

How to measure the deterrence effects of merger policy: frequency or composition?

Barros, Pedro P.; Clougherty, Joseph A.; Seldeslachts, Jo

Veröffentlichungsversion / Published Version
Arbeitspapier / working paper

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
SSG Sozialwissenschaften, USB Köln

Empfohlene Zitierung / Suggested Citation:

Barros, P. P., Clougherty, J. A., & Seldeslachts, J. (2009). *How to measure the deterrence effects of merger policy: frequency or composition?* (Discussion Papers / Wissenschaftszentrum Berlin für Sozialforschung, Forschungsschwerpunkt Märkte und Politik, Abteilung Wettbewerb und Innovation, 2009-13). Berlin: Wissenschaftszentrum Berlin für Sozialforschung gGmbH. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-258208>

Nutzungsbedingungen:

Dieser Text wird unter einer Deposit-Lizenz (Keine Weiterverbreitung - keine Bearbeitung) zur Verfügung gestellt. Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

Terms of use:

This document is made available under Deposit Licence (No Redistribution - no modifications). We grant a non-exclusive, non-transferable, individual and limited right to using this document. This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Pedro P. Barros *
Joseph A. Clougherty **
Jo Seldeslachts ***

**How to Measure the Deterrence Effects of Merger
Policy: Frequency or Composition?**

* Universidade Nova de Lisboa, and CEPR-London
** Wissenschaftszentrum Berlin (WZB), University of
Illinois at Urbana-Champaign, and CEPR-London
*** University of Amsterdam, and
Wissenschaftszentrum Berlin (WZB)

SP II 2009 – 13

October 2009

ISSN Nr. 0722 – 6748

**Research Area
Markets and Politics**

**Research Group
Competition and Innovation**

**Schwerpunkt II
Märkte und Politik**

**Forschungs Gruppe
Wettbewerb und Innovation**

Zitierweise/Citation:

Pedro P. Barros, Joseph A. Clougherty, Jo Seldeslachts, **How to Measure the Deterrence Effects of Merger Policy: Frequency or Composition?** Discussion Paper SP II 2009 – 13, Wissenschaftszentrum Berlin, 2009.

Wissenschaftszentrum Berlin für Sozialforschung gGmbH,
Reichpietschufer 50, 10785 Berlin, Germany, Tel. (030) 2 54 91 – 0
Internet: www.wzb.eu

ABSTRACT

How to Measure the Deterrence Effects of Merger Policy: Frequency or Composition?*

by Pedro P. Barros, Joseph A. Clougherty, Jo Seldeslachts

We show that the number of merger proposals (frequency-based deterrence) is a more appropriate indicator of underlying changes in merger policy than the relative anti-competitiveness of merger proposals (composition-based deterrence). This has strong implications for the empirical analysis of the deterrence effects of merger policy enforcement, and potential implications regarding how to reduce anti-competitive merger proposals.

Keywords: antitrust, deterrence, merger polic

JEL Classification: L40, L49, K21

ZUSAMMENFASSUNG

How to Measure the Deterrence Effects of Merger Policy: Frequency or Composition?

Diese Studie vergleicht zwei Indikatoren zur Messung der Abschreckungswirkung von wettbewerbspolitischen Maßnahmen. Untersucht wird, welcher Indikator sich besser eignet, Veränderungen in der Strenge oder Laxheit von wettbewerbspolitischen Regimes abzubilden. Es lässt sich feststellen, dass der häufigkeitsbasierte Indikator, der die Anzahl von offiziellen Fusionsankündigungen misst, dazu besser geeignet ist als der zusammengesetzte Abschreckungsindikator, der die angekündigten Unternehmensfusionen im Hinblick auf ihre relative Wettbewerbsbeschränkung im Vergleich zu möglichen anderen Fusionen bewertet. Dieses Ergebnis hat Folgen für die empirische Analyse der Abschreckungseffekte, die eine effektive Fusionskontrolle haben sollte. Außerdem kann es Implikationen haben für die Frage, wie die offizielle Ankündigung von wettbewerbsreduzierenden Fusionen verhindert werden können

* Corresponding author: Joseph A. Clougherty. Claudia Baldermann and Jennifer Rontganger provided research assistance.

