Firm in Lawsuit: Prey or Predator?

Besma Hkiri, Chaker Aloui, Michel Plaisent and Dr. Prosper Bernard

Abstract—When the plaintiff and defendant are asymmetrically informed about their firms’ characteristics, the judicial process time and the court decisions will not effortlessly be predicted. This paper examine if the follow in lawsuit can implicitly hide behind a predatory or prey parties’ behaviors and what factors can explain. We assume that an inter-firm legal case is a predation attempt to oust a competitor in the same sector. This behavior can be explained by some economic characteristics such as the size, the leverage level and the opportunities growth. The defendant will inevitably be a prey that suffers of eviction caused by litigation costs and bad reputation signals. Our sample is composed by 287 firms listed in the Canadian stock market during the period from 1999 to 2006. In the empirical investigation is conducted using a binary pooled probit dichotomy model. Our results reveal the that plaintiff is “an innocent predator” where its objectives are to maximize its profits when the rival cannot pay the litigation costs set and have not possibility to run into debts. Thus, litigation announcement is a signal to win new market share. Mutually, the defendant is a prey in the sense that it is a victim of bad signals and bad reputation disclosed by the plaintiff.

Key Words—Information asymmetry, economic predation, litigation

I. LITERATURE REVIEW

The transference of the conceptions of predation theory from biology to other theories, especially to the economic and finance theories is one of the most advanced developments in financial literature. Neither the courts nor legal and economic scholars, nevertheless, agree on general definition of predatory behavior. For instance, in biology, the predation behavior is specified as an “Instinctual behavior pattern in which food is obtained by killing and consuming other species”. The economic predation theory is introduced by McGee (1958) how has listed the predation conditions and consequences in the industrial organization. In the economic literature, the predation is usually linked to an abusive price decrease in order to prevent a competitor.

Thus, according to Odover and Willig (1981) and Miller and Pauhter (1985) the predatory behavior is “a response to a rival that sacrifices part of the profit that could be earned under competitive circumstances, were the rival to remain viable, in order to induce exit and gain consequent additional monopoly profit.” For this raison, Bernheim (1984) and Pearce (1984) assumed that predation is a price war where the firms are uncertain about its outcomes. The theoretical and empirical literatures have distinguished among various forms of predation. The most renowned predation form’s is named the Long-Purse theory is developed by Telser (1966). This theory predicted positive correlation amongst the predation behavior tentative and the high internal financing’s (Snyder, 1996). Especially, this theory suggested that the firm may follow a deep-pocket strategy in order to oust a rival which is generally financially flimsy and pressed by the continual decrease of product price. This strategy involves also of continue production with an excessively low price compared to its production cost. Thus, the firm with greater financial resources will usually still be in business when the other firm exits (Hilke and Nelson, 1988, p.107) and the rival with sallow-pocket conversely ends by exit of the market (Arreda and Turner 1975; Pautler, 1985; Tirole, 1988). In an other hand, Friedman (1979) assumed that predatory behavior can likewise take the form of over-investment where the firm, by extremely decreasing their prices, will have new engagements and can raising extremely its cash flows. Fudenberg and Tirole (1989), however, by developing the signal-jamming theory, suggested that the predator relies on the prey beliefs. The prey, uncertain of its future profit, uses his earning to decide resting or leaving the market. Recently, Rey and Tirole (1997) distinguished between “innocent predation” that consists on the profit maximization in order to win a new market share and “aggressive predation where the objective of the decreasing price is to eradicate the current and prospect rivals. In a similar vein, Kamp and Thoms (1997) assumed that, in presence of information asymmetry between rivals, the plausible predator behavior is a “false predation”. Brunnermenier and Pedersen (2005) expected that, for the prey, predation can affect the optimal management of institutional investors who hold illiquid assets. They suggested, moreover, that predation practice will mostly have benefit if there is a few number of predators. Although the predation practice is widely developed in industrial and economic organization, some studies have interested on this in the financial practice. Firms can always be subject of legal cases (antitrust conflict, patent, shareholders conflict). As suggested by financial literature, litigation conflicts between firms can be explained by some firm’s economic characteristics (size, capital structure, growth opportunity,
financial distress) and by the firms proximity to bankruptcy. Typically, a plaintiff firm with large size and a high level debt is more able to bear litigation costs set (Iohson et al., 200; Black et al., 2006). In the same context, Bizjak and Coles (1995) suggested that firms with a higher debt level or deep pockets can conduct, in the long run, the legal conflict (Hilke and Nelson 1988; Klevorick 1993; Campert and Pfister; 2002). When firm is always implicated in the legal cases, it’s interesting to find real causes. We assume that both plaintiff and defendant have different and convincing reasons for being in conflict. Based on the economic predation theory, we assume that an inter-firms legal case has a predation attempt to oust a competitor in the same sector. Using dichotomy model method, our paper examines how corporate lawsuit dissimulated a predatory behavior. Especially, we assume that the plaintiff is a predator that is, by following a rival in lawsuit, aims at exit this rival from the market. In this paper, we also assist into a theoretical and empirical literature development on the connection between corporate finance and predation theory. In our knowledge, no one has used the predation theory to explain inter-firm litigation cases. We expect that the plaintiff when it follows in lawsuits a defendant which is operating in same industry has a predatory behavior that can be explained by the plaintiff size, its leverage and growth opportunities. We will as well be concerned the defendant behavior against a possible plaintiff predation practice. As suggested by the financial studies cited as previous, a defendant with low size and that it has a sallow-pocket, can exit the business when the plaintiff can adopt a predatory strategy by forcing the firm to pay a high set of litigation costs (lawyers’ fees, reputation fees, etc....). The paper exposes some empirical studies that put the relationship between predation and finance and law.

