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Dear readers,

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Season's Greetings and a Happy New Year!

Welcome to the ninth issue of the BCCP Newsletter. The past year has been intense and often challenging for BCCP. The pandemic affected our network as it made interactions and cooperation, on which it is built, more difficult. Nevertheless, BCCP Fellows continued to produce interesting and engaging work. In this Newsletter, we focus on topics related to competition and consumer behavior with a strong emphasis on the role of digitization and the green transition of the economy.

In our first piece, we evaluate the impact of platforms that allow consumers to directly compare multiple sellers' prices. While these competitive channels facilitate price comparison, thus strengthening competition and potentially benefitting costumers, they might also hurt consumers by incentivizing their operators to exploit their captive costumers.

Two further articles address digital standards and business models. One focuses on the adoption of privacy and cybersecurity-related standards like ISO/IEC 27001. For Germany, it shows that ICT firms are likely to adopt such standards due to customer demand, while non-ICT companies adopt to ensure legal compliance. The other looks at the potential digitization of the energy industry through the adoption of platform business models. It assesses whether such models might promote the adoption of green technologies by incentivizing decentralized entry for renewable assets and managing increased complexity caused by flexible power generation and demand.

In an experimental setting, we then study how sanctions on communication affect the way firms communicate, their incentive to create cartels, and subsequent market prices. A machine learning approach is used to systematically analyze the content of communication. Explicit communication appears to be effective in achieving a joint increase in the firms' prices whereas indirect communication is not.

A further piece focuses on the issue of greenwashing. Based on a novel database, we examined the trustworthiness of sustainability information in online shops. The use of the term "sustainable" is inflationary, often without any evidence of third-party certification. Antitrust authorities' investigations of this misleading use of information appear to have a great effect on how retailers are dealing with sustainability claims. Finally, we study green public procurement auctions, showing that they can have beneficial effects on purchasing prices by incentivizing investment in green technology and affecting the relevant pool of suppliers and, thereby, competition.

We decided to conclude with a piece related to some of the implications of the saddest event of this *annus horribilis*: the brutal Russian war of aggression in Ukraine. We assess the role of Ukrainian workers in the EU, discussing their opportunities and challenges in the European labor market.

Enjoy the reading!

Tomaso Duso

BCCP Spokesperson

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Competing Sales Channels with Captive Consumers

Many goods and services can be purchased either through a seller's direct channel, e.g., their own store or website, or through a competitive channel where multiple sellers' prices can be compared. Competitive channels (CCs) are increasingly central to the modern retail landscape and take a variety of forms: In the utilities and financial services industries, price comparison websites allow consumers to view prices for products such as broadband or insurance. For durable goods, platforms like eBay have become household names. Offline, marketplaces like shopping malls provide a similar function, allowing consumers to compare multiple sellers' offers in one location. Across various markets, advisers and brokers also commonly serve as competitive channels for consumers.



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Competitive channels facilitate price comparison, thus strengthening competition between sellers. This force tends to benefit consumers. However, the operators of competitive sales channels are economic actors and their incentives may not align with the interests of consumers. The central tension our work identifies is that of within- vs between-channel competition: competitive channels offer environments within which competition is intense; but when they themselves become dominant they exploit their power in ways that relax the competitive constraint channels impose on each other.

BCCP Fellow David Ronayne and co-author Greg Taylor reveal these trade-offs in a model in which the key component is consumers'

(limited) price information. Specifically, the authors harness the idea of consumer captivity: a consumer's failure to check prices in more than one place. Captivity can occur for many reasons. Perhaps a consumer has high search costs stemming from an urgent need or location constraint. Maybe there is some form of bias, e.g., habitually purchasing from the same place. Some may simply be generally disengaged with the product or service in question, while some may be unaware of more than one outlet for it. Brand marketing by the seller or CC may also encourage captivity. Prior research only considered consumers who are captive to sellers. A key novelty of this work is that they also consider consumers who are captive to competitive channels: they only consider offers posted on a CC and choose the best deal they find there.