1. Introduction

“We firmly believe that deterrence is perhaps the single most important ultimate outcome of the Division’s work [but] we have not attempted to value ... the deterrence effects of our successful enforcement efforts” (U.S. Department of Justice Antitrust Division, Congressional Submission for Fiscal Year 2001).¹

Deterrence effects are essential for effective antitrust policy as authorities cannot vet all market behaviors for anti-competitive implications. Instead, antitrust authorities rely on firms internalizing certain rules and norms so that many anti-competitive actions are not taken in the first place (Joskow, 2002). While the deterrence effects of anti-cartel policy have received a good bit of scholarly attention (e.g., Feinberg, 1980; Block et al., 1981; Block and Feinstein, 1986; Clarke and Evenett, 2003), the deterrence effects of merger policy have received less study. Morgan (2001: 459) observes that “Although the deterrent effects of merger control cannot easily be quantified, it is usually argued that they may be more important than the direct effects”. Accordingly, many economists (e.g., Nelson and Sun, 2001; Davies and Majumdar, 2002; Joskow, 2002; Crandall and Winston, 2003; Baker, 2003) have essentially been calling for more empirical work on merger policy deterrence effects. In this vein, Aaronson (1992) points out that merger policy deterrence manifests in two different forms: frequency-based and composition-based deterrence. Composition-based deterrence involves merger proposals being shaped differently in order to avoid antitrust scrutiny (e.g., Stigler, 1966; Eckbo and Wier, 1985; Eckbo, 1992). Frequency-based deterrence involves merger plans being forsaken in order to avoid antitrust scrutiny (e.g., Seldeslachts et al., 2009).

The prevailing assumption throughout the small literature on merger policy deterrence effects is that frequency-based and composition-based deterrence go hand-and-hand; i.e., if one is present then the other also manifests. For instance, a survey-based study by the Dutch antitrust authority (NMa, 2005) found the existence of Dutch merger policy to lead to 7.5 fewer (frequency effects) and 15 altered (composition effects) merger proposals per year. Behind the hand-and-hand conjecture is the assumption that once certain types of anti-competitive mergers elicit antitrust scrutiny, then not all merging firms will be able to locate a suitable alternative merger. In other words, some firms will react to the foreclosure of certain merger activities by proposing different types of mergers, but others will simply react by ceasing merger activity altogether. Seldeslachts et al. (2009) cite these same rationales as suggesting that their cross-jurisdictional study on frequency-based deterrence can also be interpreted as indicating composition-based deterrence.

It is the prevailing notion that frequency-based and composition-based deterrence go hand-in-hand that we would like to question here. We show that merger policy changes may manifest in divergent deterrence effects: with composition effects going in one direction and frequency effects going in another direction. For instance, reducing antitrust scrutiny can lead to a higher frequency of merger proposals but also to relatively fewer anti-competitive proposals. Moreover, we find the number of merger notifications (frequency effects) to be a reliable measure of deterrence, while the relative anti-competitiveness of merger proposals (composition effects) to be an unreliable measure.

¹ See Nelson and Sun (2001) pages 939-940 for this exact quote and for additional claims by the FTC and DOJ regarding the pivotal importance of deterrence for effective merger policy.

In short, our model generates ambiguous predictions with regard to the composition of future merger proposals; but, clear predictions with regard to future merger notifications.

If merger notifications are a more appropriate indicator of underlying merger policy changes, then this has strong implications for the empirical analysis of deterrence effects. As Nelson and Sun (2001: 941) observe, a great need exists for empirical studies “that would allow one to estimate the deterrent effects of the agencies’ merger enforcement activities”. Accordingly, empiricists responding to the call – from Nelson and Sun, 2001; Davies and Majumdar, 2002; Joskow, 2002; Crandall and Winston, 2003; Baker, 2003 and others – to better estimate the deterrence role of merger policy enforcement should employ frequency-based measures as opposed to composition-based measures. In short, frequency-based effects are a more reliable indicator of underlining changes in the tenor of merger policy.

The paper proceeds as follows in order to formally show the above claim. Section 2 sets up and presents the basic model. Section 3 reports the main result by using the substitution of remedies for prohibitions as a relevant policy change. Section 4 concludes with some remarks and implications.

2. The model

We consider a setting where firms decide on two issues: first, whether to propose a potential merger; second, what characteristics should proposed mergers entail. To model the second decision in a simple fashion, we adopt a procedure similar to Barros (2003) and Lyons and Medvedev (2007) by including all relevant merger characteristics in a single index η . We use the convention that a higher η means a higher degree of restrictiveness: e.g., a low η can stand for a merger with asset divestitures to minimize market power concerns, while a high η can stand for a merger-to-monopoly. Accordingly, we define restrictiveness broadly: decisions over merger targets, geographic markets, contracts with suppliers and so on – are all subsumed in η . Naturally, anti-competitive effects positively depend on the proposed merger’s restrictiveness. For instance, a firm may acquire a direct competitor instead of a less-related target, thus increasing restrictiveness and thereby anti-competitive effects.

