

# Regulation of takeover activity

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- Outline

- European control of M&As

- Legal framework, procedure, descriptive statistics

- Market response to European regulation

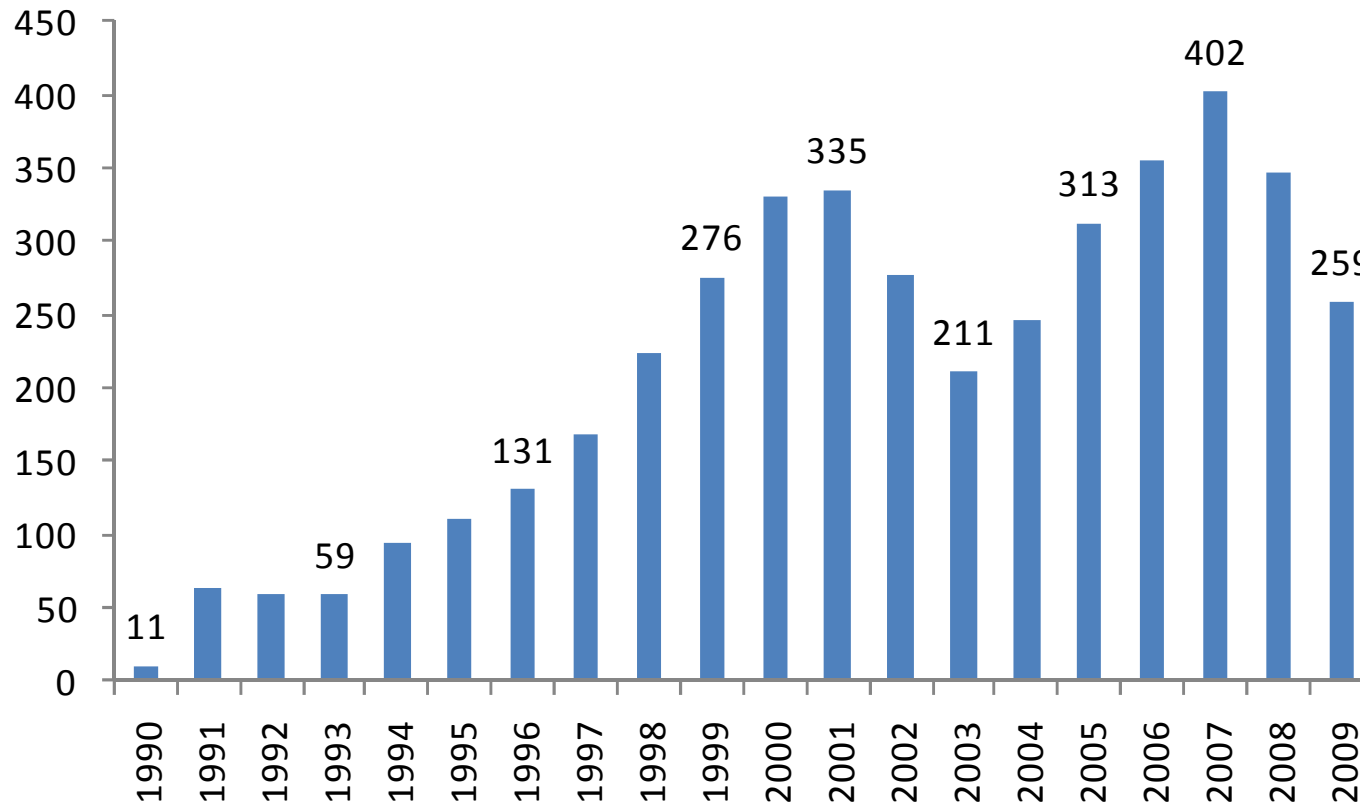
- Aktas, N., E. de Bodt, R. Roll, 2004, “Market response to European regulation of business combinations”, *Journal of Financial and Quantitative Analysis*, Vol. 34, N°4, December, pp. 731–758