They show that when a CC has few captive consumers, it pursues a low-fee strategy, which leads sellers to compete their prices down to a similarly low level. However, as a CC's captive base grows, at some point it finds it more profitable to ratchet up its fee to exploit the power it holds over consumers. This forces sellers to set high prices for their CC listings. In turn, it becomes profitable for sellers to switch their strategies and undercut the CC prices with low direct-channel prices. This leaves only consumers captive to the CC buying via the CC, while shoppers who compare prices across channels flock to the direct channel. This >high-fee regime< is markedly different from when the CC followed a low-fee strategy, with an opposite outcome: CCs host the highest prices (rather than the direct channel), while sellers scrap it out in their direct prices to sell to the consumers who compare prices across channels. They show that because competition between sellers is more effective on the CC than in the direct channel, this transition harms consumers.

In sum, the authors cast caution onto any unfettered celebration of the growth of competitive channels. They are profit-seeking businesses, just like sellers. As CCs gain more consumers using them as a one-stop shop, the authors predict they harness their increased market power by raising fees to exploit their captive base, even if it means missing out on sales from savvier shoppers, a phenomenon the authors predict that tends to harm consumers.

The full paper >Competing Sales Channels with Captive Consumers < is published in The Economic Journal, 132, 642 (2022), 741–766.

BCCP Newsletter 9/2022

Information Security Management in ICT and non-ICT Sector Companies: A Preventive Innovation Perspective

Companies are increasingly relying on information and communication technology (ICT), but then they also become more and more vulnerable to cyber-attacks. As with many 'public goods' (such as clean air), the costs in the event of security breaches are borne not only by companies but also by consumers and society — especially when personal data is involved. Furthermore, cybersecurity can also be a prerequisite for the safety of products, services, and processes, especially if they are connected to the internet, as in the case of autonomous vehicles or a 'Smart Factory.'

European policymakers have picked up this issue, releasing and adopting a variety of privacy and cybersecurity-related initiatives, including the General Data Protection Regulation (GDPR) and the EU Cybersecurity Act. Internationally recognized standards and related certification, therefore, play an important role and help to provide solutions on a global scale. The most prominent system standard in the context of information security management is ISO/IEC 27001, developed and regularly updated by experts in this field and published by the International Organization for Standardization (ISO) together with the International Electrotechnical Commission (IEC).

In this recent paper, BCCP Fellow Mona Mirtsch and BCCP Senior Fellow Knut Blind, along with their co-authors Claudia Koch and Gabriele Dudek from the Bundesanstalt für Materialforschung und -prüfung (BAM), argue that, unlike other management system standards, the (immediate) benefits are not recognizable at first glance. They, therefore, categorize the adoption of this standard as a preventive organizational innovation and investigate why companies adopted this standard, what problems they encountered, and how they perceived the benefits of this standard for their company.

To identify ISO/IEC 27001 certified companies (since no publicly available database exists in Germany), they used a web-mining approach and contacted over 800 German companies directly, 125 of which agreed to participate in the online survey. The authors compare the results between companies within and outside the ICT sector and find that ICT sector companies are often motivated to

adopt this standard because it is required by their customers and to improve their image. Non-ICT sector companies, however, are less motivated by market considerations but instead seek to ensure legal compliance.



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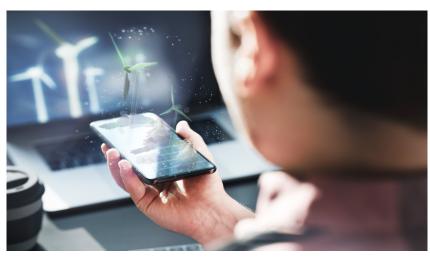
What are policy implications? The authors argue that companies often face high barriers since implementing this standard and seeking certification is time- and cost-consuming, and this effort may not (measurably) pay off for companies, which also explains the low diffusion of this standard. Policymakers might help by providing incentives (such as subsidies or tax reliefs) or guidance documents. They should, however, also consider making the adoption of a management system according to ISO/IEC 27001 mandatory, especially if sectors and applications with high risks to society in the event of security breaches are concerned.

The full text >Information security management in ICT and non-ICT sector companies: A preventive innovation perspective is published in Computers & Security, 109 (2021), 102383.

