

**The Evolution of Corporate Governance and Firm Performance in Transition Economies:  
The Case of Sellier and Bellot in the Czech Republic**

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*JEL classification:* G32; G34; K22

*Keywords:* Corporate governance; Ownership structure; Capital markets; Corporation and securities law; Transition economies; Czech Republic

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### **Abstract**

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# **The Evolution of Corporate Governance and Firm Performance in Transition Economies: The Case of Sellier and Bellot in the Czech Republic**

## **1. Introduction**

The evolution of corporate governance is an important area of finance research because the survival of firms depends on their ability to adapt governance structures to changes in external environments (Kole and Lehn, 1999; Morck and Steier, 2005). Comparatively little is known about corporate governance dynamics, especially for firms in transition economies that face exogenous shocks like privatization and transition from centrally planned to profit-based economies. Transition economies firms often operate within deficient legal, capital market, and accounting systems that could hinder governance change. It is not yet clear how these deficiencies impede progression to optimal ownership structure, governance, or affect firm performance.

This study investigates the evolution of corporate governance and firm performance in transition economies based on the experience of Czech ammunition manufacturer Sellier & Bellot (S&B) between 1993 and 2003. The Czech Republic is notable because mass privatization of state owned enterprises (SOEs) was not soon followed by an improvement in economic activity.<sup>1</sup> This appears inconsistent with the literature that suggests privatized firms outperform SOEs because they resolve agency problems inherent in government ownership (Megginson and Netter, 2001).

The Czech voucher privatization scheme implemented between 1993 and 1995 exogenously imposed diffuse ownership on firms (Hingorani *et al.*, 1997; Claessens and Djankov, 1998; and Makhija and Spiro, 2000) at a time when the Czech Republic was characterized by legal, capital market, and accounting inadequacies. Prior literature suggests firms in such countries tend to have highly concentrated ownership (Shleifer and Vishny, 1997; La Porta *et al.*, 2000).<sup>2</sup> However, Czech legal, market, and accounting deficiencies contributed to a new set of agency problems and impeded corporate governance evolution toward optimal concentrated ownership structure (Claessens and Djankov, 1999; Aussenegg and Jelic, 2002).<sup>3</sup>

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<sup>1</sup> Czech real GDP per capita grew on average by only 0.8% per year over the four years that followed mass privatization, compared to 5.4% for Poland over the same period.

<sup>2</sup> Consistent with the international corporate governance literature, we refer to ownership structures that have one controlling shareholder (with greater than 50 percent equity ownership) as “concentrated,” and to those that do not as “diffuse.”

<sup>3</sup> These agency problems led to extreme cases of tunneling and looting (Aussenegg and Jelic, 2002; Cull *et al.*, 2002). Tunneling is the Czech expression for the transfer of assets to offshore accounts. It has become a fashionable economic term for the expropriation of the wealth of minority owners by the controlling

The case of S&B is a natural experiment to disentangle corporate governance evolution and structural change, even though some potential exists for selection bias by focusing on a single successful firm. S&B is a typical Czech company that underwent mass privatization resulting in an artificially diffuse ownership structure. S&B's total assets were 1.121 billion Czech korunas (CZK) in 1993 (approximately U.S. \$38.8 million), whereas the average voucher privatized Czech firm's total assets according to Hingorani *et al.* (1997) were CZK 0.965 billion in 1991 (U.S. \$31.9 million). Similar to S&B, many companies experienced poor performance during the initial post-privatization years, followed by substantial ownership concentration and delistings (Claessens and Djankov, 1999; Aussenegg and Jelic, 2002). In fact, 91 percent of firms on Prague Stock Exchange (PSE) were delisted between 1995 and 2002. Eventual performance gains at S&B are consistent with large-sample evidence documenting improvements in sales growth, operating efficiency and profitability following privatizations (Megginson and Netter, 2001). However, our findings also suggest that performance improvements are greater if privatization is followed by adoption of corporate governance structures that better control owner-manager agency conflicts (Beiner *et al.*, 2006; D'Souza *et al.*, 2005; Drobetz *et al.*, 2004), and if capital markets are developed and investors protected (Boubakri *et al.*, 2005).

This study makes extensive use of proprietary information obtained during a series of interviews between the fall of 2003 and the summer of 2005 with the CEO and CFO of S&B and the Managing Director of its wholly owned Machines subsidiary. We also utilize financial statements (including some from a period when the firm was private) and internal company data. We show that between 1993 and 1998, S&B was characterized by diluted ownership, ineffective board monitoring due to frequent director turnover, and poor alignment of incentives. Return on assets fell from 3.37 percent to -25.38 percent, return on equity dropped from 4.18 percent to -43.00 percent, and S&B stock lost 87 percent of its value. By 1998, the company was in secondary default, approaching primary default, and equity blockholders finally agreed to put the company up for sale.<sup>4</sup> The inability to sell the company between 1998 and 1999 led blockholders

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shareholder. It has been a problem for transition economies undergoing mass privatization. For example, in Bulgarian mass privatization, more than 85 percent of firm value was expropriated by controlling blockholders (Atanasov, 2005). Looting refers to the expropriation of wealth from the firm by its owners after governments or banks guarantee firm debt (Akerlof *et al.*, 1993; Cull *et al.*, 2002). We do not find evidence of tunneling or looting at S&B, but the current CEO of the company told us that the fear of wealth expropriation—namely the unwillingness of shareholders to see their stakes diluted—significantly influenced the behavior of S&B's blockholders before 1999.

<sup>4</sup> In the Czech legal system, primary default occurs when a company is unable to pay its contractual obligations, even if all promised payments to the company were satisfied immediately; it results in the liquidation of the firm. Secondary default occurs when a firm defaults on its obligations only because other firms (its customers, for example) are themselves delinquent on payments; firms in secondary default are

to lower their estimates of equity value. In 1999, one cash-rich blockholder, R.E.M.O. Corporation, was able to gain voting control.<sup>5</sup> R.E.M.O. improved monitoring, created better performance incentives, and hired a new management team. Between 1999 and 2003, S&B's financial performance soared: return on assets increased from 4.71 percent to 13.51 percent, return on equity from 7.37 percent to 16.69 percent, and the stock price increased 261 percent.<sup>6</sup> This occurred despite a 22.7 percent decrease in the CZK–U.S. dollar exchange rate between 1999 and 2003 that adversely affected U.S. dollar-denominated sales.

This paper makes two contributions. First, the S&B case shows how legal, capital market, and accounting system deficiencies impede corporate governance evolution from a suboptimal to an optimal concentrated governance structure. These deficiencies were associated with: (i) infrequent trading of S&B shares and a related lack of price discovery; (ii) a banking system that prefers to maintain blocks of shares held by bank-affiliated Investment Privatization Funds (IPFs) to protect bank loans to firms; (iii) a lack of investor funds that led to a shortage of buyers for S&B shares, (iv) unrealistic expectations among S&B blockholders about the value of their shares, and (v) incentive misalignment between IPF shareholders and managers. These problems in turn can be traced to poor institutional development, including weak investor protection and regulatory laws, inefficient financial markets (Glaeser *et al.*, 2001), and opaque accounting standards that exacerbated information asymmetry between insiders and outside investors (Makhija and Patton, 2004). It took five years of declining performance, default, and an unsuccessful attempt to sell the company before blockholders lowered their expectations about share value and one blockholder with access to private capital could gain control of the firm. This result contrasts with Kole and Lehn's (1999) finding that outside blockholder ownership is one of the first and presumably least expensive governance structure characteristics to change in the highly developed U.S. market. In this respect, the S&B experience is more than just the story of a

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typically allowed to continue to operate, although secondary default status sends a powerful negative signal to the firm's stakeholders.

<sup>5</sup> Czech companies are not obliged to disclose the identity of their major shareholders (Glaeser *et al.*, 2001). However, we have reason to believe that R.E.M.O. Corporation is owned by one individual. Before 1999, he held stakes in S&B through several affiliated investment companies. Between 2000 and 2002, these holdings were concentrated in R.E.M.O. Corporation. After 2002, the R.E.M.O. stake was once again dispersed into several affiliates still controlled by the current owner. Throughout the paper, we use the terms R.E.M.O. Corporation and current owner interchangeably. Management informs us that the owner's wealth is almost completely tied up in S&B stock.

<sup>6</sup> Public trading of S&B shares ceased in October 2001. Our estimate of this stock price increase is based on a repurchase offer for privately held shares in May 2004. Even though this price may not precisely reflect the intrinsic value of S&B shares traded in an open and efficient market, all minority shareholder repurchase offers in the Czech Republic must be based on fair-value estimates provided by court-appointed experts.

successful reorganization undertaken by a majority owner as was the case with General Dynamics (Dial and Murphy, 1995) and the Times Mirror Company (DeAngelo and DeAngelo, 2000).

Second, the S&B story demonstrates that the adoption of monitoring and incentive mechanisms known to mitigate owner-manager agency conflicts in developed countries can create value in transition economies. S&B's focus on sales growth, cost cutting, and pay-for-performance incentives after 1999 positively affected performance, consistent with the experience of many U.S. companies (Palepu and Wruck, 1992; Wruck, 1994). However, the necessary catalyst for changes at S&B was the presence of a single majority owner. Before ownership was concentrated in 1999, inexperienced blockholders were unable to agree on management or monitoring strategies. Frequent clashes between blockholders led to many board changes and five CEO replacements in six years, while company performance deteriorated and S&B entered default. These costs of poor performance are the consequence of delayed corporate governance structure change. The concentration of control in the hands of one blockholder solved the S&B owner-manager agency conflict because this blockholder was able to initiate changes in governance, provide appropriate incentive based compensation, and monitor managers effectively through the boards. Normally, controlling shareholders possess incentives not just to monitor but expropriate firm value. Improvements in Czech securities laws and regulation, and the existence of a scrupulous controlling shareholder mitigated expropriation risk in case of S&B.

The S&B example suggests that effective privatization not only involves rapid ownership transfer but careful securities regulation and legal protection (Glaeser *et al.*, 2001).<sup>7</sup> During the last decade, countries like Russia and Bulgaria launched massive privatization plans modeled on the Czech voucher system. Companies privatized by these methods often endured governance problems similar to those of Czech firms (Atanasov, 2005). Our paper suggests that the path to optimal corporate governance is a function of institutional development as well as privatization. Our study provides new evidence on the ongoing debate as to which should come first – privatization or structural reform.