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## A new actor

Notifications to the DGC



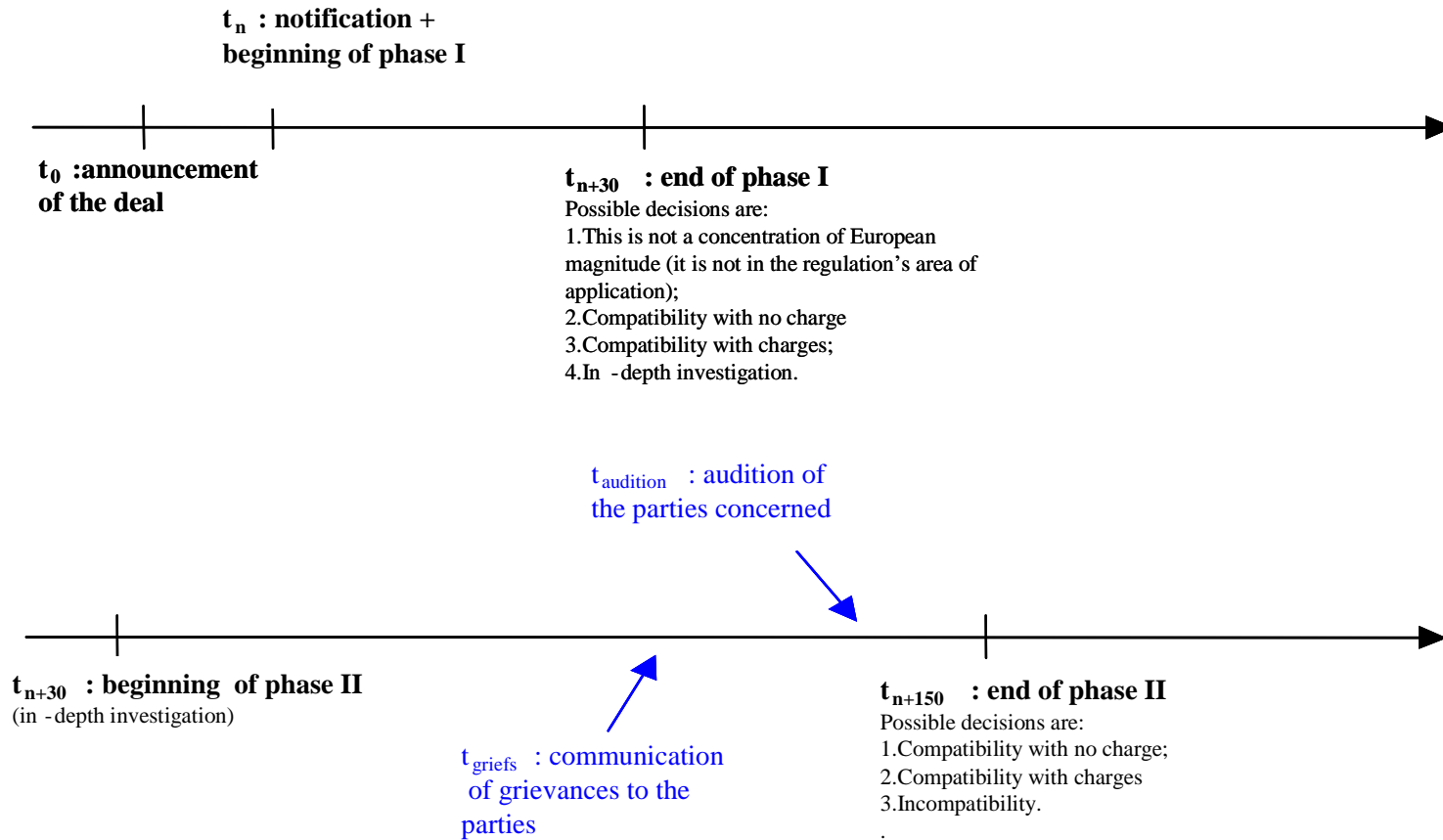
## Legal framework

- Governed by *regulation EC n° 4064/89*
- The EC examined **4,274** proposed deals between 09/1990 – 12/2009
- The efficacy of the regulation stems from the ability of the EC
  - To block the merger if the subject firms do significant business within Europe
  - To impose sanctions such as fines and/or exclusion from European markets
- The scope of intervention
  - The regulation applies only for deals of *European Dimensions*
    - According to article 1.2, a deal has *European dimension* when
      - The total world wide gross sales of all concerned firms exceed 5 billion EUR.
      - The European individual gross sales of at least two of the concerned firms exceed 250 million EUR, unless every concerned firm makes at least 2/3 of its gross sales in a single member State

## Procedure

- Parties must advise the Commission no later than one week after a deal agreement
- A combination cannot be completed before the initial notification and, to take effect, it must be declared acceptable after the investigation
- The procedure encompasses two phases
  - **Phase 1. Preliminary analysis**
    - 1-month investigation procedure starting with the notification
  - **Phase 2. In-depth investigation**
    - The EC has four additional months to complete its investigation and to rule on the compatibility of the combination with European law

