

**"INFORMATION DISCLOSURE, MEANS OF
PAYMENT, AND TAKEOVER PREMIA
Public and Private tender offers
in France"**

by
B. Espen ECKBO*
Herwig LANGOHR**

N° 88 / 24

* B. Espen ECKBO, University of British Columbia, Vancouver, Canada

** Herwig LANGOHR, Professor of Finance, INSEAD, Fontainebleau, France

Director of Publication :

Charles WYPLOSZ, Associate Dean
for Research and Development

Printed at INSEAD,
Fontainebleau, France

INFORMATION DISCLOSURE, MEANS OF PAYMENT, AND TAKEOVER PREMIA
Public and Private tender offers in France

B. Espen Eckbo

Faculty of Commerce, University of British Columbia, Vancouver, B.C., Canada V6T 1Y8

Herwig Langohr

INSEAD, Boulevard de Constance, 77305 Fontainebleau Cedex, France

July 1985

Sixth revision, April 1988

Abstract

This paper presents evidence that the introduction of disclosure regulations governing public tender offers in France caused an immediate and significant increase in interfirm cash tender offer premia. Private tender offers are exempted from the disclosure regulations, and offer premia are significantly lower in private than in public cash tender offers for voting-control. Furthermore, we find that offer premia are significantly higher in all-cash than in all-stock offers, whether the bid is for voting-control or a minority buyout. The higher cash-premium, which is not explained by taxes or regulations, is consistent with an information-signalling effect of the means of payment.

*This paper is a substantially revised version of earlier drafts entitled "Takeover Premiums, Disclosure Regulations, and the Market for Corporate Control" (July, 1985), "Disclosure Regulations and Determinants of Takeover Premia" (May, 1986), and "The Effect of Disclosure Regulations and the Medium of Exchange on Takeover Bids" (August, 1986). Suggestions by Michael Jensen (the editor) and the referee were particularly helpful in improving the paper. We have also received valuable comments from Bruno Husson, Ronald Masulis, John McConnell, and seminar participants at INSEAD, UCLA, the University of British Columbia, the University of Oregon, the University of Southern California and the American-, the European- and the French Finance Association meetings. Furthermore, we would like to thank the French stockbroker association (C.A.C.), Slimane Echihab and Martine Delcour for assistance in collecting the data. Financial support from INSEAD, and from the Batterymarch Financial Management Corporation (to Eckbo) is also gratefully acknowledged.

1. Introduction

A bidder initiating a public tender offer runs the risk that the information in the bid generates competition for the target shares, increasing the offer price necessary for a successful bid. This possibility underlies the concern that disclosure regulations effectively deter acquisition activity, undermining the important disciplinary role played by an active market for corporate control [Jarrell and Bradley (1980)]. The issue of information revelation is also generic to recent game-theoretic arguments which relate the means of payment in the takeover (cash vs. securities in the bidder firm) to the bidder's incentive to exploit and protect his initial informational advantage [Fishman (1986), Hansen (1987), Eckbo, Giammarino and Heinkel (1987) and, in the general context of selling securities, Myers and Majluf (1984)]. These information-based arguments complement hypotheses based on taxes [Rosenfeld (1982), Carleton, Guilkey and Harris (1983)] and agency costs [Jensen (1986)] in suggesting potential determinants of the impact of the payment method on the level and distribution of takeover gains.

This paper presents an empirical investigation of the effects of mandatory disclosure rules and the means of payment on offer premia in public and private tender offers for control and in minority buyouts. For a tender offer to succeed, the offer price must exceed the expected post-offer target share price conditional on the information in the bid [Bradley (1980), Grossman and Hart (1980)]. In other words, it is the offer price net of the post-offer target share price –the information-adjusted premium– which dictates target shareholders' incentive to tender. Therefore, we use the information-adjusted premium to test the proposition that disclosure regulations increase the bilateral bargaining power of the target firm vis-à-vis the successful bidder, as well as the conjecture that cash offers compensate tendering target shareholders for the realization of a capital gains tax liability. Furthermore, we use the offer-induced revaluation of the target shares –the information effect of the offer– to examine the validity of information-based arguments explaining the impact of either disclosure regulations or the payment method on successful bids.

Our experimental setting is the French market for corporate control, which permits important extensions of the extant, primarily U.S.-based evidence in this area. First, as documented by

Jarrell and Bradley (1980), the average premium in cash tender offers in the U.S. increased from 32 percent to nearly 53 percent after the passage of disclosure regulations in 1968.¹ Jarrell and Bradley attribute this premium increase to a combination of disclosure rules and the fact that the regulations also increased the mandatory minimum tender offer period from zero to ten days. Since disclosure rules are ineffective when the response time given potential rival bidders is short, such as in the “Saturday night raids” or “midnight mergers” observed in the U.S. prior to 1968, the impact of the increase in the minimum offer period is potentially important.² Thus, it is unclear from Jarrell and Bradley’s study whether disclosure regulations *alone* can cause a premium increase of the magnitude they report. Our analysis resolves this ambiguity because a four-week minimum tender offer period was in effect long before –and was not altered by– the disclosure regulations studied here. Thus, this paper is the first to test the proposition that disclosure rules *per se* will have a significant impact on offer premia in an environment where existing regulations give potential rival bidders ample time to construct counterbids.

Second, we provide annual time series evidence on the average cash tender offer premium. This is in response to Nathan and O’Keefe’s (1986) finding that takeover premia in the U.S. did not increase materially until after 1972, which undermines the argument that the average premium increase documented by Jarrell and Bradley (1980) is a direct consequence of the 1968 Williams Act (or the subsequent 1970 Amendment). Third, we compare offer premia in public and private tender offers for control, where the latter are *exempted* from the disclosure rules governing public offers. Private tender offers represent privately negotiated controlling-block trades followed by a

¹ The 1968 Williams Act requires the bidder to disclose any plans to liquidate the target firm, merge it or make any changes in its basic corporate structure. See Jarrell and Bradley (1980) for a description of this (federal) legislation, and its 1970 Amendments. According to Smiley (1975), compliance with these disclosure regulations has in some cases raised the direct transaction costs of a tender offer by as much as 25 percent. Further evidence on the impact of the U.S. regulations is found in Schipper and Thompson (1983), who show that a sample of frequent acquirors earned significantly negative abnormal returns over the months surrounding announcements of the introduction of the Williams Act, and in Asquith, Bruner and Mullins (1983), who report that gains to acquiring firms are on average lower after 1968.

² Based on sample of takeover bids where the target management sued the bidder in court, Jarrell (1985) provides some independent evidence that delaying the execution of a tender offer can substantially increase the final offer price received by *ex post* successful targets.

mandatory 15-day public offer for the remaining (any or all) target shares tendered at the block price. Since private and public tender offers are closely comparable procedures for acquiring control, the difference in the offer premia across the two categories of offers provide a unique test of the impact of the disclosure regulations governing public offers.

Recent evidence reported by Huang and Walkling (1987) indicates that targets in U.S. tender offers earn significantly larger average announcement-induced abnormal stock returns when the payment is cash as opposed to stock in the bidder firm.³ We extend this evidence as well by distinguishing potential capital gains tax-effects from the information content of the payment method. Moreover, we contrast the effect of the means of payment in minority buyouts with that in tender offers for control. This allows us to test whether the superior information effect associated with all-cash offers represents expected synergy gains from a post-offer change in the operations of the target firm, as opposed to the market's reassessment of previously undervalued securities.

The rest of the paper is organized as follows. Section 2 summarizes the main hypotheses and empirical predictions. The data selection and estimation procedures are contained in section 3, while Section 4 presents the empirical results. Section 5 concludes the paper. A summary of the institutional characteristics of the French market for corporate control is given in the Appendix.

2. Hypotheses and Empirical Test Strategy

Let $P - P_h$ denote the total offer premium per target share purchased, where P is the offer price and P_h is the market price of the target shares before any information concerning the forthcoming tender offer has been revealed to the market. In order to succeed, the offer must be "front-end loaded", i.e., $P > P_e$, where P_e is the expected target share price after expiration of the offer.⁴ The value of P_e will differ from the pre-offer price if the tender offer reveals new information concerning the true value of the target resources. Throughout the paper, we refer to $P_e - P_h$ as the information effect of the tender offer, and the value of $P - P_e$ as the information-adjusted premium, the latter

³ Wansley, Lane and Yang (1983) and Franks, Harris and Mayer (1987) arrive at a similar conclusion based on a sample of mergers in the U.S. and the U.K..

⁴ If $P < P_e$, non-colluding target shareholders will hold out for P_e and the offer will fail. See Bradley (1980) and Grossman and Hart (1980a).

representing target shareholders' incentive to tender their shares. Specifically, target shareholders expect to receive $\alpha P + (1 - \alpha)P_e$ per share tendered, where $\alpha \leq 1$ is the expected fraction of the tendered shares that will be purchased by the bidder.⁵ Thus, the information-adjusted premium is worth $\alpha(P - P_e)$ to tendering shareholders, which we refer to as the (per-share) *ex post* value of the option to tender. Note that wealth-maximizing bidders minimize P_e —subject to legal constraints—in order to maximize the value of the tender option.⁶

Below, we summarize several hypotheses predicting the impact of disclosure regulations and the means of payment on takeover premia. Hypotheses pertaining to the supply of tendered target shares are examined cross-sectionally through the value of the information-adjusted premium and the value of the tender option. Furthermore, hypotheses concerning the degree of information revelation caused by the takeover bid are examined directly through our measure of the information effect.

2.1 Potential Effects of Disclosure Regulations.

Increased target-specific information: This hypothesis holds that disclosure regulations effectively constrain the bidder firm to reveal private information concerning the value of the target resources. For example, the information may indicate that the target resources are undervalued in their current use, leading the market to reassess the value of the previously undervalued target shares. Alternatively, the expected takeover gains may be require a post-offer change in the allocation of the target resources. However, by revealing the nature of this change, the bid may attract

⁵ In France, the bidder in an oversubscribed public tender offer is required to allocate his purchase pro rata among tendering shareholders. Thus, $\alpha < 1$ if the offer is expected to be oversubscribed.

⁶ The fact that the value of the tender option is independent of the pre-offer target share price P_h raises the question of whether the bidder can coerce non-colluding target shareholders into tendering their shares for a total compensation $\alpha P + (1 - \alpha)P_e < P_h$. The evidence in Bradley (1980) strongly rejects this "corporate raiding" hypothesis on U.S. data [see also Comment and Jarrell (1987)]. Legal constraints, such as fair-price corporate charter provisions and corporate law governing the general fiduciary responsibility of management, as well as the possibility of a target share repurchase (intrafirm tender offer) designed to support the target share price implied by the firm's current management, help explain this evidence [see also Bradley, Desai and Kim (1987)]. In France, tender offer regulations prohibit the acquiring firm from purchasing additional shares in the target within one year of purchasing control. Thus, the bidder cannot execute a minority buyout or merger shortly after acquiring control. The one-year mandatory waiting period gives minority shareholders added protection if transfer pricing schemes designed to dilute the value of the target shares *ex post* are relatively costly to implement for the bidder firm.

competition from other management teams, including the incumbent target management. In either case, the hypothesis implies that the value of $P_e - P_h$ will increase as the result of disclosure rules. We test this proposition by comparing the information effect in (1) cash public tender offers for voting-control before and after the 1970 disclosure rules and (2) cash public and private control-oriented tender offers after 1970. The latter comparison is interesting because private tender offers in France are exempted from the disclosure rules governing public offers.

Increased bidder-specific information: If the resources and know-how required to generate takeover gains are specific to the bidder firm, then the bidder and target are to some extent locked in a bilateral monopoly. In this situation, the information disclosed by the bidder may improve the bargaining position of the target firm. Thus, this hypothesis predicts an increase in the value of the tender option in successful offers as a result of disclosure rules, representing a rent transfer from the successful bidder to tendering target shareholders.⁷

Note that the bidder's prior ownership (if any) in the target creates a potential empirical link between the magnitude of the information effect and the value of the information-adjusted premium. In the presence of an offer-induced information effect, the bidder realizes a gain on his prior "toehold" in the target.⁸ Competition among bidders possibly grants target shareholders this gain through an increase in the value of the tender option. Thus, under the hypothesis that disclosure regulations substantially increase competition among bidder firms, the likelihood of observing this link between the two premium components increases after 1970.

Substitution of low-value bids: Disclosure regulations which increase the cost of takeovers for bidder firms are expected to deter marginally profitable public tender offers, effectively truncating the lower tail of the distribution of bidder gains. The average of this truncated distribution can be lower or higher than the average observed before the introduction of disclosure rules. The observed average bidder gain will decrease if the cost-increase affects a broad spectrum of takeover bids. On the other hand, the observed average bidder gain will increase if a sufficiently large number of tender

⁷ Using the vernacular of DeAngelo and Rice (1983), disclosure regulations are predicted to increase the 'control premium' in successful tender offers.

⁸ See also Schleifer and Vishny (1986).

offers exploit unique, bidder-specific resources.⁹ In pursuing the truncation argument, we compare the gains to bidder and target firms in public and private tender offers after the introduction in 1970 of disclosure rules governing public offers. Given the exemption of private tender offers from disclosure regulations, the increase in private offers may reflect a substitution of low-value tender offers from the public to the private offer procedure. If so, we expect the average profitability of private offers to be lower than the average profitability of public offers after January 1970. To the extent that disclosure rules force the release of private information, we expect the information effect to be larger in public than in private tender offers.

2.2. Potential Effects of the Means of Payment.

Capital gains taxes: In countries such as the U.S., U.K., Canada and France, the capital gain realized by target shareholders is typically not taxable if the payment is entirely in the form of securities in the bidder firm.¹⁰ The tax hypothesis holds that the marginal target shareholder realizes a capital gain on the shares sold to the bidder.¹¹ The implication is that the (before-tax) value of the tender option is higher in all-cash than in all-stock offers, reflecting a compensation for the relative tax penalty associated with the former means of payment.

Signalling and adverse selection: If the transacting parties are asymmetrically informed as to

⁹ That is, quasi-rents from the supply of bidder-specific resources can exist even with full disclosure of the bidder's private information. Note also that a disclosure law, which contains antifraud provisions with significant penalties, possibly increases the credibility of information disclosed by the bidder firm. A more credible signal can improve the bidder's bargaining position with the target as well as reduce the possibility of costly, uninformed bidding by rival firms. For this reason, disclosure rules may in fact *benefit* some bidder firm. See also Grossman and Hart (1980b).

¹⁰ In France, if the tendering shareholder is a corporation and if the corporation purchased the target shares within two years prior to the offer, the realized capital gain is treated as general business revenue and taxed at the 50 percent corporate income tax rate. If the shares have been held for more than 2 years, the realized capital gain is considered "long-term" and taxed according to a flat rate of 15 percent. If the tendering shareholder is an individual, any capital gains realized prior to December 31, 1978, is fully tax exempt. After this date (and throughout the rest of our sample period), the taxation of realized capital gains depends on the total value of the securities sold. If the total value is less than 150,000 Francs, any capital gain is free. If the value exceeds this limit, the tax rate is a flat 15 percent. There is an exception to this rule if the individual realizes gain from what is considered "speculative selling" (a term referring in particular to short selling). In this case, if the individual's portfolio turnover ratio (i.e., the ratio of the value of the shares sold to the total value of the individual's portfolio) exceeds 2.6, the individual must choose between a 30 percent flat tax rate and the individual's marginal tax rate on ordinary income.

¹¹ Rosenfeld (1982) discusses the analogous tax hypothesis in the context of share repurchases (intrafirm tender offers).

the true value of the takeover, then the bidder's choice of payment method is a potential determinant of the information effect of the tender offer. For example, since an all-cash offer implies that the bidder alone bears the cost of overpaying for the target, several game-theoretic models predict that the bidder will use cash only if there is an **offsetting signalling benefit**. For example, in Fishman (1986), an all-cash offer signals that the bidder is capable of a relatively high value contribution to the takeover, which deters competition from other, potential bidders. In Hansen (1987) and Eckbo, Giammarino and Heinkel (1987), the use of cash signals that the bidder firm has favorable private information about its own shares. Intuitively, if the bidder firm has private information that its shares are underpriced, then cash tends to be the preferred medium of exchange. Conversely, if the bidder shares are overpriced, then exchanging shares may be the preferred strategy for the bidder firm. Myers and Majluf (1984) analyse the latter adverse selection problem in the context of security sales, and predict a negative market reaction to a stock issue (net of the present value of the investment project.) Collectively, these arguments implies that differential information effect of a cash and a stock-exchange offer is positive for both bidder and target firms.