Firms notifying a merger also face a decision by the antitrust authority – a decision that will fall into one of three possibilities: prohibition, remedy, or clearance. Moreover, firms obtain different profit streams according to whether the merger is approved as notified (clearance), approved subject to conditions (remedy), or rejected (prohibition). We denote merging firms’ profits under a clearance by $\Pi^C(\eta)$, under a remedy by $\Pi^R(\eta)$, and profits under a prohibition are normalized to zero. We further assume $\Pi^C(\eta) > \Pi^R(\eta)$. Naturally, firms have a profit incentive to propose mergers with higher restrictiveness levels; accordingly, it is intuitive that

$$\frac{\partial \Pi^C}{\partial \eta}(\eta) > 0, \frac{\partial \Pi^R}{\partial \eta}(\eta) > 0. \quad (1)$$

Additionally, firm gains occur at a decreasing rate:

$$\frac{\partial^2 \Pi^C}{\partial \eta^2}(\eta) < 0, \frac{\partial^2 \Pi^R}{\partial \eta^2}(\eta) < 0. \quad (2)$$

The antitrust authority must provide a market impact assessment for each merger; hence, some uncertainty exists for firms with respect to the ultimate antitrust decision. Davies and Majumdar (2002) observe that firms are unsure as to whether a proposed merger will be deemed too anti-competitive, since merger policy – unlike anti-cartel policy – exhibits uncertainty with respect to where the competitive/anti-competitive boundary lines are drawn. In short, merger policy exhibits too much complexity to generate ‘per se’ rules. To model this uncertainty, consider the antitrust decision as resulting from a comparison of the restrictiveness level implicit in the merger notification with the maximum restrictiveness level (denoted by $\hat{\eta}$) the authority is willing to accept. Therefore, the antitrust authority’s judgment with respect to admissible restrictiveness levels is ex-ante unclear when firms decide on merger proposals. Firms’ uncertainty regarding $\hat{\eta}$ is described by a probability distribution $F(\hat{\eta} \leq \eta) = F(\eta)$ – denoting the probability that the antitrust authority’s critical threshold is smaller than the firm’s chosen η .²

Akin to D’Antoni and Galbiati (2007), the antitrust authority is better informed than the merging parties about the potential negative welfare implications of the merger. Accordingly, whenever η is below $\hat{\eta}$, the merger is cleared by the antitrust authority: an event occurring with probability $1 - F(\eta)$. Furthermore, when η is above $\hat{\eta}$, two situations may occur: the merger elicits a prohibition or a remedy from the antitrust authority. The remedy option is taken when the proposed restrictiveness level is not particularly high: when η is above $\hat{\eta}$ but below $\hat{\eta} + \alpha$. The parameter α – the remedy solution range – denotes the extra level of restrictiveness the authority is willing to accept as long as remedies are imposed. The prohibition option is taken when η is above $\hat{\eta} + \alpha$. Hence, α also denotes the authority’s permissiveness in the sense that a larger α eliminates the prohibition option.

Assuming a cost K of setting a merger proposal, we can define the problem of choosing the restrictiveness level as:

$$\max_{\eta} V = \Pi^R(\eta) \times (F(\eta) - F(\eta - \alpha)) + \Pi^C(\eta)(1 - F(\eta)) - K. \quad (3)$$

Accordingly, the decision to propose a merger – the first decision noted above – is characterized by proposing a merger with restrictiveness η if $V(\eta) > 0$,

$\eta \in \arg \max_{\eta'} V(\eta')$; but otherwise firms do not propose a merger. Furthermore, the

optimal level of merger restrictiveness is given by the solution to

$$\begin{aligned} \frac{\partial V}{\partial \eta} = 0 &\Leftrightarrow f(\eta)(\Pi^C(\eta) - \Pi^R(\eta)) + f(\eta - \alpha)\Pi^R(\eta) = \\ &= \frac{\partial \Pi^R}{\partial \eta} [F(\eta) - F(\eta - \alpha)] + \frac{\partial \Pi^C}{\partial \eta} [1 - F(\eta)] \end{aligned} \quad (4)$$

The left-hand side of equation 4 shows the marginal cost (profit losses due to an intervention becoming more likely by the antitrust authority) while the right-hand side shows the marginal benefit (increase in expected profits) of increasing η .

² In terms of the model, the $F(\cdot)$ function entering merging firms’ objective function is the result of a Bayesian updating process based on observing merger policy enforcement as well as (imperfect) knowledge regarding the η of proposed mergers. Indeed, Sah (1991) shows that if firms are Bayesian updaters, then a change in policy indicates a change in deterrence.

