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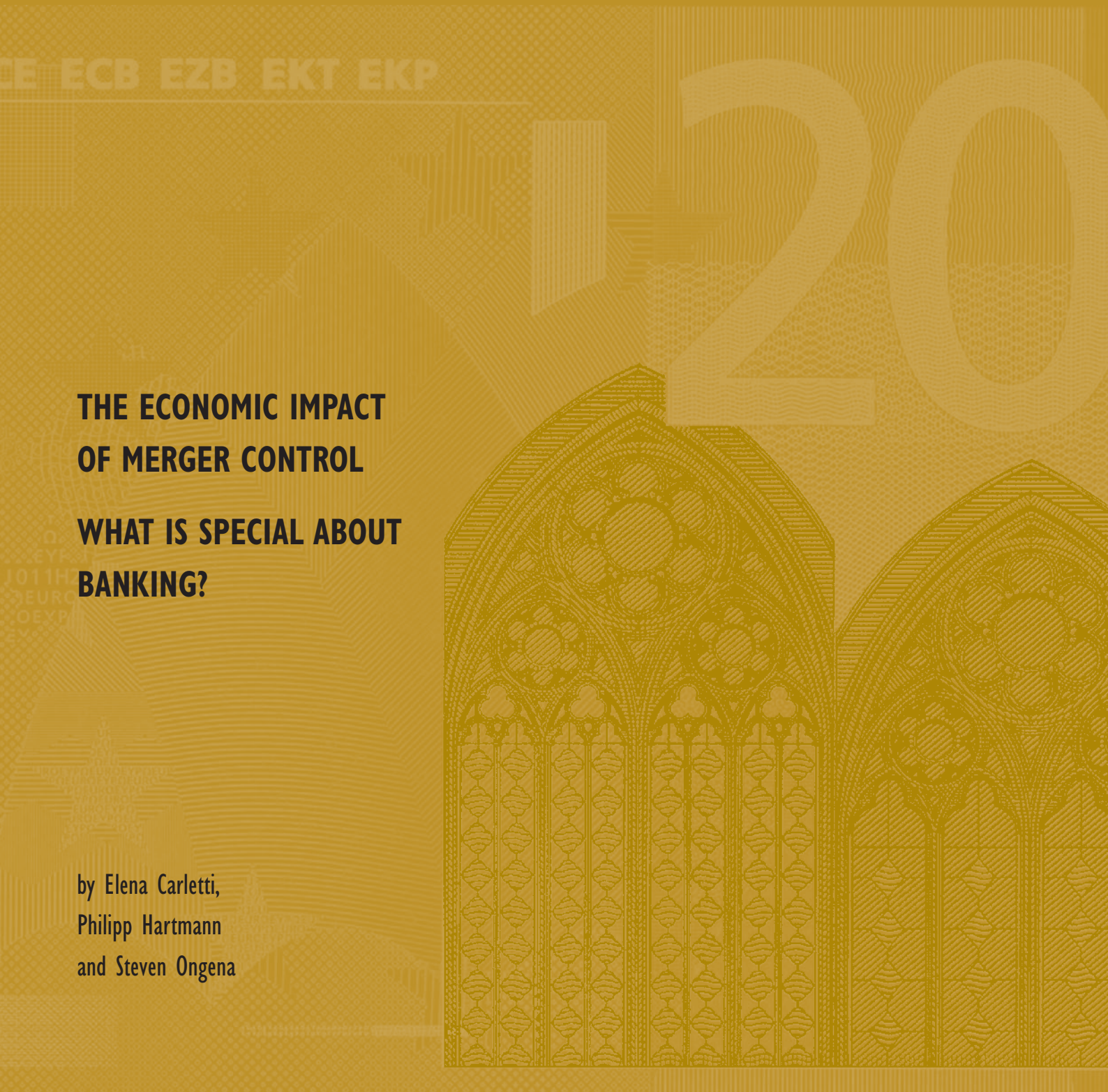

THE ECONOMIC IMPACT OF MERGER CONTROL

WHAT IS SPECIAL ABOUT BANKING?

by Elena Carletti,
Philipp Hartmann
and Steven Ongena

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In 2007 all ECB publications feature a motif taken from the €20 banknote.

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Abstract

There is a long-standing debate about the special nature of banks. Based on a unique dataset of legislative changes in industrial countries, we identify events that strengthen competition policy, analyze their impact on banks and non-financial firms and explain the reactions observed with institutional features that distinguish banking from non-financial sectors. Covering nineteen countries for the period 1987 to 2004, we find that banks are special in that a more competition-oriented regime for merger control increases banks' stock prices, whereas it decreases those of non-financial firms. Moreover, bank merger targets become more profitable and larger. A major determinant of the positive bank returns, after controlling *inter alia* for the general quality of institutions and individual bank characteristics, is the opaqueness that characterizes the institutional setup for supervisory bank merger reviews. Thus strengthening competition policy in banking may generate positive externalities in the financial system that offset unintended adverse side effects on efficiency introduced through supervisory policies focusing on prudential considerations and financial stability. Legal arrangements governing competition and supervisory control of bank mergers may therefore have important implications for real activity.

Keywords: specialness of banks, mergers and acquisitions, competition policy, legal institutions, financial regulation.

JEL codes: G21, G28, D4.

Non-technical summary

Many academic researchers, policy makers and market practitioners regard banks as "special" firms. The literature justifies this view and the related sector-specific regulations with potential instability, informational asymmetries in the provision of credit and the key role the financial sector plays in the economy. For the same reasons competition is regarded with greater caution than is the case for other sectors. An emerging new literature, however, throws a more positive light on competition in the banking sector.

The present paper attempts to shed some new light on this debate by looking at the role legal and other institutional arrangements play in governing the review of mergers and acquisitions (M&As). It is asked first whether legal changes strengthening competition policy have the same or differential effects on banks and non-financial firms. Second, differential effects on banks are explained with institutional features of the merger review process specific to the banking sector. In fact, bank mergers are subject to a supervisory review exhibiting institutional features unknown in more regular sectors.

One important contribution of the paper is the presentation of a unique data set of legislative changes affecting the reviews of M&As in 19 industrial countries (United States, Canada and seventeen European countries) between 1987 and 2004. The data set covers the introduction of competition laws and competition authorities (both in banking and other sectors) as well as changes in the relative responsibilities of competition and supervisory authorities in bank merger reviews.

The analysis finds striking differences between the impact of legislative changes on banks and firms. Legislative changes strengthening competition policy decrease the market valuations of firms, but increase the market valuations of banks. The decrease in the valuations of firms is expected: A more proactive competition policy and consequently more intense competition should lead to the erosion of profits, an effect predicted by standard industrial organization theories. In contrast, a merger review policy oriented more towards competition has a non-standard positive effect on bank stocks and also on the profitability and size of bank merger targets. A key issue is which features specific to banking explain this special reaction by banks.

A cross-section analysis of the cumulative abnormal bank stock returns identifies the variables that drive the positive reaction. We pay particular attention to the different regulatory framework faced by banks compared to non-financial firms, namely that bank

mergers are not only subject to competition reviews but also to supervisory reviews. One key feature of the institutional setup for supervisory bank merger reviews is whether the results are published or not. (Competition reviews are public in all countries of our sample.) Our estimations suggest that the less transparent the supervisory reviews in a given country are, i.e., when the supervisory decisions are not published, the higher the valuation gains of banks. This result is robust to controlling for a host of individual bank and country-specific variables, including the quality of other economic institutions.

The results suggest that the effects of the reorientation of the legal and institutional environment towards more competition in banking will be heavily influenced by the supervisory regime. In particular, supervisory reviews of bank mergers are often guided by other objectives and approaches than competition reviews. They typically focus on the soundness and stability of the new entity created. Moreover, supervisory intervention occasionally promotes specific mergers in order to save weak or failing banks. As a result, these interventions are usually not driven by competition and efficiency considerations. And this may be even more so in less transparent supervisory systems. Investors will penalize banks for these sources of inefficiency with a lower valuation. As competition reviews gain importance and as the supervisory setup becomes more transparent, the room for less efficiency-oriented transactions vanishes and bank valuations may increase.

In other words, the strengthening of competition policy seems to generate important positive externalities in the financial system that limit supervisory discretion in determining merger outcomes and thereby offset unintended adverse side effects on efficiency introduced through supervisory policies focusing on prudential considerations and financial stability. In this light, the paper also presents case studies for events around the widely discussed ABN Amro/Antonveneta and Crédit Agricole/Crédit Lyonnais merger transactions, which were followed by sweeping legislative changes. More generally, legal arrangements governing competition and supervisory control of bank mergers seem to have important implications for bank and firm performance in the economy.

I. Introduction

A widely held view among academic researchers, policy makers and market practitioners is that "banks are special". Dewatripont and Tirole (1994), Goodhart, Hartmann, Llewellyn, Rojas-Suarez and Weisbrod (1998) and Herring and Litan (1995), for example, list potential instability, informational asymmetries in the provision of credit and the key role the financial sector plays in the economy as three reasons why banks may deserve a unique regulatory treatment. It is widely observed that the strong desire for public intervention tends to bring about cautious or even negative attitudes towards competition in this sector (Keeley (1990), Hellman, Murdock and Stiglitz (2000)). Recent work, however, has started to question the idea that banking competition is always something baneful (Boyd and De Nicolo (2005), Beck, Demirguc-Kunt and Levine (2006), Claessens and Laeven (2005)).

The present paper attempts to shed some new light on this debate by looking at the role legal and other institutional arrangements play in governing the review of mergers and acquisitions (M&As). We ask whether changes in the legal setup for competition policy have the same or differential effects on banks and non-financial firms and why. More specifically, we analyze changes in market valuations of banks and firms in response to the recent general strengthening of competition aspects in merger reviews and try to explain the differences in the reaction of individual bank stocks with institutional features of the merger review process specific to the banking sector. Indeed, because of the sector specialness bank mergers are also subject to a supervisory review, exhibiting institutional features unknown in more regular sectors.[1]

[1] See e.g. the "Core Principles for Effective Banking Supervision" issued by the Basel Committee on Banking Supervision (BCBS (1997)). Core principles 4 and 5 state that supervisors must have the authority to review and reject any changes in bank ownership or to establish criteria for reviewing major acquisitions or investments by a bank.

By investigating the specialness of banks from this angle, we study an area that has generated major policy debates and public concerns recently, but may have attracted scant academic attention. For example, some major US banks have now gained such large market shares that law forces them to seek further growth abroad. On the other side of the Atlantic have the widely discussed ABN Amro / Antonveneta and Banco Bilbao Vizcaya Argentaria / Banca Nazionale del Lavoro cases (while illustrating domestic resistance to pro-competitive cross-border bank mergers) resulted in sweeping legislative changes strengthening the role of the competition authority in Italy. In contrast, union pressure in relation to the Crédit Agricole / Crédit Lyonnais merger has weakened competition policy, at least temporarily, requiring a clarification of policy responsibilities in France. In the light of our general analysis, we also present case studies of these particularly interesting episodes.

We collect a unique data set on legislative changes affecting the review of M&As in 19 industrial countries (United States, Canada and seventeen European countries) between 1987 and 2004. The data set covers the introduction of competition laws and competition authorities (both in banking and other sectors) as well as changes in the relative responsibilities of competition and supervisory authorities in bank merger reviews.

Our analysis finds striking differences between the impact of legislative changes on banks and firms. Legislative changes strengthening competition policy decrease the valuations of firms, but increase the market valuations of banks. The decrease in valuations of firms is expected: A more proactive competition policy and more intense competition should lead to the erosion of profits. On the other hand, a merger review policy oriented more towards competition has a special and non-standard positive effect on bank stocks.

A cross-section analysis of the cumulative abnormal bank stock returns identifies the variables that drive the positive reaction. We pay particular attention to the different regulatory framework faced by banks and non-financial firms, namely that bank mergers are not only subject to competition reviews but also to supervisory reviews. The less transparent the supervisory reviews in a given country are, i.e., when the supervisory decisions are not published, the higher the valuation gains of banks.