The remainder of the paper is organized as follows. Section 2 discusses corporate governance, firm performance, and Czech voucher privatization. Section 3 describes S&B's current organization, its pre-1993 background, and its performance during the periods of diffuse ownership (1993-1998), transition (1999), and concentrated ownership (2000-2003). Section 4 discusses the association between changes in S&B's ownership and performance, and describes

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<sup>7</sup> Glaeser *et al.* (2001) claim that Polish strict regulation supervised by a private agency with substantial competences is more efficient than Czech regulation overseen by a governmental agency with weak powers.

monitoring and incentive improvements. Section 5 evaluates alternative explanations for S&B performance improvements following ownership concentration. Section 6 concludes.

## **2. Corporate governance, firm performance, and Czech voucher privatization**

In this section, we discuss the literature on legal systems, capital markets, corporate governance, and firm performance in the context of Czech voucher privatization. We also discuss post-voucher privatization ownership and performance trends.

### *2.1. Legal systems, capital markets, corporate governance, and firm performance*

Finance literature suggests that legal systems, capital markets, and corporate governance are linked. Relevant components of legal systems include investor protection for equityholders and debtholders, capital market regulation, accounting rules, and enforcement of laws against expropriation and corruption. Investor protection differs among countries, as described in Shleifer and Vishny (1997) and La Porta *et al.* (2000). Common law countries like the U.S. and U.K. offer strong investor protection. Civil law countries like France offer less protection to investors. German-style civil law countries, including the Czech Republic, lie somewhere in between. Regulation can be provided by public or private bodies. Evidence suggests that capital market regulation by private rather than public entities better contributes to market efficiency (Glaeser *et al.*, 2001). Similarly, accounting systems whose rules are established by organizations independent of governments tend to be more informative (Rajan and Zingales, 1998; Ali and Hwang, 2000).

The international corporate governance literature implies that countries with common law, investor-friendly legal systems, effective market regulation, and transparent accounting have larger, more liquid capital markets associated with low information asymmetry (La Porta *et al.*, 2000). Similarly, countries with civil law systems that provide weak protection for investors, minimal capital market regulation, and opaque disclosure tend to have smaller, less liquid, less efficient capital markets. The latter group of countries often endures regular expropriation of investor wealth (Johnson *et al.*, 2000; Desai and Moel, 2004). Weak legal systems and capital markets increase risk and the cost of capital and depress asset values (La Porta *et al.*, 2002; Gompers *et al.*, 2003; Bebchuk *et al.*, 2004; Brown and Caylor, 2004). Shleifer and Vishny (1997) suggest that firms can limit costs associated with weak legal systems and inefficient capital markets by adopting concentrated ownership structures. Blockholders in civil law countries also enjoy disproportionate benefits of control (Dyck and Zingales, 2004; Franks and Mayer, 2001).

Internal governance characteristics, such as monitoring mechanisms and incentive

alignment systems, can also protect investors. Boards of directors monitor managers on behalf of shareholders, as noted by Jensen and Meckling (1976), Fama and Jensen (1983), Weisbach (1988), Hermalin and Weisbach (1991), Jensen (1993), Yermack (1996), Rosenstein and Wyatt (1990, 1997), and others. This literature suggests that smaller boards are more effective, and boards with a greater proportion of outside directors are more independent. Compensation can also be used to align the interests of managers and owners. Manager and shareholder interests tend to be more closely aligned when managers receive greater proportions of compensation in the form of incentive-based pay, as suggested by Jensen and Murphy (1990), Smith and Watts (1992), Mehran (1995), and others.

Agency theory suggests that corporate governance mechanisms, such as increased managerial ownership, greater pay-performance sensitivity, and more effective, independent boards that control owner-manager agency conflicts enhance firm operating performance and value (Jensen and Meckling, 1976; Jensen, 1986; Stulz, 1990). The empirical literature suggests that firms with governance structures that protect investor interests tend to be worth more and perform better. Gompers *et al.* (2003), Bebchuk *et al.* (2004), and Brown and Caylor (2004) employ composite governance scores to show that governance structures that protect investors are associated with greater value. Yermack (1996) and Anderson *et al.* (2004) find that firms with smaller boards tend to be more profitable and valuable, with lower costs of debt.

Throughout the study period, the Czech Republic was characterized by mediocre though gradually improving investor protection, market regulation, and accounting disclosure. The country experienced recurring corruption, tunneling, and looting, and had inefficient capital markets (Glaeser *et al.*, 2001; Johnson *et al.*, 2000; Cull *et al.*, 2002; Makhija and Patton, 2004). Consequently, publicly traded Czech firms would be expected to possess concentrated ownership structures. However, if the Czech government forced companies to adopt diffuse ownership structures as a consequence of voucher privatization, then these companies would be expected to underperform until ownership became concentrated. The potential for wealth expropriation by a controlling investor would similarly be expected to influence the process by which ownership became concentrated. Finally, board structure and incentive systems are anticipated to be some of the mechanisms by which ownership concentration would eventually improve corporate governance and firm performance.

## 2.2. *Czech voucher privatization*

The Czech political, financial, regulatory, and legal environments affected the process by which former state-owned enterprises were privatized. The first post-Communist Czech government described itself as a conservative Chicago free-market school entity for which legal

concerns were secondary. It viewed prolonged state ownership as detrimental to the long-term health of the Czech economy. Tomas Jezek, the first Minister of Privatization of Czechoslovakia (Czechoslovakia split into the Czech Republic and Slovakia on January 1, 1993), said “privatization was a race between economists and lawyers, in which the economists must be one step ahead” (Stroehlein, 1999). Voucher privatization was implemented as the fastest means by which state-owned enterprises could be transformed into publicly traded companies. Voucher privatization also had the advantage of not requiring additional capital from new owners who had been impoverished under Communist rule, as noted by Hingorani *et al.* (1997). At the same time, the government avoided capital market regulation, which it deemed “socialist.”

Voucher privatization was accomplished in two waves between 1991 and 1995. Approximately 1,700 firms were transferred from the state to Czech citizens and listed on the Prague Stock Exchange (PSE) without concern for capitalization, float, or trading volume. The book value of privatized equity exceeded U.S. \$14 billion, or 10 percent of the Czech Republic’s national wealth (Ziljstra, 1998; Filer and Hanousek, 2000). Citizens exchanged their non-tradable “voucher points” for stocks during multi-round auctions. Privatization attracted participation by about 75 percent of eligible citizens, contributing to diffuse ownership structures among voucher-privatized firms.

One feature of Czech voucher privatization that had the potential to mitigate diffuse ownership problems was its provision for citizens to allocate some or all of their points among the more than 500 IPFs. These funds collected more than two-thirds of all available voucher points (Claessens *et al.*, 1996). Some of the largest IPFs collected more than 10 percent of all points, making them potentially influential institutional blockholders (Jensen and Meckling, 1976; Mikkelsen and Ruback, 1985; Pound, 1988).

However, the Czech government restricted ownership stakes in newly privatized companies to prevent small groups of individuals from acquiring immediate control. IPFs were limited to 20 percent ownership in each firm. This restriction forced large funds to diversify. While the 20 percent restriction was insufficient to provide IPFs with adequate incentives to monitor managers (Coffee, 1996), it temporarily impeded the creation of controlling coalitions of blockholders, such as those that subsequently occurred in Bulgaria (Atanasov, 2005). Fund participation on boards was regarded as supplementary compensation for fund employees rather than a mechanism for effective monitoring. Furthermore, bank-sponsored funds were ineffective monitors on behalf of shareholders because they tended to pursue their own interests as lenders due to the interlocking nature of banks, bank IPFs, and corporate ownership (Makhija and Spiro, 2000; Makhija and Patton, 2004). These problems persisted after voucher privatization because

IPFs lacked cash and could generally only consolidate their positions by making equity block swaps with other IPFs.

Managers tended not to receive significant ownership stakes because of the government's desire to limit any residual influence of former Communist Party insiders. Indeed, after voucher privatization, Czech managers owned on average only 2.5 percent of their firms. Foreign blocks were also discouraged because the government did not want to be accused of selling out to foreign interests. Only 1.6 percent of all privatized shares were sold to foreign investors, as noted by Anderson *et al.* (2001).

In short, ownership blocks did little to improve the corporate governance of Czech firms. By 1998 the Organisation for Economic Co-operation and Development (OECD) complained that Czech investment funds were unwilling and unable to directly influence company performance, and that Czech firms frequently "...engaged in dubious activities to the benefit of managers or controlling shareholders and to the detriment of the majority of small investors" (OECD, 1998).

Creditors were unable to mitigate the diffuse ownership problem because of deficiencies in the banking system and the virtual nonexistence of a public bond market. Czech banks were inexperienced in free market operations, limiting their ability to monitor debtor firms. Bank loan portfolios were also dominated by loans to financially distressed firms in the aftermath of the collapse of Communism (Cull *et al.*, 2002). When asked whether his banks ever acted as effective monitors, Radek Musil, current CEO of S&B, said, "...bankers show up every other month for a ritualistic review of company financials, sometimes threatening to cease loans and trigger bankruptcy, but all the while knowing they would never do that, and knowing that we knew that they would never do that."

Diffuse ownership combined with underdeveloped capital markets and the limitations of Czech law, regulation, and disclosure to produce poor firm performance throughout the Czech Republic. Newly privatized Czech firms tended not to improve profitability or efficiency, and they performed worse than selectively privatized Polish and Hungarian firms (Harper, 2001; Aussenegg and Jelic, 2002). Post-privatization Czech GDP growth was the smallest of its regional peers, reaching only about 1.5 percent in 1997, and was flat in 1998.

### *2.3. Ownership and performance following Czech voucher privatization*

During the ten years that followed Czech voucher privatization, substantial ownership concentration occurred, consistent with our expectations. A total of 1,611 companies (91 percent of listed firms) were delisted from the PSE between 1995 and 2002, as shown in Table 1, Panel A. Most delistings occurred in 1997 as a result of a PSE directive to delist firms with low trading volume. To estimate the number of company-initiated rather than PSE-initiated delistings, we

compare the PSE with its competitor, the RMS System. This over-the-counter electronic system listed all PSE issues, including those delisted from the PSE. Between 1995 and 2000, the number of listings on the RMS System decreased from 1,792 to slightly over 1,000. This decline was almost exclusively attributable to company delisting decisions rather than regulatory pressures associated with low trading volume.