Agency costs: Jensen (1986) predicts that takeovers financed with cash or debt will generate additional gains due to a concomittant reduction of agency costs associated with excessive inventories of retained earnings. Jensen argues that in industries where product and factor market disciplinary forces are relatively weak (such as in new product areas and in activities where existing assets generate large economic rents) and where future growth opportunities are few, the corporate control market is particularly important in forcing management to return the firm's "free cash flow" (i.e., cash flow in excess of that required to fund the firm's positive net present value projects) to its shareholders. Management has a tendency to resist payouts to its shareholders since payouts reduce the resources under their control and subjects the firm to the monitoring of the capital market as the need for external funding rises. Under this hypothesis, a cash takeover, which reduces the bidder firm's free cash flow, creates value by reducing the conflict between shareholders and managers over payout policies. Similarly, acquiring a cash-rich target can create value by issuing debt, purchasing the target shares with cash, and subsequently repaying the debt with the *target's*

free cash flow. Note that since we do not have data on the presence of “free cash flow” in either the bidder or the target firm, we are unable to empirically distinguish this agency cost hypothesis from the information-based arguments discussed above.

Securities regulations: In France, as in the U.S., the bidder firm cannot execute a stock exchange offer until shareholders have authorized issuance of the shares promised in exchange for the target shares. However, unlike in the U.S., the French stock exchange commission allows the bidder to go ahead with the stock exchange offer *before* bidder shareholders have authorized the share issue. The argument is that the process of obtaining authorization may leak information about the forthcoming offer, placing the bidder at a competitive disadvantage. This effectively means that the bidder firm’s shareholders can decide whether or not they will go ahead with the offer *after* the target shareholders have responded to the bid. While we do not have direct information on the extent to which the veto right has been exercised, we provide some information on the relevance of this cancellation right by comparing total offer premia in successful and unsuccessful (potentially cancelled) securities exchange offers.

Wansley, Lane and Yang (1983) point to a different aspect of securities regulations in the U.S.. They argue that a larger *measured* information effect of an all-cash offer potentially reflect the fact a cash-offer can be executed over a shorter time period than a securities exchange offer. The U.S. Securities and Exchange Commission requires that securities offered in exchange for the target shares be registered prior to consummation of the transaction. A lengthy pre-registration process can cause information about the forthcoming offer to leak to the market, which will attenuate the abnormal returns measured relative to the offer announcement. While this may be a problem in drawing inferences based on U.S. data, we do not observe a materially different registration period for all-cash than for securities offers in France.¹² Thus, this particular regulatory argument does not confound our comparison of cash and securities exchange offers in France.

¹² Also, French law explicitly requires the regulatory agencies to keep information about a forthcoming offer secret until the offer has been formally approved and announced.

3. Data Selection and Estimation Procedures

3.1 Sample Characteristics

Our sample period starts with the first public tender offers in France in 1966 and ends in December 1982.¹³ A total of 306 public tender offers for voting-control, minority buyouts, and privately negotiated controlling-block trades (private tender offers) involving publicly traded target firms took place over this seventeen-year period.¹⁴ Of these 306 takeover bids, 256 offers for 239 different firms qualify for inclusion in our data base. Seven offers are excluded due to missing information on one or more offer parameters, which include the offer price and the numbers of target shares held, sought, tendered and purchased;¹⁵ twenty-seven cases are excluded due to our minimum restriction on the availability of stock prices necessary to estimate abnormal stock returns; and sixteen offers are excluded due to lack of sufficient information on the payment method in the transaction. Our sample contains all public tender offers in France which satisfy our data requirements. Systematic information on private tender offers for control was unavailable until their regulation in 1973. Our sample contains virtually all private tender offers for control which can be identified from publicly available data sources as of that year.

Table 1 lists the annual distribution of the sample of exchange listed bidder and target firms, classified by the type of offer.¹⁶ Of the 119 public tender offers for voting-control, 70 are all-cash

¹³ Prior to 1966, no transactions on the stock market were permitted to take place at a premium over the floor price, deterring tender offers for a fraction of the outstanding target shares. In order to encourage takeover activity, a tender offer procedure was established in 1966. See the Appendix for details of the tender offer procedure and a historical chronology of the regulations affecting the French corporate control market.

¹⁴ Source: C.A.C. *Année Boursière Exercices*, 1965-1982, and Commission des Opérations en Bourse (C.O.B.), 1er-15ème Rapport au Président de la République Exercices, *Journal Officiel de la République Française*, 1968-1982. The population of 306 assumes that an offer which has successive price increases by the initial bidder, or which receives competing bids, is counted as one offer only. During the 1966-1982 period, tender offers were only rarely contested. In our data base there are less than 10 tender offer contests with multiple bidders.

¹⁵ Data sources for the various offer parameters are C.A.C., *Année Boursière Exercices*, 1965-1982, Vols. 5-20; C.A.C., *Décision et Avis de la Chambre Syndicale* 1965-1982; C.O.B., 1er-15ème Rapport au Président de la République Exercices, *Journal Officiel de la République Française*, 1968-1982; C.A.C., *Service Statistique*, 1984 (fiches individuelles d'entreprise); D.A.F.S.A., *Les Microfiches sur les Actionnaires et les Participations* 1976-1982; and D.A.F.S.A., *Les Liasons Financières*, Tome 1 et 2, 1966-1977.

¹⁶ The target firms (which are all publicly traded) were listed on the Paris Stock Exchange in 211

offers and 49 securities exchange offers. The 44 minority buyouts are offers where the bidder's prior holding in the target exceeds 66 percent.¹⁷ The 93 private tender offers for voting-control are all cash offers. Thus, of the 256 offers in the data base, 192 are all-cash offers while in the remaining 64 cases the bidders offered to exchange securities (stocks and/or bonds) in his own firm for the target shares.¹⁸ Of the 119 public tender offers for voting-control, 59 percent (70 cases) are all-cash offers, while the percentage cash offers of the 44 minority buyouts is 66 (29 cases).

We define a 'successful' offer as one where the bidder (i) purchased at least the minimum of target shares sought, given that a non-zero minimum was specified in the offer, or (ii) if no minimum limit was specified, purchased at least 50 percent of the maximum number of target shares sought. While condition (ii) is somewhat arbitrary, it is not restrictive as the percent of the target shares actually purchased in unsuccessful offers is small relative to the percent purchased in successful offers (on average 12 vs. 60 percent in public offers for control). With this definition, 29 of the 256 offers in the data base were unsuccessful, all in the group of control-oriented public tender offers. Since our sample contains nearly the entire population, a reasonable estimate of the *ex post* success rate is therefore 76 percent (90 of 119) for control-oriented public tender offers over the 1966-1982 period. Note that all the private tender offers are necessarily classified as successful since, for this category, only those transactions that actually took place appear in our data sources. Furthermore, Table 1 overstates the success rate for the group of minority buyouts, since our sample selection criteria eliminated 7 minority buyouts that would have been classified as unsuccessful under the above definition.

Table 2 shows the average and median values of the bidder and target firms' total equity, the

of the 256 cases, while the remaining targets were listed either on the Lyon Exchange, the Marseille Exchange, or the Lille Exchange. Of the 256 bidders in the sample only 139 were listed at the time of the offer, representing 100 different firms. The source of the stock exchange listing is C.A.C., *Cote Officielle, Cours Officiel et Authentique*, 1966-1983.

¹⁷ See the Appendix for a motivation of the 66 percent threshold used to define a minority buyout. The 66 percent threshold is not restrictive as the mean percent of the target shares held by the bidder prior to the offer is 21 in the group of control-oriented public tender offers and 79 in the sample of minority buyouts.

¹⁸ 43 of the 64 exchange offers are public offers for control. Of these, 31 are stock exchange offers (5 mixed with cash) and 12 are bond offers (4 mixed with cash). Of the 15 minority buyout exchange offers, 12 involve common stock while in 3 cases the means of payment was bonds.

percent of the target shares held by the bidder prior to the offer, and the percent tendered and purchased for eight central subsamples of the total data base. The ratio of the average bidder to target equity value is higher after January 1970 and generally higher in cash offers than in securities exchange offers.¹⁹ The average percent of the target shares held by the bidder prior to the tender offer in the period after January 1970 is 23 (median 15 percent), up from 14 percent (median 0) before this date. On average, the bidder ends up holding more than 70 percent of the target shares in all categories involving tender offers for control. The degree of oversubscription in public offers is generally small, with an average of 80 percent or more of the tendered shares purchased. The typical offer attracts less than one hundred percent of the target shares. This is true even when the bidder is prepared to purchase any or all of the outstanding target shares, e.g., as in private tender offers during the mandatory 15-day offer period following the controlling-block trade.

3.2 Estimation of Offer Premia and Abnormal Stock Returns

Information on stock prices, dividends and other distributions needed to compute offer premia and security returns are not easily available in France and were collected from several different sources. First, we used the 1982 and 1984 versions of a data tape issued by C.A.C., which covers weekly stock returns to firms listed simultaneously on the Paris forward and spot markets between 1967 and 1982.²⁰ Second, we obtained data from a tape maintained by C.A.C. since 1977 and which covers all officially listed securities and preserves the historical record of delisted securities. Third, and most importantly, information was collected manually from various issues of C.A.C., *Cote Officielle*, *Cours Officiels et Authentique*, 1965-1982, and C.A.C., *Année Boursière Exercices*, 1966-1982. For every offer in the sample, we recorded weekly (Friday to Friday) prices from week -53 relative to the week the offer was made through week 52 relative to the week of the expiration of the offer, i.e., roughly one year of weekly data on each side of the total offer period. Adjustment were made in the returns for cash dividends as of the ex-dividend week and for splits and rights

¹⁹ Note that the relative frequency of stock exchange offers is higher among publicly traded bidder firms than among non-listed bidders (see footnote 3 of Table 2).

²⁰ This tape, which also contains a small sample of firms listed exclusively on the spot market, covers only a small number of the firms in our data base. The tape does not maintain a record of delisted securities.

issues.²¹

The various offer premia referred to in Section 2 require measurement of the offer price, the target share price before the market becomes aware of the offer, P_h , the expected post-offer target share price, P_e , and the expected fraction of tendered target shares that will be purchased by the bidder, α . Measurement of the offer price is straightforward in a cash offer, and is based on market values in a security exchange offer.²² Let week 0 denote the week of the offer announcement and week e the offer expiration week. Our total event window runs from week -8 through week $e+8$ which, given the minimum four-week offer period in public tender offers, typically spans a period of five months.²³ We use the price at the beginning of this event period, P_{-8} , as a proxy for P_h . The ending price, P_{e+8} , is sufficiently removed from the offer expiration to qualify as a 'post-offer price', and is assumed to be rationally anticipated by the bidder firm when determining the offer price. The ratio of the number of shares purchased, N_p , to the number of shares tendered is used

²¹ Since the bulk of the stock return data had to be hand-collected, and given our objective of analysing a comprehensive set of takeover transactions, we chose to work with weekly rather than daily stock returns. Daily stock returns have an advantage when longer return intervals "hide" the market reaction to the event under study. However, given the large and significant abnormal returns reported below, this is not likely to be an important consideration here. Indeed, Bruno Husson, who is expanding the sample in Husson (1984) to include approximately half of the takeovers in our data base, has informed us that use of daily data leads to qualitatively similar inferences as those presented below.

²² Specifically, in a stock-exchange offer, we use the stock price on the last trading day before expiration of the offer to construct the offer price. The corresponding value of bidder bonds offered as means of payment is estimated using the following algorithm:

$$\hat{B} = (B + T_1 C)e^{-rT_1} + T_2 C,$$

where B is the first observed market price of the bond after expiration of the offer; C is the bond's coupon; T_1 is the number of days from the offer expiration date through the date B is observed divided by 365; T_2 is the number of days of (unpaid) coupon accrued at the offer expiration day divided by 365; and r is the daily (annualized) average overnight interbank interest rate. In our data base, B is either observed within the offer expiration month or in the subsequent month. If B is observed within the offer expiration month, then r is the average interest rate for this month. If B is observed in the month following the expiration month, then r is the weighted average of the monthly averages in the two consecutive months.

²³ For 90 percent of the public tender offers in the sample, the tender offer period equals the mandatory minimum of four weeks, while the mean offer period in this sample is 4.3. The average offer period in the sample of private tender offers is 2.2 weeks, i.e., slightly above the 15-day mandatory minimum for this offer category. None of the targets in the data were delisted prior to week $e+8$.

as a proxy for the value of α .²⁴

The information effect of the offer is measured as the total price change over the event period, $P_{e+8} - P_{-8}$, and, alternatively, as the market adjusted, abnormal stock return over the same period. The latter is estimated based on return observations from week -53 through week $e+52$, and is computed as $w_n \sum_{n=1}^6 \gamma_{jn}$, where w_n is the number of weeks in event period n ;

$$\tilde{r}_{jt} = \alpha_j + \alpha'_j d_{jt} + \beta_j \tilde{r}_{mt} + \beta'_j \tilde{r}_{mt} d_{jt} + \sum_{n=1}^6 \gamma_{jn} d_{nt} + \tilde{\epsilon}_{jt}, \quad (1)$$

and where

\tilde{r}_{jt} = continuously compounded rate of return to firm j over week t ;

\tilde{r}_{mt} = continuously compounded rate of return to the value-weighted market portfolio over week t ;

d_{jt} = a binary variable which takes on a value of one in the estimation period after the week of the expiration of the offer and zero otherwise;

d_{nt} = a binary variable which takes on a value of one if t is in event period n and zero otherwise; and

$\tilde{\epsilon}_{jt}$ = a mean zero distribution term assumed normally, identically and independently distributed.

The event parameter γ_{jn} ($n = 1, \dots, 6$) measures directly the abnormal stock return to firm j over event period n . The six event periods are non-overlapping and cover the total event window $[-8, e+8]$.²⁵ For all offers in the data base, the bidder or the target firm has at least 20 return observations in the estimation period. The coefficients α'_j and β'_j , which are included in order to control for the possibility of a post-offer change in the firm's expected return, are estimated only if the firm has at least ten return observations in the estimation period after the event period.²⁶

²⁴ There is virtually no change in the empirical results if we use the number of shares sought, instead of N_p , in constructing the proxy for α , as these two quantities are in most cases virtually identical.

²⁵ The first event-subperiod is $[-8, -1]$, i.e., γ_{j1} captures pre-offer leakage of information, if any. The second and third sub-periods are week 0 and week 1, respectively, the latter representing the first week of trading after the offer announcement. Since the stock exchange commission typically suspends trading in the bidder and target shares in week 0, the offer announcement effect almost uniformly shows up in week 1. The fourth and fifth sub-periods cover the interim offer period, $[2, e-1]$, and the week of the expiration of the offer and the following week, $[e, e+1]$. Finally, the sixth sub-period covers the 7-week period $[e+2, e+8]$ following offer expiration.