Our results show that the effects of the reorientation of the legal and institutional environment towards more competition in banking will be heavily influenced by the supervisory regime. In particular, supervisory reviews of bank mergers are often guided by other objectives and approaches than competition reviews. They typically focus on the soundness and stability of the new entity created.[2] Moreover, supervisory intervention occasionally promotes specific mergers in order to save weak or failing banks.[3] As a result, these interventions are usually not driven by competition and efficiency considerations. And this may be even more so in less transparent supervisory systems. Investors will penalize banks for these sources of inefficiency with a lower valuation. As competition reviews gain

[2] The Second Banking Directive in the European Union states that national bank supervisors "shall refuse authorization (of mergers; insertion by the authors) if, taking into account the need to ensure the sound and prudent management of a credit institution, they are not satisfied as to the suitability of the … shareholders" (EC (1989), article 5). The US Bank Merger Act stipulates in paragraph 1828 that "In every case, the responsible agency shall take into consideration the financial and managerial resources and future prospects of the existing and proposed institutions, and the convenience and needs of the community to be served" (see also the Bank Holding Company Act, paragraph 1842). The Federal Reserve Board considers particularly capital adequacy, but also asset quality, earnings performance and other aspects under this provision. The Basel Committee core principle 5 refers to the requirement that "banking supervisors have the authority to establish criteria for … ensuring that corporate affiliations or structures do not expose the bank to undue risks or hinder effective supervision". The core principles list ownership structures; operating plan, systems of control and internal organization; fit and proper tests of directors and senior managers; and financial projections including capital as aspects to be considered in this regard. Overall, practice has shown that the room for interpretation in this area can be very wide.

[3] An OECD report on the so-called "Failing Firm Defense" documents a few such cases (OECD (1996), p. 69f).

importance and as the supervisory setup becomes more transparent, the room for less efficiency-oriented transactions vanishes and bank valuations may increase.

In other words, the strengthening of competition policy seems to generate important positive externalities in the financial system that limit supervisory discretion in determining merger outcomes and thereby offset unintended adverse side effects on efficiency introduced through supervisory policies focusing on prudential considerations and financial stability. More generally, legal arrangements governing competition and supervisory control of bank mergers seem to have important implications for bank and firm performance in the economy.

The rest of the paper is organized as follows. We review the related literature in Section II and provide details on the past and existing institutional arrangements for competition policy in Section III. In that section we also present the results of an empirical analysis of the effects of the legislative changes that strengthen competition policy. We study both the effects on stock market valuations of banks and (non-financial) firms. Here we also discuss a few important bank merger episodes that had a strong bearing on legislative changes. In Section IV we first address the institutional arrangements for specific supervisory policies in banking and then investigate how the stock market valuations of individual banks are explained by institutional and policy features characterizing merger reviews in the various countries. We conclude in Section V. Appendices 1 and 2 provide details about the sources from which we derived our unique dataset. Appendix 3 gives more details about the events around the ABN Amro / Antonveneta case.

II. Related Literature

In addition to the general discussion on the specialness of banks and the value of competition in banking, our work is related to a number of strands in the literature. First, our paper is connected to research dealing with the causes and consequences of banking consolidation (see Berger, Demsetz and Strahan (1999) for a detailed survey). With the available data it seems hard to identify efficiency gains in bank mergers, except for gains in mergers among relatively small banks (Berger and Humphrey (1991) and Wheelock and Wilson (2001)) or efficiencies obtained in risk management (Hughes and Mester (1998)). On the other hand, the consequences of consolidation are sharper in focus. Consolidation may soften competition and shrink loan supply (unless accompanied by *de novo* bank entry as documented by Berger, Saunders, Scalise and Udell (1998)), modify individual and aggregate liquidity (Carletti, Hartmann and Spagnolo (2006)), and increase bank riskiness (Boyd and Runkle (1993), Demsetz and Strahan (1997)). However this literature has so far mostly overlooked the effects of (changes in) the merger review procedures on the consolidation process (except for a discussion in Carletti and Hartmann (2003)), an issue this paper addresses.

Second, our paper fits in a literature that deals with the effects of financial regulation on banks and real activity. Kim and Santomero (1988) and Rochet (1992), among others, analyze how capital requirements affect the behavior of banks. They show, *inter alia*, that inaccurate risk weights distort banks' investment decisions. Merton (1977) argues that deposit insurance may cause moral hazard and excessive risk-taking and Demirguc-Kunt and Detragiache (2002) for example provide empirical evidence of such effects. Blum and Hellwig (1995) model how capital requirements may amplify business cycles, an issue recently gaining prominence in relation to the implementation of the Basel II capital

standards (Kashyap and Stein (2004)). Jayaratne and Strahan (1998), Demirguc-Kunt, Laeven and Levine (2004), and Guiso, Sapienza and Zingales (2006) provide evidence that too restrictive banking regulations can lead to substantial costs in terms of growth and welfare, while Barth, Caprio and Levine (2006) document that banking regulation in its implementation and supervisory interventions are not seldom the cause of substantial inefficiencies in financial systems, in particular in developing countries.[4] Also this literature has not yet addressed the effects of the arrangements for supervisory reviews of bank mergers highlighted in this paper.

Finally, a by now vast literature addresses the role of the legal architecture for the functioning of financial systems. In their seminal work La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997, (1998) have illustrated the influence of legal origins, formalism, and enforcement problems on the structure and efficiency of a financial system (also Djankov, La Porta, Lopez-de-Silanes and Shleifer (2003) and Djankov, McLiesh and Shleifer (2006)). While Rossi and Volpin (2004) show that legal origin and shareholder rights influence the volume of M&As (across all sectors) and the direction of cross-border deals, the impact of changes in competition policy on merger activity, despite its importance, has not yet been investigated.

[4] Quintyn and Taylor (2003) for example stress the importance of good governance for the well functioning of bank regulators and supervisors. Recent empirical work by Donzé (2006) documents a correlation between measures of supervisory independence and adherence to law and banking sector health.

III. The Impact of Changes in Competition Policy

Our point of departure is a fundamental policy shift observed in many industrial countries over the last decades, i.e., the introduction or strengthening of general competition policy. Such a shift is by definition mostly exogenous to changes or policies in any individual sector, and hence particularly attractive for analyzing the specialness of banks. Moreover, the literature – as cited above – has brought up a number of reasons why competition may play a different role in banking than in other sectors. We focus in particular on concentrations. Continuing substantial financial consolidation renders them particularly important and the competition reviews of M&As are complemented in banking by supervisory reviews (see section IV). The ultimate objective of the present section is therefore to find out whether banks are affected differently or in the same fashion as other firms by general changes in competition control of M&As.

A. Competition Control of Mergers and Acquisitions

In most countries formal competition policies conducted by specific authorities are a relatively recent phenomenon. In stark contrast to the United States, where competition policy started with the 1890 Sherman and 1914 Clayton Acts, and Germany, where it was formalized with the *Gesetz gegen Wettebewerbeschaenkungen* in 1958, most countries did not introduce systematic competition policy until the early 1990s. In all cases, the introduction of competition policy constituted a significant change for the countries involved.

The main objective of controlling M&As from a competition perspective is to prevent excessive market concentration. The concern is that concentration could lead to a

substantial lessening of competition or the creation (or strengthening) of a dominant position, which would increase prices and reduce consumer welfare through market power.

To avoid this from happening competition authorities tend to apply a number of criteria to review merger proposals. The most frequently used competition criteria include the degree of concentration of the relevant markets (measured through either parties' combined market share or the Herfindahl-Hirschman index),[5] the possibility of entry and the presence of potential entrants, and the evolution of the market and of the parties' market shares in the years before the proposed transaction. In some countries it is also evaluated whether efficiency gains, e.g. through scale, would offset any price impacts of an increase in concentration (the so-called efficiency defense). An important factor is also whether other than competition criteria can or have to be taken into account. In particular, the competition laws of countries often contain a provision that allow the competent authorities to weigh competition considerations against other presumed social or political benefits, such as the preservation of employment, technical achievements or certain services in a specific region. A related issue is the so-called failing firm defense, which is sometimes based on competition grounds and sometimes on social benefits. In the financial sector, e.g., some competitive disadvantages are sometimes accepted in order to prevent a costly bank failure through a merger.

In countries with developed competition regimes, policies tend to be conducted by a separate competition authority. The strength of the competition authority in taking merger decisions varies across countries. In some countries the antitrust authority or the courts can

[5] There is ample empirical work on the impact of bank market concentration on bank loan and deposit rates. Berger, Demirguc-Kunt, Levine and Haubrich (2004), Gilbert and Zaretsky (2003) and Degryse and Ongena (2006), for example, review recent methodologies and results. Most studies find a positive / negative impact of market concentration on loan / deposit rates, though the magnitude of the effect varies widely.

take the decisions alone. In other countries the decision-making power is shared with other authorities, such as multiple antitrust authorities or the ministry of finance. Again in other countries ministries or special sector regulators, such as sometimes the case in banking, are in charge. The strength of the responsible authority is also influenced by the fact whether another authority can intervene, take over the review process or overturn decisions.

A last component of the competition policy regime is the process of merger reviews. In most countries they follow similar steps in that a merger is notified to the competent authority (if large enough),[6] then it is decided whether the case has the potential to raise competition concerns and if this is the case the specific transaction is reviewed. Basically in all countries this process tends to be highly transparent in that the decisions reached are made public.

In many countries competition policy was rather dramatically strengthened during the last three decades in its objective, criteria, authority and/or process design. We study now these particular moments of change.

B. Data, Institutional Variables and Events

We use the event study approach to analyze the effects of the introduction and strengthening of competition policy, henceforth, "changes (in competition policy)", in industrial countries.[7] In order to identify the events, we collect detailed information on the

[6] In some countries notification is voluntary, but the competition authority can unravel a case *ex post* if it turns out to create a dominant market position.

[7] The interpretation of results from an event study requires that the events are exogenous. We conjecture that banks cannot decisively lobby and influence a strengthening of competition policy that is applicable to all sectors. Nevertheless, we check this point of departure. For example, the results we present later in the paper do not differ between countries with large versus small banking sectors (proxied by total bank credit / GDP with a cutoff of 150 %), a possible measure of lobbying power. Granted, the introduction of competition policy itself could be driven by developments in the domestic or neighboring economies, and the timing of the introduction of competition policy may be determined by country size (Forslid, Hackner and Muren (2005)). However, we study the differential effect on the banking sector within a short time frame.

legislative changes affecting the setup for competition reviews of M&As in the European Union (EU) and 18 individual countries: the United States and Canada, 14 EU countries, including Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, and the United Kingdom, and two non-EU countries, Switzerland and Norway. We focus on the time period January 1, 1987 to July 1, 2004 during which most of the changes occurred.

We relied on multiple sources. In a first step, we obtained and analyzed the exact text of all relevant legislation and regulation to identify the changes that took place over time. In a second step, we scrutinized the many publicly available reports on merger control to check our interpretation of the events (Appendix 1 contains a comprehensive list). Finally, we directly contacted experts of the various institutions dealing with merger control across all countries (Appendix 2 contains the list of agencies we contacted). We engaged these contacts, often in multiple and prolonged written and verbal communications, to confirm our understanding and "coding" of the data, to seek clarifications and corrections and to identify the most important aspects of merger control in practice.

A key contribution of the paper is to aggregate the information we collected and to construct various indexes capturing the crucial dimensions of the competition control of mergers and acquisitions (and of the supervisory control in the banking sector, as we will describe in more detail below). Four dimensions (which we formulate as the answers to four questions) shape the merger policy regime of any country:

- What assessment criteria are used in competition control?
- Who is (are) the decision-making agency(ies) for competition control?
- Can a third agency intervene in the process to replace / overturn the decision-making agency(ies)?

- Is merger notification mandatory above (statutory) thresholds?

We construct the four variables labeled *Competition Criteria*, *Competition Enforcer*, *Competition Overturning*, and *Mandatory Notification* respectively with answers to the questions ranging between 0 and 1, with higher values corresponding to a more competition-oriented design and implementation of competition control. Our ranking of the answers reflects the simple idea that the merger review is more-competition oriented (at least from an *ex ante* perspective) when it has the single, narrower objective of preventing restrictions of competition, it is enforced by a single, independent agency, no other agency can intervene in the process and notification is mandatory. We report the coded answers to the questions at the beginning and at the end of our sample period in Table 1.

[INSERT TABLE 1 ABOUT HERE]

The table shows the heterogeneity of the competition policy across the different countries and the substantial changes that occurred over time.[8] For example, the period between 1987:01 and 2004:07 saw the EU introduce competition control that (1) employs only competition criteria, (2) is enforced by a single antitrust authority (the DG Competition of the European Commission), (3) whose decisions can only be overturned *ex post* on a case-specific basis, and (4) is operating under mandatory notification.