3. Deterrence effects

We can now address the impact of policy changes on deterrence by considering the substitution of remedies for prohibitions – a policy change which amounts to an increased α in our framework.³ The influential U.S. Federal Trade Commission (1999) study – which found divestitures to generally create viable competitors – legitimized the use of remedies and led to the FTC issuing guidelines for remedies in 1999, the EC following suit by issuing guidelines in 2001, and the U.S. Department of Justice (DOJ) in 2004 (Duso, Gugler and Yurtoglu, 2007). Accordingly, this policy shift led to remedies being increasingly employed in the cross-national context for merger policy. For instance, the European Commission has generally refrained from blocking mergers (Morgan and McGuire, 2004), and has instead increasingly relied on remedies to deal with anti-competitive mergers (Morgan, 2001, 2002). See figure 1 where the average ratio of remedies to prohibitions for the US, UK, Germany, EU and Canada indicates some two remedies for every prohibition in 1994, and a rising to around five remedies for every prohibition from 1999 to 2004. Accordingly, the trend toward remedies being applied where prohibitions were once applied has been manifest over the last fifteen years. Such a policy evolution likely induces a change in antitrust scrutiny levels since the penalty involved with remedies (elimination of some merger profits) is less than the penalty involved with prohibitions (elimination of all merger profits). Becker's (1968) seminal contribution to the literature suggests then that the deterrence role of competition policy would erode due to remedies involving smaller penalties than prohibitions: with firms naturally attempting to pass more restrictive mergers through the antitrust review process.

*** Insert Figure 1 around here ***

We now consider the impact of the policy change on the two magnitudes of interest: frequency and composition of notified mergers. First, a straightforward comparative statics exercise establishes that

$$\text{sign} \frac{d\eta}{d\alpha} = \text{sign} \frac{\partial^2 \mathcal{V}}{\partial \eta \partial \alpha}, \quad (5)$$

and it turns out that

$$\frac{\partial^2 \mathcal{V}}{\partial \eta \partial \alpha} = \Pi^R(\eta) \frac{\partial^2 f(\eta - \alpha)}{\partial \alpha \partial (\eta - \alpha)} + f(\eta - \alpha) \frac{\partial \Pi^R}{\partial \eta}. \quad (6)$$

The first term on the right-hand-side, $\partial^2 f(\eta - \alpha) / \partial \alpha \partial (\eta - \alpha)$, can be either positive or negative as it depends on the shape of $f(\cdot)$ in the range of $\eta - \alpha$. With the second term

being positive $\frac{\partial \Pi^R}{\partial \eta}(\eta) > 0$, the indeterminate first term results in an ambiguous total

effect. The first term is actually zero for the uniform distribution; thus, moving toward a

³ For brevity, we will not investigate other policy changes (e.g., substituting clearances for remedies or prohibitions for clearances), yet such changes could be addressed in a similar framework to exhibit merger notifications being a more reliable deterrence indicator, as briefly shown in Seldeslachts et al. (2007). We restrict ourselves in this paper to the most relevant policy change in both the US and EU.

more lenient merger policy (substituting remedies for prohibitions) results in more restrictive mergers being proposed – the expected effect. Yet for a sufficiently negative $\partial f(\eta - \alpha) / \partial \eta - \alpha$, the reverse effect (i.e., fewer restrictive mergers being proposed) can result.⁴ This happens when increased restrictiveness induces, at the margin, a significant drop in the probability of a merger eliciting a remedy and a significant increase in the probability of eliciting a prohibition. We next explain this effect in more detail.

The indeterminate sign of $\partial f(\eta - \alpha) / \partial \eta - \alpha$ owes to the change in α involving two different effects. First, by increasing α , the authority applies remedies to some mergers that previously incurred prohibitions; thus, merging firms are more likely to obtain the remedies profit stream. Second, when the remedies profit stream is positively correlated with restrictiveness, the marginal benefit from a higher η increases. The importance of this extra higher- α -induced incentive to increasing η , however, depends on how often firms expect to be in this range; indeed, the number of cases to which this applies is likely to be smaller for a higher η . Thus, when the marginal impact of restrictiveness on the remedies profit stream is small but increasing η significantly enhances the probability of incurring a prohibition, then merging firms may prefer to reduce restrictiveness in order to increase the probability of eliciting a remedy as opposed to a prohibition.

Accordingly, our model generates ambiguous predictions with regard to the composition of future merger notifications. The equilibrium effect on composition-based deterrence is unclear, thus implying that replacing prohibitions with remedies could lead to less – not more – restrictiveness in future merger notifications.