²⁶ While we make no adjustment for missing return observations in the estimation period outside of the event window $[-8, e+8]$, we substitute an abnormal return of zero for missing return observations inside this event window. This abnormal return substitution is based on parameter values

In a sample of J firms, the (cross-sectional) average abnormal return for the n 'th event period is given by $(w_n/J) \sum_j \gamma_{jn}$. Under the null hypotheses of zero abnormal return, and presuming the J events are independent, it follows that

$$z_n = \frac{1}{\sqrt{J}} \sum_{j=1}^J \frac{\gamma_{jn}}{\sigma_{\gamma_{jn}}} \sim N(0, 1), \quad (2)$$

where $\sigma_{\gamma_{jn}}$ is the standard deviation of γ_{jn} . Replacing the true values of γ_{jn} and $\sigma_{\gamma_{jn}}$ with their OLS estimates, this z-statistic is approximately standard normal for large J . Furthermore, since the event period dummies in equation (1) are orthogonal, the z-value for the sum of two event parameters which measures abnormal return over time periods of different length, e.g., γ_1 and γ_2 , is computed as

$$z_{1+2} = \frac{1}{\sqrt{J}} \sum_{j=1}^J \frac{w_1 \gamma_{j1} + w_2 \gamma_{j2}}{\sqrt{\sigma_{\gamma_{j,1+2}}^2}}, \quad (3)$$

where $\sigma_{\gamma_{j,1+2}}^2 = w_1^2 \sigma_{\gamma_{j1}}^2 + w_2^2 \sigma_{\gamma_{j2}}^2$.

4. Empirical Results

4.1 Total Sample: Introductory Evidence

Table 3 presents an overview over the wealth effects of French takeover bids without specific reference to disclosure regulations or details of the payment method. The table shows the average abnormal stock returns to bidder and target firms in successful and unsuccessful public tender offers for control, in private tender offers for control, and in minority buyouts (public tender offers). Abnormal returns are computed using the six event parameters in the market model (1). As noted earlier, the stock exchange commission suspends trading in the bidder and target shares in the week the public tender offer is announced (week 0). Since we replace the resulting missing price observation in week 0 assuming an abnormal return of zero, the entire announcement effect by construction shows up in week 1, the first week of trading after the offer announcement.

of α_j and β_j estimated using observations in the pre-event period [-53,-9] only. None of the tender offers in the sample had missing return observations in week 1, which is generally the event week with the largest price reaction. This return substitution allows estimation of the total abnormal return over the event period [-8,+8], which is our market-adjusted measure of the information effect of the tender offer.

Several empirical regularities emerge from Table 3. First, targets of unsuccessful tender offers realize significant gains over the total event period which are indistinguishable from the gains in successful offers (12.4 vs. 13.5 percent). Based on U.S. data, Bradley, Desai and Kim (1983) have shown that initial offer-induced gains to targets in unsuccessful tender offers on average are reversed unless control of the target is transferred to a successful bidder within 2 years of the initial bid. We are unable to repeat this type of test here, simply because none of the 29 unsuccessful targets in our sample received subsequent offers. Recall, however, that our sample of unsuccessful offers represents almost the entire population of unsuccessful bids over the sample period. If the market rationally anticipated the low frequency of repeat repeat offers *ex ante*, then the gains to unsuccessful targets shown in Table 3 represent an information effect unrelated to expectations of a future change in control through a takeover bid.

Second, in the vernacular of Bradley (1980), the evidence in Table 3 does not support “corporate raiding” or “inside information” arguments. The former holds that the bidder, once control has been acquired, is expected to transfer wealth from *ex post* minority shareholders. In contrast, the evidence shows that target shareholders are significantly better off, relative to the pre-offer target share price, after both control-oriented offers and minority buyouts (the total event period abnormal return in minority buyouts is 23.1 percent). Third, the significant decline in the target share price as a result of the expiration of the offer (event parameter γ_5) implies that the bidder realizes a loss on the shares purchased. This is inconsistent with the argument that the bidder firm typically sets the offer price below the post-offer target share value implied by its own private “inside” information, an argument often used by proponents of disclosure regulations.

In the U.S., the total price adjustment due to the expiration of the offer can be reasonably measured over the expiration day itself, with possible additional price adjustments over subsequent days when information concerning the exact outcome of the offer is made public. In France, the C.A.C. publicly announces the offer outcome, typically within one week after the expiration day, and the effect of this announcement is reflected in the value of γ_5 . Notice, however, the significantly negative value of γ_6 (which covers the 7-week period $e + 2$ through $e + 8$) for targets in public and

private tender offers for control. While we do not have data on trading volume, we conjecture that this anomalous average price drop reflects (1) thin trading in the remaining target shares after the successful offer has expired (the successful bidder ends up, on average, with 80 percent of the target shares), and (2) for 95 percent of the targets in the data base, *short selling is not possible*.²⁷ Half of the bidder firms in our sample do trade in the forward market, and no comparable continuing post-offer price drop is observed for the bidder shares, which tends to support this conjecture. A week-by-week inspection of the abnormal return behavior underlying γ_6 reveals that the negative performance occurs entirely within the first three to four weeks of the 7-week window. Thus, our use of P_{e+8} as a proxy for P_e ensures that our central empirical results are not contaminated by this somewhat anomalous post-expiration target share price behavior.

Fifth, Table 3 fails to uncover statistically significant gains or losses to bidder firms in any of the four offer categories. The significantly negative value of γ_4 for the sample of 16 unsuccessful bidders is indirect evidence that takeovers are valuable to bidder firms, thus the negative price adjustment as the market realizes the offer will fail. However, there is little direct confirmation of this hypothesis as the abnormal returns to the 53 successful bidders in public tender offers for control is indistinguishable from zero.

4.2 Offer Premia and Disclosure regulations

As of January 1970, the bidder in a public tender offer must disclose his prior ownership in the target firm as well as a detailed explanation for the economic rationale behind –and the financing of– the offer. The target firm is required to disclose the shareholdings of its board of directors, as well as the board’s evaluation of the tender offer. Additional disclosure requirements were subsequently introduced in 1973 and 1978 (see the Appendix). However, the 1970 reform represents the first and most important step towards significant disclosure regulations in France. As mentioned earlier, unlike the 1968 Williams Act in the U.S., the French regulations did not

²⁷ As described in the Appendix, shortselling is feasible only for the subset of stocks that trade in the forward market (which clears once a month). Note also that the price drop is not particularly sensitive to the method for computing abnormal returns, and it is also present in a study by Husson (1984) based on daily stock returns.

alter the (4-week) minimum public tender offer period which had been in effect since the tender offer procedure was established in 1966. Moreover, private tender offers are exempted from the disclosure regulations governing the public offer procedure.

The analysis is performed on the sample of successful cash tender offers for control, which allows a direct comparison of public and private offers. Unsuccessful cash offers are included in the cross-sectional regressions in Table 6, below, but do not appear to provide any additional insights. Securities exchange offers and minority buyouts, none of which occurred prior to 1970, are subsequently analysed in section 4.3 in the context of the payment method.

4.2.1 Public Tender Offers before vs. after January 1970

Table 4 shows the mean and median offer premia and abnormal stock returns in public and private successful all-cash offers for control. First, a comparison of public offers before and after January 1970 reveals that the average total offer premium increased from 33.8 to 73.3 percent (median values of 31.9 and 59.0 percent). In terms of franc values, the average premium increased from 7.5 mill. to 15.2 mill. (median values of 2.1 and 8.8 mill.). The table also reveals that the bulk of the premium increase occurs in the information-effect rather than in the information-adjusted premium. The former increased from 17.0 to 46.7 percent (median values of 19.0 and 35.8 percent), while the latter increased from 15.2 to 23.7 percent (median values of 13.6 and 16.1 percent). Reflecting the slight post-1970 increase in the rate of oversubscription,²⁸ the increase in the average value of the tender option is somewhat less than the difference in the information-adjusted premium: 14.7 percent vs. 21.1 percent after January 1970, with median values virtually unchanged at 13.3 and 13.1 percent. Thus, while it appears that the disclosure regulations have substantially increased the information-effect of a public tender offer, there is only a slight increase in the average compensation given tendering target shareholders above and beyond the permanent revaluation of the target shares.

Table 5 shows the annual distribution of the average values of the total offer premium and

²⁸ As documented in Table 2, the percent of the tendered target shares that were purchased by the bidder declined from 97 percent before 1970 to 89 percent in the sample period after January 1970.

its two components. The average total offer premium of 73.3 percent over the post-69 period is relatively evenly distributed, with the largest premium occurring in 1970. As was shown in Table 1, there is a temporary reduction in the annual number of offers from 5 and 4 in 1968 and 1969 to one offer in 1970, one in 1971 and 2 in 1972. The total offer premia associated with these four offers average 61.4 percent, which exceeds the the 33.8 percent average in the pre-1970 sample period. Thus, there is no evidence of a delay in the average premium increase relative to the passage of disclosure regulations in January 1970.

The regression results presented in panel I of Table 6 confirm that the increase in the total offer premium after January 1970 is statistically significant and driven by an increase in the information effect. The regression model is estimated across 163 cash tender offers for control and includes the natural log of the target's total equity value ($\ln V_T$); the fraction of the target shares held by the bidder prior to the offer (F_h) and the fraction purchased (F_p); and dummy variables for the pre-1970 period ($D_{-70}=1$), private tender offers ($D_{PRIV}=1$), and unsuccessful offers ($D_{FAIL}=1$). The three regressions in panel I are run with the total offer premium and its two components as dependent variables. The first regression shows that the total offer premium decreases with V_T , is unrelated to both F_h and F_p , is significantly lower for pre-1970 offers and for private tender offers, and is as high in unsuccessful as in successful offers. The regression is significant with an R^2 of .20 and an F-statistic of 6.24. Regressions 2 and 3 reveal that this significance is driven almost exclusively by the information effect. The information-adjusted premium (regression 2) is essentially unrelated to all the explanatory variables (with the possible exception of F_p), and produces an R^2 of .03 and an F-value of 0.77. When the information effect is used as dependent variable (regression 3), however, the values of the estimated coefficients are again significant and almost identical to the parameter values emerging from the regression with the total offer premium. This regression is also significant with an R^2 of .14 and an F-value of 4.01.

The significant impact of D_{-70} confirms the picture provided by the sample averages in Table 4 and Table 5. Although not anticipated by the discussion in Section 2, the correlation between the target equity value ($\ln V_T$) and the information effect of the offer is negative and statistically

significant.²⁹ The size variable was included as a potential proxy for the effect of omitted variables, such as ownership structure and the degree of information asymmetry between the bidder and the market concerning the true value of the target. While we do not test this conjecture, one consistent interpretation of the negative value of a_1 is that frequently traded, 'established' firms tend to be relatively large; thus the smaller information effect of the tender offer. We also expected $\ln V_T$ to proxy for the degree of ownership dispersion, with smaller firms being relatively closely held. If closely held firms are in a relatively strong bargaining position vis-à-vis the bidder, we would expect a positive correlation between $\ln V_T$ and the *information-adjusted* offer premium. The insignificant value of a_1 in regression 2 fails to confirm this hypothesis, possibly because $\ln V_T$ is a poor proxy for ownership dispersion in our sample.

As discussed in Section 2, a positive information effect generates a gain to the bidder on his prior holding in the target (F_h) which helps finance the cost of the tender option. The insignificant value of a_2 in regression 2 fails to support the hypothesis that competition among bidders will grant target shareholders the gain from the bidder's prior "toe-hold" in the target. This conclusion holds when one examines the pre- and post-1970 periods separately by means of an additional dummy variable as well (not shown in Table 6). Moreover, when the regression includes minority buyouts, where $F_h \geq .67$, the value of a_2 in regression 2 becomes negative and significant, which is also contrary to a hypothesized "toe-hold" effect.³⁰ Table 6 also shows that a_2 is marginally significant and negative in regression 3, i.e., the information effect of the offer tends to be smaller the larger the bidder's prior holding in the target. Furthermore, while the information effect is unrelated to the fraction of the target purchased by the bidder (F_p), there is weak evidence that F_p is positively correlated with the information-adjusted premium. Finally, as mentioned above, failed offers do not receive systematically different offer premia than successful offers.

Table 4 and 7 also report abnormal stock returns to bidder and target firms over week 1

²⁹ As shown in Table 8, below, this correlation is negative and significant also when the regressions are based on public tender offers after 1970 only.

³⁰ While Table 6 does not report regression results for minority buyouts, comparable evidence is reflected in the coefficient multiplying the dummy variable for minority buyouts in Table 8, discussed below in the context of the means of payment.

and over weeks -8 through e+8. As was the case for the total sample in Table 2, the average abnormal return to bidder firms is uniformly indistinguishable from zero. Regressions 6 and 7 in Table 6, where the dependent variable is bidder firm abnormal returns, are also both insignificant (F-statistics of 0.45 and 1.22). The average abnormal return to target firms is significantly positive and of a similar magnitude over week 1 as over the total event period (e.g., 28.1 vs. 28.5 percent in the sample of public tender offers after 1969). In Panel II of Table 6, regression 4, which uses the abnormal return to the target firm over week 1 as dependent variable, yields statistically significant values for a_1 and a_5 but not for a_4 . Since the abnormal return over week 1 is conceptually different from the information effect used in regression 3, this result does not necessarily undermine the conclusion from Panel I that disclosure regulations have substantially increased the degree of information revelation caused by public tender offers.³¹ In contrast, the abnormal return to the target firm over the total event period is conceptually equivalent to the information effect used in regression 3. Thus, the insignificant value of a_4 in regression 5 fails to corroborate the results of regression 3. In evaluating this discrepancy between the results of regression 3 and 5, however, it is important to acknowledge the general lack of power of regression 5 (the F-statistic is 1.29). Apparently, the dependent variable in regression 5 is a relatively noisy estimate of the simple measure of the information effect used in regression 3, with the additional variability reflecting noise in the estimated market model parameters.

4.2.2 Public vs. Private Tender Offers after January 1970

Between 1966 and 1973, the acquisition of control of a publicly traded firm could take place either through a tender offer executed in a public stock market, or through a privately negotiated controlling-block trade off the exchange floor. The 1970 disclosure regulations of public tender offers caused a marked increase in these private controlling-block trades, prompting their regulation in 1973. While these regulations continue the exemption of private tender offers from the disclosure regulations governing public tender offers, they require that a private controlling-block trade must

³¹ The abnormal return over week 1 reflects both the information effect and the value of the information-adjusted premium, attenuated by any prior leakage of information concerning the forthcoming offer.

be followed by a public 15-day offer for the remaining target shares at the block trade price. Thus, as of 1973, cash public and private tender offers for control are closely comparable offer procedures, with disclosure regulations as a distinguishing feature of public tender offers.

As shown in Table 4, the average total offer premium in the sample of 93 private tender offers is 27.4 (median 18.3) percent, which contrasts with the 73.3 percent average for public offers after 1970. Second, the average information-adjusted premium is 14.6 (median 5.6) percent, which is indistinguishable from the information-adjusted premium in public offers prior to 1970 and slightly smaller than the 23.7 average premium in public offers after 1969. In other words, there is some indication that the private seller of a controlling-block of shares typically extracts a *smaller* control-premium than what is typically paid in public offers. This is evident from a comparison of the values of the tender option, $\alpha(P - P_e)/P_e$, as well. *Ceteris paribus*, the possibility of oversubscription ($\alpha < 1$) in a public offer reduces the minimum price the seller of a control block in a private offer (where $\alpha = 1$) is willing to accept. The values of the tender option listed in Table 4 controls for this difference across the two types of offers. For private offers, the average (median) option value is 14.6 (5.6) percent, compared to the 14.7 (13.3) percent in the sample of public offers before 1970 and the 21.2 (13.1) percent in public offers after 1969 discussed earlier.

Third, the information effect of a private tender offer averages 18.7 (median 6.5) percent, which is indistinguishable from the average information effect of a public tender offer before 1970, i.e., prior to the introduction of disclosure rules. This result is consistent with the substitution hypothesis, which holds that bidders in marginally profitable tender offers prefer the private offer procedure after 1970 in order to avoid costly disclosure rules governing public offers. Fourth, like bidder firms in public offers, bidders in private tender offers earn on average statistically insignificant abnormal returns, both over week 1 and over the total event period -8 through $\epsilon+8$. According to the discussion in Section 3, this finding neither supports nor directly contradicts the substitution hypothesis.

These conclusions are further supported by the sign and significance of the regression coefficient α_5 in Table 6. This coefficient, which multiplies the dummy variable for private offers, is negative

and significant in regressions 1 and 3 in Panel I and insignificant in regression 2. Thus, while the information effect of a control-oriented cash offer is significantly lower in private than in public offers, the information-adjusted premium is indistinguishable across the two offer procedures. Target firm abnormal return in week 1 is also significantly lower in private than in public offers (regression 4). Again, regression 5, which is based on the total event period abnormal performance, show largely insignificant results both for coefficient a_5 and the overall regression. Finally, neither of the two bidder firm regressions indicate that the performance of bidders in private offers differs from the performance in public offers, or from zero. Thus, the support for the substitution hypothesis comes primarily from the evidence of a significantly lower offer premium in private tender offers.