[8] The precise institutional arrangements in some countries differ slightly for the banking sector, again attesting to the specialness of the sector. However, the changes during our sample period were almost always introduced simultaneously across all sectors, with the exception of changes that were introduced in France, Netherlands and Portugal. None of these cases, however, turn out to be relevant for our analysis. In France the banking sector was perceived to be subject to the competition control of mergers and acquisitions according to the Competition Law of July 1977 until the Supreme Court stated on May 16, 2003 that the banking sector was not subject to any competition control (we return to this case later in the paper). In the Netherlands, the Competition Act of 22 May 1997 did not apply to the banking sector (art. 32) but only temporarily for two years (art. 107.3). In Portugal merger control was introduced in all sectors except banking with the decree-law n. 428/88 of 19 November 1988. Bank mergers and acquisitions became subject to control only with the law 18/2003 approved in date April 10, 2003, which substantially reformed the merger control also for all the other sectors after a new, independent authority was created. However, for lack of readily accessible stock market data we drop the 1988 event and include only the 2003 sector-wide event.

The changes in any of the four key variables across the sample period define our set of events. Note however that for simplicity the table reports the answers to the questions only at the beginning and end of our time sample, thus under-representing the number of changes that occurred.

C. Dating

The precise dating of the changes in competition laws regulating the control of mergers and acquisitions across the sample countries, combined with information on stock prices, are the main ingredients of our empirical investigation. Figure 1 displays the main steps in most legislative procedures and the corresponding dates we use in our study.[9]

We divide the legislative process in three phases: approval, publication and implementation. *Approval* refers to the date of approval by either the Parliament or the Head of State. When available, we collect from our sources and contacts the earliest date in the official approval process. For example, in a bi-cameral parliamentary system we use the first date when one of the chambers approves the law. *Publication* refers to the date when the legislation is published in the country's official journal; and *Implementation* is the official date when the legislation enters into force. The process leading up to implementation varies substantially across countries and type of legislation. In general, a law comes into force either after a certain (fixed) time period starting from the day when it is published or following a decree implementing it. In the latter case, the process may contain more uncertainty, as some aspects of the policy regime may be specified in the implementing decree only.

[9] The legislative steps in Figure 1 reflect the general procedure. In practice the procedure may vary slightly across countries. For example, in some countries (such as Finland) the approval of the Head of State is not required. These differences do not affect our analysis.

[INSERT FIGURE 1 ABOUT HERE]

To capture the earliest time investors can reasonable be expected to infer that legislation will change and how, we study the stock price reaction around the earliest official date we have information about.[10] We consolidate the dates in this way for obvious reasons. The process of legislative codification varies substantially across countries. In some countries the *official date* of a law is the approval date (typically the approval by the Head of State), in other countries it is actually the publication or even the implementation date. Not taking these differences across countries into consideration, one risks analyzing investors' reactions to widely divergent information sets. By focusing on the earliest official date with information context (i.e., often the approval in one of the chambers of the legislature), we aim to harmonize the information investors have about the outcome of the legislative process across countries. Thus, we complement the 16 approval dates with 4 publication dates to obtain 20 *Event* dates.

[INSERT TABLE 2 ABOUT HERE]

Table 2 lists the 20 event dates and the changes in competition policy that occurred. The table shows that, in many instances, the new law simultaneously strengthened several dimensions of merger control at once (an additional reason not to link the event selection criteria to the outcomes). The table also includes characteristics of the supervisory policy regime in place at the time of the changes in competition policy. We will discuss the dimensions of supervisory merger control more in detail later in the paper.

Once the event dates are selected, we analyze the impact of the changes not only on the event dates themselves, but also during a reasonable period preceding them. We are aware

[10] The precise dating in regulatory event studies of the change in the investors' expectations is of paramount importance. As recommended by Binder (1985) we will also link the excess return to country and bank characteristics further in the paper.

that most major legislation is typically prepared in parliamentary committees before it is brought to a chamber floor, hence the preceding period captures the investors' potential reaction to the entire political debate and process preceding and surrounding any important committee work (party manifestos, government agreements, public lobby group endorsements, etc.). Furthermore, as the process of codification unfolds differently in each country, we believe it is also crucial to analyze not only the impact during the period following the event dates but also the periods surrounding the other dates we identified in the legislative process. In particular, we also analyze the stock price reactions around the 20 implementation dates to capture investors' possible reactions to "last-minute details" that are specified in the implementation process of legislative changes (such as the precise mandates, chairmanship and membership of committees and institutions, operational regulations, etc.).

D. Event Study Methodology

How do changes in laws governing competition policy affect the market valuations of both firms and banks? To try to answer this question we start by employing daily sector and total market price indices for the 18 countries and the EU-15 region and the Morgan Stanley All Country World Index from Datastream.[11] The data runs from January 1, 1987 to July 1, 2004, the period for which we analyzed the institutional changes. The indices capture all listed firms in the respective category and are value-weighted.

We estimate daily abnormal returns using standard market model regressions. We regress the daily returns for index j, r_{jt}, on a measure of the market return, r_{mt}, and two event

[11] The bank indices have the Datastream code BANKSCC, where CC stands for the respective two-digit country code. The non-financial sector indices have the code TOTLICC. The total market indices are labeled TOTMKCC.

dummies, δ_t^{before} and δ_t^{after}, that take the value of one when day t is inside the event windows $[-\tau, 0]$ and $[1, \tau]$ respectively, and zero otherwise:

$$r_{jt} = \alpha_j + \beta_j r_{mt} + \gamma_j^{before} \delta_t^{before} + \gamma_j^{after} \delta_t^{after} + \varepsilon_{jt}, \qquad (1)$$

$t = -250-\tau, -249-\tau, ..., 249+\tau, 250+\tau.$

Our two event windows contain between 5 and 241 trading days, i.e., we vary τ between 2 and 120. The coefficients γ_j^{before} and γ_j^{after} measure daily abnormal returns during the event periods before and after the event. The market model is estimated over a period starting $(-250-\tau)$ days before the event and ending $(250+\tau)$ days after the event.[12]

For the results reported in the paper, we *a priori* choose to use the value-weighted index of all stocks in the country as a proxy for the market return, by itself or in combination with the EU-15 Market Index, and the Morgan Stanley All Country World Index.

For each event the cumulative abnormal returns (CARs) are the estimated coefficients $\hat{\gamma}_j^{before}$ and $\hat{\gamma}_j^{after}$. For each event we estimate daily abnormal returns for both the domestic index of non-financial institutions ("firms") and the domestic bank index ("banks"). We calculate the average and standard deviations of the CARs across the set of events and perform a standard t-test to assess statistical significance. We also report the number of positives and negatives and perform a standard sign test.

The independence of the events could be a potential concern. However, employing a Kolmogorov-Smirnov Goodness-of-Fit test we cannot reject the null hypothesis that the exact event dates (reported later) are uniformly distributed across the entire sample period. We also regress the CARs on various specifications including a time trend, and again we

[12] We *a priori* choose for a long estimation window around the event, as we are concerned about the impact of the changes in regulation on market risk (Grout and Zalewska (2006)). We check the robustness of the results to alternative estimation windows, the $(-250-\tau, \tau)$ window for example, and time-varying market betas.

cannot reject the null hypothesis that the coefficients on the trend variables are equal to zero.

We further assess the difference between the CARs of both indices by simply performing a t-test assuming unequal variances and a sign test based on the number of differences that are positives or negatives. Finally, we perform the more general Fisher's exact probability test of independence to detect differences between firms and banks in the signs of their reaction.[13]

E. Wealth Impact of Changes in Competition Policy

The results of the event study for the stock indexes of firms and banks averaged across events are reported in Table 3. For brevity, we report only various windows within the interval [-120,120] around the legislative changes as identified by the earlier defined event and implementation dates.

[INSERT TABLE 3 ABOUT HERE]

We immediately note two striking features of Table 3. First, most of the significant results lie in the windows before and including the event date. This should not come as a surprise given our dating strategy. As described before, we select the earliest available date of the legislative process as the event date, so that the most significant reaction is expected to occur immediately before and on this date. Alternatively, the fact that investors appear to react most strongly in these windows confirms the accurateness of our dating strategy. Second, there are sporadically some significant reactions in the windows preceding and including the implementation date, although much less than for the event dates. This can

[13] See NIST/SEMATECH (2006), for example, for details on the Kolmogorov-Smirnov Goodness-of-Fit test and Preacher and Briggs (2001), for example, for details on the Fisher's exact probability test of independence.

also be easily understood since, as already mentioned, implementation in some cases removes lingering doubts about the introduction and actual *modus operandi* of the new piece of legislation. Thus, the overall results show that investors anticipate and immediately react to the outcomes of the legislative changes so that no further effects are present after the event and the implementation dates.

The changes in competition policy have important economic effects for both the real and the banking sector. Changes in competition policy lead on average to a decrease in non-financial firms' stock prices and to an increase in banks' stock prices. The difference between these banks and firms reactions is positive and highly significant (we report significance levels for both standard t-tests and sign tests). The difference is also economically relevant, reaching the value of 1.1%*, 3.3%**, 7.6%*** and 11.1%*, respectively for the 2, 20, 60 and 120 day windows before and including the event date.[14] Both the sign test on the differences and the more general Fisher's test of independence indicate that firm and bank stocks differ in the direction of their reaction.

The impact around the implementation of changes in competition policy is weaker. Excess returns on firm stocks before implementation are negative but only marginally statistically significant. And neither bank stock returns nor the differences between banks and firms, though consistently positive and economically relevant before implementation, are statistically significant.

[INSERT TABLE 4 ABOUT HERE]

We report the results by event for each country in Table 4 for the 2, 20 and 60-day windows before and including the event date. As the sign tests already indicated, almost all events lead to a decrease in firms' stock prices and to an increase in banks' stock prices.

Concerning banks, we notice a negative effect of the changes in competition policy only for the European Union, the Netherlands and Sweden.[15]

F. Robustness

Before trying to explain this remarkable differential impact of the introduction and strengthening in competition policy on firm and bank stocks, we subject our findings to a variety of robustness checks. We report key results in the lower three panels in Table 3. We first report results using (1) the value-weighted index of all stocks in the country in combination with the EU-15 Market Index, and (2) the Morgan Stanley All Country World Index as proxies for the market return. Results are almost unaffected. We also check our key results using reasonable combinations of the domestic, EU-15, and world indices with the MS All Country Non Financial Index and the MS All Country Bank Index. Results are again almost unaffected and we choose not to report these results. We further alter our estimation window. In particular we estimate the beta coefficients using only pre-event stock returns. Again, results are unaffected and we choose not to report these findings.

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[14] As in the tables, *** means significant at the 1% level, ** at the 5% level, and * at the 10% level.

[15] Possible explanations can be found in the institutional details in each of these countries. The negative effect for the European Union can be explained by the possibility that exists for states to use prudential rules as legitimate interests. Hence states can interfere with the decisions of the Commission and pursue objectives other than competition and efficiency (art. 21(3) of the Council Regulation N. 4064/89 and subsequent modifications). Portugal attempted to use this possibility to prevent a foreign takeover in the much-debated Champalinaud - Santander case in 1999. The negative reaction of banks' stock prices in the Netherlands may be due to the (possibly unexpected) delay of two years in the introduction of the competition policy in the banking sector relative to the other sectors (art. 32 and 108.3 of the Competition Act approved in date March 20, 1997). The delay prolonged the influence of the Minister of Finance on the concentration of economic power in the banking sector according to the Act on the Supervision of the Credit System of 1992 until January 2000. The negative response of banks' stock prices in Sweden may be more closely related to the interaction between competition and supervisory policy. As we will explain more in detail below, supervisory decisions are transparent in Sweden and informal notification is not coded in the regulation. This leaves little scope in theory for the potential positive externality of competition control on supervisory control. The negative result may indicate the investors' anticipation of the strict application of competition policy in light of the oligopolistic structure of the Sweden banking sector. It is curious to note an insignificant effect of the events also in other countries, like Finland and Norway, similarly characterized by a transparent supervisory policy regime.

Finally, we also turn to individual bank stocks (we return to using individual bank stocks in Section V), though *a priori* we choose to assess sector indices for reasons of coverage, selection, and relevant value weighing. We again estimate a market model employing the value-weighted index of all stocks in the country as a proxy for the market return. Averaging across the banks within each country and then across events we obtain average CARs for the [-60,0], [-20,0] and [-2,0] windows of respectively 4.28%**, 1.17%, and –0.03% for the changes in competition policy events. Averaging across the 323 individual bank stocks the average CARs equal respectively 1.95%**, 0.59%, and 0.14%* for the same set of windows.