The predictions on the number of future merger notifications – frequency-based deterrence – suggest a less ambiguous effect. By direct application of the envelope theorem:

$$\frac{\partial \mathcal{V}(\eta)}{\partial \alpha} = \Pi^R(\eta) f(\eta - \alpha) > 0. \quad (7)$$

Increasing α thus leads to an increased expected value for proposing mergers. This dynamic owes to there being a lower probability of eliciting a ‘zero-payoff’ prohibition. The equilibrium effect on frequency-based deterrence is clear; thus, substituting remedies for prohibitions leads to an unambiguous increase in the number of merger notifications. Hence, the number of mergers represents a natural variable of interest when it comes to measuring deterrence effects.

4. Concluding remarks

We show that the empirical assessment of merger policy enforcement should be conducted by looking at the number – not the composition – of merger notifications. The frequency of mergers captures in a clean way how firms react to competition policy changes, and thus helps trace back the underlying policy change. The message that empiricists should employ frequency-based measures as opposed to composition-based

⁴ For example, if we take F to be a negative exponential density, the effect would be negative. But if F is a density with an increasing hazard rate (e.g., a normal distribution), then the effect would be positive. It is *a priori* unclear as to which density would prevail. Thus, this is ultimately an empirical question that would probably be hard to measure.

measures of deterrence is highlighted by the fact that many economists have been calling for more empirical work on merger policy deterrence effects. Our main point then is simple but important, as it is imperative that empiricists look for deterrence in the right place.

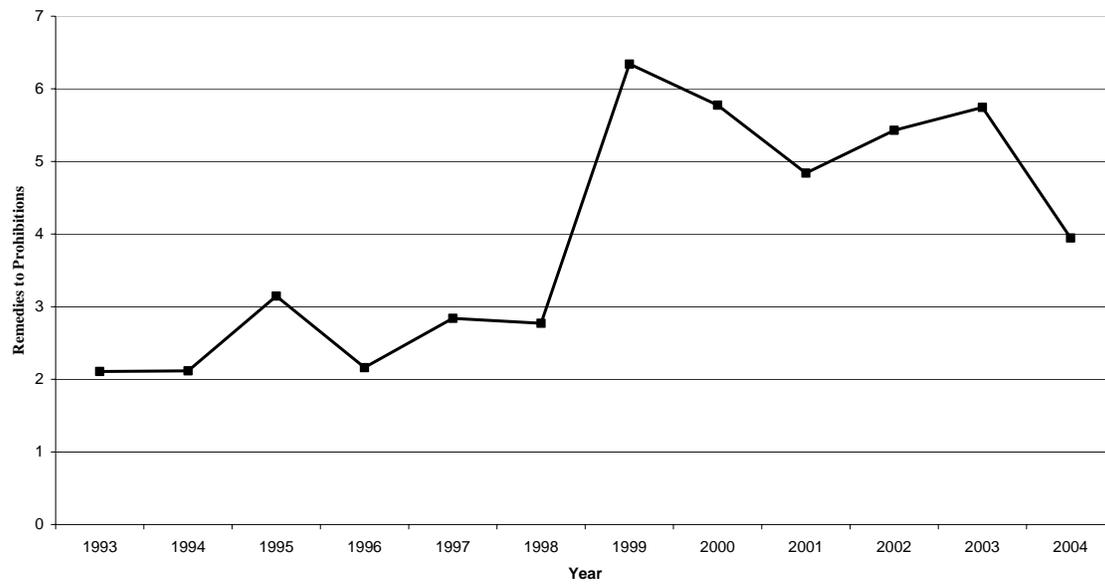
The propensity for merger policy toughness and composition-based deterrence to not always involve the expected positive relationship yields additional implications beyond the merits of employing frequency-based deterrence measures. If antitrust authorities are ultimately concerned about the composition of merger notifications (i.e., minimizing the number of anti-competitive merger proposals), then our analysis suggests that less – not more – vigorous merger policy may sometimes be the means to reduce anti-competitive merger proposals. For example, substituting remedies for prohibitions – and not prohibitions for remedies – might sometimes induce fewer anti-competitive merger notifications. More generally, our analysis indicates that tougher merger policy may not always generate the intended increase in composition-based deterrence.