4.3 Offer Premia and the Means of Payment

4.3.1 Public Tender Offers for Control

The first column of Table 7 lists the average and median offer premia and abnormal returns in the sample of 31 public tender offers for control where the means of payment is common stock in the bidder firm.³² Since these offers occurred after 1969,³³ the relevant comparison is with the 34 all-cash offers in Table 4 (column 2). The comparison reveals a striking difference in the total offer premia across the two types of payment methods. The average (median) total offer premium is 17.2 (19.0) percent for stock offers compared to the 73.3 (59) percent for all-cash offers discussed above. The average information-adjusted premium, however, is an almost identical 22.5 and 23.7 (medians 20.0 and 16.1) percent across the two payment methods. This rejects the tax hypothesis which holds that the larger total offer premium in all-cash offers reflects a compensation demanded by target shareholders for giving up the option to defer capital gains taxes. Further evidence against the tax hypothesis is provided by the sample of 12 bond-offers in column 2 of Table 7. Like stock offers, payment by means of bonds in the bidder firm exempts target shareholders from paying

³² In 5 of the 31 offers, the means of payment is a mixture of cash and common stock. The cash component in each of these 5 offers represents less than 50 percent of the total compensation given target shareholders.

³³ Securities exchange offers where not permitted under the public tender offer procedure prior to 1970. See the Appendix.

taxes on the capital gain resulting from the sale. The average information-adjusted premium in bond offers is 38.5 (median 33.7) percent, i.e., *higher* than in the comparison sample of all-cash offers.

It is clear from the evidence that the difference in the total offer premia across all-cash and securities exchange offers is driven by a difference in the information effect of the two offer categories. The average (median) information effect is -1.1 (0.4) percent in stock offers and -1.8 (0.3) percent in bond offers, compared to the 46.7 (35.8) percent for the all-cash offers. As shown by regression coefficient a_2 in Panel I of Table 8, this difference is statistically significant with a t-value of -5.08 in regression 1 (with the total offer premium as dependent variable) and -4.86 in regression 3 (with the information effect as dependent variable). The parameter estimate is virtually identical in the two regressions, and indistinguishable from zero when the regression is run with the information-adjusted premium as the dependent variable (regression 2). Overall, regressions 1 and 3 explain a significant portion of the total variation in the dependent variables, with R^2 s of .23 and .24, and F-statistics of 9.84 and 10.36, respectively.

As discussed in Section 3, shareholders of bidder firms can refuse to authorize the issuance of stocks promised in a securities exchange offer *after* the offer has been made by management and target shareholders have accepted.³⁴ In principle, one would expect bidder shareholders to exercise this *ex post* veto right in accepted offers where they believe management is overpaying for the target. The relatively low offer premia in stock offers is, however, almost certainly not explained by the existence of this veto right: First, to our knowledge, no securities exchange offer has yet failed due to bidder shareholders exercising their veto. Second, the average offer premium in the six unsuccessful exchange offers in our data base is only 15 percent, i.e., *lower* than the average offer premium of 22.5 percent in successful bids. Third, as seen from Table 7 and 9, there is no evidence that *bidder* firms in exchange offers perform better than bidders in all-cash offers. The abnormal stock returns to bidders in both cash and stock offers are indistinguishable from zero.

³⁴ The securities exchange commission grants the bidder management the right to offer target shareholders yet to be authorized common stock in order to avoid leakage of information concerning a forthcoming takeover bid from the stock authorization process itself.

Table 7 shows that the total gains in all-cash offers are larger than the total gains in stock-exchange offers. That is, although the gains to bidder firms appear negligible in both offer categories, the average franc value of the total offer premium, multiplied by the number of target shares purchased, is 15.2 mill. in all-cash offers vs. 5.9 mill. in stock-exchange offers. This is partially consistent with both the information signalling and agency cost hypotheses discussed in Section 3. The support is weak, however, since we have identified a significant signalling benefit to target firms only, and because our tests do not incorporate information on the existence of "free cash flow" in either the bidder or the target firms.

While signalling models are characteristically difficult to test,³⁵ the literature suggests alternative ways to provide potentially supportive evidence. For example, although Hansen (1987) does not derive implications for the offer-induced abnormal performance of bidder and target firms, his model implies that exchange offers are less likely to be used the larger the pre-offer value of the bidder firm's total equity. As shown in Table 2, the average equity value of bidders in all-cash offers after 1969 is 1413.6 (median 404.2) mill. franc compared to 595.1 (median 251.2) mill. francs in stock-exchange offers, which tends to support Hansen's prediction. Note, however, that the average bidder in the sample of 12 *bond* offers are typically larger than bidders in cash offers. Since the value of these bond offers are contingent on the post-offer value of the bidder firm (i.e., a hybrid between cash and equity), this result tends to contradict Hansen's conjecture unless, of course, the bonds were considered riskfree at the time of the offer.

Furthermore, Bhattacharyya (1988) suggests that a fruitful way to explore Fishman's (1986) model is to look for a positive correlation between the offer-induced abnormal return to bidder firms and the total offer premium. Although not a direct implication of Fishman's model, a positive correlation intuitively captures Fishman's basic insight that all-cash offers tend to preempt

³⁵ See Eckbo, Giammarino and Heinkel (1987) for a discussion of some of the econometric issues involved. Focussing explicitly on offers where the means of payment is a mixture of cash and stock, Eckbo, Giammarino and Heinkel (1987) derives a model which implies that the offer-induced revaluation of the bidder firm's shares is a positive, nonlinear function of the fraction of the total value of the offer that is paid in cash. Their empirical tests produce only mixed support for this prediction. Since our data base contains only 5 offers where the payment is a mixture of cash and stocks, we are unable to perform this particular test here.

competition from rival bidder firms by signalling that the initial bidder's value-contribution to the takeover is relatively large. A regression of the bidder's abnormal return on (a constant plus) the total offer premium does not, however, produce a significant slope coefficient, whether the regression is run on the sample of all-cash offers only or on the combined sample of cash and securities exchange offers.

Our evidence of zero announcement-induced average abnormal returns to bidder firms in stock exchange tender offers contrasts with the recent evidence presented by Travlos (1987) based on U.S. mergers. Travlos documents statistically significant, average two-day announcement period abnormal returns of -1.4 percent to bidders in 60 stock exchange mergers from the period 1972-1981. The corresponding bidder performance in his sample of 100 all-cash mergers is an insignificant 0.2 percent. Travlos evidence is consistent with the well documented finding that underwritten primary issues of seasoned common stock by U.S. industrial firms typically cause a negative market reaction [Asquith and Mullins (1986), Mautis and Korwar (1986)]. As argued by Myers and Majluf (1984), the negative market reaction may be interpreted as insurance against the possibility that the issuing firm is attempting to sell overpriced stock to relatively uninformed investors.

The generally insignificant bidder abnormal returns in our stock exchange offers may reflect the fact that (1) we study tender offers rather than mergers³⁶ (2) we use weekly rather than daily data,³⁷ and (3) the institutional characteristics of the stock market and the stock issuance process differ across France and the U.S..³⁸ The latter point is potentially significant, since the degree of information asymmetry between the firm and outside investors, which is the source of the Myers-Majluf adverse selection problem, is likely to depend on the stock issuance process itself. Of course,

³⁶ That is, the Myers-Majluf negative price adjustment may be more than offset in our data by takeover gains to bidder firms. We are unaware of any comparable studies of bidder firms in U.S. tender offers. For example, Huang and Walkling (1987), who also document significantly larger target firm abnormal performance in all-cash than in all-stock exchange tender offers, do not present evidence on bidder firms.

³⁷ However, Husson (1984), based on a subsample of our tender offers, fails to uncover significantly negative bidder returns in securities exchange offers even with daily stock returns.

³⁸ The French stock market is an auction -not a dealer- market; ownership of French listed firms is substantially more concentrated than in the U.S.; and it appears that financial intermediaries such as banks and investment houses play a somewhat different role in the stock issuance process than what is observed in the U.S.. The latter is a particularly potent topic for future research.

it is possible that the zero announcement-induced bidder firm performance in stock exchange offers documented here is at odds with the general market reaction to stock issues in France as well, a question which we cannot resolve given the absence of a systematic study of stock issues in France.

There is, however, some indication that the bidder's choice of payment method may in part be driven by asymmetric information between the bidder and the target concerning the true value of the bidder shares. In the sample of 34 all-cash offers after 1969, 12 (35 percent) involve a bidder firm listed on a stock exchange. In contrast, 26 (83 percent) of the 31 bidders in the sample of stock exchange offers are publicly traded firms. In other words, the probability of observing stock as the means of payment appears to be substantially higher when the bidder shares are publicly traded. Public trading most likely reduces the information asymmetry between the firm and outside investors; thus the greater likelihood of a stock exchange tender offer in the sample of listed firms. The Myers-Majluf price discount implied by the sale of stock may be too great for most non-listed bidder firms to use stock as the method of payment.

4.3.2 Minority Buyouts

The discussion so far has established that cash offers generate a significantly larger revaluation of the target shares than stock exchange offers. It is possible that this information effect reflects synergy gains from a post-offer change in the operating policy of the target, and that cash tends to be the preferred payment method when these gains are relatively large. In order to shed light on this proposition, Table 7 and 9 show the impact of the payment method on minority buyouts, where the bidder already controls the target resources.³⁹

The average (median) total offer premium in Table 7 is 38.3 (35.6) percent for the sample of 29 all-cash minority buyouts and 9.0 (17.1) percent for the 12 stock exchange buyout offers. The average (median) information-adjusted premium is 9.2 (6.1) and 3.2 (14.5) percent for the two offer categories, while the information effect is 27.8 (22.0) and 7.4 (7.5) percent, respectively. As explained in Table 8, with the exception of the information-adjusted premium, these differences

³⁹ Bidders in minority buyouts hold a minimum of two-thirds of the target shares prior to the offer, with an average prior ownership of approximately 80 percent in our sample (see Table 2).

are statistically significant. Thus, the impact of the payment method observed for control-oriented tender offers carries over to minority buyouts as well, which further supports the notion that the different payoff structures implied by cash and securities exchange offers is a relevant economic variable in the formulation of an optimal bidding strategy. As before, however, there is no direct support for this proposition from the performance of bidder firms. In minority buyouts, as well as in control-oriented tender offers, the abnormal performance of bidder firms is indistinguishable from zero regardless of the means of payment in the transaction.

Finally, restricting the analysis to all-cash offers, an interesting result emerges from a comparison of the offer premia minority buyouts and tender offers for control. As explained in Table 8, the total offer premium is significantly lower in minority buyouts than in control-oriented offers, with the *information-adjusted* component of the total offer premium driving the difference.⁴⁰ This result directly supports the proposition that tendering target shareholders are able to extract quasi-rents from the supply of control [e.g., DeAngelo and Rice (1983)]. This particular interpretation of the differential information-adjusted premium implies that the resources needed to generate the takeover gains are specific to both firms involved in the transaction, i.e., the bidder and target firms are to some extent locked in a bilateral monopoly. We leave a further analysis of the nature of this resource specificity, as well as mechanism for allocating the rents among the bidder and target firms, as an interesting topic for future research.

⁴⁰ The information-effect itself is only slightly lower in minority buyouts than in control-oriented offers, a result which is to some extent comparable to the evidence reported by Dodd and Ruback (1977) for their sample of 19 "clean-up" offers (which they define as offers where the bidder owns at least 50 percent of the target prior to the offer). Targets in their "clean-up" offers on average earn 17.4 percent abnormal return over the offer announcement month, compared to an average of 20.8 percent for targets in 136 tender offers for control.

5. Conclusions

In France, public and private interfirm tender offers take place under the supervision of an auctioneer who centralizes all sell orders during a minimum one-month offer period, and regulates bid revisions, counterbids and target defensive tactics. This auction market represents a particularly interesting laboratory for studying the effect of information on takeover premia. As summarized below, we find substantial cross-sectional and time series evidence consistent with the proposition that the introduction of disclosure regulations *per se* has had a significant and immediate impact on tender offer premia. Furthermore, we identify a significant non-tax related difference in the takeover premia in cash and securities exchange offers –whether the offer is for voting control or a minority buyout– which supports the proposition that the means of payment in the transaction conveys information concerning the true value of the target firm.

In the sample of successful cash tender offers where the bidder acquires voting-control of the target firm, we find a statistically significant increase in the average total offer premium from 34 to 73 percent after the introduction of disclosure regulations in 1970. The time series of the average annual offer premium shows that the premium increase occurs without delay, in 1970. Since the regulations did not alter the existing four-week minimum tender offer period, the subsequent increase in the average offer premium can be attributed to the effect of forced information disclosure *per se*. Thus, our study resolves a central ambiguity in the results of related studies based on the the disclosure provisions of the 1968 Williams Act in the U.S..

Two additional important results concerning the impact of disclosure rules on offer premia emerge: First, the increase in the total offer premium is driven primarily by an increase in the offer-induced information effect; the impact on the information-adjusted component of the offer premium is statistically insignificant. This is (1) consistent with the hypothesis that the regulations force bidder firms to reveal private information concerning the true value of the target shares, and (2) inconsistent with the hypothesis that disclosure rules substantially increase the bargaining power of the target firm vis-à-vis the successful bidder. Second, private tender offers for control, which are exempted from the disclosure regulations governing public offers, have significantly lower offer

premia; 27 percent vs. 73 percent in public offers. Interestingly, the information-effect of a private tender offer averages 19 percent, which is statistically indistinguishable from the information effect in public offers that took place *prior* to the introduction of disclosure rules. Since our data base contains almost the entire population of control-oriented (public or private) offers in France over the relevant time period, this evidence strongly supports the offer substitution hypothesis, which holds that bidders in marginally profitable tender offers tend to select the private tender offer procedure in order to avoid costly disclosure rules governing public offers.

Moreover, we document that the average total offer premium is significantly higher in all-cash offers than in all-stock exchange offers (73 vs. 17 percent in public tender offers for voting control). Again, the difference is driven by the information effect of the tender offer: The average information-adjusted premium is virtually identical across the two payment methods (24 vs. 23 percent), which suggests that the primary impact of the payment method is *not* tax driven. Our evidence also casts doubts on the proposition that the larger revaluation of the target shares observed in cash offers reflects relatively large synergy gains in this particular category of bids. 'Synergy gains' is typically used as a generic term for the value created by changing the firm's production/investment strategy after the takeover, and it is natural to assume that the bidder must acquire voting control of the target in order to successfully implement a substantial change in the operating policy of the target firm. On this basis, it is interesting that the average offer premium in the *minority buyouts* in our data base exhibit the systematic dependence on the payment method observed for control-oriented tender offers. This further corroborates the hypothesis that the differential offer premium observed in cash and securities offers reflects differential information concerning the true values of the target shares conveyed by the payment method *per se*.

Finally, we find that the offer-induced abnormal performance of bidder firms is indistinguishable from zero in both all-cash offers and in all-stock offers. This contrasts with Travlos (1987), who reports that bidder firms in U.S. all-stock exchange mergers earn significantly negative announcement-induced abnormal returns. The negative announcement effect documented by Travlos is similar to the negative market reaction typically observed in response to announcements of underwritten pri-

mary issues of seasoned common stock by U.S. industrial firms. This negative market reaction is typically attributed to the problem of adverse selection when managers are better informed than the market as to the true value of the shares offered [Myers and Majluf (1984)]. Given the absence of a systematic study of primary stock offerings in France, however, it is not clear whether our evidence reflects institutional characteristics unique to the French stock market (which, perhaps, alleviate the Myers-Majluf adverse selection problem), or whether our evidence is at odds with the general market reaction to stock issues in France as well. We do find, however, that the probability of observing stock as the preferred means of payment is substantially higher among listed than non-listed bidder firms. This observation is consistent with the argument that public trading reduces the information asymmetry between the market and the managers of the bidder firm, thus the greater willingness of listed firms to offer stock as payment to target shareholders.