The Czech version of the U.S. Securities and Exchange Commission—the Commission for Securities (*Komise pro Cenne Papiry*)—subsequently forced the RMS System to delist issues with low volumes or floats. The Commission for Securities was created by the new Social Democratic government shortly after the 1998 election in response to the increasingly apparent deficiencies of voucher privatization. The new government viewed regulation with less hostility than its predecessors, although the Commission possessed only a fraction of the powers of its American counterpart (see Glaeser *et al.*, 2001, for a discussion of Czech securities regulation).

Many newly privatized companies generated insignificant trading volumes, resulting in illiquid markets. As shown in Panel B of Table 1, the average daily trading volumes of Czech firms listed on the PSE ranged from 0.08 percent of total market value in 1994 to a high of 0.24 percent in 2000. (By comparison, Nasdaq average daily trading volume was 1.17 percent.) Weak securities law and low trading volumes created an environment where securities prices were not trusted. Consequently, Czech companies tended to ignore the PSE when raising additional capital, relying instead on bank loans.

Ownership concentration was often accomplished by means that would have been unlawful in other countries. These methods included two-tier tender offers, auctioning of non-tendered shares at below-market prices, and transfers of company assets to offshore accounts owned by large shareholders (Coffee, 1998; Cull *et al.*, 2002). Poor or nonexistent laws against such transactions, and weak regulatory and legal enforcement, left many of these activities unpunished even after the Commission for Securities was created in 1998. Nevertheless, company-initiated delistings after 1998 tended to be accomplished with less harm to minority shareholders. S&B's share repurchases did not harm minority shareholders because they occurred after 1998 and were priced at levels that exceeded the current stock price.

### **3. Corporate governance and firm performance at S&B**

Sellier & Bellot's performance tended to improve once its ownership became more concentrated (Claessens *et al.*, 1996). S&B's experience is typical of corporate governance and performance changes among successful Czech firms. This section describes S&B's current organization, provides company background (pre-1993), and highlights S&B's periods of diffuse

ownership (1993-1998), transition (1999), and concentrated ownership (2000-2003).

### 3.1. S&B's organization

S&B is one of the world's largest ammunition producers. The company currently exports more than 80 percent of its ammunition production to 75 countries, with revenues approximately evenly split between U.S. dollars and euros. S&B's largest market is the U.S., where it is the fifth largest supplier of sport ammunition. S&B estimates that it possesses approximately 5 percent of U.S. market share, and the U.S. accounts for approximately one-third of S&B's sales.

The company is organized as Sellier and Bellot Joint Stock Company (S&B), with two wholly owned subsidiaries: (1) Sellier and Bellot Trade Joint Stock Company (S&B Trade); and (2) Sellier and Bellot Machines, Ltd. (S&B Machines). S&B is chiefly in the business of manufacturing and distributing ammunition and pyrotechnic products, including shotgun shells, center-fire handgun and rifle cartridges, rim-fire cartridges, pig-slaughtering cartridges, test cartridges, military cartridges, detonating cords, safety fuses, and detonators. S&B Trade is the marketing arm of S&B. S&B Machines manufactures special equipment, tooling gauges, packaging, and other special-use machines. These machines include pressing, forming, and cutting tools, dies, die blocks, cutting and clamping equipment, plastic press moulds, gauges, and precision-engineered parts and equipment. S&B Machines exports approximately 80 percent of its packaging machines, primarily to Central and Eastern Europe.

There are benefits and drawbacks to S&B Machines' current close affiliation to its parent company.<sup>8</sup> S&B Machines performs all maintenance and repair on S&B's unique ammunition production machinery, which requires specialized knowledge. S&B's managers are convinced that S&B Machines should not be sold to a third party because of potential hold-up problems (Klein *et al.*, 1978) exacerbated by the limitations of Czech contract law. On the other hand, S&B and S&B Machines operate in different lines of business, leading to information asymmetry between the two (Jensen and Meckling, 1995). S&B Machines tends to be R&D intensive, with customers based mostly in Eastern Europe, whereas S&B's ammunition manufacturing is not R&D intensive, with customers based chiefly in the United States and Western Europe. On balance, S&B's management believes that the benefits of keeping the division outweigh the costs.

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<sup>8</sup> It is not well established in the empirical finance literature whether or not industrial diversification creates value. Lang and Stulz (1994), Berger and Ofek (1995), Comment and Jarrell (1995), John and Ofek (1995), and Lamont and Polk (2002) suggest that U.S. industrial diversification tends to destroy value. Williamson (1975), Gertner *et al.* (1994), Harris and Raviv (1996), Graham *et al.* (2002), and Campa and Kedia (2002) suggest that some U.S. firms diversify to create value by establishing efficient internal capital markets. Fauver *et al.* (2003), suggest diversification creates value for firms in less developed countries with less efficient capital markets and weak legal protection. Khanna and Palepu (2000) show that diversified businesses in India trade at a premium compared to their focused counterparts.

S&B now employs approximately 1,300 people, including about 130 in S&B Machines. Its headquarters and production facilities are in the city of Vlasim, whose population of 13,000 is located about 30 miles southeast of Prague. Current company management claims that S&B's production portfolio is most comparable to that of the Winchester Division of Olin Corporation, although Winchester is considerably larger.

### 3.2. *S&B background (pre-1993)*

S&B was founded in 1825 under the authority of the Habsburg monarchy when the area that now constitutes the Czech Republic was part of the Austrian Empire. Throughout its history, the company's core activity was small arms ammunition manufacturing. Following the Communist coup in 1948, S&B was nationalized, and it became the primary small arms ammunition producer for much of the Eastern Bloc. In 1965, the company diversified its operations into the production of packaging machines. Additional detail on the company's history is contained in the Appendix.

Similar to other companies in former Eastern Bloc countries, S&B's operations were fully controlled by Communist Party authorities during the Communist era (1948-1989). S&B's performance was assessed in terms of its ability to generate production volumes determined by so-called "Five Year Economic Plans." Profit creation was not the main goal of the Communist regime. Financial data collection, reporting, and analysis were so poor that no Communist-era financial statements can currently be found at company headquarters. Management positions were filled by Communist Party officials. There were no performance incentives for managers or workers (Stiglitz, 1994).

S&B's primary goal during this period was to fill pre-planned cartridge orders for the Czechoslovak People's Army. Finished goods were immediately shipped to the Army's storage facilities for which S&B did not receive market-based compensation. Because of its privileged status as a company working for national security, S&B never experienced problems obtaining investment funds from central authorities.

After the fall of Communism in late 1989, S&B could no longer rely on orders from the Czechoslovak Army or other Eastern Bloc armies. Following the end of the Cold War, many other defense companies also lost value as their growth opportunities deteriorated (Goyal *et al.*, 2002). This problem was especially pronounced for S&B because Communist planners had routinely overestimated the Army's need for new ammunition, leaving army storage facilities overstocked and the Army unwilling to acquire additional ammunition for many years. Even by 2004, the Czech Army still accounted for less than one percent of total S&B production.

With its primary customer gone, and management largely unqualified, the company was

in disarray. In 1993, privatization was expected to lead to improved company monitoring by shareholders, the introduction of more capable managerial talent, and improved performance.

### 3.2.1. *S&B Machines background (pre-1993)*

As part of a state-owned monopoly, the packaging machines division furnished machines to every country in the former Eastern Bloc. When the company prepared for privatization between 1992 and 1993, many of the division's most capable employees left, including its R&D and sales staff. Few barriers to entry existed in the industry, so most of the employees who left started their own packaging machines operations, often with specifications they took from S&B's packaging machines division. The high cost of entry into the ammunition manufacturing industry likely explains why S&B's ammunition division did not experience a similar exodus of talent.

### 3.3. *S&B during the diffuse ownership period (1993-1998)*

In 1993, S&B was one of 988 Czech firms to become a joint stock company in the first wave of voucher privatization. Approximately 57 percent of outstanding S&B shares were distributed as part of this wave. Between 1994 and 1995, an additional 20 percent of the company's equity was distributed in the second wave. The remaining 23 percent of shares were allocated as follows: 5 percent to the City of Vlasim, 3 percent to a restitution fund (compensation for property expropriated by the Communists), and 1.3 percent to employees. The remaining 13.7 percent was retained by the state and subsequently sold. After privatization was complete, the company's book value of equity was 777 million Czech korunas (CZK), and there were 65,112 shareholders, most of whom owned only a few shares.

Czech companies were not required to disclose the number or identity of shareholders during this period (Glaeser *et al.*, 2001), so reliable statistics on ownership are not publicly available. Consequently, we rely on S&B's internal shareholder voting and ownership records from the annual shareholders' meetings. These records are summarized in Table 2.

The continuing divestiture of shares by the Czech Government, the City of Vlasim, and two Slovak-based IPFs, account for most of the changes in S&B ownership between the early years (1993-1995) and the later years (1997-1999). During the early years, the Czech Government was the largest blockholder, and the two Slovak IPFs (Prva Slovenska and Vub Kupon) held the next largest stake. Another important blockholder, Ceska Sportelna Bank Funds, was owned by one of the four banks providing loans to S&B. Due to the interlocking relationship between the bank, the fund, and S&B, the fund's management was likely to pursue bank interests over those of its shareholders (Makhija and Patton, 2004). The Czech Government's ownership decrease from 55 percent of common shares voted in 1993 to 34 percent in 1995 reflects its ongoing privatization efforts. The divestiture of S&B shares by Slovak IPFs is consistent with an

investment home bias that likely occurred following the separation of Czechoslovakia into the Czech Republic and Slovakia in 1993. Several new owners acquired stakes after 1996, and two entities became major share buyers – R.E.M.O. Corporation and Capital Partners. R.E.M.O.’s ownership stake increased from 13 percent to 25 percent of shares voted between 1997 and 1999. Capital Partners increased its holdings from 2 percent to 39 percent between 1997 and 1998. According to S&B’s current CEO, Capital Partners was a brokerage company that specialized in relatively short-term speculative share accumulation to create blocks for sale at a higher price. Given their short-term orientation, Capital Partners provided little monitoring of management, and they had completely divested their S&B shares by 1999. A portion of Capital Partners’ holdings appears to have been acquired from Ceska Sporitelna Bank Funds.