II. RESEARCH QUESTIONS AND CONTRIBUTION

By excavating in the financial literature, we understand a few numbers of financial empirical studies that have concerned with the relationship between finance and predation. For instance, Bolton and Scharfstein (1990) ascertained a significant link between agency conflict problems in financial contracting and a predatory behavior. Based on the information asymmetries problems and “long purse” theory, they noted that “cash-rich” firms drive their financially constrained competitors out of business by reducing their rivals’ cash flow”. More recently, Snyder (1996) considered that the financial contracting renegotiation can avoid predation behavior. The author considered that the renegotiation between co-contracting urge them to adopt a deep-pocket strategy to get new financial resources (Dolgsong and Newton, 1993; Baumol, 1996; Genesove and Mullin, 2006). The predation practice is lawfully illegal as revealed by the United Stated Antitrust Law and the European Union Competition Law. However, the identification of the possible predatory behavior by Court is often not easy. Principally, it is difficult to distinguish between a losing sale and a predatory price. Arreda and Turner (1975) in their paper titled “Predatory pricing and related practices under Section 2 of the Sherman Act”, proposed that the Court can refer to an assimilation process that consists on to compare among the firm product prices and production costs of these products (they usually use the average costs and average variable costs as a proxies). As given as follow, graphically, Areeda and Turner (1975) identify three zones.

Where, AC denotes the Average Cost and VAC represents the Average Variable Cost. We understand between three zones. The first zone is named the outside doubt zone. For a competitive and monopoly firm, where the production sales’ price is equal or higher than the average cost, this situation is considered as legal. For the Court, this firm is not a predator. The Doubt Zone Where prices were between average variable costs and average costs, this situation can be source of the firm sales loss’s. However, this condition is necessary but not sufficient for the Court to judge if it’s a predation practice. In order to decide if there is a predatory practice, must be based on other indicators such that the decreasing price period, contract relationship of the firm, etc. The Predation Zone in which the price decreasing below the average variable costs, has necessarily a predation objective. This situation is illegal and the firm must discontinue this price drop. According to Klevorick (1993) and Bolton and al., (2000), the number of predatory pricing lawsuit declined as a result of Court adoption of Areeda and Turner (1975) predation price identification rule. We can also refer to the Milgrom and Robert (1982) model where they understand a “limit pricing”. The idea consists on setting, in the short run, a price below its maximum level in order to prevent a competitor to enter in the sector. The Canadian litigation announcements data are collected from the “Quick Law” and “Jurisprudence-plus” databases and the financial variables are collected from the Stock Guide database of TSX-CFMRC of Toronto Market Exchange 2. We remove class action lawsuits and the conflict announcements when the one party is the state or a private person. Our sample We use 287 firms which 71 have 105 event litigation. Our study is spread over six years (from January, 1999 to December 2006). We use a binary pooled probit model where the dependent variable that expresses the announcement litigation disclosure is given as:

$$ANL_{it} = \begin{cases} 1 & \text{when litigation event is announced at } t \\ 0 & \text{else} \end{cases}$$

(1)

2 For more details about contract renegotiation see Fudenberg and Tirole (1990).
Based on the pooled probit model, we refer to multivariate analysis. This analysis will consider the specific random effects of the firms. This analysis is conducted via a probit model where the estimation method is the maximum of likelihood. The estimation results associated to plaintiff and defendant model where the estimation method is the maximum of likelihood. The estimation results associated to plaintiff and defendant are given in the Tables 3 and 4. The model respectively used for the plaintiff and the defendant is given as follow;

\[ ANL_{it} = \alpha + \beta_1 T Dette_{it-1} + \beta_2 DPA_{it-1} + \beta_3 VAA_{it-1,t} + \beta_4 VCA_{it-1,t} + \beta_5 Taille_{it-1} + \beta_6 PC_{it} + \nu_{it} + \nu_{it} \] (2)

Where \( ANL_{it} = 1 \) if \( y^*_i > 0 \) and 0 else, \( \nu_{it} \) and \( \nu_{it} \) are independent random variables.

Based on the pooled probit model, we conduct our empirical investigation using a pooled probit model as given by equation (1). Thus, our model respectively used for the plaintiff and the defendant firms is given as follow;

<table>
<thead>
<tr>
<th>TABLE 1. ELEMENTARY STATISTICS OF INDEPENDENT VARIABLES: PLAINTIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Financial Structure</td>
</tr>
<tr>
<td>TDette_{it-1}</td>
</tr>
<tr>
<td>DPA_{it-1}</td>
</tr>
<tr>
<td>Growth opportunities</td>
</tr>
<tr>
<td>VCA_{it-1,t}</td>
</tr>
<tr>
<td>VAA_{it-1,t}</td>
</tr>
<tr>
<td>Predation</td>
</tr>
<tr>
<td>PC_{it}</td>
</tr>
<tr>
<td>Control</td>
</tr>
</tbody>
</table>

Thus, the presence of multicolinearity problem is not likely to influence our estimation. Compared to our assumption, the expected sign of variables are different from the correlation coefficients. Indeed, we expected a positive relationship between leverage, growth opportunities and announcement litigation. Also, we predict that follow on lawsuit a defendant is positively related to the size and to the competitive position of the plaintiff.

<table>
<thead>
<tr>
<th>TABLE 2. ELEMENTARY STATISTICS OF INDEPENDENT VARIABLES: DEFENDANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Financial Structure</td>
</tr>
<tr>
<td>TDette_{it-1}</td>
</tr>
<tr>
<td>DPA_{it-1}</td>
</tr>
<tr>
<td>Growth opportunities</td>
</tr>
<tr>
<td>VCA_{it-1,t}</td>
</tr>
<tr>
<td>VAA_{it-1,t}</td>
</tr>
<tr>
<td>Predation</td>
</tr>
<tr>
<td>PC_{it}</td>
</tr>
<tr>
<td>Control</td>
</tr>
</tbody>
</table>