Appendix: Tender offers for French listed firms: Institutional setting

Table A.1 contains legal references and a chronological summary of the relevant offer procedures and regulations governing tender offers for listed firms in France during our sample period. The French stock market is an auction market which operates under the general rule that all trades must be executed through a broker at the final auction (floor) price.⁴¹ Prior to 1966, the rule made no exception for public takeover bids, with the predictable result that no such bids took place.⁴² To encourage public tender offers for less than 100 percent of the target shares, the French Minister of Economics and Finance and the French Stock Brokers' Association ("La Compagnie des Agents de Change", henceforth C.A.C.) established in 1966 a procedure under which *cash tender offers for control*, conditional upon prior authorization by C.A.C., can be executed off the exchange floor with C.A.C. acting as an auctioneer. The C.A.C. determines control as a de facto situation, unless control is explicitly defined under French corporate law.⁴³

The C.A.C. has the authority to reject the bidder's application to use the tender offer procedure if it views the offer price and the number of target shares sought as unreasonable.⁴⁴ During the corporate control auction, the C.A.C. publicly announces the terms of the offer, receives all sell orders (in the form of tendered shares), and publicly declares the outcome of the offer after a

⁴¹ The auction market operates as follows: From the opening of the Exchange until twelve noon, brokers collect buy and sell orders. At noon, the specialists, which are responsible for clearing the markets for their respective securities, determine the price at which the maximum number of transactions can be executed. Any excess demand or supply is then cleared in an auction which lasts until the exchange closes. Each specialist auctions out one company's shares at a time, thus the number of simultaneous auctions equals the number of specialists in the market. Brokers participate in the auctions exclusively as agents and are not allowed to intervene as principals. The auction system prevents the broker from executing an order at a price different from the floor price.

⁴² Restricting the offer price to equal the market price of the target shares while the offer is outstanding is tantamount to requiring the bidder to purchase all or none of the target shares (see the discussion at the beginning of Section 2).

⁴³ French corporate law determines the number of corporate voting rights needed to implement certain changes in a firm's organization, including replacement of members of the board of directors and merging with another firm. Two-thirds (plus one) of the voting rights constitutes absolute control, a rule which historically has *not* been altered by means of corporate charter super-majority provisions such as those seen in the U.S.. Note that a simple majority (50 percent of the votes) is sufficient to replace the board of directors, while two-thirds majority is needed in order to vote a merger with another firm. See, e.g., Fleuriet (1977) for a survey of the French corporate law in effect during our sample period.

⁴⁴ Historically, the C.A.C. has occasionally refused to authorize a tender offer on the grounds that the offer price was too low.

minimum offer period of one month. The bidder is allowed to increase the offer price *once* by at least five percent during the first twenty days of the offer period (in which case all tendered shares automatically participate in the price increase) but is not allowed to extend the offer expiration date. Rival bids exceeding the initial offer price by at least five percent are permitted during the offer period, in which case all prior sell orders are cancelled and the initial bidder is allowed to respond.⁴⁵ Rules introduced in 1978 prohibit a bidder from making another public offer to acquire additional target shares during the *twelve months* immediately following expiration of the initial offer period. This makes it difficult for the bidder to implement two-tiered bidding strategies designed to lower the total cost of the takeover.

In 1970, the public tender offer procedure was made available for *control-oriented security exchange offers* (where the bidder's payment to target shareholders is in the form of stocks and/or bonds) and for *complete minority buyouts* (where the bidder's prior holdings in the target is at least fifty percent). Furthermore, in order to increase the costs of speculating on the outcome of the offer (as well as attempts to influence it), regulations introduced in 1970 require the C.A.C. to be informed daily of insider or principle shareholder trades in the bidder and target securities during the offer period. The regulations also make trading in the target shares more difficult while the offer is outstanding. Margin requirements for target share trades are raised to 100 percent, private trades in the target shares are prohibited, and target share forward and options transactions are suspended.⁴⁶

The 1970-regulations also impose substantial disclosure requirements on both bidder and target firms. For the first time, the two firms must disclose "all important facts" for target shareholders to make "informed decisions", including the bidder's prior ownership in the target, the rationale behind -and financing of- the offer, shareholdings of members of the target's board of directors, and the the target board's evaluation of the offer. Furthermore, as of 1973, bidders are required to disclose

⁴⁵ As of 1978, rival bids are permitted only during the first ten days of the one-month offer period.

⁴⁶ In France, short-selling of shares takes place by means of forward contracts which expire or are marked to market at the end of each month. Thus the short-seller does not physically deliver the shares until month-end. A relatively small fraction of all French publicly listed companies trade in this forward market, and for the remaining companies short-selling is impossible.

a detailed justification for the offer price or exchange ratio as well as the ownership structure, research policy, business policy orientation, production/investment strategy, and a forecast of the end-of-year sales and earnings for every firm represented by a security given to the target firm in an exchange offer. The target firm must disclose similar information about itself. As of 1978, the bidder firm must also disclose the identity of any shareholder who owns more than five percent of its common stock, and a detailed description of the business activities of its subsidiaries. The target board must disclose its vote structure concerning the tender offer, and target board members who are also shareholders must disclose their *intended* response to the offer.

In 1973 a rule was implemented which effectively converts a *successful private tender offer* involving a controlling block of shares into a public tender offer for 100 percent of the target shares. According to this new regulation, the size of the block, the block price and the identity of the buyer and seller must be publicly disclosed the same day the block trade is executed. Furthermore, during the 15 days following the block trade, the buyer must be prepared to accept *all additional shares* tendered to him at the block trade price. The parties involved in the controlling-block trade are otherwise exempted from the disclosure requirements governing the public tender offer procedure.

Between 1970 and 1978, the public tender offer procedure was gradually made available to a broader spectrum of acquisitions. For example, in 1972 a "simplified" procedure was introduced for the purpose of complete buyouts of relatively small minority shareholdings. The simplified procedure has fewer disclosure requirements than the regular tender offer procedure. Furthermore, the C.A.C. does not centralize the sell orders nor does it declare the outcome of the offer. The minimum offer period is 20 market days (rather than one month), and no competing bids nor changes in the initial bid are allowed while the offer is outstanding.⁴⁷ As of 1973, it is also possible

⁴⁷ Under the 1972-rules, a bidder may use the simplified procedure if two of the following three conditions are met: (1) the bidder holds at least 90 percent of the target shares; (2) the number of target shares not held by the bidder is 15000 or less; (3) the market value of the target shares not held by the bidder does not exceed two million Francs. In 1975, the 15000 share rule was changed to 20000; the two million franc maximum was increased to five million; and dealer transactions in the target shares during the offer period was prohibited. In 1978, the 90-percent rule was relaxed to two-thirds of all target shares, and the required amount of information disclosure was further reduced.

to use the public tender offer procedure to become a minority holder in the target firm, provided the minority holding is at least 15 percent. In 1975, the public tender offer procedure was made available to bidders who own a majority of the target shares and who seek to reinforce the majority position by acquiring an additional 15 percent (but not all) of the target shares.⁴⁸

⁴⁸ The regulations summarized above concern the tender offer *process*. Prior to October 1977, no French institution had the authority to prevent an acquisition on the basis of the possible impact of the takeover on product market competition. As of that date, however, the bidder must also be prepared to submit proof that the acquisition does not "harm competition".

References

- Asquith, P. and D. Mullins, 1986, Equity issues and offering dilution, **Journal of Financial Economics** 15, 61-89.
- Bhattacharyya, S., 1988, Preemptive bidding with private values in merger games, unpublished paper, Harvard University.
- Bradley, M., 1980, Interfirm tender offers and the market for corporate control, **Journal of Business**, 53, 345-376.
- Bradley, M., A. Desai and E.H. Kim, 1983, The rationale behind interfirm tender offers: Information or synergy?, **Journal of Financial Economics** 11, 183-206.
- Bradley, M., A. Desai and E.H. Kim, 1987, Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms, **Journal of Financial Economics**, forthcoming.
- Carleton, W.T., A.K. Guilkey, R.S. Harris and J.F. Stewart, 1983, An empirical analysis of the role of the medium of exchange in mergers, **Journal of Finance** 38, 813-826.
- Comment, R. and G. Jarrell, 1987, Two-tier and negotiated tender offers: The imprisonment of the free-riding shareholder, **Journal of Financial Economics** 19, 283-310.
- DeAngelo, H. and E.M. Rice, 1983, Antitakeover charter amendments and stockholder wealth, **Journal of Financial Economics** 11, 329-360.
- Dodd, P. and R. Ruback, 1977, Tender offers and stockholder returns: An empirical analysis, **Journal of Financial Economics** 5, 351-374.
- Eckbo, B.E., R. Giammarino and R. Heinkel, 1987, Information asymmetries and the medium of exchange in acquisitions: Theory and evidence, unpublished paper, University of British Columbia.
- Fishman, M., 1986, Preemptive bidding and the role of the medium of exchange in acquisitions, unpublished paper, Northwestern University.
- Fleuriet, M., 1977, **Pouvoir et finance d'entreprise droit et pratiques** (Daloz, Paris).
- Franks, J.R., R.S. Harris and C. Mayer, 1987, Means of payment in takeovers: Results for the U.K. and the U.S., unpublished paper, London Business School.
- Grossman, S. and O. Hart, 1980a, Takeover bids, the free rider problem, and the theory of the firm, **Bell Journal of Economics**, 11, 42-64.
- Grossman, S. and O. Hart, 1980b, Disclosure law and takeover bids, **Journal of Finance** 35, 323-334.
- Hansen, R.G., 1987, A theory for the choice of exchange medium in the market for corporate control, **Journal of Business** 60, 75-95.
- Huang, Y-S and R.A. Walkling, 1987, Target abnormal returns associated with acquisition announcements: Payment, acquisition form, and managerial resistance, **Journal of Financial Economics** 19, 329-349.

- Husson, B., 1984, The gains from take-over operations: The French case, unpublished paper, C.E.S.A. de Jouy en Josas.
- Jarrell, G.A., 1985, The wealth effects of litigation by targets: Do interests diverge in a merge?, **Journal of Law and Economics** 28, 151-177.
- Jarrell, G.A. and M. Bradley, 1980, The economic effects of federal and state regulations of cash tender offers, **Journal of Law and Economics** 23, 371-407.
- Jensen, M.C., 1986, Agency costs of free cash flow, corporate finance and takeovers, **American Economic Review** 76, 323-329.
- Masulis, R.W. and A.N. Korwar, 1986, Seasoned equity offerings: An empirical investigation, **Journal of Financial Economics** 15, 91-118.
- Myers, S.C. and N.S. Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, **Journal of Financial Economics** 13, 187-221.
- Nathan, K.S. and T.B. O'Keefe, 1987, The rise in takeover premiums: An exploratory study, unpublished paper, Oakland University.
- Rosenfeld, A., 1982, Repurchase offers, information-adjusted premiums and shareholder response, MERC Monograph, Series MP-8201 (University of Rochester, NY).
- Schipper, K. and R. Thompson, 1983, Evidence on the capitalized value of merger activity for acquiring firms, **Journal of Financial Economics** 11, 85-119.
- Schleifer, A. and R.W. Vishny, 1986, Large shareholders and corporate control, **Journal of Political Economy** 94, 461-488.
- Smiley, R., 1975, The effect of the Williams amendment and other factors on transactions costs in tender offers, **Industrial Organization Review** 3, 138-145.
- Travlos, N.G., 1987, Corporate takeover bids, method of payment, and bidding firms' stock returns, **Journal of Finance** 42, 943-963. 139-183.
- Wansley, J., W. Lane and H. Yang, 1983, Abnormal returns to acquiring firms by type of acquisition and method of payment, **Financial Management** 12 (Autumn), 16-22.

Table 1

The annual distribution of public and private tender offers for control, and of minority buyouts, classified by the outcome of the transaction and by the method of payment (cash vs. securities in the bidder firm). Total sample of 256 publicly traded target firms, 1966-1982¹.

Year of offer	212 offers for control						44 minority buyouts	
	119 public offers				93 private offers		Public	
	90 successful		29 unsuccessful		Successful		Successful	
	Cash	Securities	Cash	Securities	Cash ²	Cash	Securities	
1966	1	0	1	0	0	0	0	
1967	3	0	4	0	0	0	0	
1968	5	0	4	0	0	0	0	
1969	4	0	2	0	0	0	0	
1970	1	7	2	0	0	3	0	
1971	1	2	0	0	0	2	3	
1972	6	2	1	2	3	4	0	
1973	3	9	0	1	8	1	0	
1974	4	4	0	0	7	2	2	
1975	4	3	1	2	7	4	1	
1976	4	4	0	0	9	1	2	
1977	3	5	2	1	9	4	2	
1978	2	2	0	0	9	1	3	
1979	4	0	2	0	9	2	0	
1980	0	2	4	0	12	1	1	
1981	2	0	0	0	9	3	1	
1982	0	3	0	0	11	1	0	
1966-82	47	43	23	6	93	29	15	

Table 1 continued

1

There are 239 different firms in the total sample of 256 targets, all of which are listed on a French stock exchange. Furthermore, in 139 of the 256 takeovers the bidder is also a listed firm. These 139 bidders represent 100 different companies. An offer to transfer control is one where the bidder owns less than 67 percent of the target shares prior to the offer and seeks to acquire voting-control. In a minority buyout the bidder seeks 100 percent of the target and owns 67 percent or more of the target before the offer. See Table 2 for the mean and median percent of the target shares actually held, sought and purchased by bidders in the various offer categories. A "successful" offer is one where the bidder firm purchased at least the minimum number of shares specified as a condition for buying any shares at all. If no minimum number of shares greater than zero was specified, then an offer is "successful" if the bidder purchased at least 50% of the maximum number of shares sought. For the private lender offers we count the block traded as the minimum number of target shares sought by the bidder firm. Thus, all the private offers are by definition successful. In a securities offer the bidder pays for the target shares using one or more types of securities (possibly in combination with a cash payment). Of the 64 securities offers, 49 involve exchanging bidder shares for the target shares, while in 15 cases the bidder offered to exchange straight or convertible bonds. In 11 of the 64 securities offers the payment is a mix of cash and securities. All the private tender offers are cash offers.

Table 2

Mean (median) market value of total equity eight weeks prior to the offer announcement, the percent of the target shares held by the bidder prior to the offer, the percent tendered and the percent purchased, for successful public and private tender offers, 1966-82.