BCCP Newsletter 9/2022

How Platform Business Models could Boost the Energiewende

Platform business models have disrupted many industries in recent years. At Airbnb's IPO in December 2020, the company was considered more valuable than three major players in the hotel industry combined (Marriott, Hilton, Hyatt) – without even owning a single hotel room. This example shows the transformative nature and disruptive power platform business models bring to



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the table. In a nutshell, platform business models center around a multi-sided market with a corresponding value-adding ecosystem that fundamentally breaks with the idea of the conventional linear value chain.

Until recently, the power sector has resisted the platform revolution to a large degree – its rigid value chain still mainly builds on centralized generation in nuclear and coal power plants, transmission through monopolized grids, and consumption by customers unenthusiastic about switching providers. However, the tide is turning as liberalization, digitization (e.g. smart homes), electrification (e.g. e-mobility), and decentralization (e.g. rise of

the prosumer) are changing the rules of the game in the energy industry.

Ultimately, this development could not only turn the industry upside down but also substantially accelerate the sector's green transformation: Platform business models will promote the adoption of green technology by providing additional income streams and lowering entrance barriers for new, renewable assets (e.g. rooftop PV, home storage batteries, electric vehicles) and managing increased complexity caused by flexible power generation and demand.

In their recent publication, BCCP Fellow Timm Teubner and co-author Tobias Menzel provide a first review of literature on this matter. They describe the upcoming transformation in the sector, present a taxonomy of platform business models in the energy sector, and describe worthwhile paths for future work. Further, the authors lay out how platform business models transform the conventional power value chain.

The full article >Green energy platform economics – understanding platformization and sustainabilization in the energy sector \(\) is published in the International Journal of Energy Sector Management,15 (2021).

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Consumer deception through greenwashing: high share of unverified and non-credible information on the sustainability of products in fashion online retail

Not having any sustainable options when buying a product online should no longer be an excuse for unsustainable consumption choices. *The Green Consumption Assistant project* sets out to help consumers easily find and buy sustainable products.

The basic dilemma that the project team around BCCP Senior Fellow Prof. Felix Biessmann, Prof. Tilman Santarius and Dr. Maike Gossen, and the green search engine Ecosia observed was twofold. One, people say they want to make more sustainable choices but do not act on them when buying products. Two, the existing product catalogues in the retail industry could be used to make sustainable consumption decisions a lot easier and improve the search experience. However, what is lacking is essential: data about sustainable products to feed these systems.

For this reason, the research team has developed a comprehensive database (the GreenDB) with sustainability-related product data. Search and recommendation algorithms in e-commerce can use the GreenDB to consider sustainability aspects in their automated decisions. The database is updated weekly and currently contains over 600,000 products from the largest online retailers in several European countries and covers the 37 product categories that were searched for most often on Ecosia. The database shows information on how reliable the sustainability information about a specific product is: whether it has a credible sustainability label verified by a third-party or a label that does not meet high credibility criteria. The database is also used on the Ecosia search page in the Shopping tab to highlight sustainable products.

Earlier this year, the research team examined how trustworthy the available sustainability information in Germany's largest online shops is by using data from the GreenDB. Only 14 percent of the products are certified with sustainability labels that meet the research team's high credibility criteria: This shows how difficult it is for consumers to identify actual sustainable products. The many labels with low credibility prevent comparability and cause confusion and uncertainty. These findings highlight that while retailers

have understood the demand for sustainability information they primarily appear to use sustainability information for marketing purposes. In other words, these results demonstrate the widespread and almost uncontrolled greenwashing in e-commerce.

This phenomenon is recogn ized by European legislation and is being tackled by the initiative on substantiating green claims. The legal framework proposed aims at ensuring that companies provide evidence of the environmental footprint of their products using standardized quantification methods.



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As a result of the implementation of the European law in the member countries, H&M and Decathlon were reprimanded for misleading marketing claims by The Netherlands' Authority for Consumer Markets (ACM) this summer. To avoid sanctions, the two retailers have promised to ensure consumers are better-informed and donated several hundred thousand dollars to causes linked to sustainability in the fashion industry. Moreover, ASOS had been announced to be investigated by the Competition and Markets Authority (CMA) looking into potential 'greenwashing' issues.