R.E.M.O. and Capital Partners were able to increase their stakes because they had access to private capital, unlike IPFs. S&B’s current CEO and CFO, Radek Musil and Pavel Kolar, respectively, worked for Expandia (a major IPF) before joining S&B. They said most IPFs had highly dispersed portfolios of stock and little cash after privatization. The IPFs tried to concentrate their stakes to increase bargaining power and save costs. In the absence of cash, this could only be done by swapping blocks of similar value with other IPFs. However, such swaps were difficult because of poor price discovery and high information asymmetry associated with illiquid Czech capital markets. Investors were unwilling to trade due to poor legal protection of their ownership rights and the absence of strict capital markets regulation (Glaeser *et al.*, 2001). As shown in Table 1, Panel B, S&B’s average trading volume as a percent of market value ranged from 0.01 percent to 0.03 percent between 1993 and 1999, substantially less than that of the PSE. The average number of S&B shares traded per day ranged from 14 to 225 shares on the PSE and from 42 to 96 on the RMS System. Despite some ownership concentration among certain blockholders, S&B’s ownership remained dispersed, as evidenced by a low Herfindahl Index that ranged between 0.18 and 0.35 over the period 1993-1999.<sup>9</sup>

Capital market under-development created additional problems at S&B. According to CFO Kolar, “The barrier to faster concentration of ownership was the lack of cash and the inability to persuade trading partners to accept the offer price, and a propensity by IPFs to

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<sup>9</sup> S&B’s ownership appears relatively concentrated compared to typical U.S. firms. However, optimal ownership concentration in Czech firms is one dominant owner to internalize monitoring and agency problems associated with weak legal protection, under-developed capital markets, and opaque disclosure rules (La Porta *et al.* 1998; 2000b; Glaeser *et al.* 2001). Atanasov (2005) documents high incidences of blockholders bidding for 51 percent stakes of companies privatized in Bulgaria (initial blockholder ownership restrictions were considerably relaxed in the case of Bulgarian mass privatization). Atanasov attributes this finding to blockholder attempts to maximize their benefits of control in the absence of legal restrictions preventing investor expropriation.

speculate.” Early on, IPFs formed unrealistic expectations about the value of their stakes, rendering them unwilling to sell unless offered sizable premiums over current market prices.<sup>10</sup>

After 40 years of Communism, some of the representatives of major shareholders lacked the knowledge and experience necessary to run the firm, yet they wanted a major say in company decisions.<sup>11</sup> At the same time, IPFs typically had limited opportunities to substitute qualified replacements for poorly performing representatives. Government restrictions on the size of IPF investment stakes resulted in IPFs with large portfolios and overextended IPF employees serving on boards.

Between 1993 and 1998, S&B had five different CEOs. This turnover was a consequence of ineffective corporate governance. As CFO Kolar said, “Many fund representatives simply wanted to elevate their friends and associates into top management positions.” According to CEO Musil, having five different CEOs over six years reflected struggles among different groups of owners. He stated, “When the blockholders could not agree on a strategy to turn around the company, firing the CEO consistently appeared to be the low cost, easy to observe solution.” He also said that in S&B’s former “jobs for life” corporate culture, managers who were replaced – some of them appointed to their high position during the previous Communist regime based on Party membership rather than expertise – were typically reassigned to other positions within the company. Rarely was anyone forced to leave the firm.

The diffuse ownership structure of S&B was accompanied by an unstable two-tiered board structure (Czech law mandates every corporation to be governed by a supervisory board and a board of directors), further weakening S&B’s corporate governance. The supervisory board is elected at shareholder meetings to formally select members of the board of directors and monitor their performance. It also serves a political role, as each Czech corporation has to reserve one third of the supervisory board for employee-voted representatives. The board of directors is in charge of designing business strategies and overseeing company daily operations. The exact distribution of responsibilities between a supervisory board and a board of directors can differ among corporations and is described in a corporate charter. CEO Musil stated, “It was quite typical in the Czech Republic that each owner wanted to have his representatives on the supervisory board and the board of directors.”

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<sup>10</sup> According to CEO Musil, such IPF behavior was common in the Czech Republic. S&B is a recognized company with a long history, and it was traded at relatively high stock prices immediately following its privatization. Based on Mr. Musil’s experience, IPFs tended to speculatively keep stakes of “established companies” associated with past gains regardless of their current performance.

<sup>11</sup> A lack of pressure from investors on fund managers was a contributing factor for the poor governance and performance of IPFs. According to CEO Musil, “Since Czech citizens obtained voucher coupons for free, losses associated with IPFs were often met with apathy on the part of investors.”

Details of S&B's supervisory board and board of directors reported in Tables 3 and 4 show frequent turnover and changes in board size. The supervisory board, comprising between three and nine members, had a total of 23 different members between 1993 and May 15, 1999 (when Radek Musil became a director). The board of directors had 20 different members, with between five and nine members at any one time, during the same period. There were five changes to the board of directors in 1998 alone.

Czech companies rarely attracted new equity capital, in part because Czech law required new shares to be priced at least as high as the book value of existing shares. The only year S&B issued new shares after privatization was 1996, when the book value of S&B's equity increased from CZK 776 million to CZK 1,009 million. Newly issued shares were purchased by existing blockholders at a price above market value to preserve their ownership stakes. Consequently, S&B had to rely on bank loans for the majority of its new capital.

During the diffuse ownership period, S&B borrowed funds from four banks: Ceska Sporitelna (parent of Ceska Sporitelna Bank Funds, one of S&B's equity blockholders), Komerčni Banka, Obchodni Banka, and Zivnostenska Banka. In developed economies, bank monitoring often serves as a governance mechanism to encourage managers to adopt value-maximizing decisions (Fama, 1985; Billett *et al.*, 1995, 2003; Krishnaswami *et al.*, 1999). However, S&B's banks played no such role in the 1990s, since they lacked the necessary experience and expertise to influence company decisions to protect loan values. Banks had existed under the Communist regime, but lending decisions and relationships were motivated by political rather than financial criteria. Additionally, a large portion of the portfolios of Czech banks consisted of underperforming loans, making it difficult for loan officers to devote sufficient attention to each debtor firm. Many Czech banks were subject to severe governance problems or were in the process of undergoing privatization, and had insufficient incentives to motivate employees to pursue bank interests rather than their own interests (Glaeser *et al.*, 2001). A further limitation on Czech banks was that they were reluctant to trigger primary default, and instead provided additional loans to poorly performing companies. Czech bankruptcy laws at that time gave creditors little ability to influence bankruptcy proceedings: the distribution of assets was almost exclusively decided by bankruptcy judges and court-appointed trustees who apparently sometimes conspired to extort value from creditors. Czech law also did not allow for the resolution of bankruptcy via reorganization: if creditors forced a firm into primary default, that firm would almost certainly be liquidated for less than its going-concern value.

S&B performance deteriorated between 1993 and 1998, as evidenced by the balance sheets, income statements, and ratios shown in Tables 5 through 7. Profitability declined despite

modest improvements in collections and inventory management. While S&B's sales increased 40.89 percent between 1993 and 1998, gross profit increased only 27.53 percent, and net income fell from CZK 36.8 million to a net loss of CZK 312.9 million. Return on assets also fell from 3.37 percent to -25.38 percent, return on equity from 4.18 percent to -43.00 percent, and operating profit per employee from CZK 46,170 to CZK 14,700. Additional bank loans were required to keep the company out of primary default. Leverage increased, as evidenced by increases in total liabilities from CZK 216.9 million to CZK 421.5 million and in the ratio of total debt to operating profits from 1.98 to 18.11. Total liabilities increased from 17.33 percent to 40.98 percent of total assets. The market-to book ratio fell from 1.04 in 1993 to 0.17 in 1998, and the price-earnings ratio (P/E) from 31.66 to -0.55. By 1997, persistent losses had forced the company into secondary default. By 1998, S&B's owners were concerned about possible primary default and liquidation. In addition, the company's unions declared a "permanent state of strike emergency" in 1997, leaving them ready to sue the company over alleged poor working conditions. Under Czech law, unions have to declare a "strike emergency" before a strike to allow management time to implement changes to avoid the strike.

S&B's accounting performance was significantly worse than that of its major publicly listed American competitors during the diffuse ownership period. Table 8 shows S&B's EBIT/assets was only 2.52 percent in 1998, even on the new lower level of assets, compared to 8.07 percent for Winchester and 8.68 percent for ATK Ammunition Division.

S&B's stock also underperformed the Czech stock market (that consisted almost exclusively of voucher-privatized companies) and the Standard and Poors (S&P) Aerospace/Defense Products and Services index (the best industry index available). Figure 1 shows that an investment in one share of S&B common stock worth CZK 850 on October 1, 1993 was worth CZK 90.1 on March 31, 1999, for a loss of 89.4 percent. An investment of the same amount in the Prague Stock Exchange 50 Index or the S&P Aerospace/Defense Products and Services index would have yielded gains of 18 percent and 79 percent respectively.

Given that S&B's stock performance during the diffuse ownership period was worse than that of its major publicly traded American peers, the Czech stock market, and the S&P Aerospace/Defense Products and Services index, S&B's owners were ready for change by late 1998.

### 3.3.1. *S&B Machines during the diffuse ownership period (1993-1998)*

As a result of employee defections at the time of privatization, S&B Machines, the packaging machines division, suddenly faced five competitors, two of which were almost as large as S&B Machines. At the same time, poor corporate governance contributed to weak performance

at the division during the diffuse ownership period.

Most of the management and workforce of the S&B packaging machines division were poorly motivated following privatization. Machines division management were convinced that S&B was dominated by ammunition production people who did not respect them. Division workers were unwilling to work more than one eight-hour shift per day, in part because many of them, including the sales staff, worked for the division's competitors at night and on weekends.