# Procedure



# Summary statistics

	90	91	92	93	94	95	96	97	98	99	00	Total
Number of cases notifying the EEC	12	63	60	58	95	110	131	172	235	292	345	1573
Cases withdrawn – Phase I			3	1	6	4	5	9	5	7	8	48
Termination after Phase I	7	55	57	54	86	102	118	131	229	260	328	1427
Outside EEC jurisdiction	2	5	9	4	5	9	6	4	6	1	1	52
Approved without conditions	5	47	43	49	78	90	109	118	207	236	293	1275
Approved subject to conditions		3	4		2	3		2	12	19	28	73
Other decisions after Phase I <sup>15</sup>			1	1	1		3	7	4	4	6	27
Phase II proceedings initiated		6	4	4	6	7	6	11	12	20	19	95
Cases withdrawn – Phase II				1			1		4	5	6	17
Decision after Phase II		5	4	3	5	7	7	11	9	10	17	78
Approved		1	1	1	2	2	1	1	3	0	3	15
Approved subject to conditions		3	3	2	2	3	3	7	4	8	12	47
Prohibited		1			1	2	3	1	2	1	2	13
Other decisions of Phase II <sup>16</sup>								2		1	0	3
Other decisions <sup>17</sup>	1	2	2	4	1	3	4	6	14	13	5	55

91%

7.6%

5%

0.8%

Source: DGC, “Merger Task Force”

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## Motivation and purpose

- Two important cases
  - Boeing/McDonnell Douglas Case merger, 1996
    - Conditions and charges imposed by the EC have destroyed shareholder value (Aktas et al., 2001)
    - Should the companies anticipate the risk of intervention when considering a takeover?
  - GE/Honeywell proposed merger, 2001
    - Two American companies, with approval from American regulators but blocked by EC Regulators!
- Our purposes in Aktas, de Bodt, and Roll (2004)
  - To provide a systematic account of the stock market's response to European regulatory activity
  - Do the interventions of the EC destroy shareholder value?

## Data and sample

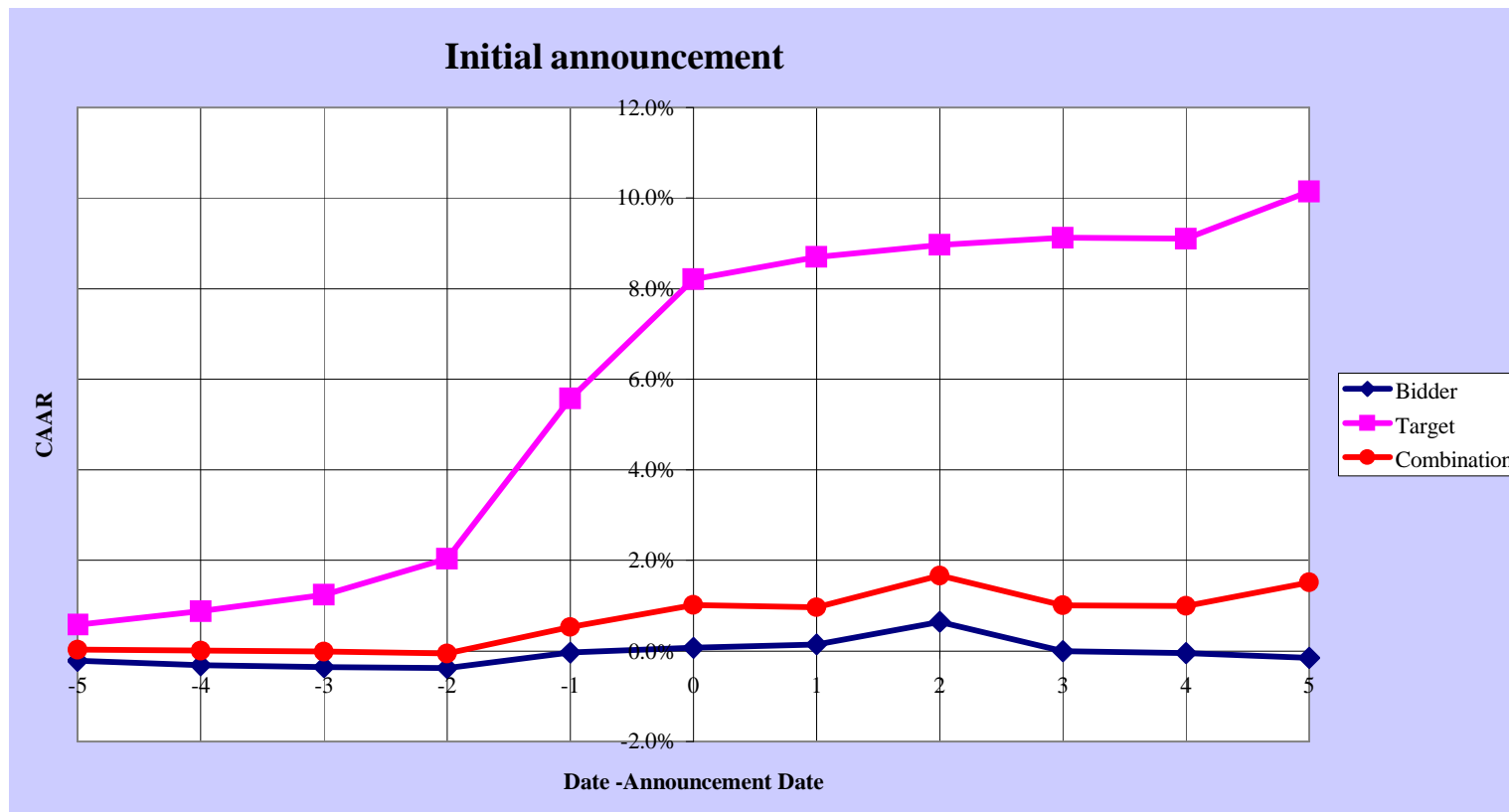
- Sample: 1535 firms involved in 874 operations (1990-2000)
  - 51% between European firms only
  - 32% between European and non-European firms
  - 17% between entirely non-European firms
- During this period of time the EC received 1573 notifications
- For 25 countries we collected
  - Individual stock prices (N=1535)
  - Market indexes
  - Exchange rates (for conversion to US\$)