At the same time, the research team has noticed a significant decrease in the number of products from Asos that include statements about their sustainability. Since mid-July, the number of products continuously decreased from about 14.000 to almost only 1.000 in mid-September. For H&M, GreenDB also noticed that since mid-June the products certified with the Higg Index have been completely removed.

This indicates that the term >sustainable< is used in an inflationary way, often without any evidence from a third-party certified label with high sustainability requirements. In addition, it shows that the investigations of authorities had a huge effect on how retailers are dealing with sustainability claims. Therefore, political initiatives that examine the many inadequate private labels of other shops for possible greenwashing are urgently needed.

The full article >Nudging Green Consumption: A Large-Scale Data Analysis of Sustainability Labels for Fashion in German Online Retail< by Maike Gossen, Felix Bießmann and their co-authors is published in Frontiers in Sustainability (2022, open access). The GreenDB is publicly available in an open repository, allowing future research to draw a more complete picture of the current state of sustainability information in online retail.

Optimal Discounts in Green Public Procurement

Public procurement—the purchasing of goods, works, and services by governments and other public authorities—accounts for approximately 15% of gross domestic product (GDP) in OECD-EU countries. Given this large economic impact and being the largest buyers in several markets, public bodies can leverage their purchasing decisions to pursue welfare goals beyond the best value for money.

By using procurement practices that take into account the environmental quality of bids in the award of public contracts, so-called Green Public Procurement (GPP), public bodies can create markets and demand for environmentally friendly products and services, thereby incentivizing suppliers to switch their production to greener options.



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Despite its potential as an environmental policy, GPP has, so far, been only moderately implemented. A major barrier to further adoption is the perception that GPP increases the price for the procurer relative to standard procurement. The reasoning underlying this argument is that because producing green products and services is more expensive than producing their conventional equivalents, suppliers would reflect the extra cost of green technology in high-

er offers when participating in the procurement auction. Thus, to the extent that the procurement mechanism rewards environmental quality relative to price, the procurer might face a higher purchasing price.

BCCP Fellows Olga Chiappinelli and Gyula Seres argue that this effect is not clear ex ante. Common knowledge considers the impact of GPP in the auction, while assuming the market structure as fixed. However, by incentivizing investment in green technology, GPP can change the relevant pool of suppliers, thereby affecting competition in procurement auctions—and thus purchasing price—in a non-straightforward way. The study aims to provide a theoretical framework to investigate the full price effect of GPP. It does so by considering a dynamic procurement model in which the procurer gives an advantage to green firms in the form of a bid discount. Before the auction, the firms, which are privately informed of their cost, can invest to switch to green technology—a decision that requires an investment cost and is publicly observable. The study finds that, because investment is costly, only companies that are sufficiently efficient switch their technology. In addition, because investment is observable, it acts as a signaling device: via investment, companies signal their efficiency to their opponents. This signaling mitigates the effect of incomplete information regarding firms' costs, thereby triggering more competitive bidding among green firms in the auction and putting downward pressure on the purchasing price. This can outweigh the price-increasing effect of giving an advantage to green firms. Consequently, even a procurer with no or weak preference for green technology can find it optimal to implement GPP to a positive extent.

Their study contributes to the limited economic research on GPP, showing GPP does not necessarily imply a trade-off between environmental performance and purchasing price, and suggesting that financial concerns might be less relevant as a barrier than what is commonly believed.

The full article *>Optimal Discounts in Green Public Procurement* is available as DIW Discussion Paper 1983.

How Communication Makes the Difference Between a Cartel and Tacit Collusion: A Machine Learning Approach

Around the world, competition law generally prohibits firms from joining agreements that target coordinated pricing behavior and joint profit maximization (e.g., Article 101 of the Treaty on the Functioning of the European Union from 2012). In contrast to this clear

prohibition of explicit cartel formation, competition law does not have bite against tacitly collusive behavior, i.e., price coordination without accompanying evidence of agreements between the firms. Thus, firms willing to coordinate their prices have a choice between the formation of an explicit cartel, which comes with the risk of being sanctioned, and tacit collusion, which is not risky with respect to sanctions but may be less effective in terms of coordination.