The results showed in Table 2 demonstrated that defendant firms have low leverages. The median and mean values of growth opportunities variables proved that the firms’ growth potential is low. By referring to these results, we can suppose that the defendant firms are likely to be prosecuted for a predatory practice. This assumption is furthermore supported by the variables coefficients where we show a negative correlation between being followed on lawsuit and defendant opportunities growth. Similarly, a positive and significant correlation between the lawsuit event and the defendant competitive position is disclosed. We assume, consequently, that defendant can be a prey targeted by the plaintiff. Based on the dichotomy models, we conduct our empirical investigation using a pooled probit model as given by equation (1). Thus, our model respectively used for the plaintiff and the defendant firms is given as follow;
According to the predation theory, the growth opportunities are key factors of predatory behavior (Joskow and Klevorick, 1979). The size variable is positively significant. This result confirms our first assumption. This finding corroborates the conclusions of Bhagat et al. (1998), Bhagat and Romano (2001) and Haslem (2005). These authors showed that the firms with a high size are more able to follow suit others firms in lawsuit. The relationship between size and corporate litigation is also supported by Francis et al. (1994) and Skinner (1997) in the deep-pocket theory. Contrary to Fisher and Verrecchia (1997), Core and Schrand (1999) and Billings (1999) who argue that the firm with high leverage is no longer to bear the litigation costs, the capital structure coefficient is negative but not economically significant. This result can be explained as follow; the firm that makes sure to win the case did not need to go to the capital market in order to borrow from it. This conclusion is confirmed by Bernheim (1984) and Pearce (1984). They supported that the predation is a game where the parties are uncertain about its length and result and the financial structure cannot be a determining factor of this game. In an other hand, when the litigation parties are in the same industry, our results showed a positive and statistically significant link between following in lawsuit and a competitive position. Thus, legal case can conceal a predation strategic in order to oust a rival of the market (Campert and Pfister, 2002).

In addition, the results suggested that the plaintiff is an “innocent” predator that its first objective is to maximize its profit by sacrificing the litigation costs (Rey and Tirole, 1997). Thus, the plaintiff is an “intelligent” predator looking for a new market share and maximizing its profit. The marginal effects reveal the same results. We expose now the estimation results of defendant firms.

Our results support the negative relationship between the firm involvement in corporate lawsuits and the growth opportunities. Contrary to our assumptions, the size coefficient is positively and statistically significant. According to the financial literature, small size firms are mostly able to follow suit others firms in lawsuit. The relationship between size and corporate litigation is also supported by Francis et al. (1994) and Skinner (1997) in the deep-pocket theory. Contrary to Fisher and Verrecchia (1997), Core and Schrand (1999) and Billings (1999) who argue that the firm with high leverage is no longer to bear the litigation costs, the capital structure coefficient is negative but not economically significant. This result can be explained as follow; the firm that makes sure to win the case did not need to go to the capital market in order to borrow from it. This conclusion is confirmed by Bernheim (1984) and Pearce (1984). They supported that the predation is a game where the parties are uncertain about its length and result and the financial structure cannot be a determining factor of this game. In an other hand, when the litigation parties are in the same industry, our results showed a positive and statistically significant link between following in lawsuit and a competitive position. Thus, legal case can conceal a predation strategic in order to oust a rival of the market (Campert and Pfister, 2002).

In addition, the results suggested that the plaintiff is an “innocent” predator that its first objective is to maximize its profit by sacrificing the litigation costs (Rey and Tirole, 1997). Thus, the plaintiff is an “intelligent” predator looking for a new market share and maximizing its profit. The marginal effects reveal the same results. We expose now the estimation results of defendant firms.