## Event study

- Three event dates:
  - Initial Announcement of Combination
  - Announcement of termination of Phase I investigation
  - Announcement of termination of Phase II investigation
- On each date, market price reactions are measured for various firm categories
  - Bidders, targets, and deals
- Estimation window (days  $-235$  to  $-36$ )
  - Relative to Initial announcement
- Event window ( $-5$  to  $+5$ )
- Abnormal return using market model = actual return less predicted return (conditional on market return) for each day during an event window

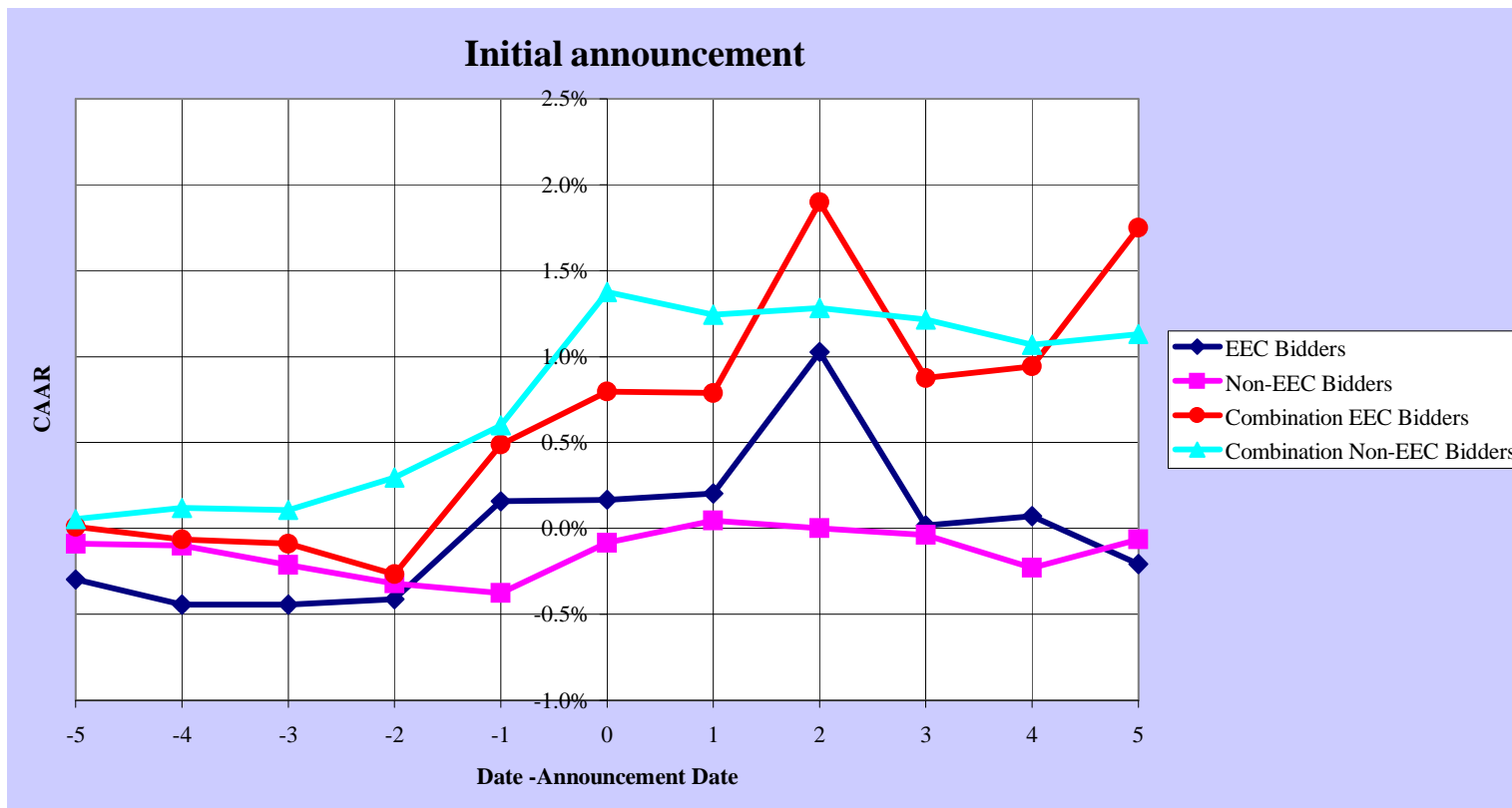
