), pp. 933-958.
- 112 Myrseth, Kristian Ove R., Riener, Gerhard and Wollbrant, Conny, Tangible Temptation in the Social Dilemma: Cash, Cooperation, and Self-Control, October 2013.
- 111 Hasnas, Irina, Lambertini, Luca and Palestini, Arsen, Open Innovation in a Dynamic Cournot Duopoly, October 2013.
Published in: *Economic Modelling*, 36 (2014), pp. 79-87.
- 110 Baumann, Florian and Friehe, Tim, Competitive Pressure and Corporate Crime, September 2013.
- 109 Böckers, Veit, Haucap, Justus and Heimeshoff, Ulrich, Benefits of an Integrated European Electricity Market, September 2013.
- 108 Normann, Hans-Theo and Tan, Elaine S., Effects of Different Cartel Policies: Evidence from the German Power-Cable Industry, September 2013.
Published in: *Industrial and Corporate Change*, 23 (2014), pp. 1037-1057.
- 107 Haucap, Justus, Heimeshoff, Ulrich, Klein, Gordon J., Rickert, Dennis and Wey, Christian, Bargaining Power in Manufacturer-Retailer Relationships, September 2013.
- 106 Baumann, Florian and Friehe, Tim, Design Standards and Technology Adoption: Welfare Effects of Increasing Environmental Fines when the Number of Firms is Endogenous, September 2013.

- 105 Jeitschko, Thomas D., NYSE Changing Hands: Antitrust and Attempted Acquisitions of an Erstwhile Monopoly, August 2013.
Published in: Journal of Stock and Forex Trading, 2 (2) (2013), pp. 1-6.
- 104 Böckers, Veit, Giessing, Leonie and Rösch, Jürgen, The Green Game Changer: An Empirical Assessment of the Effects of Wind and Solar Power on the Merit Order, August 2013.
- 103 Haucap, Justus and Muck, Johannes, What Drives the Relevance and Reputation of Economics Journals? An Update from a Survey among Economists, August 2013.
Published in: Scientometrics, 103 (2015), pp. 849-877.
- 102 Jovanovic, Dragan and Wey, Christian, Passive Partial Ownership, Sneaky Takeovers, and Merger Control, August 2013.
Published in: Economics Letters, 125 (2014), pp. 32-35.
- 101 Haucap, Justus, Heimeshoff, Ulrich, Klein, Gordon J., Rickert, Dennis and Wey, Christian, Inter-Format Competition Among Retailers – The Role of Private Label Products in Market Delineation, August 2013.
- 100 Normann, Hans-Theo, Requate, Till and Waichman, Israel, Do Short-Term Laboratory Experiments Provide Valid Descriptions of Long-Term Economic Interactions? A Study of Cournot Markets, July 2013.
Published in: Experimental Economics, 17 (2014), pp. 371-390.
- 99 Dertwinkel-Kalt, Markus, Haucap, Justus and Wey, Christian, Input Price Discrimination (Bans), Entry and Welfare, June 2013.
- 98 Aguzzoni, Luca, Argentesi, Elena, Ciari, Lorenzo, Duso, Tomaso and Tognoni, Massimo, Ex-post Merger Evaluation in the UK Retail Market for Books, June 2013.
Forthcoming in: Journal of Industrial Economics.
- 97 Caprice, Stéphane and von Schlippenbach, Vanessa, One-Stop Shopping as a Cause of Slotting Fees: A Rent-Shifting Mechanism, May 2012.
Published in: Journal of Economics and Management Strategy, 22 (2013), pp. 468-487.
- 96 Wenzel, Tobias, Independent Service Operators in ATM Markets, June 2013.
Published in: Scottish Journal of Political Economy, 61 (2014), pp. 26-47.
- 95 Coublucq, Daniel, Econometric Analysis of Productivity with Measurement Error: Empirical Application to the US Railroad Industry, June 2013.
- 94 Coublucq, Daniel, Demand Estimation with Selection Bias: A Dynamic Game Approach with an Application to the US Railroad Industry, June 2013.
- 93 Baumann, Florian and Friehe, Tim, Status Concerns as a Motive for Crime?, April 2013.
A revised version of the paper is forthcoming in: International Review of Law and Economics.
- 92 Jeitschko, Thomas D. and Zhang, Nanyun, Adverse Effects of Patent Pooling on Product Development and Commercialization, April 2013.
Published in: The B. E. Journal of Theoretical Economics, 14 (1) (2014), Art. No. 2013-0038.
- 91 Baumann, Florian and Friehe, Tim, Private Protection Against Crime when Property Value is Private Information, April 2013.
Published in: International Review of Law and Economics, 35 (2013), pp. 73-79.
- 90 Baumann, Florian and Friehe, Tim, Cheap Talk About the Detection Probability, April 2013.
Published in: International Game Theory Review, 15 (2013), Art. No. 1350003.

- 89 Pagel, Beatrice and Wey, Christian, How to Counter Union Power? Equilibrium Mergers in International Oligopoly, April 2013.
- 88 Jovanovic, Dragan, Mergers, Managerial Incentives, and Efficiencies, April 2014 (First Version April 2013).
- 87 Heimeshoff, Ulrich and Klein Gordon J., Bargaining Power and Local Heroes, March 2013.
- 86 Bertschek, Irene, Cerquera, Daniel and Klein, Gordon J., More Bits – More Bucks? Measuring the Impact of Broadband Internet on Firm Performance, February 2013. Published in: Information Economics and Policy, 25 (2013), pp. 190-203.
- 85 Rasch, Alexander and Wenzel, Tobias, Piracy in a Two-Sided Software Market, February 2013. Published in: Journal of Economic Behavior & Organization, 88 (2013), pp. 78-89.
- 84 Bataille, Marc and Steinmetz, Alexander, Intermodal Competition on Some Routes in Transportation Networks: The Case of Inter Urban Buses and Railways, January 2013.
- 83 Haucap, Justus and Heimeshoff, Ulrich, Google, Facebook, Amazon, eBay: Is the Internet Driving Competition or Market Monopolization?, January 2013. Published in: International Economics and Economic Policy, 11 (2014), pp. 49-61.

Older discussion papers can be found online at:

<http://ideas.repec.org/s/zbw/dicedp.html>

Heinrich-Heine-University of Düsseldorf

**Düsseldorf Institute for
Competition Economics (DICE)**

Universitätsstraße 1_ 40225 Düsseldorf
www.dice.hhu.de

ISSN 2190-9938 (online)
ISBN 978-3-86304-187-8