A recent paper by BCCP Fellow Jana Friedrichsen, BCCP Doctoral Student Maximilian Andres, and coauthor Lisa Bruttel sheds

light on the effect of sanctions on communication and the effect of the content of communication on prices. In a laboratory experiment, they exogenously manipulate the firms' costs to discuss the explicit formation of a cartel by varying whether or not cartel formation is illegal and can be sanctioned. To implement sanctions for illegal agreements in real time during the experiment, their experiment features a participant in the role of the competition authority, who is properly incentivized to judge the communication content and price setting behavior of the firms. To quantify and systematically analyze the content of communication, they use a machine learning approach.

They find almost perfect adherence to the symmetric joint profit-maximizing price and very explicit communication in the treatment with unrestricted and unsanctioned communication. In con-

trast, in the presence of sanctioning institutions, fewer markets achieve this extent of coordination and communication is indirect rather than explicit. In particular, firms communicate less often about, or even agree on, specific prices when the competition authority may sanction cartel formation. This improves the deterring effect of sanctions because indirect communication does not help firms to coordinate their prices in our experiment.



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They expect their findings to be useful in at least two respects. First, they show that explicit communication is effective in achieving a joint increase in the firms' prices whereas indirect communication is not. This result suggests a link between explicit communication and illegal conduct that may inform courts in their judgment of whether or not a certain conduct

violates competition law. Specifically, they show that the detailed analysis of communication data may help to define the boundary between tacit collusion and explicit cartel formation. Second, their study provides potentially useful insights for screening approaches, such as e-discovery, that are already used in practice.

The full paper >How communication makes the difference between a cartel and tacit collusion: a machine learning approach is published in the European Economic Review 152 (2023), 104331.

Anchoring Bias Influences Strategies Too

Anchoring bias is one of the most attested cognitive processes influencing judgment. The idea was formalized as a concept in behavioral sciences by Amos Tversky and Daniel Kahneman. As they show repeatedly, even simple choices are adjusted toward irrelevant numbers. Their idea suggests that people are easy to influence even when they are aware that someone does this intentionally. There is plenty of scientific evidence that it works. Subjects in randomized controlled trials are influenced by irrelevant numbers in a range of settings: asset markets, negotiation, and even common knowledge questions.

This is not a mere abstract idea, anchoring is heavily used in business, even when it is not called so by name. Consider an everyday shopping decision. Buying fresh produce, supermarkets always display the usual price of a discounted item. There is no reason to be influenced by this number: It is truthful and informative as it suggests how much the item will cost next week. However, it is not relevant as buying it next week is not a substitute.

Going one step further, anchoring may influence strategic reasoning. Learning about this has practical relevance. First, it must be explored whether this kind of bias exists. BCCP Senior Fellow Radosveta Ivanova-Stenzel and coauthor Gyula Seres carried out laboratory experiments in

which subjects made bids in computerized auctions. In doing so, the subjects received different irrelevant numbers before bidding. These values were framed as identification numbers or maximum permissible offers with a value exceeding their willingness to pay. In first-price sealed-bid auctions, there was robust evidence that these numbers influence bids.

Second, the authors wanted to learn if there is a difference between anchored choices and anchored strategic reasoning. Using a microeconomic model, the authors show that anchored beliefs in a game can have the opposite effect: facing a higher irrelevant number can decrease the value of one's choices. If a player's strategy is anchored, the effect is always positive. However, if beliefs are adjusted toward the irrelevant number, the picture is not so clear. If an irrelevant number makes one believe that their opponent chooses a higher value in a game, one's choice may change in either direction depending on whether the two players' choices are strategic substitutes or complements. If they are strategic substitutes, a player's equilibrium choice may decrease.



The full paper, 'Are strategies anchored?' is published in the European Economic Review 135 (2021): 103725. The second paper 'Anchored Strategic Reasoning' is published in the Economics Letters 212 (2022), 110330.