To summarize, firms stocks decrease and bank stocks increase in anticipation and upon the approval of changes strengthening competition policy. We now briefly discuss in light of this relationship two widely publicized bank merger episodes that led to clarifications of existing legislation or legislative changes and then study the characteristics of the mergers that actually took place before and after the implementation of the changes, before arriving in Section IV at an explanation for these curious findings.

G. Two Case Studies and an Analysis of the Characteristics of Mergers

1. *France Anno 2003*

When *Crédit Agricole* made a takeover bid for the ailing former state bank *Crédit Lyonnais* in December 2002, the French banking landscape – as it became clear later – was characterized by some ambiguity as to how strong competition policy was in this sector and which authority was in charge of it. In this situation the Comité des Etablissements de Credit et des Enterprises d'Investissement (CECEI) – the supervisory authority in charge of licensing banks – took the initiative to also conduct a competition review of the transaction. The CECEI authorized it in March 2003, but at the same time came to the conclusion that

the new group would acquire dominant positions in a number of local retail markets and made the divestiture of 85 out of 9,275 branches and the "freeze" in the number of branches in certain regions a condition.

Concerned about the related loss of employment, a union (the Fédération des employés et cadres) and two employees challenged the decision in front of the Conseil de l'Etat, the French supreme court for administrative justice, on the grounds that the CECEI had not the competence for competition reviews of bank mergers and therefore could not impose the above conditions. On May 16th, 2003, the Conseil de l'Etat confirmed the view of the plaintiffs and declared the conditions imposed for competition reasons invalid but not the decision to approve the transaction (from a supervisory perspective).

This ruling implied an *unexpected weakening* of competition policy in France. Given the extraordinary and judicial character of this case we choose not to include it in our original set. We check, however, whether the stock market reactions observed on the event date are consistent with our findings about legislative changes. Given the weakening of competition policy, one would expect negative abnormal returns for bank stocks and, perhaps, positive abnormal returns for firm stocks. The results of such an extra event study are reported at the bottom of Table 3. It turns out that the 3-day bank and firm CARs in the interval [-2,0] equal –0.77*** and 0.11**, respectively. Bank CARs following the event are negative, economically relevant, though never more than marginally significant. Hence, the Crédit Agricole/Crédit Lyonnais episode is fully in line with our results on legislative changes.

2. *Italy Anno 2005*

Our second case attracted even greater international attention. In the beginning of 2005, the Dutch bank ABN AMRO and the Spanish bank *Banco Santander Central Hispano* were bidding for the Italian banks *Banca Antioniana Populare Veneta* (*Antonveneta* or BAPV)

and *Banca Nazionale del Lavoro* (BNL), respectively. It was widely perceived that the Italian supervisory authority did not take a fully impartial attitude between the foreign and domestic bidders, supposedly for prudential reasons. This gave some advantages to the domestic bidders *Banca Populare Italiana* (BPI, formerly *Banca Populare di Lodi*) and *Unipol*, respectively.

[FIGURE 3 ABOUT HERE]

Figure 3 focuses on the events related to the *Antonveneta* case and plots the cumulative abnormal returns on the Italian bank stock index during 2005. On February 8th, 2005, the EU Commissioner for the Internal Market, Mr Charlie McCreevy, publicly warned the Governor of the *Banca d'Italia*, Mr Antonio Fazio, not to block foreign bank takeovers (see the most left-hand side vertical arrow). Following this warning, the Italian bank stock index started a remarkable trend upwards, possibly in expectation of the eventual passage of a law (that had been idling in Parliament for a long time already) that would transfer the responsibility for competition reviews of bank mergers away from the bank supervisor.

While the increase in cumulative abnormal bank stock returns came to a halt in mid 2005, the intervention of Prime Minister Silvio Berlusconi, criticizing the *Banca d'Italia* Governors' handling of the case and asking for his resignation in September 2005, led the index to resume its steady climb. The resignation of the Governor and head of the supervisory authority, on December 19th, and the remarkably swift passage of the law in the Italian Parliament that transferred the responsibility for competition reviews of bank mergers from the supervisor to the Italian antitrust authority, two days later, marked the poignant closures of the run-up.

The visual impression of the Italian bank stock prices reacting to the identified events is broadly corroborated by the event study reported in the table at the bottom of Figure 3

(Appendix 3 provides more details on the key events).[16] The Commissioner's clarion call in early February gave a signal to investors that bank merger policy in Italy would ultimately change. After temporary setbacks, change arrived with the introduction of a law, strengthening competition considerations in bank merger reviews, and a new top management for the supervisor in December 2005. Overall, it seems that the pressures on the supervisory authority led investors to think that the implied or emerging constraints on prudential policy would increase the value of listed Italian banks. So, also our second case is fully in line with the results on legislative changes strengthening competition policy.

3. Mergers Before and After the Changes in Competition Control

Finally, we study a comprehensive merger date set to analyze whether the implementation of changes in competition policy affected the characteristics of the M&A transactions.[17] While the characteristics of M&As among firms are not altered much as a result of the changes in competition policy, the characteristics of banks engaging in M&As differ quite dramatically. In particular bank targets more than double in common equity or total assets and more than triple in net income.[18] Not surprisingly, the value of the transaction in bank M&As also doubles, but the percentage of the shares that is acquired and the percentage shares owned after the deal seem mostly unaffected.

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[16] We regress daily bank stock index returns on a constant, daily national market index returns, and event period dummies. The estimation period starts on March 16th, 2002, and ends on March 15th, 2006.

[17] We start from *SDC Platinum* data and complement it with additional bank merger and acquisitions records obtained from competition and supervisory authorities in the sample countries. This allows us to increase the number of records for bank mergers by more than 10% in the event countries. The augmented data set contains in total 15,148 bank M&A records and 101,441 firm M&A records for the 18 sample countries and the EU during the period January 1st, 1990 to June 1st, 2004. We study the changes in more than hundred firm, bank, and deal characteristics in the 250, 750 and 1,500 days before and after the implementation (event) dates. We test the difference in characteristics between before and after for banks and firms and between the two groups. To control for country specific time trends we assess the significance of these differences by comparing the actual differences with a distribution of differences drawn randomly with replacement within the sample period (100 draws). Results are available from the authors upon request.

Overall it seems that the introduction and the strengthening of competition policy "encourages" bank M&As with larger and more profitable target banks, while leaving the firm M&As mostly unaffected. How to square this increase in bank target size in the years around the implementation of the changes in competition policy with the positive excess returns on bank stocks in the days preceding and upon their approval? Target excess returns are typically lower for larger deal sizes (see Andrade, Mitchell and Stafford (2001)), suggesting that investors do not only react to the expected increase in target size but also to the increased likelihood that banks of a certain range profitability become potential targets.[19]

IV. Explaining the Special Effect on Banks

We now turn to explaining the differential effects between firms and banks in terms of both the results of the event study, and the changes in the type of M&As before and after the regulatory amendments. Why do banks react differently? What are the factors pushing up their stock prices? As is the case for the other sectors, the introduction of competition policy in the banking sector should prevent excessive market power, thus reducing future monopoly profits and stock prices.[20] Why does the same not happen in the banking sector? Why do bank targets grow in size and profitability? What is "special" here?

To tackle these questions, we regress individual bank CARs on a number of key variables capturing institutional aspects of supervisory and competition policy regimes, general

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[18] The increase in profitability cannot be fully disentangled from the pure size effect most likely due to a data coverage problem.

[19] Anticipated components of returns around policy changes may be substantial (for example Becher (2006)). Bank target excess returns around the actual merger announcements in our augmented SDC dataset increase by more than 10% after implementation but the number of observations is too small to draw any strong conclusions.

institutional quality and individual bank characteristics. Before reporting the results, we discuss below our economic hypotheses and the variables used to test them. Table 5 provides an overview of all the variables used.

A. The Supervisory Control of Mergers and Acquisitions in the Banking Sector

A crucial difference between the banking sector and most other sectors is that banks are, for the reasons listed in the introduction, subject to special regulations and supervision. This includes special supervisory reviews of bank mergers to ensure the soundness and stability of the new entities. So, we start to look for explanations for the banks' unusual response to legislative changes strengthening competition policy with the institutional features related to this fact. Moreover, in most countries competition control of mergers was introduced in an environment where financial regulation and supervision already existed. So, competition reviews had to be "conform" with supervisory reviews. This could possibly introduce important "dialectics" between the agencies enforcing the two (see also Carlton and Picker (2006)). The balancing of objectives is reflected in the "resolution of conflicts", the procedure each country follows when the two reviews lead to different outcomes. In general, the resolution procedure may require that bank mergers can be implemented only if they pass both reviews, or the procedure may stipulate that in case of conflict a third agency (typically a ministry) takes the final decision weighing the arguments put forth in both reviews. Carletti and Hartmann (2003) discuss these procedures in detail for major industrial countries. Last, competition policy in the banking sector may equal to other sectors or differ from them.

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[20] In addition, the restrictive effect of competition policy on bank concentration should spur growth in other sectors (Cetorelli and Gambera (2001) for example).

Similar to the discussion on institutional features of competition policy in Section III, we can structure the institutional features of supervisory merger reviews according to the objectives and criteria applied, the authorities in charge and the review processes. The first aspect is captured by a variable *Supervisory Criteria*, which indicates whether supervisory bank merger reviews focus entirely on prudential and stability considerations or whether there are also other criteria. The hypothesis would be that more focus on stability (a higher value of the variable) leads to more positive bank CARs. The second aspect is covered by a variable *Supervisory Enforcer*. This variable takes on the value of one when a specialist supervisory authority conducts the supervisory merger reviews. Lower values of it indicate that an authority that is less focused on stability and prudential concerns or less independent in this regard conducts the reviews. Again, the hypothesis is that in the presence of a more specialist authority positive bank CARs would be larger. We provide summary statistics of all variables in Table 5.

[INSERT TABLE 5 ABOUT HERE]

As regards the supervisory review process we surmise that the transparency and the procedural independence of it may be relevant for the investors' assessment. We construct two variables that capture the information we collected on the private nature of its formal decisions and on the requirement of informal notification of the supervisory agency (before formal notification).

The first variable, *Supervisory Formal Decisions Not Public*, can be seen as the degree of transparency of the supervisory decisions, and therefore as a proxy of the discretion which can be used in the supervisory process. If the decisions following a formal supervisory control are public, the discretion of the supervisory process should be reduced. This may also facilitate balancing competition and stability considerations in merger decisions in that

a third agency (e.g., a Ministry) or generally the public can appropriately weight the arguments put forward in both reviews.

Overall then the fact that decisions are public increases the transparency of the regulatory process and therefore the predictability of the outcomes, leading to the hypothesis that bank CARs increase. In this respect, we note that whereas the competition review process is typically very transparent and ends with public formal decisions in all countries of our sample, the decisions on supervisory controls are public only in a few countries (Finland, Norway, Sweden, the US, and to some extent in Canada and the UK).

The second variable, *Supervisory Informal Notification*, captures the possibility that the supervisory control precedes, at least at an informal level, the competition control. To the extent that mergers can be blocked or at least discouraged during this phase, this variable indicates the potential for the supervisory control to have exclusive power over bank merger decisions.

To conclude, all the considerations above suggest that the stock prices of banks should increase at the announcement of changes in the competition policy when the supervisory controls are important in the merger decisions. The more independent and focused on stability supervisory reviews are, the less transparent and the stronger vis-à-vis competition reviews, the less competition and efficiency may play a role. Whilst this could make the banking sector more stable, it could also have unintended side effects on the efficiency of the consolidation process, thereby reducing from an ex ante perspective the valuation of banks in the stock market. The strengthening of competition policy in banking, whose primary focus is on competition and efficiency, could then counteract these adverse effects. Provided that the associated efficiency gains are stronger than the profits lost through greater competition, bank valuations in the stock market would increase. In other words, the

strengthening of competition control may extend a positive externality on the financial sector and this externality may be the stronger the greater is the conflict between competition policy and supervisory policy.

B. Other Issues

We include in our cross-sectional analysis several explanatory variables capturing other potential explanations for the positive reactions of banks CARs to the regulatory amendments. Banks can benefit more from a more competition-oriented control of M&As if they can claim more than non-financial firms that the merger leads to important efficiency gains (through economies of scale, for example) that exceed the welfare losses due to the increase in market power. *Efficiency Defense* equals one if efficiency gains are being explicitly considered in the merger review as a factor mitigating anticompetitive effects, and equals zero otherwise.[21] We include the change in this variable (Δ) as a result of the strengthening in competition policy. Also, we interact *ΔEfficiency Defense* with *log(Bank Assets)*, a measure of bank size, to analyze whether larger banks benefit more from a more efficiency-oriented review.