Our results support the negative relationship between the firm involvement in corporate lawsuits and the growth opportunities. Contrary to our assumptions, the size coefficient is positively and statistically significant. According to the financial literature, small size firms are mostly able to follow suit others firms in lawsuit. The relationship between size and corporate litigation is also supported by Francis et al. (1994) and Skinner (1997) in the deep-pocket theory. Contrary to Fisher and Verrecchia (1997), Core and Schrand (1999) and Billings (1999) who argue that the firm with high leverage is no longer to bear the litigation costs, the capital structure coefficient is negative but not economically significant. This result can be explained as follow; the firm that makes sure to win the case did not need to go to the capital market in order to borrow from it. This conclusion is confirmed by Bernheim (1984) and Pearce (1984). They supported that the predation is a game where the parties are uncertain about its length and result and the financial structure cannot be a determining factor of this game. In an other hand, when the litigation parties are in the same industry, our results showed a positive and statistically significant link between following in lawsuit and a competitive position. Thus, legal case can conceal a predation strategic in order to oust a rival of the market (Campert and Pfister, 2002).

In addition, the results suggested that the plaintiff is an “innocent” predator that its first objective is to maximize its profit by sacrificing the litigation costs (Rey and Tirole, 1997). Thus, the plaintiff is an “intelligent” predator looking for a new market share and maximizing its profit. The marginal effects reveal the same results. We expose now the estimation results of defendant firms.

Our results support the negative relationship between the firm involvement in corporate lawsuits and the growth opportunities. Contrary to our assumptions, the size coefficient is positively and statistically significant. According to the financial literature, small size firms are mostly able to follow suit others firms in lawsuit. The relationship between size and corporate litigation is also supported by Francis et al. (1994) and Skinner (1997) in the deep-pocket theory. Contrary to Fisher and Verrecchia (1997), Core and Schrand (1999) and Billings (1999) who argue that the firm with high leverage is no longer to bear the litigation costs, the capital structure coefficient is negative but not economically significant. This result can be explained as follow; the firm that makes sure to win the case did not need to go to the capital market in order to borrow from it. This conclusion is confirmed by Bernheim (1984) and Pearce (1984). They supported that the predation is a game where the parties are uncertain about its length and result and the financial structure cannot be a determining factor of this game. In an other hand, when the litigation parties are in the same industry, our results showed a positive and statistically significant link between following in lawsuit and a competitive position. Thus, legal case can conceal a predation strategic in order to oust a rival of the market (Campert and Pfister, 2002).

In addition, the results suggested that the plaintiff is an “innocent” predator that its first objective is to maximize its profit by sacrificing the litigation costs (Rey and Tirole, 1997). Thus, the plaintiff is an “intelligent” predator looking for a new market share and maximizing its profit. The marginal effects reveal the same results. We expose now the estimation results of defendant firms.

Our results support the negative relationship between the firm involvement in corporate lawsuits and the growth opportunities. Contrary to our assumptions, the size coefficient is positively and statistically significant. According to the financial literature, small size firms are mostly able to follow suit others firms in lawsuit. The relationship between size and corporate litigation is also supported by Francis et al. (1994) and Skinner (1997) in the deep-pocket theory. Contrary to Fisher and Verrecchia (1997), Core and Schrand (1999) and Billings (1999) who argue that the firm with high leverage is no longer to bear the litigation costs, the capital structure coefficient is negative but not economically significant. This result can be explained as follow; the firm that makes sure to win the case did not need to go to the capital market in order to borrow from it. This conclusion is confirmed by Bernheim (1984) and Pearce (1984). They supported that the predation is a game where the parties are uncertain about its length and result and the financial structure cannot be a determining factor of this game. In an other hand, when the litigation
hypothesis; a defendant firm with shallow-pocket strategy can be victim of a potential predatory behavior. This can be also explained by the difficulty that the firm can have in order to access to the capital markets (Bhagat et al. 1994; Bizjak and Coles, 1995; Campert Pfister, 2002). In addition, the firms, with challenging financial situation, added to the high lawsuit costs, end up leaving the market (Pearce, 1984). The positive and statistically significant relationship between the competitor position and the litigation conflict authorizes our second hypothesis. A firm can always be a victim of a strategy competitor position and the litigation conflict authorizes our and statistically significant relationship between the

REFERENCES