# Univariate results

Initial announcement by firm role



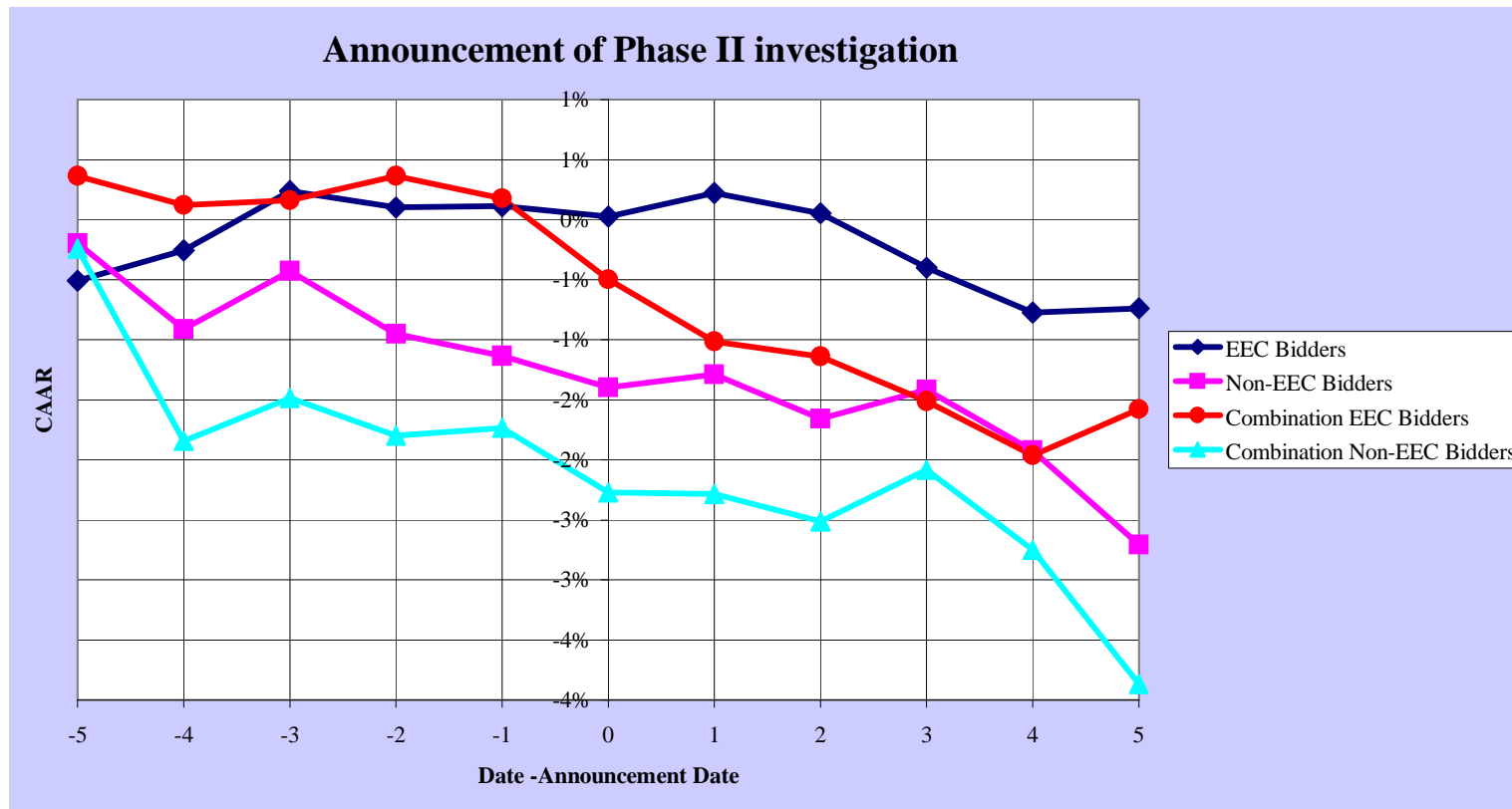
# Univariate results

Announcement effects by home country of the bidder



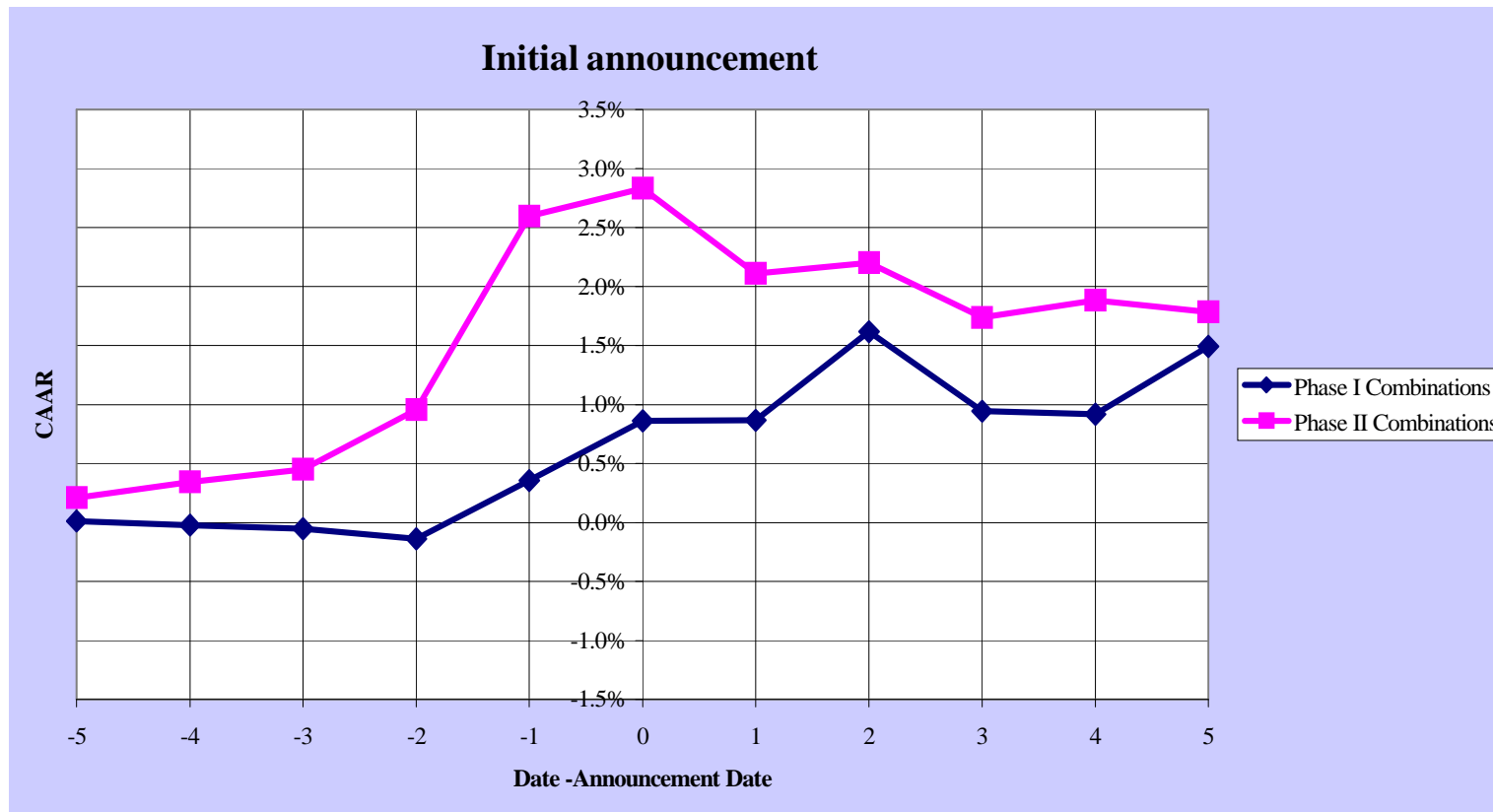
# Univariate results

Announcement effects by home country of the bidder



# Univariate results

Announcement effects as prediction of final outcomes



## Summary and conclusion

- The market clearly reacts to European regulatory interventions
- Mergers with greater promise of value creation attract closer scrutiny from EC regulators (consistent with anti-monopoly objective)
- With the announcement of an in-depth investigation, financial markets anticipate higher political cost for foreign bidders

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## Introduction

- Why do regulatory authorities scrutinize M&A?
  - To combat market power and to protect consumers through the maintenance of competition
    - FTC and DGC emphasize the market power hypothesis
  - Two decades of empirical research, using stock prices, finds no support to the market power argument
  - We propose an alternative motivation to the existence of regulation: which is **protectionism**
    - We show that European M&A regulation seems to be designed to protect privileged firms