References

- Aaronson, R. (1992) Do companies take any notice of competition policy?, *Consumer Policy Review*, 2(3), pp. 140-145.
- Baker, Jonathan B. (2003) The case for antitrust enforcement, *Journal of Economic Perspectives*, 17(4), pp. 27-50.
- Barros, Pedro P. (2003) Looking behind the curtain – effects from modernization of European Union competition policy, *European Economic Review*, 47(4), pp. 613-624.
- Becker, Gary S. (1968) Crime and punishment: an economic approach, *Journal of Political Economy*, 76, pp. 169-217.
- Block, Michael K., Nold, Frederick C. and Sidak, Joseph G. (1981) The deterrent effect of antitrust enforcement, *Journal of Political Economy*, 89(3), pp. 429-445.
- Block, Michael K. and Feinstein, Jonathan S. (1986) The spillover effect of antitrust enforcement, *Review of Economics and Statistics*, 68(1), pp. 122-131.
- Clarke, Julian L. and Evenett, Simon J. (2003) The deterrent effects of national anticartel laws: evidence from the international vitamins cartel, *Antitrust Bulletin*, fall, pp. 689-726.
- Crandall, Robert W. and Winston, Clifford (2003) Does antitrust policy improve consumer welfare? Assessing the evidence, *Journal of Economic Perspectives*, 17(4), pp. 3-26.
- D'Antoni, Massimo and Galbiati, Roberto (2007) A signaling theory of nonmonetary sanctions, *International Review of Law and Economics*, 27(2), pp. 204-218.
- Davies, Stephen, and Majumdar, Adrian (2002) The development of targets for consumer savings arising from competition policy, Working Paper No. 4. Office of Fair Trading, UK, June 2002.
- Duso, Tomaso, Gugler, Klaus and Yurtoglu, Burcin (2007) EU merger remedies: An empirical assessment, in: J. Stennek and V. Ghosal (Eds), *The Political Economy of Antitrust, Contributions to Economic Analysis*, pp. 302-348 (Amsterdam: Elsevier).
- Eckbo, B.Espen (1992) Mergers and the value of antitrust deterrence, *Journal of Finance*, 47(3), pp. 1005-1029.

- Eckbo, B.Espen and Wier, Peggy (1985) Antimerger policy under the Hart-Scott-Rodino Act: A reexamination of the market power hypothesis, *Journal of Law and Economics*, 28(1), pp. 119-149.
- Feinberg, Robert M. (1980) Antitrust enforcement and subsequent price behavior, *Review of Economics and Statistics*, 62(4), pp. 609-612.
- Joskow, Paul L. (2002) Transaction cost economics, antitrust rules, and remedies, *Journal of Law, Economics and Organization*, 18(1), pp. 95-116.
- Lyons, Bruce and Medvedev, Andrei (2007) Bargaining over remedies in merger regulation, Working Paper No. 07-3, CCP, University of East Anglia, UK, February 2007.
- NMa (2005) Research on the Anticipation of Merger Control, October 2005.
http://www.nmanet.nl/Images/Rapport%20Research%20into%20the%20Anticipation%20of%20merger%20control_tcm16-86578.pdf
- Morgan, Eleanor J. (2001) A Decade of EC merger control, *International Journal of the Economics of Business*, 8(3), pp. 451-473.
- Morgan, Eleanor J. (2002) Steering mergers through the EU's regulatory rocks: Remedies under the EU merger control regulation, *European Management Journal*, 20(5), pp. 549-561.
- Morgan, Eleanor J. and McGuire, Steven (2004) Transatlantic divergence: GE-Honeywell and the EU's merger policy, *Journal of European Public Policy*, 11(1), pp. 39-56.
- Nelson, Philip and Sun, Su (2001) Consumer savings from merger enforcement: a review of the antitrust agencies' estimates, *Antitrust Law Journal*, 69, pp. 921-960.
- Sah, Raaj K. (1991) Social osmosis and patterns of crime, *Journal of Political Economy*, 99(6), pp. 1272-1295.
- Seldeslachts, Jo, Clougherty, Joseph A. and Barros, Pedro P. (2009) Settle for now but block for tomorrow: the deterrence effects of merger policy tools, *Journal of Law and Economics*, forthcoming.
- Seldeslachts, Jo, Clougherty, Joseph A. and Barros, Pedro P. (2007) Remedy for now but block for tomorrow: the deterrence effects of merger policy tools, CEPR Working Paper No. 6437.
- Stigler, George J. (1966) The economic effects of the antitrust laws, *Journal of Law and Economics*, 9, pp. 225-258.
- U.S. Federal Trade Commission (1999) A study of the Commission's divestiture process. <http://www.ftc.gov/opa/1999/08/divestreport.htm>

Figure 1: The Average Across Five Antitrust Jurisdictions (US, UK, Germany, EU & Canada) for the Ratio of 'Remedies to Prohibitions'



Bücher des Schwerpunkts Märkte und Politik
Books of the Research Area Markets and Politics