	90 public offers for control ^{1,2}					44 minority buyouts (public offers)		
	13 all-cash offers 1/66-12/69	34 all-cash offers 1/70-12/82	31 common-stock offers 1/70-12/82	12 bond offers 1/72-12/82	93 private all-cash offers for control 1/72-12/82	29 all-cash offers 1/70-12/82	12 common stock offers 1/70-12/82	3 bond offers 1/70-12/82
I. <u>Market value of total equity (mill. franc)</u>³								
Bidder firm	490.7 (712.9)	1413.6 (404.2)	595.1 (251.2)	1869.2 (2356.2)	1870.0 (532.6)	9413.3 (3177.9)	1146.1 (813.8)	n.a. ⁵
Target firm	39.7 (16.5)	48.1 (29.4)	130.0 (80.9)	445.7 (252.1)	115.5 (42.0)	99.7 (22.8)	123.1 (50.2)	252.0 (563.8)
Bidder/target ⁴	12.3 (43.2)	29.4 (13.5)	4.6 (3.11)	4.2 (9.3)	16.2 (12.7)	94.4 (139.4)	9.3 (16.2)	n.a. ⁵
II. <u>Percent of target shares held, tendered and purchased</u>								
Percent held	14.0 (0.0)	23.0 (15.0)	21.2 (9.9)	16.4 (1.1)	12.6 (0.0)	79.5 (82.3)	78.4 (80.6)	70.1 (75.0)
Percent tendered	57.9 (59.1)	66.1 (70.1)	71.2 (82.2)	66.4 (72.8)	59.0 (61.5)	16.4 (17.0)	24.5 (22.8)	24.1 (28.5)
Percent purchased	56.1 (57.7)	59.0 (56.9)	67.2 (69.8)	59.0 (66.7)	59.0 (61.5)	16.4 (17.0)	20.9 (18.8)	24.1 (28.5)
Purchased/ tendered ⁴	.97 (.98)	.89 (.81)	.94 (.85)	.89 (.92)	1.00 (1.00)	1.00 (1.00)	.85 (.83)	1.00 (1.00)

Table 2 continued

- 1 For the 29 unsuccessful public offers for control in the data base (1/66-12/82), the mean (median) equity value of the bidder and target firms are 930.1 (519.0) and 173.0 (57.7) mill. franc, with a ratio of bidder to target value of 5.4 (9.0), where 18 of the 29 bidders are publicly traded firms. Furthermore, for this category of offers, the mean (median) percent of the target shares held prior to the offer is 10.5 (0.0), the percent tendered is 13.5 (9.9) and the percent purchased is 11.3 (6.1), respectively. The average maximum percent of the target shares sought by the bidder in these unsuccessful offers is 84.1 with a median value of 99.9 percent.
- 2 5 of the 31 stock offers and 4 of the 12 bond offers also involves cash as part of the total compensation.
- 3 The market values of the bidder firms are based on the publicly traded bidders only. 7 of the 13 public all-cash offers before 1/70 involve a listed bidder, as do 12 of the 34, 26 of the 31, 7 of the 12, 45 of the 93, 15 of the 29, 9 of the 12, and none of the 3 minority buyout bond offers, i.e., a total of 121 listed bidder firms (excluding unsuccessful offers).
- 4 This row gives the ratio of the mean (median) values.
- 5 Since none of the three bidders are publicly traded firms, the information is not available.

Table 3

OLS-estimates of the abnormal return coefficients γ_i in the market model:

$$\bar{r}_{jt} = \alpha_j + \alpha'_j d_t + \beta_j \bar{r}_{mt} + \beta'_j \bar{r}_{mt} d_t + \sum_{i=1}^6 \gamma_{ij} d_{it} + \epsilon_{jt}$$

where \bar{r}_{jt} and \bar{r}_{mt} are the continuously compounded weekly rates of return to firm j and the value-weighted market index; d_t is a dummy variable which takes on a value of one in the estimation period after the execution of the offer, and zero otherwise; and the six dummy variables d_{it} takes on a value of one in each of six non-overlapping event periods relative to the offer announcement (week 0) and offer expiration (week e), and zero otherwise. The estimation uses all available return observations in the period from week -52 through week +52. Missing returns in the total event period (week -8 through week +8) are replaced assuming zero abnormal performance based on estimates of α and β from the period week -52 through week -8 relative to the offer announcement. Total sample, 1966-1982.

Average $\hat{\gamma}_i$ (X) over [event week τ_1 , through event week τ_2]¹

Type of Offer	$8\hat{\gamma}_1$ [-8, -1]	$\hat{\gamma}_2$ [0, 0]	$\hat{\gamma}_3$ [1, 1]	$W_j \hat{\gamma}_4$ [2, e-1]	$2\hat{\gamma}_5$ [e, e+1]	$7\hat{\gamma}_6$ [e+2, e+8]	Total Event Period [-8, e+8]
I. 256 Target Firms							
90 successful public tender offers for control	2.94 (1.26; 61.4)	0.77 (2.11; 44.3)	16.48 (37.57; 72.7)	2.26 (0.87; 47.7)	-2.55 (-5.23; 36.4)	-6.37 (-2.99; 40.9)	13.54 (5.13; 65.9)
29 unsuccessful public tender offers for control	1.70 (0.71; 62.1)	0.33 (0.28; 41.4)	15.68 (18.10; 72.4)	1.75 (-0.08; 55.2)	-2.34 (-2.33; 37.9)	-4.75 (-1.77; 41.4)	12.36 (2.64; 62.1)
93 successful private tender offers for control	3.32 (2.00; 53.8)	3.46 (8.83; 54.8)	9.47 (22.28; 60.2)	-1.21 (-0.96; 33.3)	-2.65 (-4.90; 22.6)	-3.87 (-2.58; 46.2)	8.53 (4.31; 54.8)
44 successful public tender offers, minority buyouts	3.13 (1.23; 54.5)	0.14 (0.25; 50.0)	22.26 (34.18; 79.5)	1.33 (1.05; 61.4)	-0.20 (-0.08; 43.2)	-3.50 (-0.84; 36.4)	23.16 (6.47; 79.6)
II. 139 Bidder Firms							
53 successful public tender offers for control	-0.73 (0.27; 56.6)	0.16 (0.04; 52.8)	-0.29 (0.18; 47.2)	-1.23 (-1.25; 49.1)	-0.37 (-0.87; 39.6)	-0.75 (-0.53; 43.4)	-3.21 (-0.79; 35.8)
16 unsuccessful public tender offers for control	2.92 (1.26; 50.0)	0.87 (1.07; 62.5)	1.08 (1.53; 37.5)	-5.06 (-2.05; 37.5)	-0.75 (-1.11; 37.5)	0.13 (0.22; 50.0)	-0.82 (0.35; 50.0)
45 successful private tender offers for control	-2.15 (-0.93; 44.4)	0.82 (1.52; 55.6)	0.14 (0.40; 46.7)	1.57 (1.73; 57.8)	0.94 (1.50; 55.6)	-0.42 (-0.60; 42.2)	0.90 (0.19; 53.3)
25 successful public tender offers, minority buyouts	-0.89 (-0.30; 48.0)	-0.54 (-0.52; 44.0)	-0.96 (-1.13; 36.0)	-2.40 (-1.24; 52.0)	1.66 (1.54; 44.0)	-1.45 (-1.15; 44.0)	-4.58 (-1.32; 36.0)

¹ Z-value and percent of the sample with positive \hat{r}_1 is given in parentheses. Since \hat{r}_1 represents the weekly abnormal return over event period 1, the firm's total abnormal return is found by multiplying \hat{r}_1 by the number of weeks in period 1. The number of weeks is identical across firms except in the period 4, which depends on the number of weeks in the offer period. 90 percent of the public offers for control have a 4-week offer period (which is the mandatory minimum period), while the average offer period is 4.3 for this sample. The private tender offers have a minimum 15-day (two week) offer period, and the average offer period in this sample is 2.2 weeks.

Table 4

Mean (median) offer premia and abnormal returns in public and private successful all-cash tender offers for control.

Offer premium		13 public offers 1/66-12/69	34 public offers 1/70-12/82	93 private offers 1/72-12/82
<u>I. Total offer premium</u> ¹				
$(P-P_{-8})/P_{-8}$	(%)	33.8 (31.9)	73.3 (59.0)	27.4 (18.3)
$N_p(P-P_{-8})$	(mill. franc)	7.5 (2.1)	15.2 (8.8)	1.6 (2.9)
<u>II. Information-adjusted premium and ex post value of option to tender</u> ²				
$(P-P_{e+8})/P_{e+8}$	(%)	15.2 (13.6)	23.7 (16.1)	14.6 (5.6)
$\alpha(P-P_{e+8})/P_{e+8}$	(%)	14.7 (13.3)	21.2 (13.1)	14.6 (5.6)
$N_p(P-P_{e+8})$	(mill. franc)	4.1 (1.0)	9.4 (4.4)	1.4 (0.7)
<u>III. Information effect</u>				
$(P_{e+8}-P_{-8})/P_{-8}$	(%)	17.0 (19.0)	46.7 (35.8)	18.7 (6.5)
$N_p(P_{e+8}-P_{-8})$	(mill. franc)	3.4 (1.1)	5.7 (4.9)	0.2 (0.7)
<u>IV. Percent average abnormal stock return (Z-value; percent positive)</u> ³				
Target firm	week 1	16.2 (13.7;100.0)	28.1 (41.8;82.4)	9.5 (22.3;60.2)
	weeks -8 through e+8	15.3 (2.3;75.0)	28.5 (6.4;79.4)	8.5 (4.3;54.8)
Bidder firm ⁴	week 1	1.0 (1.2;71.4)	0.6 (1.3;66.7)	0.2 (0.4;46.7)
	weeks -8 through e+8	-0.2 (0.1;42.9)	-0.1 (0.1;41.7)	0.9 (0.2;53.3)

- 1 P is the offer price, P_{-8} is the target price eight weeks prior to the offer announcement, and N is the number of target shares purchased by the bidder.
- 2 $\alpha(P - P_{e+8}) / P_{e+8}$ is the ex post value of the option to tender, where $\alpha = F_p / F_t$, and P_{e+8} is the target share price eight weeks after the expiration of the offer.
- 3 Abnormal returns are computed using the market model described in table 3. The abnormal return in week 1 is represented by γ_3 , in the market model regression, while the abnormal return over the total event period [-8, +8] is given by the sum of the six event parameters weighted by the total number of weeks in each of the six subperiods of the total event window.
- 4 These average abnormal returns are based on 7 publicly traded bidders in the sample of 13 public offers prior to 1970, 12 bidders in the sample 34 public offers after 1969, and 45 bidders in the sample of 93 private offers after 1971.

Table 5

Annual distribution of average (median) offer premia in the total sample of 47 successful cash public tender offers over the period 1966 through 1982¹

Year of offer	Number of offers	Total offer premium		Information-adjusted premium		Information effect	
		$(P - P_{-8})/P_{-8}$ (%)	$N_p (P - P_{-8})$ (mill. franc)	$(P - P_{e+8})/P_{e+8}$ (%)	$N_p (P - P_{e+8})$ (mill. franc)	$(P_{e+8} - P_{-8})/P_{-8}$ (%)	$N_p (P_{e+8} - P_{-8})$ (mill. franc)
1966	1	19.0	0.7	30.0	1.0	-8.5	0.3
1967	3	30.8	18.3	21.9	10.2	8.4	8.2
1968	5	28.7	1.3	1.8	0.2	26.1	1.1
1969	4	46.3	9.0	23.3	5.2	18.4	3.8
1970	1	141.7	19.2	-5.3	-1.8	155.1	21.0
1971	1	62.5	8.8	49.4	7.6	8.8	1.2
1972	2	41.6	12.6	11.1	3.9	29.8	8.7
1973	6	107.6	4.3	2.4	0.4	108.1	3.9
1974	3	40.3	17.9	44.3	18.1	1.9	-0.2
1975	4	61.4	11.8	32.7	8.5	20.5	3.3
1976	4	127.2	8.7	37.6	3.9	74.9	4.6
1977	3	98.6	18.5	5.9	1.9	87.1	16.6
1978	2	96.4	10.9	18.6	5.0	67.0	5.8
1979	4	60.4	38.6	35.4	36.0	25.1	2.6
1980	0	-	-	-	-	-	-
1981	2	34.8	7.2	16.2	4.1	17.9	3.1
1982	0	-	-	-	-	-	-
1966-69 ²	13	33.8 (31.9)	7.5 (2.1)	15.2 (13.6)	4.1 (1.0)	17.0 (19.0)	3.4 (1.1)
1970-82 ²	34	73.3 (59.0)	15.2 (8.8)	23.7 (16.1)	9.4 (4.4)	46.7 (35.8)	5.8 (4.9)

¹ P is the offer price; P_{-8} is the target share price in week -8 relative to the week of the offer announcement; P_{e+8} is the target share price eight weeks 8 after the week of the expiration of the offer; and N_p is the number of target shares purchased by the bidder. Disclosure regulations were introduced in January, 1970.

² Median values in parentheses.

Table 6

Ordinary least squares estimates of the effect of the size of the target, the fraction of the target shares held prior to the offer and purchased by the bidder, the time-period of the offer, whether the offer is public or private, and the offer outcome on offer premia and abnormal stock returns in 163 cash tender offers for control, 1962-82.

$$\text{Model: } Y = a_0 + a_1 \ln V_T + a_2 F_h + a_3 F_p + a_4^D -70 + a_5^D \text{ PRIV} + a_6^D \text{ FAIL}$$

Dependent Variable	a_0	a_1	a_2	a_3	a_4	a_5	a_6	R^2	F-value
<u>I. Offer premium</u>									
1. Total offer premium, ($P - P_{-8}$)/ P_{-8}	2.31 (4.09)	-0.11 (-3.47)	-0.11 (-0.48)	0.24 (1.12)	-0.34 (-2.66)	-0.40 (-4.13)	0.02 (0.11)	0.20	6.24
2. Information-adjusted premium, ($P - P_{e+8}$)/ P_{e+8}	-0.14 (-0.26)	0.01 (0.21)	0.21 (0.93)	0.37 (1.81)	-0.04 (0.32)	-0.06 (-0.71)	0.09 (0.52)	0.03	0.77
3. Information effect, ($P_{e+8} - P_{-8}$)/ P_{-8}	2.55 (4.28)	-0.11 (-3.49)	-0.46 (-1.88)	-0.26 (-1.15)	-0.35 (-2.56)	-0.28 (-2.71)	-0.06 (-0.34)	0.14	4.01
<u>II. Abnormal stock return</u>									
4. Target firm, week 1	0.97 (3.44)	-0.04 (-2.94)	0.01 (0.06)	0.05 (0.44)	-0.06 (-0.96)	-0.16 (-3.28)	-0.02 (-0.19)	0.14	4.03
5. Target firm, weeks -8 through e+8	1.32 (2.11)	-0.07 (-2.04)	0.08 (0.33)	0.07 (0.28)	-0.04 (-0.26)	-0.14 (-1.29)	-0.00 (-0.01)	0.05	1.29
6. Bidder firm ² , 0.01 0.04 0.45 week 1	0.01 (0.15)	0.00 (0.08)	-0.02 (-0.55)	-0.01 (-0.26)	0.01 (0.30)	-0.01 (-0.34)			
7. Bidder firm ² , weeks -8 through e+8	0.49 (2.07)	-0.02 (-1.60)	-0.16 (-1.34)	-0.22 (-1.88)	-0.06 (-0.94)	0.00 (0.01)	-0.03 (-0.36)	0.10	1.22

1 t-statistics are given in parentheses. Variable definitions:

P = offer price.

P₋₈ = target share price eight weeks prior to the offer announcement week.

P_{e+8} = target share price eight weeks after expiration of the offer.

lnV_T = log of the value of the target firm's total equity in week -8.

F_T = fraction of the target shares held by the bidder prior to the offer.

F_h = fraction of the target shares purchased by the bidder.

D₋₇₀^P = a dummy variable that equals one if the offer is made before January 1970, and zero otherwise.

D_{PRIV} = a dummy variable that equals one if the offer is a private tender offer, and zero otherwise.

D_{FAIL} = a dummy variable that equals one if the offer failed (as defined in Table 2), and zero otherwise.

2 The number of listed bidders in this sample of 163 tender offers is 76.

Table 7

Mean (median) offer premia and abnormal returns in public tender offers for control and minority buyouts, classified by the payment method, 1970-1982.