# Theoretical Framework

<b>Theory Predicting the Source of the Merger Gains</b>	<b>AR for merging firms</b>	<b>AR for Rivals</b>
<b>A. Probability-increasing events</b>		
Market Power:		
- Collusion	- Positive (monopoly rents)	- Positive (monopoly rents)
- Predatory pricing	- Positive (monopoly rents)	- Negative (cost of price war)
Economic efficiency:		
- Synergy	- Positive (cost savings)	- Negative (competitive disadvantage)
- Information	- Positive (undervalued resources)	- Zero or positive (undervalued resources, and/or possible productivity increases)
<b>B. Probability-decreasing events</b>		
Market Power:		
- Collusion	- Negative (loss of monopoly rents)	- Negative (loss of monopoly rents)
- Predatory pricing	- Negative (loss of monopoly rents)	- Positive (avoiding price war)
Economic efficiency:		
- Synergy	- Negative (loss of cost savings)	- Positive (avoiding competitive disadvantage)
- Information	- Zero	- Zero

Source : Eckbo and Wier (1985, p.124)

## Literature review

- Ellert (1976), Stillman (1983), Eckbo (1983), ..., and more recently Aktas et al. (2004) found that regulatory actions have a negative impact on stock prices of the merging parties
  - The antitrust challenge comes as a surprise and is expected to be costly
- Moreover, Stillman (1983) and Eckbo (1983) tests the collusion hypothesis
  - Their results suggest that the merger challenged by the US government between 63 and 78 were not, in general anticompetitive

## Literature review

- Test of the Market Power Hypothesis
  - Collusive mergers generate increased net cash flows for the combining firms and their industry rivals
  - In an efficient market, the PV of increments to the expected future CF will be reflected in positive AR for industry members
  - Eckbo (1983) and Stillman (1983) do not observe the stock price patterns predicted by the collusion hypothesis
    - Announcement of the merger: significant positive AR for merging firms and industry rivals
    - Announcement of the antitrust complaint: significant negative AR for merging firms, non significant AR for industry rivals

## Literature review

- Alternative tests emerged during the 90s (I)
  - Deterrence effect of M&A regulation
    - Eckbo (1992) compares US and Canadian experience, and rejects the deterrence effect hypothesis
  
- Alternative tests emerged during the 90s (II)
  - Acquisition probability hypothesis
    - Song and Walkling (2000) propose an alternative explanation to the positive abnormal returns for industry rival at the announcement of a deal

## Protectionism hypothesis

- Aktas, de Bodt and Roll (2007) argue that M&A regulation could be designed to protect local firms from foreign competition
- They test whether the probability of regulatory intervention is higher for foreign acquirers, especially when domestic competitor firms are being harmed
  - $P(\text{Intervention}) = f(\text{Non-EC Bidder AND EC rivals' CAR}, \dots)$ 
    - If the interaction variable is negative and significant, we conclude to the existence of protectionism
- Negative returns to rivals are incompatible with both the MPH and the APH; but they could be explained by increased competition benefiting consumers
- There is no reason why an acquirer's nationality should influence a regulator's inclination to intervene

## Protectionism hypothesis

- Why to test the European M&A regulation?
  - The European commission is not free of protectionism suspicion (cf. GE/Honeywell case)
  - Aktas et al. (2004) uncover some troubling traits of European regulators:
    - Investors anticipate a far higher cost to the merging parties when the European Commission intervenes against foreign bidders as opposed to domestic bidders
  - European M&A regulatory legislation is relatively NEW and STABLE through time
    - This allows to cover the entire period of regulatory activity and to examine all cases for which data are available
  - European regulatory procedures are highly standardized
  - An important feature of European activity is the significant proportion of combinations initiated by non-European bidders (almost 36% in the sample)

## Data and empirical procedure

- Data sources and sample selection
  - The sample covers the period from 1990 through 2000
    - The EC received 1,573 notifications
    - The analysis requires that both the target and bidder be listed, this reduces the sample to 439 proposed combinations
    - Availability of control variables restricts the sample to 344 combinations
    - Identification of European listed competitor firms has been possible for only **290 combinations**
  - Data sources:
    - Primary source of information is the EC internet site
    - Initial announcement date have been cross-checked in several sources (the DGC website, the SDC database, the Financial Times, ...)
    - Market data are from datastream
    - The SDC database also provides several control variables
- Abnormal return estimation: standard event study method

## Data and empirical procedure

- Abnormal return estimation: standard event study method
- Identification of competitor firms is the key of the test
  - To make sure that the results are not sensitive to the identification of competitor firms, we employ and compare three distinct approaches:
    - *Case-by-case* identification of the target firm's competitors;
      - Six competitors on average per proposed combination, coming from 814 different competitor firms;
    - *Same industry, same country* identification through an automatic selection procedure
      - Nine competitors per combination from 1,021 different firms;
    - *Same industry, same geographic zone* through an automatic selection procedure
      - 38 competitors per combination, involving 1,840 different identified competitors.