- Kai A. Konrad, Tim Lohse (Eds.)
Einnahmen- und Steuerpolitik in Europa: Herausforderungen und Chancen
2009, Peter Lang Verlag
- Kai A. Konrad
Strategy and Dynamics in Contests
2009, Oxford University Press
- Roger D. Congleton, Arye L. Hillman, Kai A. Konrad (Eds.)
40 Years of Research on Rent Seeking
2008, Springer
- Kai A. Konrad, Beate Jochimsen (Eds.)
Föderalismuskommission II: Neuordnung von Autonomie und Verantwortung
2008, Peter Lang Verlag
- Mark Gradstein, Kai A. Konrad (Eds.)
Institutions and Norms in Economic Development
2007, MIT Press
- Johannes Münster
Mobbers, Robbers, and Warriors
2007, Shaker Verlag
- Kai A. Konrad, Beate Jochimsen (Eds.)
Der Föderalstaat nach dem Berlin-Urteil
2007, Peter Lang Verlag
- Kai A. Konrad, Beate Jochimsen (Eds.)
Finanzkrise im Bundesstaat
2006, Peter Lang Verlag
- Robert Nuscheler
On Competition and Regulation in Health Care Systems
2005, Peter Lang Verlag
- Pablo Beramendi
Decentralization and Income Inequality
2003, Madrid: Juan March Institute
- Thomas R. Cusack
A National Challenge at the Local Level: Citizens, Elites and Institutions in Reunified Germany
2003, Ashgate
- Sebastian Kessing
Essays on Employment Protection
2003, Freie Universität Berlin
<http://www.diss.fu-berlin.de/2003/202>
- Daniel Krähmer
On Learning and Information in Markets and Organizations
2003, Shaker Verlag
- Tomaso Duso
The Political Economy of the Regulatory Process: An Empirical Approach
Humboldt-University Dissertation, 2002, Berlin,
<http://edoc.hu-berlin.de/dissertationen/duso-tomaso-2002-07-17/PDF/Duso.pdf>
- Bob Hancké
Large Firms and Institutional Change. Industrial Renewal and Economic Restructuring in France
2002, Oxford University Press
- Andreas Stephan
Essays on the Contribution of Public Infrastructure to Private: Production and its Political Economy
2002, dissertation.de
- Peter A. Hall, David Soskice (Eds.)
Varieties of Capitalism
2001, Oxford University Press
- Hans Mewis
Essays on Herd Behavior and Strategic Delegation
2001, Shaker Verlag
- Andreas Moerke
Organisationslernen über Netzwerke – Die personellen Verflechtungen von Führungsgremien japanischer Aktiengesellschaften
2001, Deutscher Universitäts-Verlag
- Silke Neubauer
Multimarket Contact and Organizational Design
2001, Deutscher Universitäts-Verlag
- Lars-Hendrik Röller, Christian Wey (Eds.)
Die Soziale Marktwirtschaft in der neuen Weltwirtschaft, WZB Jahrbuch 2001
2001, edition sigma
- Michael Tröge
Competition in Credit Markets: A Theoretic Analysis
2001, Deutscher Universitäts-Verlag
- Torben Iversen, Jonas Pontusson, David Soskice (Eds.)
Unions, Employers, and Central Banks
2000, Cambridge University Press
- Tobias Miarka
Financial Intermediation and Deregulation: A Critical Analysis of Japanese Bank-Firm-Relationships
2000, Physica-Verlag
- Rita Zobel
Beschäftigungsveränderungen und organisationales Lernen in japanischen Industriegesellschaften
2000, Humboldt-Universität zu Berlin
<http://dochost.rz.hu-berlin.de/dissertationen/zobel-rita-2000-06-19>
- Jos Jansen
Essays on Incentives in Regulation and Innovation
2000, Tilburg University