Some observers claim that the introduction or the strengthening of competition policy could sometimes act as a collusion-enhancing device, in particular in an oligopolistic sector. If competition control prevents external growth for the few large banks operating in the market, the changes in competition policy may act as a signal of "stability" in the competitive structure of the sector, sustain more easily collusive behavior, and hence consistently with investors' expectations result in higher future profits. To capture this effect, we interact *ΔNational Markets* and *C3*. *National Markets* refers to the geographical

definition of the markets used in the competition reviews in the various countries (Δ again stands for the change in this definition as a result of the strengthening in competition policy), while the second variable is a simple measure of the level of concentration in the banking sector. Taken together, these two variables are indicative of the stringency of merger control and thus of the potential for collusive agreements.

An important issue is also whether the positive bank CARs are driven by institutional features specific to the policies we are primarily interested in or rather by the quality of governmental institutions in general. In order to avoid that our institutional variables just pick up this general institutional quality, we introduce a proxy for the latter. This is the variable *Corruption* that accounts for the degree to which bribes, nepotism and ties between politics and business are prevalent in a given country.

Finally, we include regional random effects to control for economic and financial development in general.[22]

C. Results

Table 6 reports the various specifications. *Supervisory Formal Decisions Not Public* plays a key role in explaining the excess returns on individual bank stocks. The coefficient on this variable in Model V, for example, suggests that the introduction of competition control in a country where supervisory formal decisions are not public results in an excess return on individual bank stocks that is one and a half percent larger than the excess return in a country where the formal decisions are public (= (1 – 1/2) * 3.80). This effect of the

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[21] Merger policy can also be implicitly and informally consistent with the efficiency defense, a scenario not captured by our variable but only documented so far for the US (DeYoung (1991)).

[22] Regions include Scandinavia, the British Isles, Western Europe, Iberia and Southern Europe. Hausman-tests consistently indicate random effects are to be preferred. Results for fixed effects model are very similar and we report their adjusted R-squared statistics.

intransparency of supervisory decisions is not related to general institutional quality, since we control for *Corruption*.

[INSERT TABLE 6 ABOUT HERE]

In addition to *Supervisory Formal Decisions Not Public*, only the coefficient on the variable *National Markets * C3* has a fairly consistent negative sign and magnitude. Thus, the collusion hypothesis is strongly rejected. In contrast, having the national market as the geographical definition of the market used in the competition review and an already concentrated banking market could reduce bank stock returns, as future competition policy may be expected to block any additional bank mergers. None of the coefficients on the other variables turns out to be statistically significant and economically relevant.

The strong result on whether supervisory decisions are public is consistent with the main hypothesis put forward above. The introduction or strengthening of the typically highly transparent competition reviews of mergers may exert a positive externality in the financial system, and this externality is the stronger the more intransparent the supervisory reviews are. The transparency of the competition reviews constrains the discretion with which the intransparency of supervisory reviews can be used to pursue actions that hinder the efficient restructuring of the banking sector.

D. Robustness

In Model VI we introduce *Bureaucracy Quality* as an additional country control. The coefficient on this variable turns out not to be significant and results are further unaffected. Banks could further simply benefit indirectly from the introduction of or the strengthening of merger control in the other non-financial sectors. For example, if merger control imposes "binding" limits to firms' external growth, firms are obliged to expand through greenfield investments rather than through M&As. To the extent that this leads to greater leverage for

firms and thus more borrowing, banks could benefit in terms of higher profits from interest income. But all banks given their focus or quality may be equally placed to benefit from these new opportunities. Alternatively, firms may need advice and expertise to comply with the newly introduced or changed merger control. To the extent that banks provide this service, they could benefit in terms of higher fees. We test these two possibilities by including the variables *% Interest Income/Assets* and *% ROA* interacting them with *log(Bank Assets)* as a measure of bank size in Models VII and VIII (employing a reduced sample). The coefficient on *Supervisory Formal Decisions Not Public* increases somewhat in size but otherwise results are unaffected.

This basic finding also holds when *Supervisory Formal Decisions Not Public* is interacted with the log of bank assets and after including all the control variables introduced before (we do not tabulate these results). Stocks of medium-sized banks almost always gain the most ground upon the changes in competition policy, presumably because investors expect these banks to be the most likely targets that are still acceptable to the newly introduced or strengthened anti-trust enforcer in banking.[23]

[INSERT TABLE 7 ABOUT HERE]

In Table 7 we subject our results to a number of other straightforward robustness checks. In Models I and II, for example, we replace our *Supervisory Enforcer* measure by proxies for the *Supervisory Independence from Banks* and *from Politicians* respectively, using measures gleaned from Barth et al. (2006). The coefficients on these measures are not significant while results are further unaffected. The results for a wider 21-day event

[23] Excess stock returns in a three-day window around the merger announcement of acquirers are typically close to zero while returns on target stocks can be around 10% to 20% (Andrade et al. (2001) for a review). The largest banks are likely to be either acquirers or targets unacceptable to the antitrust enforcer when approached by another large bank.

window reported in Models III to VI, though less statistically significant in general and in particular when all competition variables are introduced in one specification (not reported), broadly confirm the three-day window findings. Finally, we investigate if the results are robust to our *ad hoc* assignment of values to the competition variables in the model. While we surmise our ordinal rankings adequately capture our priors about the contours of competition control, we cannot know if our assignment of cardinal values equidistantly is actually appropriate. Hence, we square and (in another set of specifications) take the square root of all competition variables. Results are mostly unaffected and are not reported.

V. Conclusion

In the last two decades competition policy has been substantially strengthened. We use this exogenous policy change to identify differential reactions of banks and non-financial firms to them, which are informative about the widely discussed issue whether banks are "special" compared to other firms in the economy.

We first document the legislative changes governing competition reviews of mergers and acquisitions in a sample of nineteen industrial countries over the period 1987-2004. We construct an event study around the announcements of such changes. We find that banks' stock prices react positively to the announcement of a change strengthening competition policy, while those of non-financial firms react negatively. The special bank stock reactions are further underlined by two case studies about the bank merger episodes in France and Italy in 2003 and 2005, respectively, and by a balance-sheet analysis of merger targets and acquirers before and after the legislative changes.

We explain the differential response of these sectors with a positive externality that the strengthening of competition policy can exert on the banking sector. Indeed taken together

the results emerging from a cross-sectional analysis suggest that the differential responses of banks and firms to the announcements of legislative changes in competition policy can be explained, at least in part, by the specific institutional environment of the banking sector. In particular, we document features of the supervisory framework that already existed before the introduction of the competition review, which may lead investors to value banks lower than otherwise the case.

The focus on stability, ill-defined "sound and prudent" management provisions, an affinity for avoiding or deferring bank failures (Kroszner and Strahan (1996) and Brown and Dinc (2005)), and a penchant for confidentiality may not allow efficient restructuring and consolidation to take place in the banking sector. In such an environment, the typical negative reaction to the introduction of strong competition control for mergers (because it implies lower future rents and profits) may be offset by the positive effects of a better balancing of the above aspects with competition and efficiency considerations. The overall positive reaction of banks' CARs suggests that these considerations seem to play an important role in investors' evaluations.

The great significance of a variable capturing the publication of the decisions by the competent authorities in the cross-section indicates that the transparency of the merger review process is a particular important feature in the positive externality that competition policy can exert in banking. The introduction of an independent and transparent control reduces the discretion of the regulatory process and enhances the efficiency of envisioned bank M&As. In particular, more profitable target banks can be engaged presumably leading to more efficient combinations. Investors seemingly anticipate this outcome when competition control is introduced.

Our results should not be interpreted as meaning that supervisory control is problematic *per se* or that it is generally badly implemented.[24] Rather, our results suggest that the objective of "sound and prudent management" pursued with the supervisory control may – by focusing on stability – not necessarily help for efficiency and value-enhancing decisions. One cannot achieve two objectives with one instrument.

An important area for future research is to assess the stability implications of the more competition oriented reviews in the banking sector. As the present study only focused on efficiency effects, this extension of our line of research could allow for an overall welfare evaluation of the policy changes observed. It would also add to the active debate about whether there is a trade-off or complementarity between competition and stability in banking.

Another interesting question is whether the strengthening in competition control similarly affects firms in other sectors that are also subject to special regulators (such as energy, health-care, and telecom for example). It should be noted, however, that if this was the case the special effects on banks we find would stand out even more, as the negative impact on non-financial firms should be higher if other special sectors were excluded from them. So, we do not address this in the present paper and leave the issue for future research.

[24] Neither can one infer from our results that competition policy is always and everywhere "wholesome" and never swayed by institutional or political agendas (Duso, Neven and Röller (2006), Aktas, de Bodt and Roll (2006)).

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FIGURE 1. TIME LINE OF THE LEGISLATIVE PROCEDURE AND EVENTS

The figure reports the various steps in the procedure creating the competition control laws and the corresponding events used in this study. The boxes list the type of event and between parentheses the number of events.