During the diffuse ownership period, division management tended to be ineffective. The S&B packaging machines division had too broad a portfolio of products for its size. Delivery periods were a lengthy six months, and prices were high. To reduce average production costs, more machines were produced than ordered, and extras accumulated in inventory. Because innovation in the packaging industry tends to be rapid, surplus machines held in inventory soon became obsolete. By 1998, the division had accumulated CZK 80 million worth of outdated inventories with a book value of 60 percent of division assets.

Current S&B management believes that the packaging machines division could have eliminated its new competitors by filling all of the demand for one or two years if it had dumped its inventory for half of book value in 1994. Radek Musil also told us that the legacy of bad inventories deterred a sale: "If a new owner wanted to buy the Machines unit, he would not want any of the bad inventories. S&B wouldn't want them either, because we couldn't sell them on our own. As part of S&B, S&B Machines can sell them albeit at heavily discounted prices."

#### *3.4. S&B and S&B Machines during the transition period (1999)*

Due to persistently poor performance and an inability to reach a consensus on how best to improve the company, the major blockholders decided in late 1998 to put the company up for sale. The Czech consulting group Patria Finance was hired to help sell the company. Patria Finance mailed information about S&B to potential buyers, but found no interested parties. The information asymmetry between insiders and outside buyers and the poor quality of Czech accounting standards (Copeland and Galai, 1983; Makhija and Patton, 2004) contributed to Patria Finance's inability to sell the firm.

Once it became clear that the firm would not sell, R.E.M.O. Corporation approached other blockholders and purchased some of their stakes. R.E.M.O. gained voting control of S&B for three reasons. First, other blockholders lowered their expectations about the values of their stakes and became more inclined to sell them in the wake of the failed effort to sell S&B. Second, R.E.M.O. was the only long-term blockholder with access to sufficient cash necessary to purchase these stakes. Third, R.E.M.O. was already an insider with access to detailed information about the true value of S&B. The current CEO informs us that the remaining blockholders then

gave R.E.M.O. implicit permission to use their votes. The understanding was that R.E.M.O. Corporation would hire a new management team, closely monitor managers to improve performance, and eventually buy the shares owned by the other blockholders.

R.E.M.O. hired Radek Musil as Chairman of the Board and CEO in September 1999. Mr. Musil was 30 years old, held a master's degree in engineering, and had previously worked in various finance and management positions. These positions included experience as a financial analyst with an IPF, Chairman of the Board of a furniture manufacturer, and chief advisor to the CEO of a forest management company. He had been an external director at S&B since May 15, 1999. Mr. Musil subsequently hired Pavel Kolar as Vice Chairman of the Board and CFO. Mr. Kolar was 36 years old, had held various accounting and finance jobs, and was a close associate of Mr. Musil. In 1998, the packaging machines division was reorganized as Sellier and Bellot Machines Ltd., a fully owned subsidiary of S&B, and Mr. Musil hired Rudolf Povolny as Division Manager. Mr. Povolny was 53 years old. He had worked as an S&B manager in the past, but had left the company in the 1990s to become business manager of a diversified entertainment company.

### 3.5. *S&B during the concentrated ownership period (2000-2003)*

The concentration of decision-making power that occurred under R.E.M.O. Corporation in 1999 was soon followed by the concentration of ownership. Starting in 2000, R.E.M.O. launched a series of private share repurchases from other blockholders at undisclosed prices that current management confirms were well above existing market prices (likely over CZK 350). By October 2000, R.E.M.O. owned 76.19 percent of all shares outstanding.<sup>12</sup> Table 2 shows that R.E.M.O. held 100 percent of all shares voted at the 2000 annual shareholder meeting. This meeting approved the delisting of S&B from the PSE. Public trading ceased on October 24, 2001.

As ownership became concentrated, the supervisory board and the board of directors stabilized. As shown in Tables 3 and 4, R.E.M.O.'s representatives dominated the supervisory board after May 15, 1999 and the board of directors after September 28, 1999. Shortly after Radek Musil became CEO in 1999, CFO Pavel Kolar and R.E.M.O. representative Jaroslav

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<sup>12</sup> Both R.E.M.O. and the other blockholders likely benefited from additional repurchases. Under Czech law in the 1990s, only 10 percent of votes cast were necessary to call extraordinary shareholder meetings, so R.E.M.O.'s acquisition of more shares reduced the likelihood of these kinds of disruptions. Meanwhile, selling blockholders realized premiums and avoided possible expropriation. We found no evidence that R.E.M.O. engaged in wealth transfers through asset stripping, transfers, or similar activities, although the possibility of expropriation likely helped motivate remaining shareholders to sell their stakes. This result is consistent with Doukas *et al.*, (2002) who found that intra-conglomerate acquisitions involving Swedish firms are not associated with expropriation of wealth from minority shareholders, even though the control rights of large bidders were enhanced.

Kopper became vice-chairmen of the board of directors. No further changes in the board occurred between 2001 and 2003.

S&B reduced the number of its banks to two: Zivnostenska Banka and Komerčni Banka. These banks were among the first to be privatized, and proved to be more willing to work with and respond quickly to S&B's needs. Komerčni Banka is now owned by the French firm Société Générale, giving it access to foreign branches and speeding up international transactions.

S&B's performance improvements after 1999 are apparent from Tables 5 through 7. Between 1999 and 2003, return on assets increased from 4.71 percent to 13.51 percent, return on equity from 7.37 percent to 16.69 percent, and operating profit per employee from CZK 53,400 to CZK 89,100. During the same period, leverage decreased noticeably, with total liabilities falling from CZK 370 million to CZK 241 million and the ratio of total debt to operating profit from 4.88 to 1.95. Market-to-book increased from 0.12 to 0.33 between 1999 and 2003, and P/E from 2.53 to 2.58. According to current management, post-2001 results would have been even better but for the adverse effect of the declining U.S. dollar.

S&B's accounting performance during the concentrated ownership period approximated that of its major American competitors, even though increased ammunition demand associated with wars in Afghanistan and Iraq primarily benefited U.S. manufacturers. As shown in Table 8, S&B's dollar value of total assets increased by 55 percent between 1999 and 2003, compared to a 15 percent decrease in Winchester and a 180 percent increase for ATK Ammunition Division. S&B's EBIT/assets increased from 7.91 percent to 10 percent, compared to increases from 12.73 percent to 15.71 percent for Winchester, and from 11.65 percent to 18.23 percent for ATK Ammunition Division.

S&B's improving performance after 1999 was not simply the consequence of an improving Czech stock market or the global defense industry. Figure 2 shows that an investment in one share of S&B common stock worth CZK 121 on January 1, 2000 was worth CZK 437.30 in May 2004, representing a gain of approximately 261 percent. Offer prices for widely held shares that the new owner purchased after the company went private increased from CZK 157 in October 2001—the delisting market price was CZK 126—to CZK 302 in September 2002, CZK 352 in December 2002 and CZK 437.30 in May 2004.<sup>13</sup> An investment of the same amount in the Prague Stock Exchange 50 Index or the S&P Aerospace/Defense Products and Services index

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<sup>13</sup> Since repurchase offers made after delisting involve minority shareholders, it is not immediately clear whether the offer prices reflect intrinsic value or rents extracted by small holdout investors. Czech law mandates that minority shareholder repurchase offers must be based on fair-value estimates provided by court-appointed experts. According to CEO Musil, S&B has never lobbied for changes in expert estimates. Mr. Musil also claims that after 2000 the minority shareholders had no influence.

would have produced gains of only 61 percent and 80 percent respectively.

S&B successfully launched new strategies to increase sales and decrease costs. Bank debt was dramatically reduced, and the company ceased to be in secondary default. Since 1999, the unions have not launched protests against management.

#### *3.5.1. S&B Machines during the concentrated ownership period (2000-2003)*

Performance improvements at S&B Machines during the concentrated ownership period paralleled those of S&B. After years of losses, the subsidiary has generated profits every year since 2000, as shown in Tables 9 through 11. Sales increased 41.9% in 2000 and a further 28.5% in 2001 before dropping off somewhat, and inventories were reduced significantly. By generating profits and decreasing assets, especially inventories, S&B Machines gradually reduced its original CZK 105 million debt to S&B. By 2003, the subsidiary had repaid approximately CZK 45 million. Based on discussions with company managers in January 2005, the subsidiary's performance continues to improve, and its debt to S&B has been reduced to CZK 50 million.

### **4. Discussion of S&B corporate governance and firm performance**

In this section, we discuss factors that affected the evolution of corporate governance and firm performance at S&B. First, we describe how legal, capital market, and accounting system deficiencies impeded ownership concentration at S&B, and why after five years a single blockholder was able to gain control and institute necessary improvements. Second, we summarize factors that contributed to superior S&B performance following ownership concentration, including improvements in monitoring and incentive alignment.

#### *4.1. Factors affecting ownership concentration at S&B*

Several factors impeded ownership concentration by a single blockholder prior to 1999. First, infrequent trading and unreliable prices hindered price discovery. Second, banks and their affiliated IPFs tended to retain large blocks of shares of debtor firms to influence those firms to protect the value of bank loans. Third, Czech investors (including IPFs) faced a shortage of funds after privatization that prevented them from acquiring or disposing of blocks of shares. Fourth, initially inflated post-privatization S&B stock prices gave rise to unrealistic blockholder expectations about company value that could not be corrected through trading. Fifth, IPF managers had incentives to act in their own interests rather than those of their shareholders.

Gradual legal, capital market, and regulatory environment improvements, such as moderately enhanced legal protection for investors, the privatization of banks, and the creation of the Commission for Securities, that occurred between 1993 and 1999, reduced barriers to ownership concentration. Importantly, in the case of S&B, three additional factors enabled

R.E.M.O. to gain control. First, the failed sale of S&B in 1998 led S&B blockholders to lower their expectations about the intrinsic value of S&B shares. Second, by 1999, R.E.M.O. possessed detailed information about S&B, reducing information asymmetry and increasing the likelihood that R.E.M.O. would make a concerted effort to gain control. Third, R.E.M.O. was the only long-term blockholder that had sufficient cash to purchase the remaining stakes. This latter result parallels the finding by Heiss and Köke (2004) that wealth constraints among owners help determine buying vs. selling decisions in Germany, a country with a bank-based capital market.

#### *4.2. Monitoring and incentives*

Following S&B ownership concentration, additional corporate governance improvements were made. These included improvements in performance monitoring and incentive alignment.