## Data and empirical procedure

- The competitor portfolio formation procedure is not a material issue:
  - The three procedures display significant negative CAARs around the initial announcement date (11-day event window):
    - Case-by-case: **CAAR**=  $-0.31\%$ ;  $p$ -value=0.07
    - Same industry & country: **CAAR**=  $-1.11\%$ ;  $p$ -value=0.00
    - Same Industry & zone: **CAAR**=  $-0.68\%$ ;  $p$ -value=0.00
  - Hereafter, we report results only with the *case-by-case* identification of rivals:
    - Which is the *least significant*, and thus the *most conservative*
    - Allows us to identify European competitors, which is crucial for our test.

## Market reaction

TABLE III  
PRICE REACTION TO INITIAL ANNOUNCEMENT

	Day relative to the announcement date										
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
Bidders, N=579											
CAAR (percent)	-0.25	-0.21	-0.30	-0.38	-0.02	0.19	0.27	0.24	0.23	0.09	0.10
<i>p</i> -value	0.00	0.04	0.05	0.01	0.52	0.06	0.08	0.09	0.14	0.29	0.25
Targets, N=482											
CAAR (percent)	0.63	0.98	1.40	2.18	5.31	8.17	8.72	8.87	8.99	9.01	9.05
<i>p</i> -value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Combinations, N=439											
CAAR (percent)	-0.04	0.04	0.00	0.01	0.58	1.09	1.05	1.10	1.08	0.91	0.88
<i>p</i> -value	0.54	0.83	0.95	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Competitors, N=650											
CAAR (percent)	0.00	-0.01	-0.15	-0.18	-0.09	-0.10	-0.12	-0.15	-0.29	-0.35	-0.31
<i>p</i> -value	0.79	0.69	0.08	0.07	0.23	0.23	0.17	0.15	0.02	0.01	0.07

This table presents CAARs around the initial announcement date (day 0) of proposed combinations for bidders, targets, combinations (bidders plus targets weighted by their respective market values on the last day of the estimation window), and competitors. The competitors are identified using the *case-by-case* method described in Section II.C. Estimation is by the market model with local indexes converted into US dollars. Reported *p*-values are obtained from a percentile-*t* bootstrap based on the modified Boehmer, Musumeci and Poulsen [1991] method as described in Section II.B. N denotes the number of firms in each category.

## Multivariate analysis

- We perform a multivariate analysis to test the protectionism hypothesis
- To model the probability of intervention, we use a probit model where the dependent variable “EC Intervention” takes value
  - 1=challenged operation
  - 0=non-challenged operation
- To test for protectionism we use three explanatory variables:
  - (1) *Outside EC Bidder*
  - (2) *EC Competitors’ abnormal returns*
  - (3) the product of these two variables
- To alleviate endogeneity (between regulatory intervention and announcement CARs) we adopt a standard two-step method

## Multivariate analysis

Table 10

*Determinants of The Probability of EC Regulatory Intervention Two-Stage Instrumental Variables Probit with Generated Regressor Adjusted p-values*

Explanatory Variable	Estimated Coefficient	Bootstrap p-value
Proposed combination CAR instrument	-13.85	0.03
Target size	0.2 E-5	0.49
Bidder size	-0.6 E-5	0.00
Bidder/Target correlation	2.56	0.00
Deal value	0.05 E-3	0.00
Non-EC Bidder	0.32	0.16
Non-EC Bidder and EC Competitors' CAR instrument	-58.56	0.03
EC Competitors' CAR instrument	-18.67	0.10
LR Statistic	62.04	0.00
Pseudo R <sup>2</sup>	0.22	

By means of glasses, hotbeds, and hotwalls, very good grapes can be raised in Scotland, and very good wine too can be made of them at about thirty times the expense for which at least equally good wine can be brought from foreign countries.

Adam Smith (*The Wealth of Nations*, Book IV, Chapter II)

## Conclusion

- If merger were believed to create monopoly power, rival firms should display price increases
- In fact, they display price decreases on average
  - This suggests that, on average, the sample operations enhance industry competitiveness
- European M&A regulators claim to foster competition and protect consumers
  - However, in contrast to regulators claim, we find strong evidence that the more European rival firms suffer from operation initiated by foreign bidders, the greater the likelihood of a challenge