DISCUSSION PAPERS 2008

Dan Kovenock Brian Roberson	Inefficient Redistribution and Inefficient Redistributive Politics	SP II 2008 – 01
Dan Kovenock Brian Roberson	Coalitional Colonel Blotto Games with Application to the Economics of Alliances	SP II 2008 – 02
Vito Tanzi	The Future of Fiscal Federalism	SP II 2008 – 03
Kai A. Konrad Kjell Erik Lommerud	Love and Taxes – and Matching Institutions	SP II 2008 – 04
Benny Geys Jan Vermeir	Party Cues and Yardstick Voting	SP II 2008 – 05
Benny Geys Jan Vermeir	The Political Cost of Taxation: New Evidence from German Popularity Ratings	SP II 2008 – 06
Kai A. Konrad Dan Kovenock	The Alliance Formation Puzzle and Capacity Constraints	SP II 2008 – 07
Johannes Münster	Repeated Contests with Asymmetric Information	SP II 2008 – 08
Kai A. Konrad Dan Kovenock	Competition for FDI with Vintage Investment and Agglomeration Advantages	SP II 2008 – 09
Kai A. Konrad	Non-binding Minimum Taxes May Foster Tax Competition	SP II 2008 – 10
Florian Morath	Strategic Information Acquisition and the Mitigation of Global Warming	SP II 2008 – 11
Joseph Clougherty Anming Zhang	Domestic Rivalry and Export Performance: Theory and Evidence from International Airline Markets	SP II 2008 – 12
Jonathan Beck	Diderot’s Rule	SP II 2008 – 13
Susanne Prantl	The Role of Policies Supporting New Firms: An Evaluation for Germany after Reunification	SP II 2008 – 14
Jo Seldeslachts Tomaso Duso Enrico Pennings	On the Stability of Research Joint Ventures: Implications for Collusion	SP II 2008 – 15
Dan Kovenock Brian Roberson	Is the 50-State Strategy Optimal?	SP II 2008 – 16
Joseph Clougherty Tomaso Duso	The Impact of Horizontal Mergers on Rivals: Gains to Being Left Outside a Merger	SP II 2008 – 17
Benny Geys Wim Moesen	Exploring Sources of Local Government Technical Inefficiency: Evidence from Flemish Municipalities	SP II 2008 – 18
Benny Geys Friedrich Heinemann Alexander Kalb	Local Governments in the Wake of Demographic Change: Evidence from German Municipalities	SP II 2008 – 19
Johannes Münster	Group Contest Success Functions	SP II 2008 – 20
Benny Geys Wim Moesen	Measuring Local Government Technical (In)efficiency: An Application and Comparison of FDH, DEA and Econometric Approaches	SP II 2008 – 21

DISCUSSION PAPERS 2009

Áron Kiss	Coalition Politics and Accountability	SP II 2009 – 01
Benny Geys Friedrich Heinemann Alexander Kalb	Voter Involvement, Fiscal Autonomy and Public Sector Efficiency: Evidence from German Municipalities	SP II 2009 – 02
Salmal Qari Kai A. Konrad Benny Geys	Patriotism, Taxation and International Mobility	SP II 2009 – 03
Kai A. Konrad Salmal Qari	The Last Refuge of a Scoundrel? Patriotism and Tax Compliance	SP II 2009 – 04
Sven Chojnacki Nils Metternich Johannes Münster	Mercenaries in Civil Wars, 1950-2000	SP II 2009 – 05
Oliver Gürtler Johannes Münster	Sabotage in Dynamic Tournaments	SP II 2009 – 06
Dan Kovenock Brian Roberson	Non-Partisan ‘Get-Out-the-Vote’ Efforts and Policy Outcomes	SP II 2009 – 07
Subhasish M. Chowdhury Dan Kovenock Roman M. Sheremeta	An Experimental Investigation of Colonel Blotto Games	SP II 2009 – 08
Michael R. Baye Dan Kovenock Casper G. de Vries	Contests with Rank-Order Spillovers	SP II 2009 – 09
Florian Morath Johannes Münster	Information Acquisition in Conflicts	SP II 2009 – 10
Benny Geys	Wars, Presidents and Popularity: The Political Cost(s) of War Re-examined	SP II 2009 – 11
Paolo Buccirossi Lorenzo Ciari Tomaso Duso Giancarlo Spagnolo Cristiana Vitale	Competition policy and productivity growth: An empirical assessment	SP II 2009 – 12
Pedro P. Barros Joseph Clougherty Jo Seldeslachts	How to Measure the Deterrence Effects of Merger Policy: Frequency or Composition?	SP II 2009 – 13

Bei Ihren Bestellungen von WZB-Papers schicken Sie bitte unbedingt einen an Sie adressierten Aufkleber mit sowie je paper eine Briefmarke im Wert von 0,51 Euro oder einen "Coupon Reponse International" (für Besteller aus dem Ausland)

Please send a self addressed label and postage stamps in the amount of 0.51 Euro or a "Coupon-Reponse International" (if you are ordering from outside Germany) for each WZB-paper requested

Bestellschein

Order Form

Absender / Return Address:

Wissenschaftszentrum Berlin
für Sozialforschung
Presse- und Informationsreferat
Reichpietschufer 50

D-10785 Berlin-Tiergarten

**Hiermit bestelle ich folgende(s)
Discussion paper(s):**

**Please send me the following
Discussion paper(s):**

Bestell-Nr. / Order no.	Autor/in, Kurztitel /Author(s) / Title(s) in brief