In this part of the paper, we rely largely on information obtained during our discussions with current management of S&B. S&B managers did not control the substance of our analysis, although they had the right to request the exclusion of internal data that could damage the firm. Except for several changes of quotations to improve the precision of Czech-English translation, and a few minor editorial suggestions, S&B management did not request any changes to our study. Potential remains, however, for our analysis in this subsection to be influenced by managerial interpretation.

##### *4.2.1. Monitoring*

An important role of corporate governance is the monitoring of managers on behalf of owners by boards of directors (Jensen and Meckling, 1976; Stulz, 1990). Similarly, an important function of management is to monitor subordinate employees. S&B introduced a two-faceted monitoring mechanism whereby managers were monitored closely by a board dominated by the new owner's representatives, and the new managers closely monitored sales and spending activities by subordinates.

The composition and structure of the board was unstable prior to the concentration of ownership at S&B. During the first nine months of 1999, S&B was governed successively by four different boards and three different chairmen. Once the new owner took over and set up his board and management team, changes in senior management and board membership ceased. The current five-member board is small, suggesting board efficiency (Yermack, 1996). There are only two insiders on the board: Mr. Musil (Chairman and CEO) and Mr. Kolar (Vice-Chairman and CFO). The remaining three members of the board are representatives of S&B's controlling owner. This outsider-dominated board enables the controlling owner to force management to act in his interests, consistent with evidence that such boards adopt policies that benefit shareholders (Brickley *et al.*, 1994).

Most major decisions, such as bank contracts, large acquisitions, and substantial purchases, are approved by the CEO, and often by the board. In addition, the monitoring of managers now includes regular monthly meetings between the CEO, the CFO, and the owner's representatives. Company officers give periodic reports on performance at these meetings. According to the CFO, the owner typically gives managers freedom to choose strategies to improve company performance, but insists on material results.

The new owner is especially interested in maximizing accounting performance while improving overall worker productivity, measured as operating profit per employee. Not surprisingly, these two performance characteristics have improved noticeably since the new management team was hired. As discussed above and shown in Table 7, return on assets, return on equity, and other measures of accounting performance improved dramatically since 1998. Similarly, operating profit per employee increased from CZK 14,700 in 1998 to CZK 89,130 in 2003. This was achieved by increasing sales, improving cost controls, and reducing the size of the workforce. Wallace (1997) also shows that managers of American companies tend to improve precisely those characteristics that owners use to judge managerial performance.

The strategy of increasing sales and reducing costs to bring the company out of secondary default was closely monitored by management and the board. Regular monthly meetings between the CEO, CFO, director of marketing, and trade director (the person most responsible for marketing) were instituted to discuss new marketing strategies. Volume increases were stressed. Strategies and goals for each client country for the coming weeks and months were discussed. Price sheets were compared with those of competitors. Monetary incentives were created for various geographic regions. The performance of foreign dealers was closely observed, and underperforming dealers were replaced for the first time in the company's recent history. The success of the new sales growth strategy is apparent from Table 6. Annual sales between 1999 and 2003 were higher than during any year between 1993 and 1998, and peaked in 2002 at CZK 1.3 billion.

To cut costs, improved reporting and personal responsibility for financial performance were introduced. The CFO was made directly responsible for input purchases, and was compensated based on input cost decreases. He was given the right to review and question any cash outlay that exceeded CZK 10,000 (at the time, about U.S. \$300). For cost control, the company required every order to be signed by the person who directed that the cost be incurred, his or her supervisor, and the CFO. As part of their cost cutting initiative, the CEO and CFO instituted a new requirement to obtain competing bids from several potential suppliers for input materials. None of these policies existed before ownership concentration. In December 2003,

CEO Musil estimated that the savings from these procedures alone were between 15 and 20 percent of total costs. Similarly, CFO Kolar believes that these procedures generated a 20 percent decline in the cost of raw materials. For example, the input cost price for brass and lead is the sum of the world commodity price plus local manufacturing costs charged by S&B suppliers. S&B has no control over commodity prices, but it substantially reduced local manufacturing costs. Between 2001 and 2004, these costs declined by 29.16 percent for brass and 20.31 percent for lead.

#### 4.2.2. *Incentives*

The finance literature suggests that stronger alignment of incentives, especially provisions that increase pay-performance sensitivity, tend to enhance value (Jensen and Murphy, 1990; Kole, 1997). A substantially greater focus on the provision of monetary and non-monetary incentives for managers and employees is one of the strategies that the new owner and his management team employed at S&B during the period of concentrated ownership.

The new S&B owner and management team employed a three-pronged approach when establishing monetary performance incentives. This approach included a new bonus structure, the threat of dismissals, and revision of work norms to motivate low-level employees.

The new bonus structure replaced a pre-1999 system. Under the old structure, top management compensation included progressive and variable components. On paper, bonuses ranged from 60 percent for senior managers to 100 percent for top managers. In reality, bonus triggers were set unrealistically high, so they were almost never achieved, nullifying their potential benefits. Both Mr. Musil and Mr. Povolny hypothesize that bonus structures were unimportant in the old S&B. They had little ability to attract quality managers not only because triggers were unattainable but because managers cared more about employment stability than compensation. When Mr. Musil became CEO, he reset bonus triggers to achievable levels. Under the new bonus structure, bonuses were tied to accounting measures such as profit, inventory, accounts receivable, and profit per employee. Each manager was assessed against three or four targets. The four top managers (CEO, CFO, Sales Director, and Technical Director) were eligible for 100 percent bonuses plus other performance bonuses announced by the board. An additional 15-20 employees were eligible for 100 percent bonuses, 60 for 60 percent bonuses, and 30 percent of remaining employees were eligible for 22 percent bonuses. CFO Kolar notes that financial incentives for top management are extremely important, bonuses are high, and profits affect almost everybody. By 2000, 90 percent of available bonuses were paid.

The threat of dismissal was also new. Before 1999, poorly performing managers were rarely forced to leave the company. Instead, they were relocated to other relatively well paid

positions – a practice reminiscent of the Communist period when the state guaranteed full employment and effectively prevented firms from displacing employees. Without a credible threat of dismissal, there was little motivation for managers to perform. Mr. Musil and Mr. Povolny described changing this aspect of the corporate culture as one of their biggest challenges, one that drew heated protest and criticism. Nevertheless, poorly performing managers have been forced to leave the company since 2000.

Even junior-level employees were threatened with dismissal if they did not perform. According to Mr. Povolny, the strengthening of discipline among workers was a major factor in the rapid turnaround of the S&B Machines subsidiary. Before he was hired as subsidiary manager, many workers felt no need to work more than one eight-hour shift, even for overtime or to meet strict customer deadlines. As soon as he took over, Mr. Povolny fired the worst-performing workers, setting an example for remaining employees. He also hired temporary foreign workers from the former Soviet Union to replace some of the local workforce, motivating existing employees to work harder. This strong stance was used only during the first few turnaround years. S&B Machines employed no more than 20 to 25 foreign workers out of a total of 80 employees. However, the threat of dismissal worked, and the profitability of S&B Machines improved.

S&B does not reward lower-level employees with stock under an employee stock ownership plan. However, new management introduced an updated work norms reward system in 2003. Under the old system, workers were penalized for not meeting their norms, but would not receive extra compensation if they exceeded them. When work units exceeded norms, bonuses could be paid, but foremen had discretion over bonus distribution. At the beginning of 2003, foreman discretion was removed, and each worker was told precisely what the norms were. Norms were simultaneously tightened to between 115 and 120 percent of their former levels. The system now rewards and penalizes each worker for individual rather than work-unit performance.

According to CEO Musil, non-monetary incentives have been more important at S&B than monetary ones. Non-monetary incentives include the return of decision-making power to appropriate levels, along with effective monitoring, control and timely feedback. In Mr. Musil's view, the improvement of working conditions for employees was paramount. He told us that "...by working conditions, I mean workers need to have clearly defined tasks, know precisely what to do each day, be properly trained for their jobs, and have raw material inputs always available. Assignments cannot be changed too often or hastily, and evaluations have to be clearly defined and fair."

Non-monetary incentives may have been even more important for the S&B Machines

division. The success of this subsidiary depended in large part on the creativity of its R&D staff, since packaging machines technology evolves quickly and the division must react to emerging trends by designing new and improved machines. After 1993, S&B Machines had a relatively young and inexperienced R&D workforce. They were definitely not star performers, most of whom had left to start up competing firms. Nevertheless, Mr. Povolny claims that after 1999 the performance of many of the engineers who stayed with S&B Machines substantially improved, and many of them have since become top industry performers. Non-monetary factors are believed to have brought about this change. While small monetary incentives were provided, younger professionals were challenged to be creative, fueling innovation. In addition, development times were reduced from six months to one.

Finally, Mr. Musil deliberately strove to improve the relationship between S&B and its unions. Before 1999, unions were radical. The company operated under a permanent strike emergency regime. The unions sued the company, claiming adverse working conditions. After the new management team took control, the relationship between S&B and its unions improved. Mr. Musil attributes much of this turnaround to fair and just treatment of employees. Equally important was S&B's assumption of the social roles formerly provided by unions. For example, Mr. Musil now sponsors the extremely popular company-wide soccer league, and allows employees free access to the company's fish ponds and hunting forests.

According to Mr. Musil, unions were aware of the company's financial problems in 1999 and the decline in the ammunition industry. As a result, they did not object to layoffs and increased monitoring when presented with a workable recovery plan, especially after seeing the forced departure of top managers linked to the company's problems. Between 1999 and mid-2004, the number of employees at S&B fell from 1,520 to under 1,300. The unions accepted these changes because laid-off employees were given four months of salary as severance pay, the low unemployment rate in Vlasim (three percent) made it easy for displaced workers to find new jobs, and inflation-adjusted wages for remaining S&B employees increased. Improved relations between S&B and its workforce and unions contributed to S&B's turnaround.

## **5. Alternative explanations for S&B performance improvements after 1999**

This paper suggests that S&B performance improvements after 1999 are attributable to the concentration of ownership and associated monitoring and incentive improvements. In this section, we evaluate three alternative explanations for these performance changes.