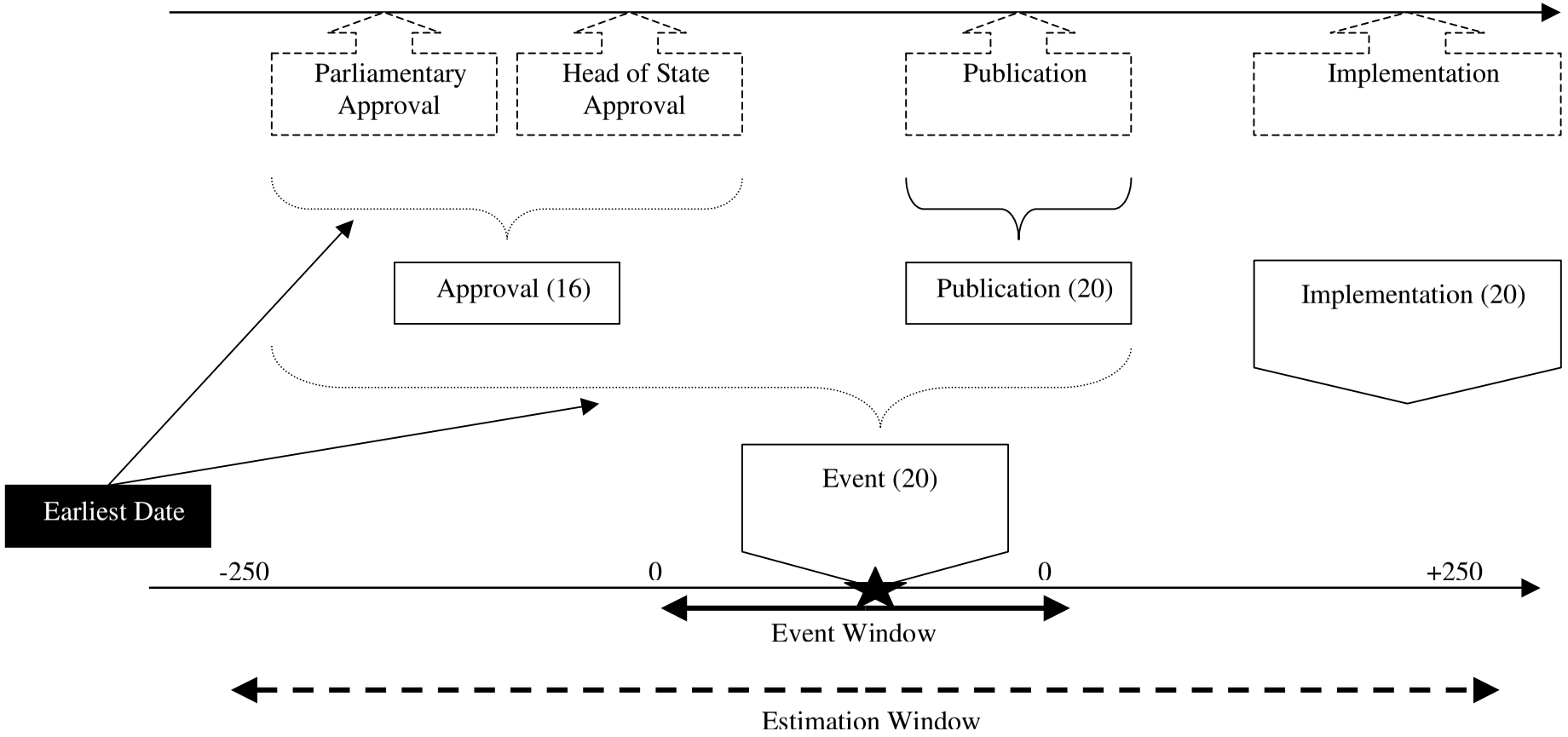
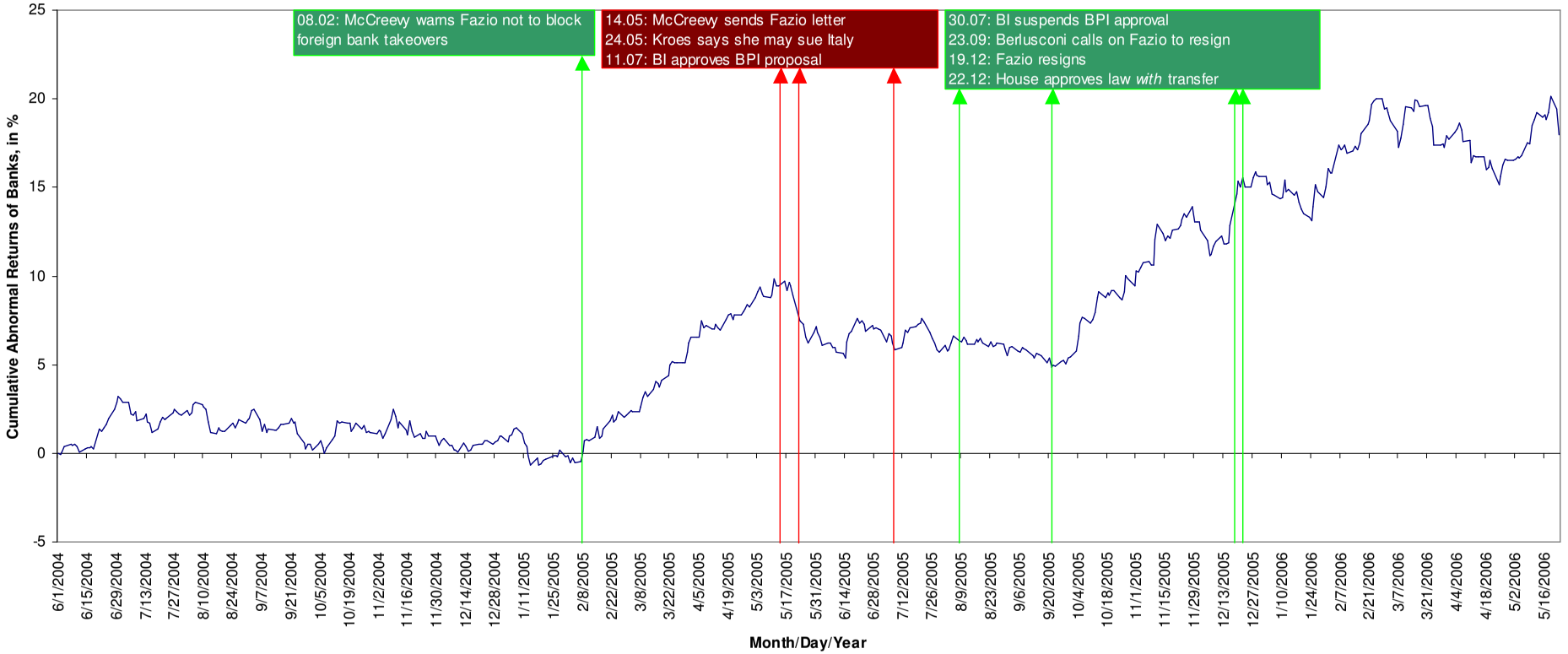


FIGURE 2. RECENT EVENTS IN ITALY AND CUMULATIVE ABNORMAL RETURNS ON ITALIAN BANK STOCKS

The figure reports the cumulative abnormal returns of Italian bank stocks while the panel below reports the percentage cumulative abnormal returns (CARs) for all exchange-listed banks in Italy (All Banks), *Banca Populare Italiana* (BPI), and *Banca Antioniana Populare Veneta* (BAPV). Excess returns are estimated using the value-weighted Italian country index in the market model around the announcement of the indicated events. The first cell lists the CAR, the second the significance levels. The reported significance levels are based on standard t-tests. *** Significant at the 1% level, ** significant at the 5% level, and * significant at the 10% level.



	Event	Date	CAR(0, 2)			CAR(0, 20)			CAR(0, 60)		
			All Banks	BPI	BAPV	All Banks	BPI	BAPV	All Banks	BPI	BAPV
1	McCreevy warns Fazio not to block foreign takeovers	8-Feb-05	1.21	0.54	0.79	3.23	-1.53	10.47 *	10.62 **	-5.38	25.54 ***
2	Banca d' Italia aproves proposal of BPI to acquire control of BAPV	July 11, 2005	0.92	4.23	-0.77	-0.04	2.58	-8.18	-5.40	47.93 **	-27.57 *
3	Banca d' Italia suspends proposal given to BPI	July 30, 2005	0.03	-3.11	-0.45	0.59	-7.51	3.87	5.87	-58.15 ***	28.29 *
4	Berlusconi calls on Fazio to resign	September 23, 2005	0.05	-1.27	-0.94	4.89 *	-25.73 ***	4.04	6.59	-3.23	-8.12
5	Fazio resigns / House approves law with transfer	December 19-22, 2005	1.67 *	11.02 ***	-0.92	0.31	17.17 **	-1.65	5.03	28.64 **	-7.37

TABLE 1. COMPETITION CONTROL ACROSS THE SAMPLE COUNTRIES ON JANUARY 1ST, 1987 AND ON JULY 1ST, 2004

The table defines the key competition control variables and reports values for the sample countries on January 1st, 1987 and as of July 1st, 2004. We use two-letter ISO codes to indicate countries (that are alphabetized according to the country names).

Country	AT	BE	CA	DK	EU	FI	FR	DE	GR	IE	IT	NL	NO	PT	ES	SE	CH	UK	US
Competition Criteria																			
What assessment criteria are used in competition control?	*1=only competition criteria; ½=also other criteria; 0=none, no competition control*																		
January 1, 1987	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0.5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.5**	**1**
July 1, 2004	**0.5**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0.75**	**1**	**1**	**1**	**1**	**0.5**	**0.75**	**1**	**1**	**1**
Competition Enforcer																			
Who is (are) the decision-making agency(ies) for competition control?	*1=antitrust authority or court; 4/5=multiple antitrust agencies; 3/5=antitrust and other agencies (e.g., minister); 2/5=only other agencies (e.g., minister); 1/5=sector regulator; 0= none, no competition control*																		
January 1, 1987	**0**	**0**	**0.8**	**0**	**0**	**0**	**0.4**	**1**	**0**	**0.4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.4**	**0.8**
July 1, 2004	**1**	**1**	**0.8**	**0.8**	**1**	**0.8**	**0.4**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0.4**	**0.8**	**1**	**0.8**	**0.8**
Competition Overturning																			
Can a third agency intervene in the process and replace / overturn the decision-making agency(ies)?	*1=not possible; 2/3=public (ex-post) overturning of case-specific decisions; 1/3 =appropriation of decision-making power; 0= none, no competition control*																		
January 1, 1987	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0.66**	**0**	**0.66**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
July 1, 2004	**1**	**0.66**	**1**	**1**	**0.8**	**1**	**1**	**0.66**	**0.66**	**1**	**1**	**0.66**	**0.66**	**0.66**	**1**	**1**	**0.66**	**0.5**	**1**
Mandatory Notification																			
Is merger notification mandatory above (statutory) thresholds?	*1=yes; 1/2=no; 0=none, no competition control*																		
January 1, 1987	**0**	**0**	**0.5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
July 1, 2004	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0.5**	**1**	**1**	**1**	**1**	**0.5**	**1**

TABLE 2. CHANGES IN COMPETITION CONTROL AND LEVELS OF SUPERVISORY CONTROL

The table reports the changes in the key competition control variables and the levels of the key supervisory control variables.

		Changes in Competition Control				*Level of Supervisory Control*					
try	*Event Date*	Competition Criteria	Competition Enforcer	Competition Overturning	Mandatory Notification	Supervisory Criteria Mergers	Supervisory Criteria Acquisitions	Supervisory Enforcer Mergers	Supervisory Enforcer Acquisitions	Supervisory Formal Decisions Not Public	Supervisory Informal Notification
a	January 1, 1993	0.5	1	1	1	1	1	0.2	0.2	1	0.66
um	August 5, 1991	1	1	0.66	1	1	0	1	0	1	0.33
Denmark	May 26, 2000	1	0.8	1	1	1	1	0.6	1	1	0.66
EU	December 21, 1989	1	1	0.8	1	0	0	0	0	0	0
Finland	April 30, 1998	1	0.8	1	1	1	1	0.2	1	0.5	0.66
France	May 15, 2001	0	0	0	0.5	1	1	0.8	0.8	1	0.33
France	August 1, 2003	0	0	0	0.5	1	1	0.8	0.8	1	0.83
Greece	March 8, 1991	1	1	0.66	1	1	1	0.8	0.8	1	0.66
Ireland	April 10, 2002	0.25	0.6	0.34	0	1	0.5	0.2	0.4	1	0.66
Italy	October 10, 1990	1	1	1	1	1	1	0.8	0.8	1	0.66
Netherlands	March 20, 1997	1	1	0.66	1	0.5	0.5	0.4	0.4	1	0.66
Norway	June 9, 1993	1	1	1	0.5	0.5	0.5	0.2	0.2	0.5	0.66
Norway	March 2, 2004	0	0	-0.34	0.5	0.5	0.5	0.2	0.2	0.5	0.66
Portugal	April 10, 2003	0	0.6	-0.34	0	1	1	0.8	0.8	1	0.66
Spain	July 17, 1989	0.5	0.4	1	0.5	1	1	0.2	0.8	1	0.66
Spain	April 16, 1999	0	0	0	0.5	1	1	0.2	0.8	1	0.66
Sweden	December 17, 1992	0.5	0.8	1	1	1	0	0.2	0	0.5	0.66
Sweden	April 1, 2000	0.25	0	0	0	1	1	0.6	1	0.5	0.66
Switzerland	October 6, 1995	1	1	0.66	1	1	1	1	1	1	0.5
UK	November 5, 2002	0.5	0.4	-0.5	0	1	1	1	1	0.75	1

TABLE 3. CUMULATIVE ABNORMAL RETURNS FOR FIRMS AND BANKS AROUND CHANGES IN COMPETITION POLICY

Percentage cumulative abnormal returns (CARs) for exchange-listed firms and banks are estimated around the announcement of changes in competition policy using the value-weighted country (European, world) index in the market model. The first row in each cell lists the CAR averaged across events while the second row reports (in italics) the number of positive versus (":") the number of negative CARs. The reported significance levels are based on standard t-tests (for the differences assuming unequal variances) and sign tests. The third row in the difference cells reports the difference between bank and firm positives and firm and bank negatives and the significance level of the Fisher's exact test of independence assessing the number of firm positives/negatives versus bank positives/negatives (one-sided).