Firm/offer characteristic		31 offers for control; pay- ment in common stock ¹	12 offers for control; pay- ment in bonds	29 minority buyouts; pay- ment in cash only	12 minority buyouts; pay- ment in common stock
I. <u>Total offer premium</u>²					
$(P-P_{-8})/P_{-8}$	(%)	17.2 (19.0)	34.9 (55.2)	38.3 (35.6)	9.0 (17.1)
$N_p(P-P_{-8})$	(mill. franc)	6.9 (5.4)	38.2 (15.4)	6.0 (0.8)	5.7 (4.0)
II. <u>Information-adjusted premium and ex post value of option to tender</u>³					
$(P-P_{e+8})/P_{e+8}$	(%)	22.5 (20.0)	38.5 (33.7)	9.2 (6.1)	3.2 (14.5)
$\alpha(P-P_{e+8})/P_{e+8}$	(%)	21.2 (17.0)	34.3 (30.9)	9.2 (6.1)	2.7 (12.0)
$N_p(P-P_{e+8})$	(mill. franc)	12.4 (4.8)	54.1 (46.2)	1.4 (0.2)	6.9 (1.4)
III. <u>Information effect</u>					
$(P_{e+8}-P_{-8})/P_{-8}$	(%)	-1.1 (0.4)	-1.8 (0.3)	27.8 (22.0)	7.4 (7.5)
$N_p(P_{e+8}-P_{-8})$	(mill. franc)	-5.5 (0.1)	-15.9 (0.1)	4.5 (0.7)	-1.2 (1.3)
IV. <u>Percent average abnormal stock return (z-value; percent positive)</u>⁴					
Target firm	week 1	5.4 (6.6;54.8)	12.1 (7.1;60.0)	28.7 (36.7;85.7)	12.1 (8.0;66.7)
	weeks -8 through e+8	3.9 (1.2;54.8)	-0.0 (-0.2;60.0)	33.2 (7.4;89.2)	5.6 (0.7;66.7)
Bidder firm ⁵	week 1	-0.9 (-0.9;34.6)	-1.2 (-1.2;28.6)	-0.8 (-0.5;40.0)	-1.1 (-1.1;33.3)
	weeks -8 through e+8	-3.6 (-0.7;34.6)	-11.8 (-1.3;14.3)	-5.6 (-1.0;40.0)	-1.0 (-0.6;33.3)

- ¹ See table 4 for the corresponding information on the sample of 34 all-cash public tender offers for control in the data base after 1969.
- ² P is the offer price, P_{-8} is the target price eight weeks prior to the offer announcement, and N_p is the number of target shares purchased by the bidder.
- ³ $\alpha(P_{e+8} - P_{e+8})/P_{e+8}$ is the ex post value of the option to tender, where $\alpha = F_p/F_t$, and P_{e+8} is the target share price eight weeks after the expiration of the offer.
- ⁴ Abnormal returns are computed using the market model described in Table 3. The abnormal return in week 1 is represented by γ_3 in the market model regression, while the abnormal return over the total event period $[-8, +8]$ is given by the sum of the six event parameters weighted by the total number of weeks in each of the six subperiods of the total event window.
- ⁵ These average abnormal returns are based on 26 publicly traded bidders in the sample of 31 stock offers for control, 7 bidders in the sample of 12 bond offers, 15 in the sample of 29 cash minority buyouts, and 9 in the sample of 12 stock minority buyouts.

Table 8

Ordinary least squares estimates of the effect of the size of the target, the payment method, the offer outcome, and whether the offer is for control or a minority buyout on offer premia and abnormal stock returns in 139 public tender offers 1970-82.

$$\text{Model: } Y = a_0 + a_1 \ln V_T + a_2^D \text{ STOCK} + a_3^D \text{ MBO} + a_4^D \text{ FAIL}$$

Dependent variable	a_0	a_1	a_2	a_3	a_4	R^2	F-value
<u>I. Offer premium</u> ^{2,3}							
1. Total offer premium ($P - P_{-8}$)/ P_{-8}	1.30 (2.73)	-0.04 (-1.33)	-0.39 (-5.08)	-0.21 (-2.81)	-0.17 (-1.66)	0.23	9.84
2. Information-adjusted premium ($P - P_{e+8} - P_{-8}$)/ P_{-8}	-0.26 (-0.74)	0.03 (1.40)	-0.00 (-0.03)	-0.14 (-2.39)	-0.14 (-1.81)	0.08	2.74
3. Information effect ($P_{e+8} - P_{-8}$)/ P_{-8}	1.42 (3.04)	-0.06 (-2.12)	-0.37 (-4.86)	-0.10 (-1.32)	0.05 (0.46)	0.24	10.36
<u>II. Abnormal stock return</u>							
4. Target firm, week 1	0.55 (2.17)	-0.02 (-1.15)	-0.18 (-4.30)	0.05 (1.32)	-0.03 (-0.47)	0.20	8.08
5. Target firm, weeks-8 through e+8	0.92 (2.21)	-0.04 (-1.57)	-0.21 (-3.05)	0.06 (0.85)	-0.13 (-1.46)	0.14	5.41
6. Bidder firm, ⁴ week 1	0.02 (0.27)	-0.00 (-0.17)	-0.02 (-1.35)	-0.01 (-0.78)	0.00 (0.09)	0.03	0.61
7. Bidder firm, weeks-8 through e+8	0.37 (1.32)	-0.02 (-1.30)	-0.06 (-1.29)	-0.02 (-0.38)	0.02 (0.25)	0.05	1.09

1 t-statistics are given in parentheses. Variable definitions:

P = offer price.

P_{-8} = target share price eight weeks prior to the offer announcement week.

P_{e+8} = target share price eight weeks after expiration of the offer.

$\ln V_T$ = log of the value of the target firm's total equity in week -8.

D_{STOCK} = a dummy variable that equals one if the payment method is common stock in the bidder firm or a combination of cash and stock, and zero otherwise.

D_{MBO} = a dummy variable that equals one if the offer is a minority buyout, and zero otherwise.

D_{FAIL} = a dummy variable that equals one if the offer failed (as defined in Table 2), and zero otherwise.

2 When restricting the regression to the sample of minority buyouts only, excluding D_{MBO} and D_{FAIL} , coefficient a_2 becomes -0.32 (t-value of -2.44) when the dependent variable is the total offer premium (regression 1), -0.03 (t=-0.33) with the information-adjusted premium as dependent variable (regression 2) and -0.29 (t=-2.72) with the information effect as dependent variable (regression 3). Thus, the negative value of a_2 shown in the table is driven by minority buyouts as well as by the tender offers for control.

3 When restricting the regression to cash offers only, excluding D_{STOCK} and D_{FAIL} , coefficient a_3 becomes -0.36 (t=-3.12) in the regression 1 (total offer premium), -0.14 (t=-2.31) in regression 2 (information-adjusted premium), and -0.20 (t=-1.70) in regression 3 (the information effect).

4 The number of listed bidders in this sample of 139 is 82.

Table A.1

Summary of major regulations governing public and private tender offers to purchase shares
of publicly traded firms in France^a

Offer procedure	Date of regulatory reform d/m/y	Summary of major restrictions
<u>I. Restrictions on the use of the alternative tender offer procedures</u>		
1.1 Regular tender offer (not available prior to 4/4/66)	4/4/66 ^b	Bidder must (i) hold less than 20% of the target shares prior to the offer, (ii) seek control over the target (as defined by C.A.C.) and (iii) use cash as method of payment.
	23/1/70 ^c	Bidder is allowed to use securities as method of payment.
	15/3/73; 10/10/73 ^d	Bidder's prior holding in target can be greater than 20%. However, the bidder must acquire a majority of the target shares or control.
	2/5/75 ^e	Bidder must seek control and a minimum of 15% of the target shares.
	13/8/78; 13/11/78 ^f	Bidder must seek control and <u>either</u> (i) at least 10% of the target shares and 5 million Francs worth of target shares <u>or</u> (ii) at least 20 million Francs worth of target shares.
1.2 Minority buyouts using regular tender offer procedure (not available prior to 23/1/70)	23/1/70 ^e	Bidder must (i) hold at least 50% of the target shares prior to the offer and (ii) seek 100% of the target shares.
1.3 Minority buyouts using simplified tender offer procedure (not available prior to 22/2/72)	22/2/72 ^g	Prior to the offer the bidder must (i) hold at least 90% of the target shares <u>or</u> (ii) hold all except at most 15,000 of the target shares <u>or</u> (iii) hold all except at most 2 million Francs worth of target shares. The bidder must seek 100% of the target.

	2/5/75 ^e	Restrictions (ii) and (iii) above are changed from 15,000 shares to 2,000 shares and from 23 million Francs to 5 million Francs.
	13/8/78; 3/10/78 ^f	Restrictions (i) above is changed from 90% to 67% and restrictions (ii) and (iii) are dropped entirely.
1.4 Purchases of up to a minority interest using the regular tender offer procedure (not available prior	15/3/73 10/10/73 ^d 13/8/78; 3/10/78 ^f	Bidder acquires (i) a minimum of 15% of the target shares and (ii) at most a minority interest in the target. Restriction (i) above is changed from 15% to at least 10% and 5 million Francs <u>or</u> at least 10 million Francs worth of target shares. Use of securities as method of payment is ruled out.
1.5 Privately negotiated controlling-block trades (no restrictions prior to 15/3/73)	15/3/73; 10/10/73 ^d	Any private tender offer executed through a block trade is converted to a public tender offer for 100% of the target shares at the block trade price.

11. Restrictions in effect while the tender off is outstanding

2.1 Regular tender offer procedure	4/4/66 ^g	Minimum offer period is one month.
	23/1/70 ^c	Bidder has the option to increase the value of the initial bid once by a minimum of 5% during the first 20 days of the offer period. Competing bids are allowed up to the day before the expiration day of the initial offer, in which case the initial bidder is allowed to counterbid. Competing bids and counterbids must exceed the initial offer by at least 5%. The initial bidder cannot extend the initial expiration day. Initial bidder can withdraw from offer only if competing bid materializes. Target shareholders can withdraw already tendered shares only if competing bid materializes. During the offer period, target forward and options quotations are suspended and margin on target share forward trades is lifted to 100%.

	15/3/73; 10/10/73 ^d	Target share limit orders expire with offer; dealer transactions are not permitted during offer period; dealers must close existing positions before expiration of offer; target share trade anonymity is repeated, all insider trades and trades involving 5% or more of the target shares are published.	
	2/5/75 ^e	The target firm may not trade during the offer period to "significantly reinforce" its position in the takeover (i.e., significant share repurchases are excluded).	
	13/8/78; 3/10/78 ^d	Competing bids are generally allowed only during the first 10 days of the initial offer period. After the expiration of the initial bid, the initial bidder must wait at least one year before launching another bid for the same target shares.	
2.2	Minority buyouts using the regular tender offer procedure	23/1/70 ^c	Same rules as those governing the regular tender offer procedure in general.
2.3	Minority buyouts using the simplified procedure	22/2/72 ^g	No competing bids are allowed during the offer period; the bidder cannot increase his own bid; no restrictions on trades in the target shares during the offer period.
2.4	Purchases of up to a minority interest using the regular tender offer procedure	15/3/73;	Same rules as those governing the regular tender offer procedure in general.
2.5	Privately negotiated controlling-block trades	15/3/73; 10/10/73 ^d	None of the restrictions governing the regular tender offer procedure, except that target share margin requirement is raised to 100% during a 15-day mandatory price support period which starts the day of the block trade. During the price support period, the buyer of the block must accept all additional target shares tendered to him at the block price.
III. <u>Disclosure rules</u> ^h			
3.1	Regular tender offer procedure	23/1/70 ^c	<u>Bidders</u> : must disclose "all important facts" for shareholders' choice, including the exact motive behind and financing of the offer.

		<u>Targets:</u> must disclose "all important facts" for shareholder choice, including the board's recommendation concerning the offer.
	15/3/73; d 10/10/73	<u>Bidders:</u> must disclose the issue status of securities offered in an exchange bid, and, for <u>each</u> security offered, the capital structure, investment policy over next five years, principal markets and market shares, subsidiaries and shareholdings, management compensation schemes, business policy orientation, and sales and earnings forecasts of underlying business operation.
		<u>Targets:</u> must disclose the same information about its capital structure ownership structure and operations as the bidder must disclose for each of the securities offered in exchange offer.
	13/8/78; f 3/10/78	<u>Bidders:</u> regardless of the method of payment, must disclose its principal activities and products, share ownership of more than 5%, a 5 year financial report, and sales and earnings forecast.
		<u>Targets:</u> no additional requirements (beyond the 1973 rules).
3.2	Minority buyouts using regular tender offer procedure	Same disclosure requirements as those governing the regular tender offer procedure in general.
3.3	Minority buyouts using the simplified offer procedure	22/2/72 ^g Same disclosure requirements as those introduced for the regular tender offer procedure, in 23/1/70.
	15/3/73; d 10/10/73	Same disclosure requirements as those introduced for the regular tender offer procedure.
	13/8/78; f 13/10/78	Simplified minority buyouts essentially exempted from the additional disclosure requirement imposed on the regular tender offer procedure.
3.4	Purchases of up to a minority interest using the regular tender offer proce	15/3/73 d 10/10/73 Same disclosures rules as those governing the regular tender offer procedures in general.

13/8/78; f
3/10/78

Essentially exempted from all the major disclosure rules governing the regular tender offer procedure in general.

3.5 Privately negotiated
controlling-block
trades

No disclosure requirements.

-
- a Institutions involved in enforcing the regulations described in this Appendix include the French Stockbrokers' Association ("Compagnie des Agents de Change" or C.A.C.) and the Stock Exchange commission ("Commission des Operations de Bourse, " or C.O.B.). For all types of offers discussed here, the bidder must obtain prior authorization to go ahead with the offer from C.A.C. and C.O.B. who verify that the offer complies with existing regulations. C.A.C. judges whether an offer constitutes an attempt to acquire "control". C.A.C. generally plays the role of auctioneer in the public tender offer, and publicly announces the identity of the bidder and target firms, the terms of the offer (including revised or competing bids), and (with the exception of privately negotiated controlling-block trades and simplified minority buyouts) the outcome of the offer.
- b Letters of April 4, July 6, and November 29, 1966, between C.A.C. and the French Minister of Economics and Finance.
- c C.O.B., General Ruling on public tender offers, Journal Officiel de la Republique Francaise (henceforth Journal Officiel), January 23, 1970; C.A.C. Addendum to C.A.C. general regulation, Journal Officiel, January 23, 1970.
- d C.A.C., Addendum to C.A.C. general regulation, Journal Officiel, March 15, 1973; C.O.B., Note on the interpretation and application of C.O.B. General ruling on public tender offers, C.O.B. Monthly Bulletin 46, February 1973; C.O.B., General ruling on controlling-block trades, Journal Officiel, March 17, 1973; C.A.C., C.A.C. general regulation, Journal Officiel, August 24, 1973; C.O.B., General instruction on information schedule, October 1973.
- e C.O.B., General ruling on public tender offers, Journal Officiel, May 1, 1975.
- f C.O.B., General ruling on public cash and exchange offers, Journal Officiel, August 13, 1978; C.O.B., Instruction concerning the application of rule D5 of C.O.B. general ruling on public tender offers, October 3, 1978.
- g C.A.C., Addendum to C.A.C. general regulation, Journal Officiel, February 11, 1972.
- h In general, disclosure regulations are enforced by, in particular, assigning the bidder and target management certain fiduciary responsibilities vis-a-vis their shareholders. Essentially, the rules impose an ex post penalty on attempts to release misleading information

INSEAD WORKING PAPERS SERIES

1985

- 85/01 Jean DERMINE "The measurement of interest rate risk by financial intermediaries", December 1983, Revised December 1984.
- 85/02 Philippe A. NAERT and Els GIJSBRECHTS "Diffusion model for new product introduction in existing markets" .
- 85/03 Philippe A. NAERT and Els GIJSBRECHTS "Towards a decision support system for hierarchically allocating marketing resources across and within product groups" .
- 85/04 Philippe A. NAERT and Marcel WEVERBERGH "Market share specification, estimation and validation: towards reconciling seemingly divergent views" .
- 85/05 Ahmet AYKAC, Marcel CORSTJENS, David GAUTSCHI and Ira HOROWITZ "Estimation uncertainty and optimal advertising decisions", Second draft, April 1985.
- 85/06 Kasra FERDOWS "The shifting paradigms of manufacturing: inventory, quality and now versatility", March 1985.
- 85/07 Kasra FERDOWS, Jeffrey G. MILLER, Jinchiro NAKANE and Thomas E. VOLLMANN. "Evolving manufacturing strategies in Europe, Japan and North-America"
- 85/08 Spyros MAKRIDAKIS and Robert CARBONE "Forecasting when pattern changes occur beyond the historical data" , April 1985.
- 85/09 Spyros MAKRIDAKIS and Robert CARBONE "Sampling distribution of post-sample forecasting errors" , February 1985.
- 85/10 Jean DERMINE "Portfolio optimization by financial intermediaries in an asset pricing model".
- 85/11 Antonio M. BORGES and Alfredo M. PEREIRA "Energy demand in Portuguese manufacturing: a two-stage model".
- 85/12 Arnoud DE MEYER "Defining a manufacturing strategy - a survey of European manufacturers".
- 85/13 Arnoud DE MEYER "Large European manufacturers and the management of R & D".
- 85/14 Ahmet AYKAC, Marcel CORSTJENS, David GAUTSCHI and Douglas L. MacLACHLAN "The advertising-sales relationship in the U.S. cigarette industry: a comparison of correlational and causality testing approaches".
- 85/15 Arnoud DE MEYER and Roland VAN DIERDONCK "Organizing a technology jump or overcoming the technological hurdle".
- 85/16 Herwig M. LANGOHR and Antony M. SANTOMERO "Commercial bank refinancing and economic stability: an analysis of European features".