BCCP Newsletter 9/2022

The Role of Ukrainian Workers in the EU

On February 24, 2022, Russian forces began their first attacks in a war on Ukraine. Since then, more than 4.2 million refugees have left Ukraine. Among these, more than 90% fled into the EU (*UN-HCR, 2022*). A recent *survey* by the German Federal Ministry of the Interior of 1,936 refugees arriving from Ukraine finds 92% of all respondents had been either working or were in training in Ukraine. Moreover, 84% are women, 58% of whom came with children. Considering these developments and this composition of refugees, this short article by BCCP fellow Jana Hamdan offers an overview on the recent relevance of Ukrainian workers in the EU and seeks to assess their role and their challenges in the labor market.



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The EU member countries decided unanimously to allow these refugees to enter and have facilitated travel and registration throughout the union. The Temporary Protection Directive has been enacted, which allows Ukrainians (and third-country residents in Ukraine) to receive an EU residence permit for three years. Therefore, they will be able to work immediately and have access to housing, education, and medical and social assistance (see the *EU website* for further information).

The EU has been the most popular destination of Ukrainian migrant workers in recent years: Ukrainians have made up the largest group of non-EU workers in the EU, both in terms of resident and seasonal workers. Millions work in low-wage jobs in agriculture, construction, logistics, and tourism, and as domestic workers for the elderly and chronically ill. They fill labor shortages and keep costs down for competitive prices. A minority is employed as skilled labor. From the Ukrainian perspective, the EU has become an increasingly attractive destination for (seasonal) work. In 2012, about 54% of Ukrainian migrant workers went into the EU. Five years later, 67% did so according to the State Statistics Service of Ukraine (*SSSU*, 2017). Over time, the most favored country went from being Russia (*SSSU*, 2012) to Poland (*SSSU*, 2017).

Ukrainians' labor mobility benefited EU countries to meet labor demand. The main motivation for Ukrainians to (seasonally) migrate were the low wages in their home country and higher earnings prospects abroad (*Fedyuk and Kindler, 2016*). In fact, the (seasonal) migration into the EU has been a controversial topic in Ukraine. Although households benefited from substantial inflow of remittances in the past, the impact on public finances was considered mixed and the problem of skill waste increased (*Pienkowski, 2020*). In addition, working conditions were often harsh abroad.

Now, the EU will have to integrate millions of new migrant workers who come into the labor market as refugees—at least temporarily. The adults will likely find employment quickly: many sectors face shortages in skilled and unskilled labor, volunteers are supporting job placements via social media and designated websites, while EU employers have shown confidence in hiring Ukrainians in the past. However, they may end up working in low-quality jobs below their actual qualification. With this concern in mind, the chairman of the German Federal Employment Agency emphasizes the need for language courses, child care, faster recognition of foreign qualifications, and government checks of working conditions (see interview with Detlef Scheele in *Der Tagesspiegel, April 03, 2022*).

In addition, he underlines the Agency's motivation to assist refugees in finding employment that matches their skills. To conclude, the question is not so much whether the refugees will find employment; rather, it is whether and when they can apply their skills in jobs across the EU.

BCCP newsletters aim at presenting and discussing in accessible terms the main findings of scientific papers recently published by BCCP Fellows. Most of the news published in this issue can also be found on the BCCP website (http://www.bccp-berlin.de/news).

About BCCP

The Berlin Centre for Consumer Policies (BCCP) is a Leibniz ScienceCampus, established September 2015, and co-funded by the German Leibniz Association and its member institutions. Leibniz ScienceCampuses promote cooperation between Leibniz institutions and universities via regional, thematic research and policy partnerships.

The Centre builds on the cooperation between two Leibniz institutes – the German Institute for Economic Research (DIW Berlin) and the Berlin Social Science Center (WZB) – and faculties of the Humboldt-Universität zu Berlin, Technische Universität Berlin, the European School of Management and Technology (ESMT Berlin), the Hertie School, and the Alexander von Humboldt Institute for Internet and Society (HIIG).

A strong focus on Behavioral Economics, Industrial Organization, as well as Consumer and Competition Law – all combined with established policy expertise – makes Berlin an ideal location for a ScienceCampus focusing on consumer policies.

BCCP reinforces and institutionalizes this exceptional environment to create an enduring international platform in the broad area of competition and consumer policies. This platform strengthens the academic environment, encourages interdisciplinary research, and increases the visibility of Berlin as a center of excellent academic research and evidence-informed policy advice.

Imprint

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