Change in Control (Number of Cases)		[-120,0]	[-60,0]	[-20,0]	[-2,0]	[1, 2]	[1,20]	[1,60]	[1,120]
Country Market Index									
Event (20)	Banks	8.3	5.0 *	2.3 *	0.8	0.1	-0.7	1.7	8.5
		13:7	*13:7*	*14:6* *	*16:4* ***	*11:9*	*11:9*	*10:10*	*11:9*
	Firms	-2.8 *	-2.5 **	-1.0 **	-0.3	-0.1	-0.2	-0.9	-1.7
		6:14 *	*6:14* *	*6:14* *	*5:15* **	*10:10*	*9:11*	*10:10*	*8:12*
	Banks \ Firms	11.1 *	7.6 ***	3.3 **	1.1 *	0.2	-0.5	2.6	10.2 *
		13:7	*13:7*	*14:6* *	*15:5* **	*12:8*	*11:9*	*10:10*	*11:9*
		7:7 **	*7:7* **	*8:8* **	*11:11* ***	*1:1*	*2:2*	*0:0*	*3:3*
Implementation (20)	Banks	5.4	3.4	1.6	0.7	0.6	3.2	1.7	2.3
		10:10	*12:8*	*13:7*	*9:11*	*11:9*	*12:8*	*10:10*	*8:12*
	Firms	-0.9	-1.2 *	-0.6 *	-0.2 *	-0.1	0.1	-0.1	0.2
		10:10	*7:13* *	*6:14* *	*10:10*	*8:12*	*10:10*	*6:14* *	*12:8*
	Banks \ Firms	6.3	4.6	2.2	1.0	0.6	1.1	3.3	2.1
		10:10	*11:9*	*14:6* *	*10:10*	*12:8*	*11:9*	*13:7*	*8:12*
		0:0	*5:4*	*8:8* **	*-1:-1*	*3:3*	*2:2*	*4:4*	*-4:-4*
Country & European Market Index [EU]									
Event (20)	Banks \ Firms	10.9 *	8.3 ***	3.6 **	1.2 *	0.2	-0.3	3.2	9.8 *
		12:8	*13:7*	*14:6* *	*16:4* ***	*12:8*	*14:6* *	*12:8*	*14:6* *
Implementation (20)	Banks \ Firms	7.2	5.2	2.5 *	1.0	0.6	1.5	4.1	1.7
		8:12	*12:8*	*13:7*	*10:10*	*12:8*	*11:9*	*13:7*	*8:12*
World Market Index									
Event (20)	Banks \ Firms	7.9	6.9	4.3	1.0 **	0.3	-0.2	2.4	10.0 *
		10:10	*13:7*	*14:6* *	*13:7*	*12:8*	*11:9*	*13:7*	*13:7*
Implementation (20)	Banks \ Firms	4.1	4.6	2.9 *	1.2 **	0.7	1.1	3.5	1.3
		8:12	*11:9*	*15:5* **	*12:8*	*10:10*	*12:8*	*13:7*	*7:13*
Case Weakening Competition Control France, May 16th, 2003									
	Banks	6.25	0.40	-0.01	-0.77 ***	-0.14 *	-2.42	-1.91	-12.07
	Firms	-1.20	-0.23	-0.17	0.11 **	0.02	0.24	-0.08	1.11

*** Significant at the 1% level, ** significant at the 5% level, and * significant at the 10% level. [EU] World Market Index in case of an EU event.

TABLE 4. CUMULATIVE ABNORMAL RETURNS FOR FIRMS AND BANKS AROUND CHANGES IN COMPETITION POLICY, BY EVENT

The percentage cumulative abnormal returns (CARs) for exchange-listed firms and banks are estimated prior to the announcement of changes in competition policy using the value-weighted country (European) index in the market model. The table lists countries, event dates, and the CARs for three representative event windows. The reported significance levels are based on standard F-tests of the summation of the estimated coefficients on the event dummies (country), standard t-tests for the averages and sign tests for the medians.

		Firms			Banks		
Country	*Event Date*	(-60,0)	(-20,0)	(-2,0)	(-60,0)	(-20,0)	(-2,0)
Austria	January 1, 1993	-5.3	-4.2	-3.6 ***	7.7	7.6	10.1 ***
Belgium	August 5, 1991	0.6	-0.1	0.0	-2.6	-0.5	0.5 ***
Denmark	May 26, 2000	-3.3	-0.7	-0.1	17.7	3.0	0.6
EU	December 21, 1989	-1.0	-0.4	-0.1 ***	2.7	-0.1	-0.3 ***
Finland	April 30, 1998	0.4	0.1	0.2 ***	6.2	0.5	0.1
France	May 15, 2001	0.2	0.1	-0.1 *	2.3	-2.1	1.1 ***
France	August 1, 2003	-0.2	-0.6 *	-0.1 ***	-2.4	1.1	0.5 ***
Greece	March 8, 1991	-3.0	-2.4	-0.2	1.0	0.8	0.3 ***
Ireland	April 10, 2002	-19.7 **	-4.7 ***	-0.5 ***	27.4 **	5.4 **	0.5 ***
Italy	October 10, 1990	-6.2 ***	-1.2 *	-0.3 ***	6.7 *	0.0	0.2
Netherlands	March 20, 1997	-0.5	0.4	0.6 ***	-1.6	-2.8	-1.0 ***
Norway	June 9, 1993	-3.2	-0.3	-0.1 **	28.5	0.2	0.7
Norway	March 2, 2004	1.6	0.3	0.0	-12.6	-2.4	0.1
Portugal	April 10, 2003	3.0	3.8 *	-0.2 **	-7.7	-8.0 *	0.3 *
Spain	July 17, 1989	2.3	0.4	0.1 ***	-1.5	0.2	-0.1
Spain	April 16, 1999	-8.4 **	-5.8 **	-1.8 ***	15.6 **	10.5 **	3.1 ***
Sweden	December 17, 1992	-1.9	-0.2	0.1	14.0	14.3	-3.0 ***
Sweden	April 1, 2000	-2.1	-1.0	0.0	-7.3	7.0	0.4
Switzerland	October 6, 1995	-2.0	-1.5	0.0	2.8	4.7	0.2 ***
UK	November 5, 2002	-1.6	-2.7 ***	-0.6 ***	4.0	6.7 *	1.5 ***
	Average	*-2.5 ** *	*-1.0 ** *	*-0.3*	*5.0 * *	*2.3 * *	*0.8*
	Median	*-1.8 * *	*-0.5 * *	*-0.1 ** *	*2.7*	*0.7 * *	*0.3 *** *

*** Significant at the 1% level, ** significant at the 5% level, and * significant at the 10% level.

TABLE 5. VARIABLES USED IN THE CROSS-SECTIONAL ANALYSIS OF INDIVIDUAL BANK CARS FOLLOWING CHANGES IN COMPETITION POLICY

The table lists the variables that are used in the cross-sectional analysis to explain individual bank CARs.

		Mean	StDev	Min	Max	Obs
Supervisory Criteria	What assessment criteria are used in supervisory merger/acquisition control? *1=only supervisory criteria (stability, soundness, prudency); ½=also other criteria; 0=none, no supervisory merge control in banking*	0.61	0.46	0	1	323
Supervisory Enforcer	Who is (are) the decision-making agency(ies) for supervisory merger/acquisition control? *1= independent supervisor; 4/5=central bank; 3/5= independent supervisor and minister; 2/5=central bank and minister; 1/5=minister; 0=none, no supervisory acquisition control in banking*	0.44	0.38	0	1	323
Supervisory Formal Decisions Not Public	Are supervisory decisions following formal notification public? *1=no; 1/2=yes; 0=no supervisory control*	0.60	0.45	0	1	323
Supervisory Informal Notification	Is there any informal communication and/or notification between the supervisory agency(ies) and the parties before formal notification? *1=yes, formally in the law and mandatory; 2/3=yes, but only as common practise; 1/3=no notification; 0=no supervisory control*	0.43	0.33	0	1	323
Efficiency Defense	Are efficiency gains explicitly considered as a factor mitigating anticompetitive effects? *1=yes; 0=no*	0.33	0.47	0	1	323
National Markets	Are relevant markets defined from a geographical point of view at least as national markets (i.e., no markets are local)? *1=yes; 2/3=possible, but not defined; 1/3=no; 0=no competition control in banking*	0.12	0.33	0	1	323
C3	Percentage assets of largest three banks in the national market	0.32	0.38	0	1	323
Corruption	Assessment of corruption within the political system Accounts for financial corruption (e.g., demands for special payments and bribes connected with import and export licenses) and actual/potential corruption in the form of excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business. Source: *International Country Risk Guide* *6=not corrupt; …; 1=very corrupt*	4.85	0.97	2.25	6	323
Bank Assets (in bln Euros)	of the individual banks	55.98	135.20	0.11	709.33	226

Bureaucracy Quality	Assessment of the quality of the bureaucracy Accounts for the strength and expertise of the bureaucracy to govern without drastic changes in policy or interruptions in government services. In that case the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Source: *International Country Risk Guide* *4=high quality; …; 1=low quality*	3.75	0.47	2.167	4	323
% Interest Income	of the individual banks	0.35	0.91	-0.09	5.33	226
% ROA	of the individual banks	1.06	0.93	-1.88	6.47	164
Supervisory Independence from Banks	The degree to which the supervisory authority is protected by the legal system from the banking industry Are supervisors legally liable for their actions? Source: *Barth, Caprio, Levine* *1=independent; 0=dependent*	0.25	0.43	0	1	323
Supervisory Independence from Politicians	The degree to which the supervisory authority is independent within the government from political influence To whom are the supervisory bodies responsible or accountable? How is the head of the supervisory agency (and other directors) appointed? How is the head of the supervisory agency (and other directors) removed? Source: *Barth, Caprio, Levine* *1=independent; 0=dependent*	0.58	0.49	0	1	323

TABLE 6. CROSS-SECTIONAL ANALYSIS OF INDIVIDUAL BANK CARS FOLLOWING CHANGES IN COMPETITION POLICY

The dependent variable is the three-day percentage cumulative abnormal return, CAR(-2,0), for exchange-listed banks estimated prior to changes in competition policy using the value-weighted country index in the market model. All models include regional random effects.

Model		I	II	III	IV	V	VI	VII	VIII
Supervisory Criteria		1.32 **				-2.00	-1.97	-0.54	-2.55
		(0.67)				(1.46)	(1.47)	(1.29)	(1.67)
Supervisory Enforcer			1.60 ***			1.47	1.45	0.00	1.49
			(0.54)			(0.95)	(0.96)	(0.00)	(1.06)
Supervisory Formal Decisions Not Public				2.82 ***		3.80 **	3.90 **	4.55 **	5.25 ***
				(0.93)		(1.67)	(1.71)	(1.88)	(2.00)
Supervisory Informal Notification					-0.79	-0.92	-1.07	-1.18	-1.01
					(0.92)	(0.97)	(1.13)	(1.02)	(1.20)
ΔEfficiency Defense		-0.42	-0.73	-1.02	0.25	-1.30	-1.31	-1.84	-2.80
		(1.75)	(1.72)	(1.72)	(1.74)	(1.73)	(1.74)	(1.87)	(2.15)
ΔEfficiency Defense	* log(Bank Assets)	0.05	0.06	0.08	0.03	0.10	0.10	0.14	0.20
		(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.13)
ΔNational Markets	* C3	-0.49	-0.28	-1.48 **	-0.58	-1.75 **	-1.76 **	-2.40 ***	-2.32 **
		(0.51)	(0.50)	(0.61)	(0.54)	(0.83)	(0.86)	(0.83)	(0.96)
Corruption		-0.03	-0.11	0.21	-0.07	0.18	0.21	0.40	0.28
		(0.17)	(0.16)	(0.18)	(0.17)	(0.22)	(0.24)	(0.25)	(0.25)
Bureaucracy Quality							-0.15		
							(0.62)		
log(Bank Assets)		0.27	0.33	0.39	0.34	0.49	0.48	-0.03	0.00
		(0.53)	(0.52)	(0.51)	(0.53)	(0.52)	(0.53)	(0.72)	(0.94)
log(Bank Assets)^2		-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	0.00	0.00
		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
% Interest Income	* log(Bank Assets)							-0.04	-0.03
								(0.03)	(0.03)
% ROA	* log(Bank Assets)								-10.07
									(10.46)
Constant		-2.05	-2.06	-4.76	-0.83	-4.75	-4.30	-2.73	-1.77
		(4.14)	(4.09)	(4.16)	(4.23)	(4.38)	(5.03)	(5.67)	(7.50)
Number of Observations		226	226	226	226	226	226	219	161
Adjusted R-squared		0.08	0.03	0.13	0.08	0.13	0.13	0.13	0.16

*** Significant at the 1% level, ** significant at the 5% level, and * significant at the 10% level.

TABLE 7. CROSS-SECTIONAL ANALYSIS OF INDIVIDUAL BANK CARS FOLLOWING CHANGES IN COMPETITION CONTROL: FURTHER ROBUSTNESS

The dependent variable is the three-day or twenty-one-day percentage cumulative abnormal return, CAR(-2,0) or CAR(-20,0), for exchange-listed banks estimated prior to changes in competition control using the value-weighted country index in the market model. All models include regional random effects.