### *5.1. European Union accession*

In theory, S&B performance could have improved after 1999 in anticipation of the

accession of the Czech Republic to the European Union (EU). Presumably, membership in the EU would benefit exporters such as S&B by lowering tariffs and increasing demand. Because the Czech Republic did not join the EU until 2004, EU participation would be unlikely to explain accounting performance improvements documented in Table 8 for the periods prior to 2003.

In practice, S&B faced no barriers to European free trade before 2004, so the accession to the EU neither harmed nor helped S&B according to CEO Musil. Consequently, anticipated EU participation probably does not explain stock return performance.

### *5.2. Superior inside information captured by R.E.M.O. prior to concentrating ownership*

Had R.E.M.O. possessed superior inside information about S&B, such as anticipated large orders for S&B products, it could have capitalized on this information by purchasing equity from less informed blockholders. Subsequent performance improvements would not necessarily have been the consequence of better monitoring due to the new ownership structure.

R.E.M.O. was a well-informed investor with positive expectations about the future value of S&B, as evidenced by its acquisition of additional shares after September 1999. However, CEO Musil recalls that the new owner did not receive material private information that was not made available to other investors prior to his acquisition of these additional shares. Moreover, S&B did not attract any new material orders in the period immediately after R.E.M.O. took control.

According to Mr. Musil, two additional factors contributed somewhat to S&B performance improvements post-1999. The first was a publicly known advantageous CZK/U.S. dollar exchange rate until 2001. The second was the outbreak of war in Afghanistan and Iraq. R.E.M.O. would not have had private information about these events.

### *5.3. Influx of capital provided by R.E.M.O.*

Had R.E.M.O. supplied cash to S&B, S&B performance improvements could have been partially attributable to increased liquidity. However, according to CEO Musil, it was explicitly stated from the moment that he was hired that R.E.M.O. would not contribute additional equity to S&B.

## **6. Conclusion**

The most important lesson from the S&B case is that corporate governance structure change is impeded when legal systems, capital markets, and accounting standards are deficient. Voucher privatization, inflated stock prices, and unrealistic blockholder expectations contributed to the inability of S&B to optimally concentrate ownership. It took five years of declining performance, default, and an unsuccessful effort to sell the company before a blockholder with

sufficient cash could buy out S&B's other blockholders and make the necessary changes to concentrate ownership, improve corporate governance, and raise company performance.

The second lesson from the S&B experience is that the performance turnaround of a transition economy company can be swiftly accomplished once ownership is concentrated. Improvements can be accomplished by adopting similar monitoring and incentive mechanisms that help control owner-manager agency conflict in developed countries. S&B's superior performance under the new owner is consistent with existing research that suggests concentrated ownership is optimal in economies with legal, market, and accounting inefficiencies (Shleifer and Vishny, 1997; La Porta *et al.*, 2000).

Our paper shows that the evolution of corporate governance and firm performance is affected both by institutional development and privatization. Specifically, effective privatization requires not only a timely change in ownership, but also legal protection, capital market regulation, and transparent accounting.

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## **Appendix: Sellier and Bellot's History**

1825 – Austrian Emperor Franz I authorized Louis Sellier to make percussion caps for the infantry in a new factory in Prague. Jean Maria Nicolaus Bellot soon joins the company.

1829 – A subsidiary plant founded in Schonebeck, Prussia.

1830 – Production exceeded 60 million percussion caps.

1835 – S&B became Austria's official supplier of percussion caps.

1837 – Production exceeded 156 million percussion caps.

1870 – Cartridge production commenced, and over the next few years, annual output grew to 10 million cartridges.

1884 – A subsidiary plant is founded in Riga, Latvia, and soon meets the demand for percussion caps for all of Russia and Scandinavia.

1893 – Sellier and Bellot's first trademark is listed in Prague.

1895 – Production was expanded to include hunting cartridges and copper primers for ammunition production.

1914-1948 – During the First World War, rifle and handgun cartridges were produced for the Austrian Army, and the Steyr 9mm cartridge was developed and put into production.

1918 – S&B is the primary handgun cartridge supplier for Czechoslovakia. The company developed a monopoly on silver azide, leading to industrial detonator production.

1936 – S&B relocated from Prague to Vlasim to meet growing demand.

1938-1945 – S&B provided ammunition for German Army.

1945 – S&B is nationalized to become a state ammunition monopoly.

1964 – Anti-friction bearing production began.

1965 – Packaging machine production began (this division later became the subsidiary Sellier and Bellot Machines, Ltd.).

## **Appendix (contd.)**

1992 – S&B became a joint stock company, with 70 percent of production eventually being exported to over 70 countries.

1993 – voucher privatization of S&B was completed and the company was listed on the Prague Stock Exchange.

1998 – S&B received ISO 9001 certification.

November 9, 1998 – Packaging machines division was spun off into the Sellier and Bellot Machines, Ltd., subsidiary.

May 15, 1999 – Radek Musil was first listed as a member of the board of directors in the 1999 Annual Report.

September 28, 1999 – Radek Musil became Chairman/CEO, and Pavel Kolar first appears on the board.

January 2000 – Rudolf Povolny was hired by the CEO as Managing Director of Sellier and Bellot Machines, Ltd.

December 8, 2000 – Delisting of S&B from Prague Stock Exchange was approved at annual shareholder meeting. The majority owner, R.E.M.O. Corporation, held 76.19 percent of all shares at that time. (<http://ipoint.financninoviny.cz/detail.php?article=3287>)

October 24, 2001 – Trading of S&B shares ceased. (<http://ipoint.financninoviny.cz/detail.php?article=8093>)

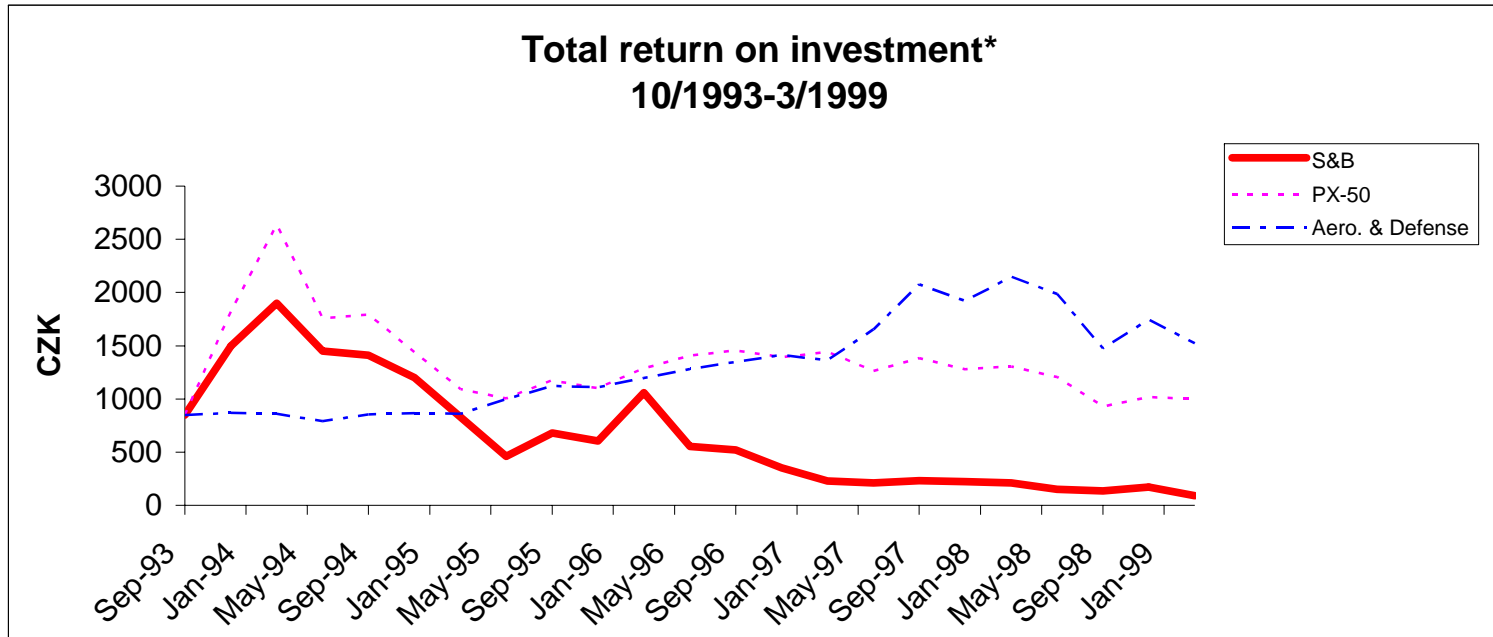
2002 – S&B was named the second-most admired company among all machinery companies in the Czech Top 100. (<http://ipoint.financninoviny.cz/detail.php?article=11652>)

*(Source: [www.sellier-bellot.cz](http://www.sellier-bellot.cz))*

**Fig. 1**

**Comparison of S&B, Prague Stock Exchange 50 Index (PX-50), and S&P Aerospace Defense Index, 1993-1999**

The figure shows the cumulative stock returns, including year-end numerical values, for S&B common stock (data are from an investment advisory website <http://www.akcie.cz/>), Prague Stock Exchange 50 Index (data are from the official website of Prague Stock Exchange <http://www.pse.cz/>) and S&P Aerospace Defense Index (data are from the MSN Money website <http://money.msn.com>), for October 1993 to March 1999.