- 85/17 Manfred F.R. KETS DE VRIES and Danny MILLER "Personality, culture and organization".
- 85/18 Manfred F.R. KETS DE VRIES "The darker side of entrepreneurship".
- 85/19 Manfred F.R. KETS DE VRIES and Dany MILLER "Narcissism and leadership: an object relations perspective".
- 85/20 Manfred F.R. KETS DE VRIES and Dany MILLER "Interpreting organizational texts".
- 85/21 Herwig M. LANGOHR and Claude J. VIALLET "Nationalization, compensation and wealth transfers: France 1981-1982" 1, Final version July 1985.
- 85/22 Herwig M. LANGOHR and B. Espen ECKBO "Takeover premiums, disclosure regulations, and the market for corporate control. A comparative analysis of public tender offers, controlling-block trades and minority buyout in France", July 1985.
- 85/23 Manfred F.R. KETS DE VRIES and Dany MILLER "Barriers to adaptation: personal, cultural and organizational perspectives".
- 85/24 Spyros MAKRIDAKIS "The art and science of forecasting: an assessment and future directions".
- 85/25 Gabriel HAVAVINI "Financial innovation and recent developments in the French capital markets", October 1985.
- 85/26 Karel O. COOL and Dan E. SCHENDEL "Patterns of competition, strategic group formation and the performance case of the US pharmaceutical industry, 1963-1982", October 1985.
- 85/27 Arnoud DE MEYER "European manufacturing: a comparative study (1985)".
- 1986
- 86/01 Arnoud DE MEYER "The R & D/Production interface".
- 86/02 Philippe A. NAERT Marcel WEVERBERGH and Guido VERSWIJVEL "Subjective estimation in integrating communication budget and allocation decisions: a case study", January 1986.
- 86/03 Michael BRIMM "Sponsorship and the diffusion of organizational innovation: a preliminary view".
- 86/04 Spyros MAKRIDAKIS and Michèle HIBON "Confidence intervals: an empirical investigation for the series in the M-Competition" .
- 86/05 Charles A. WYPLOSZ "A note on the reduction of the workweek", July 1985.

86/06	Francesco GIAVAZZI, Jeff R. SHEEN and Charles A. WYPLOSZ	"The real exchange rate and the fiscal aspects of a natural resource discovery", Revised version: February 1986.	86/22	Albert CORHAY, Gabriel A. HAWAWINI and Pierre A. MICHEL	"Seasonality in the risk-return relationships some international evidence", July 1986.
86/07	Douglas L. MacLACHLAN and Spyros MAKRIDAKIS	"Judgmental biases in sales forecasting", February 1986.	86/23	Arnoud DE MEYER	"An exploratory study on the integration of information systems in manufacturing", July 1986.
86/08	José de la TORRE and David H. NECKAR	"Forecasting political risks for international operations", Second Draft: March 3, 1986.	86/24	David GAUTSCHI and Vithala R. RAO	"A methodology for specification and aggregation in product concept testing", July 1986.
86/09	Philippe C. HASPELAGH	"Conceptualizing the strategic process in diversified firms: the role and nature of the corporate influence process", February 1986.	86/25	H. Peter GRAY and Ingo WALTER	"Protection", August 1986.
86/10	R. MOENART, Arnoud DE MEYER, J. BARBE and D. DESCHOOLMEESTER.	"Analysing the issues concerning technological de-maturity".	86/26	Barry EICHENGREEN and Charles WYPLOSZ	"The economic consequences of the Franc Poincare", September 1986.
86/11	Philippe A. NAERT and Alain BULTEZ	"From "Lydiametry" to "Pinkhamization": misspecifying advertising dynamics rarely affects profitability".	86/27	Karel COOL and Ingemar DIERICKX	"Negative risk-return relationships in business strategy: paradox or truism?", October 1986.
86/12	Roger BETANCOURT and David GAUTSCHI	"The economics of retail firms", Revised April 1986.	86/28	Manfred KETS DE VRIES and Danny MILLER	"Interpreting organizational texts.
86/13	S.P. ANDERSON and Damien J. NEVEN	"Spatial competition à la Cournot".	86/29	Manfred KETS DE VRIES	"Why follow the leader?".
86/14	Charles WALDMAN	"Comparaison internationale des marges brutes du commerce", June 1985.	86/30	Manfred KETS DE VRIES	"The succession game: the real story.
86/15	Mihkel TOMBAK and Arnoud DE MEYER	"How the managerial attitudes of firms with FMS differ from other manufacturing firms: survey results", June 1986.	86/31	Arnoud DE MEYER	"Flexibility: the next competitive battle", October 1986.
86/16	B. Espen ECKBO and Hervig M. LANGOHR	"Les primes des offres publiques, la note d'information et le marché des transferts de contrôle des sociétés".	86/31	Arnoud DE MEYER, Jinichiro NAKANE, Jeffrey G. MILLER and Kasra FERDOVS	"Flexibility: the next competitive battle", Revised Version: March 1987
86/17	David B. JEMISON	"Strategic capability transfer in acquisition integration", May 1986.	86/32	Karel COOL and Dan SCHENDEL	Performance differences among strategic group members", October 1986.
86/18	James TEBOUL and V. MALLERET	"Towards an operational definition of services", 1986.	86/33	Ernst BALTENSPERGER and Jean DERMINE	"The role of public policy in insuring financial stability: a cross-country, comparative perspective", August 1986, Revised November 1986.
86/19	Rob R. WEITZ	"Nostradamus: a knowledge-based forecasting advisor".	86/34	Philippe HASPELAGH and David JEMISON	"Acquisitions: myths and reality", July 1986.
86/20	Albert CORHAY, Gabriel HAWAWINI and Pierre A. MICHEL	"The pricing of equity on the London stock exchange: seasonality and size premium", June 1986.	86/35	Jean DERMINE	"Measuring the market value of a bank, a primer", November 1986.
86/21	Albert CORHAY, Gabriel A. HAWAWINI and Pierre A. MICHEL	"Risk-premia seasonality in U.S. and European equity markets", February 1986.	86/36	Albert CORHAY and Gabriel HAWAWINI	"Seasonality in the risk-return relationship: some international evidence", July 1986.
			86/37	David GAUTSCHI and Roger BETANCOURT	"The evolution of retailing: a suggested economic interpretation".
			86/38	Gabriel HAWAWINI	"Financial innovation and recent developments in the French capital markets", Updated: September 1986.

86/39	Gabriel HAWAVINI Pierre MICHEL and Albert CORHAY	"The pricing of common stocks on the Brussels stock exchange: a re-examination of the evidence", November 1986.	87/13	Sumantra GHOSHAL and Nitin NOHRIA	"Multinational corporations as differentiated networks", April 1987.
86/40	Charles WYPLOSZ	"Capital flows liberalization and the EMS, a French perspective", December 1986.	87/14	Landis GABEL	"Product Standards and Competitive Strategy: An Analysis of the Principles", May 1987.
86/41	Kasra FERDOVS and Wickham SKINNER	"Manufacturing in a new perspective", July 1986.	87/15	Spyros MAKRIDAKIS	"METAFORCASTING: Ways of improving Forecasting. Accuracy and Usefulness", May 1987.
86/42	Kasra FERDOVS and Per LINDBERG	"FMS as indicator of manufacturing strategy", December 1986.	87/16	Susan SCHNEIDER and Roger DUNBAR	"Takeover attempts: what does the language tell us?", June 1987.
86/43	Damien NEVEN	"On the existence of equilibrium in hotelling's model", November 1986.	87/17	André LAURENT and Fernando BARTOLOME	"Managers' cognitive maps for upward and downward relationships", June 1987.
86/44	Ingemar DIERICKX Carmen MATUTES and Damien NEVEN	"Value added tax and competition", December 1986.	87/18	Reinhard ANCELMAR and Christoph LIEBSCHER	"Patents and the European biotechnology lag: a study of large European pharmaceutical firms", June 1987.
<u>1987</u>					
87/01	Manfred KETS DE VRIES	"Prisoners of leadership".	87/19	David BEGG and Charles WYPLOSZ	"Why the EMS? Dynamic games and the equilibrium policy regime", May 1987.
87/02	Claude VIALLET	"An empirical investigation of international asset pricing", November 1986.	87/20	Spyros MAKRIDAKIS	"A new approach to statistical forecasting", June 1987.
87/03	David GAUTSCHI and Vithala RAO	"A methodology for specification and aggregation in product concept testing", Revised Version: January 1987.	87/21	Susan SCHNEIDER	"Strategy formulation: the impact of national culture", Revised: July 1987.
87/04	Sumantra GHOSHAL and Christopher BARTLETT	"Organizing for innovations: case of the multinational corporation", February 1987.	87/22	Susan SCHNEIDER	"Conflicting ideologies: structural and motivational consequences", August 1987.
87/05	Arnoud DE MEYER and Kasra FERDOVS	"Managerial focal points in manufacturing strategy", February 1987.	87/23	Roger BETANCOURT David GAUTSCHI	"The demand for retail products and the household production model: new views on complementarity and substitutability".
87/06	Arun K. JAIN, Christian PINSON and Naresh K. MALHOTRA	"Customer loyalty as a construct in the marketing of banking services", July 1986.	87/24	C.B. DERR and André LAURENT	"The internal and external careers: a theoretical and cross-cultural perspective", Spring 1987.
87/07	Rolf BANZ and Gabriel HAWAVINI	"Equity pricing and stock market anomalies", February 1987.	87/25	A. K. JAIN, N. K. MALHOTRA and Christian PINSON	"The robustness of MDS configurations in the face of incomplete data", March 1987, Revised: July 1987.
87/08	Manfred KETS DE VRIES	"Leaders who can't manage", February 1987.	87/26	Roger BETANCOURT and David GAUTSCHI	"Demand complementarities, household production and retail assortments", July 1987.
87/09	Lister VICKERY, Mark PILKINGTON and Paul READ	"Entrepreneurial activities of European MBAs", March 1987.	87/27	Michael BURDA	"Is there a capital shortage in Europe?", August 1987.
87/10	André LAURENT	"A cultural view of organizational change", March 1987	87/28	Gabriel HAWAVINI	"Controlling the interest-rate risk of bonds: an introduction to duration analysis and immunization strategies", September 1987.
87/11	Robert FILDES and Spyros MAKRIDAKIS	"Forecasting and loss functions", March 1987.	87/29	Susan SCHNEIDER and Paul SHRIVASTAVA	"Interpreting strategic behavior: basic assumptions themes in organizations", September 1987
87/12	Fernando BARTOLOME and André LAURENT	"The Janus Head: learning from the superior and subordinate faces of the manager's job", April 1987.	87/30	Jonathan HAMILTON W. Bentley MACLEOD and Jacques-François THISSE	"Spatial competition and the Core", August 1987.

- 87/31 Martine QUINZII and Jacques-François THISSE "On the optimality of central places", September 1987.
- 87/32 Arnoud DE MEYER "German, French and British manufacturing strategies less different than one thinks", September 1987.
- 87/33 Yves DOZ and Amy SHUEN "A process framework for analyzing cooperation between firms", September 1987.
- 87/34 Kasra FERDOUS and Arnoud DE MEYER "European manufacturers: the dangers of complacency. Insights from the 1987 European manufacturing futures survey, October 1987.
- 87/35 P. J. LEDERER and J. F. THISSE "Competitive location on networks under discriminatory pricing", September 1987.
- 87/36 Manfred KETS DE VRIES "Prisoners of leadership", Revised version October 1987.
- 87/37 Landis GABEL "Privatization: its motives and likely consequences", October 1987.
- 87/38 Susan SCHNEIDER "Strategy formulation: the impact of national culture", October 1987.
- 87/39 Manfred KETS DE VRIES "The dark side of CEO succession", November 1987
- 87/40 Carmen MATUTES and Pierre REGIBEAU "Product compatibility and the scope of entry", November 1987
- 87/41 Gavriel HAWAWINI and Claude VIALLET "Seasonality, size premium and the relationship between the risk and the return of French common stocks", November 1987
- 87/42 Damien NEVEN and Jacques-F. THISSE "Combining horizontal and vertical differentiation: the principle of max-min differentiation", December 1987
- 87/43 Jean GABSZEWICZ and Jacques-F. THISSE "Location", December 1987
- 87/44 Jonathan HAMILTON, Jacques-F. THISSE and Anita WESKAMP "Spatial discrimination: Bertrand vs. Cournot in a model of location choice", December 1987
- 87/45 Karel COOL, David JEMISON and Ingemar DIERICKX "Business strategy, market structure and risk-return relationships: a causal interpretation", December 1987.
- 87/46 Ingemar DIERICKX and Karel COOL "Asset stock accumulation and sustainability of competitive advantage", December 1987.
- 88/01 Michael LAWRENCE and Spyros MAKRIDAKIS "Factors affecting judgemental forecasts and confidence intervals", January 1988.
- 88/02 Spyros MAKRIDAKIS "Predicting recessions and other turning points", January 1988.
- 88/03 James TEBOUL "De-industrialize service for quality", January 1988.
- 88/04 Susan SCHNEIDER "National vs. corporate culture: implications for human resource management", January 1988.
- 88/05 Charles WYPLOSZ "The swinging dollar: is Europe out of step?" January 1988.
- 88/06 Reinhard ANGELMAR "Les conflits dans les canaux de distribution" January 1988.
- 88/07 Ingemar DIERICKX and Karel COOL "Competitive advantage: a resource based perspective", January 1988.
- 88/08 Reinhard ANGELMAR and Susan SCHNEIDER "Issues in the study of organizational cognition", February 1988.
- 88/09 Bernard SINCLAIR-DESGAGNÉ "Price formation and product design through bidding", February 1988.
- 88/10 Bernard SINCLAIR-DESGAGNÉ "The robustness of some standard auction game forms", February 1988.
- 88/11 Bernard SINCLAIR-DESGAGNÉ "When stationary strategies are equilibrium bidding strategy: The single-crossing property", February 1988.
- 88/12 Spyros MAKRIDAKIS "Business firms and managers in the 21st century", February 1988
- 88/13 Manfred KETS DE VRIES "Alexithymia in organizational life: the organization man revisited", February 1988.
- 88/14 Alain NOEL "The interpretation of strategies: a study of the impact of CEOs on the corporation", March 1988.
- 88/15 Anil DEOLALIKAR and Lars-Hendrik ROLLER "The production of and returns from industrial innovation: an econometric analysis for a developing country", December 1987.
- 88/16 Gabriel HAWAWINI "Market efficiency and equity pricing: international evidence and implications for global investing", March 1988.
- 88/17 Michael BURDA "Monopolistic competition, costs of adjustment and the behavior of European employment",

- 88/18 Michael BURDA "Reflections on "Wait Unemployment" in Europe", November 1987, revised February 1988.
- 88/19 M.J. LAWRENCE and Spyros MAKRIDAKIS "Individual bias in judgements of confidence", March 1988.
- 88/20 Jean DERMINE, Damien NEVEN and J.F. THISSE "Portfolio selection by mutual funds, an equilibrium model", March 1988.
- 88/21 James TEBOUL "De-industrialize service for quality", March 1988 (88/03 Revised).
- 88/22 Lars-Hendrik RÖLLER "Proper Quadratic Functions with an Application to AT&T", May 1987 (Revised March 1988).
- 88/23 Sjur Didrik FLAM and Georges ZACCOUR "Equilibres de Nash-Cournot dans le marché européen du gaz: un cas où les solutions en boucle ouverte et en feedback coïncident", Mars 1988