Model		I	II	III	IV	V	VI
Dependent Variable		(-2,0)	(-2,0)	(-20,0)	(-20,0)	(-20,0)	(-20,0)
Supervisory Criteria		-1.41	-2.67	8.16 ***			
		(1.43)	(2.33)	(2.39)			
Supervisory Enforcer					8.79 ***		
					(2.25)		
Supervisory Independence from Banks		-0.11					
		(0.51)					
Supervisory Independence from Politicians			0.91				
			(1.27)				
Supervisory Formal Decisions Not Public		6.29 ***	6.66 ***			6.94 *	
		(2.12)	(2.16)			(3.96)	
Supervisory Informal Notification		-1.44	-1.46				4.42
		(1.22)	(1.17)				(4.21)
ΔEfficiency Defense		-2.93	-2.33	-31.26 ***	-31.39 ***	-30.09 ***	-26.44 ***
		(2.20)	(2.27)	(8.50)	(8.22)	(9.05)	(8.96)
ΔEfficiency Defense	* log(Bank Assets)	0.21	0.18	1.82 ***	1.77 ***	1.78 ***	1.56 ***
		(0.13)	(0.14)	(0.53)	(0.51)	(0.56)	(0.56)
ΔNational Markets	* C3	-3.01 ***	-3.47 ***	3.40	4.29 **	1.36	4.32 *
		(0.94)	(1.18)	(2.23)	(2.12)	(2.87)	(2.43)
Corruption		0.48 *	0.53 *	-0.70	-1.02	-0.25	-0.69
		(0.28)	(0.28)	(0.70)	(0.64)	(0.87)	(0.80)
log(Bank Assets)		0.00	-0.03	-4.50	-4.27	-2.85	-2.32
		(0.94)	(0.94)	(3.89)	(3.83)	(3.94)	(3.94)
log(Bank Assets)^2		0.00	0.00	0.11	0.11	0.06	0.04
		(0.03)	(0.03)	(0.13)	(0.12)	(0.13)	(0.13)
% Interest Income	* log(Bank Assets)	-0.03	-0.03	-0.03	-0.04	-0.03	-0.02
		(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
% ROA	* log(Bank Assets)	-7.52	-7.74	-3.10	-7.60	-5.06	-3.49
		(10.61)	(10.31)	(10.54)	(10.54)	(10.16)	(10.63)
Constant		-3.10	-3.22	40.75	41.68	28.80	28.64
		(7.59)	(7.57)	(30.03)	(29.84)	(30.69)	(31.02)
Number of Observations		161	161	161	161	161	161
Adjusted R-squared		0.16	0.16	0.16	0.16	0.13	0.13

*** Significant at the 1% level, ** significant at the 5% level, and * significant at the 10% level.

APPENDIX 1: PUBLICLY AVAILABLE SOURCES DEALING WITH COMPETITION CONTROL AND SUPERVISORY CONTROL OF MERGERS AND ACQUISITIONS IN BANKING

The table reports the sources we have used to collect the legal and institutional country characteristics on general competition control and supervisory control of mergers and acquisitions in banking. We report only documents and sources other than the laws.

Country	Source	Www
All	Getting the Deal Through, Merger Control	http://www.gettingthedealthrough.com/main_fs.cfm?book=MergerControl
	International Competition Network, Merger Review Laws, Related Materials, and Templates.	http://www.internationalcompetitionnetwork.org/mergercontrollaws.html
	OECD, Competition.	http://www.oecd.org/infobycountry/0,2646,en_2649_37463_1_1_1_1_37463,00.html
	OECD, Competition Law and Policy.	http://www.oecd.org/infobycountry/0,2646,en_2649_34685_1_1_1_1_1,00.html
	OECD, 1996, Failing Firm Defence, CLP Report, (96)23, Paris.	
	OECD, 1998, Enhancing the Role of Competition in Bank Regulation, DAFFE/CLP Report, (98)16, Paris.	
	OECD, 1999, Relationship between Regulators and Competition Authorities, DAFFE/CLP Report, (99)8, Paris.	
	OECD, 2000, Mergers in Financial Services, DAFFE/CLP Report, (2000)17, Paris.	
	OECD, 2002, The Role of Competition Policy in Regulatory Reform, DAFEE/CLP Report, (2002), Paris.	
	World Bank and International Monetary Fund, Global Banking Law Database.	http://www.gbld.org/
Austria	Global Competition Review, Austria	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
Denmark	Global Competition Review, Denmark.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
EU	Ghezzi F. and P. Magnani, 1998, L´applicazione della disciplina antitrust comunitaria al settore bancario, in M. Polo (ed.), *Industria Bancaria e Concorrenza*, Il Mulino, 143-259.	
Finland	Finnish Competition Authority, Annual Reports, 2001, 2002, 2003.	
	Global Competition Review, Finland.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
France	Fried Frank, Client Memoranda, 2002, The New Features of French Antitrust Law by Eric Cafritz and Omer Tene.	http://www.ffhsj.com/cmemos/021102_newfeat.htm
	Global Competition Review, France: Merger Control.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm

	Jurismag, 2001, Le magazine rédigé par des professionnels du droit, The New French Rules for Merger Control, by A. Condomines, Avocat à la Cour.	http://www.jurismag.net/articles/artiGB-concent.htm
	Practical Law Company, Global Council Web, Merger Control – France.	http://global.practicallaw.com/jsp/article.jsp?item=:1138832
	Olcay Miller, P., 20004, Authorisation of Bank Mergers—Recent French Experience, mimeo, Queen Mary and Westfield College.	
Germany	Global Competition Review, Germany.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
Ireland	Global Competition Review, Ireland.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
Italy	Bianco, M., F. Ghezzi, W. Negrini and P. Signorini (1998b), 'Applicazioni della disciplina antitrust al settore bancario in Italia', in M. Polo (ed), *Industria Bancaria e Concorrenza*, Bologna: Il Mulino, 329-374.	
Norway	Global Competition Review, Norwegian competition law: overview and recent developments.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
	International Law Office (ILO), Competition - Norway 1998, 1999, 2001, 2004.	http://www.internationallawoffice.com/lettersresults.cfm?Newsletters__WorkAreas=Competition
Portugal	Global Competition Review, Portugal.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
Spain	Banco de Espana, 2001, "Basic Regulatory Structure of the Spanish Banking System", Annex I to Annual Report.	
Sweden	Global Competition Review, Sweden.	http://www.globalcompetitionreview.com/ear/eur_atr.cfm
	International Law Office (ILO), "Competition – Sweden".	http://www.internationallawoffice.com/lettersresults.cfm?Newsletters__WorkAreas=Competition
US	Bianco, M., F. Ghezzi and P. Magnani, 1998a, "L'applicazione della disciplina antitrust nel settore bancario statunitense", in M. Polo (ed), Industria Bancaria e Concorrenza, Bologna: Il Mulino, 143-258.	

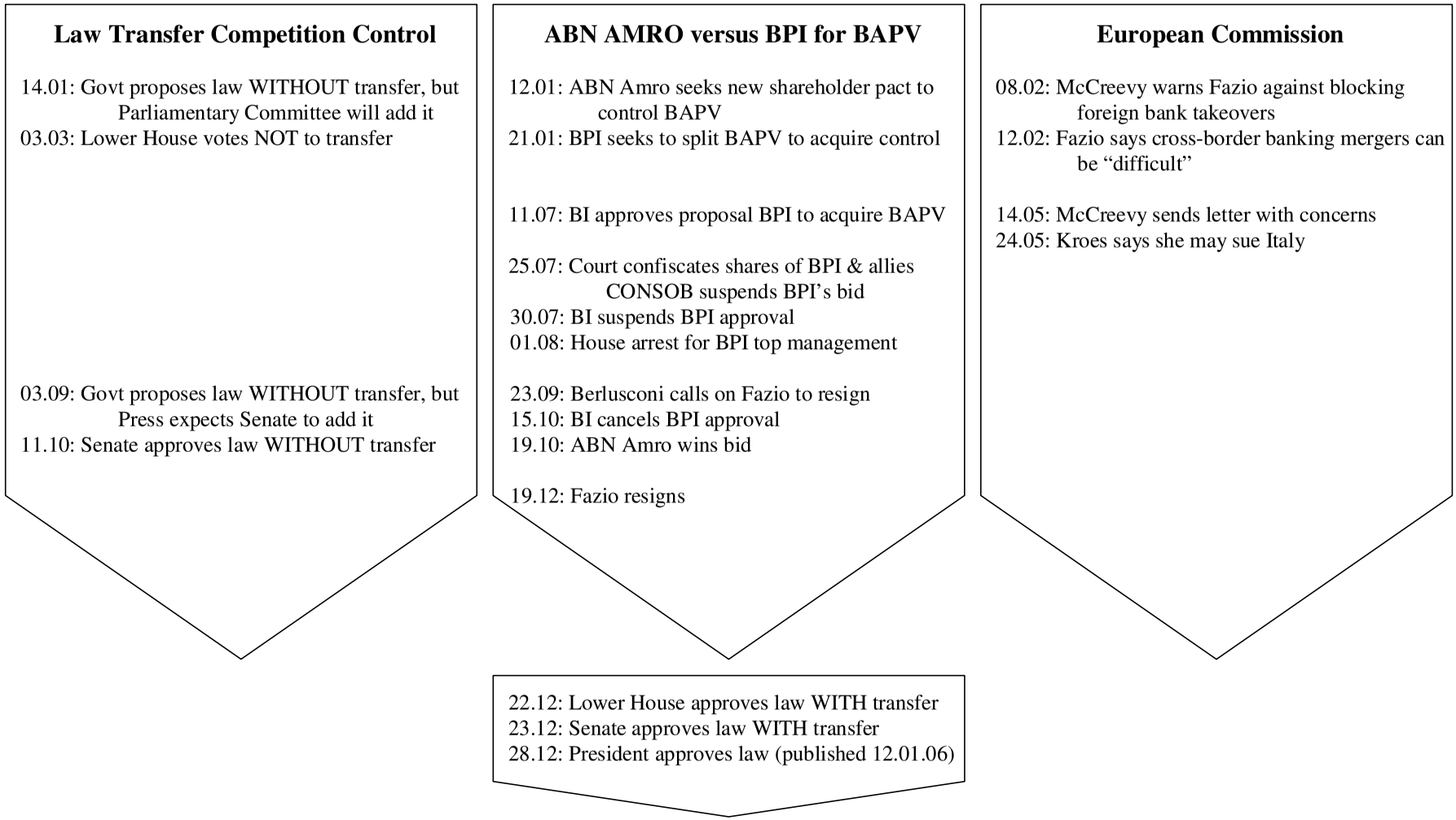
APPENDIX 2. CONTACTED AGENCIES DEALING WITH COMPETITION CONTROL AND SUPERVISORY CONTROL OF MERGERS AND ACQUISITIONS IN BANKING

The table reports the agencies we would like to thank for helping us with the collection of the legal and institutional country characteristics on general competition control and supervisory control of Mergers and Acquisitions in banking. It is not our intention to implicate these agencies or their affiliated institutions and we consider all the remaining errors in the reporting as ours. For each country we order the contacts we had as follows: (1) the competition authorities, (2) the national supervisors and/or central banks, and if applicable (3) the European Central Bank.

Country	Agency
Austria	Cartel Court
	Federal Competition Authority (of Austria)
	Austrian Financial Market Authority (FMA)
	European Central Bank
Belgium	Federal Public Service Economy
	European Central Bank
Canada	Competition Bureau
Denmark	Danish Competition Authority
	Danish Financial Supervisory Authority
Finland	Finnish Competition Authority
	European Central Bank
France	Queen Mary and Westfield College
	European Central Bank
Germany	German Competition Authority
	Deutsche *Bundesbank*
	European Central Bank
Greece	Hellenic Competition Authority
	Bank of Greece
	European Central Bank
Ireland	Department of Enterprise, Trade and Employment
	Irish Competition Authority
Italy	Italian Competition Authority
	Bank of Italy
Netherlands	Netherlands Competition Authority
	Nederlandsche Bank
Norway	Norwegian Competition Authority
	Ministry of Finance
	Norges Bank
Portugal	Portuguese Competition Authority
	European Central Bank
Spain	Banco de Espana
	European Central Bank
Sweden	Swedish Competition Authority
	Finansinspektionen
UK	Office of Fair Trading
	Financial Service Authority
	European Central Bank
US	Federal Reserve Board

APPENDIX 3. LEGAL AND OTHER DEVELOPMENTS IN ITALY AND EUROPE IN 2005

BAPV: Banca Antioniana Populare Veneta, Berlusconi: prime minister of Italy; BI: Banca d' Italia, BPI: Banca Populare Italiana; CONSOB: the stock market regulator; EC: European Commission; Fazio: former governor of the Banca d' Italia; Govt: Government; McCreevy is the European Internal Market Commissioner; Kroes is the European Competition Commissioner.



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