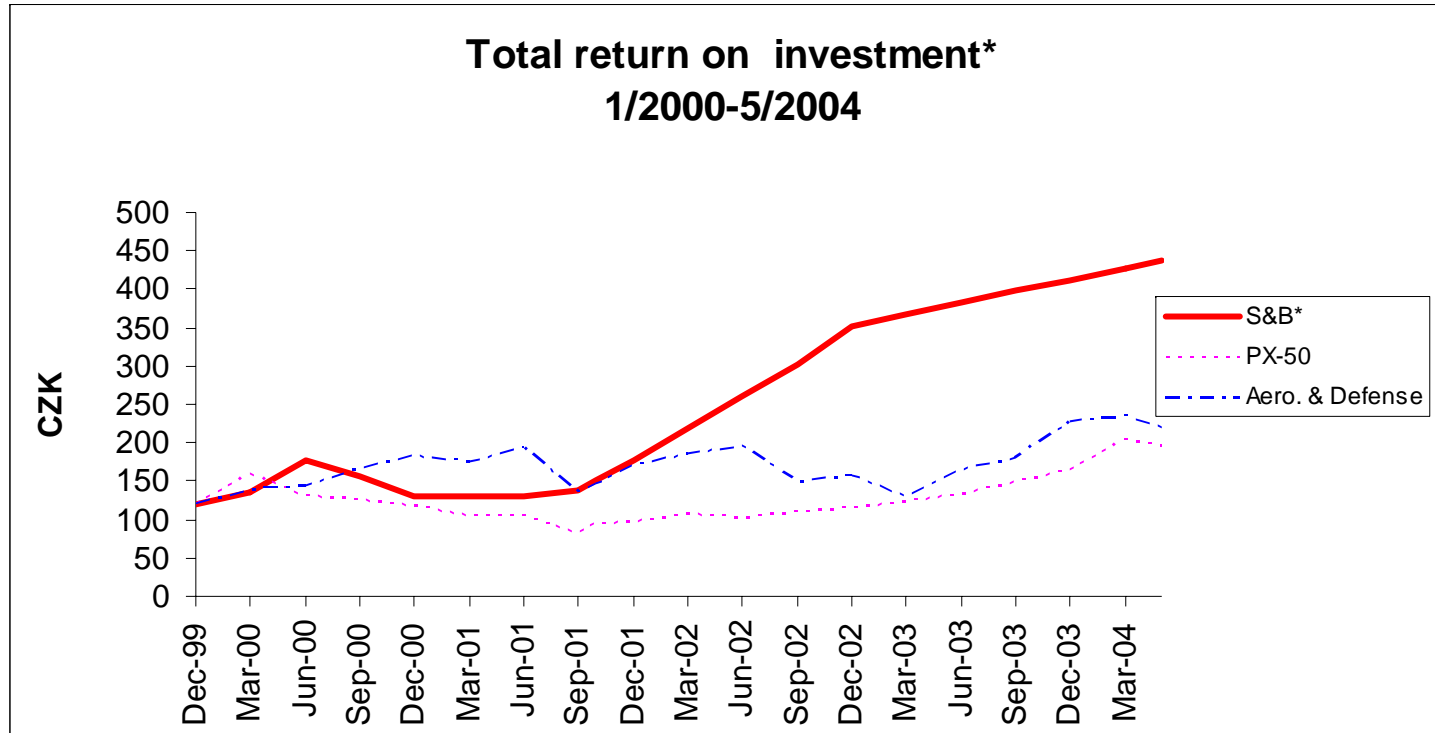
Cumulative return from 10/1993 to	12/1993	12/1994	12/1995	12/1996	12/1997	12/1998	3/1999
S&B	76.5%	41.2%	-28.7%	-58.6%	-73.6%	-79.8%	-89.4%
PX-50	114.3%	69.4%	29.5%	64.0%	50.5%	19.8%	18.0%
S&P Aerospace/Defense Products & Services Index	2.4%	1.8%	30.7%	66.4%	125.8%	104.9%	79.2%

\* Cumulative performance is measured starting at the end of September 1993 S&B stock price of CZK 850.

Fig. 2

**Comparison of S&B, Prague Stock Exchange 50 Index (PX-50), and S&P Aerospace Defense Index, 2000-2004**

The figure shows the cumulative stock returns, including year-end numerical values, for S&B common stock (data are from an investment advisory website <http://www.akcie.cz/>), Prague Stock Exchange 50 Index (data are from the official website of Prague Stock Exchange <http://www.pse.cz/>) and S&P Aerospace Defense Index (data are from MSN Money website <http://money.msn.com>), for October 2000 to May 2004.



Cumulative return from 01/2000 to	12/2000	12/2001	12/2002	12/2003	5/2004
S&B**	7.4%	46.8%	190.9%	240.7%	261.4%
PX-50	-2.3%	-19.4%	-5.9%	34.6%	60.6%
S&P Aerospace/Defense Products & Services Index	51.3%	38.8%	28.9%	86.6%	80.4%

\* Cumulative performance is measured starting at the end of December 1999 S&B stock price of CZK 121.

\*\* S&B total returns are based on extrapolated prices after delisting (10/2001) based on subsequent repurchase prices.

**Table 1****Key Czech securities and Sellier and Bellot trading, volume, and events data 1993-2003**

This table presents data on the evolution of the number of securities trades on the Prague Stock Exchange (PSE), PSE and Sellier and Bellot (S&B) trading volume, and key events affecting the number of securities traded on the PSE. Data are from the official website of PSE <http://www.pse.cz/> and an investment advisory website <http://www.akcie.cz/>.

*Panel A: Number of securities traded on the Prague Stock Exchange as of 31 December*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Number of issues	982	1,055	1,764	1,750	412	402	290	245	186	153	146
Continuous market	8	47	82	70	78	43	38	35	33	25	32
Once-a-day market			6	53	60	99	84	71	62	59	54
Unrestricted market	974	1,008	1,676	1,627	274	260	168	139	91	69	60

*Panel B: Trading volume*

Year	Average daily trades as a percentage of total value		S&B average number of shares traded per day	
	PSE	S&B	PSE	RMS System
1993	n/a	0.01%	66	n/a
1994	0.08%	0.02%	132	n/a
1995	0.11%	0.02%	146	42
1996	0.19%	0.03%	225	91
1997	0.20%	0.02%	95	59
1998	0.17%	0.02%	89	96
1999	0.13%	0.01%	14	78
2000	0.24%	0.01%	4	138
2001	0.15%	0.02%	1	156
2002	0.17%	n/a	n/a	n/a
2003	0.16%	n/a	n/a	n/a

*Panel C: Events affecting the number of securities issues*

April 6, 1993	Seven securities issues were registered on the Exchange on the opening day of trading.
June 22, 1993	622 share issues from the first wave of coupon privatization were introduced.
July 13, 1993	333 share issues from the first wave of coupon privatization were introduced.
March 1, 1995	674 share issues from the second wave of coupon privatization were introduced.
1994-1995	A gradual registration of other securities issues (particularly shares of investment funds) that were not automatically produced by coupon privatization.
May 2, 1996	The highest number of securities issues ever registered on the Exchange (1,792 issues). However the market remained non-transparent and liquidity was low.
1997	1,301 securities issues were gradually excluded from the Exchange's Free Market due to the inability of issuing firms to meet requirements set by the Exchange. This measure contributed toward greater market transparency.
September 20, 1999	An additional 75 share issues were excluded from the Free Market as a further measure aimed at increasing market transparency.
2001-2002	As a result of an amendment to the Securities Act that tightened the terms for admitting and keeping securities in public markets, and an amendment to the Investment Companies and Investment Funds Act, other share issues which did not meet the spread and liquidity requirements set by the Exchange were excluded.

**Table 2**  
**Sellier and Bellot shareholder voting record, 1993-2004**

The number of Sellier and Bellot shares voted at annual shareholder meetings between 1993 and 2004 are reported by shareholder and year. Data are compiled from company voting records (incomplete for 1996). The largest stakes are shown in bold.

Shareholder*	Owner type	Year											
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Czech Government (Golden Share)	Gov.	1											
Czech Government**	Gov.	<b>295,268</b>	<b>285,416</b>	<b>133,327</b>									
City of Vlasim	Local gov.	38,830	38,830	38,830	30	30							
Ceska Sportelna Bank Funds	Bank IPF	82,376	82,903	82,076	90,055	90,055							
Prva Slovenska***	IPF	70,009	70,009	70,009									
Vub Kupon***	IPF	26,668	25,718	25,718									
Kvanto Duchodovy	IPF	15,813		25,852									
R.E.M.O. or affiliates	Individual	2,540			12,632	75,264	85,048	<b>187,126</b>	<b>331,444</b>	<b>774,870</b>	<b>393,510</b>	<b>624,122</b>	<b>566,527</b>
Moravskoslezsky	IPF	1,892		1,912									
IKS KB Fond	Bank IPF		1,871	2,499	2,666								
Ceskomoravsky Narodni If.	IPF		1,812										
Jiri Hanak, Ing.	CEO			9,702									
Capital Partners	Broker			2,270	12,500	12,836	<b>210,614</b>						
Krusnohorsky Inv.	IPF				70,285	<b>171,381</b>		185,581					
Universal Banka	Bank IPF				100,064	100,064	100,064	100,064					
CERTUM Penzijni	IPF				9,072	67,548	34,000	111,086					
IF Credit	IPF				29,000	29,000							
Forestinvest	IPF				12,725	14,837	6,065	6,065					
Fond pro Prosperitu Prumyslu	IPF				10,050	10,065	48,162	48,162					
Penzijni Fond Vysehrad	IPF						2,399	90,274					
Atlantik Financni Trhy	IPF												
Penzijni Fond	IPF						29,000						
Investicni Fond TERCIER	IPF				15,015		13,600	13,600					
IS Investway	IPF				2,998		5,999	13,768					
Delta Securities	IPF						1,045						
Shareholder-Universal	IPF				166,810								
Small shareholders (<=1,000)	Misc.	2,986	3,665	4,428	38,490	96	20			500			2,100
<b>Total</b>		<b>536,382</b>	<b>510,224</b>	<b>396,623</b>	<b>573,998</b>	<b>573,575</b>	<b>533,617</b>	<b>755,726</b>	<b>331,444</b>	<b>775,370</b>	<b>393,510</b>	<b>624,122</b>	<b>568,627</b>
HHI = sum of squares of proportion of ownership stakes based on shares voted		0.35227	0.36651	0.20571	0.18353	0.17950	0.23242	0.17980	1.00000	0.99871	1.00000	1.00000	0.99263

\* We track equity blockholder voting at meetings (either directly or by proxy). Admittedly, we could miss equity blockholders who do not attend the meeting and do not vote by proxy. However, the only instance where the current CEO believes this could have occurred for a large blockholder is the case of Krusnohorsky Investicni Fond during the 1998 annual meeting.

\*\* The Czech government also possessed 28, 831 shares under a different issue number as of 08/04/1995.

\*\*\* Funds incorporated in Slovakia.

**Table 3**  
**Sellier and Bellot supervisory board, 1992-2003**

Sellier and Bellot supervisory board members are shown for the period May 1992- December 2003. C, VC, M, and ER denote Chairperson, Vice-Chairperson, Member, and Employee Representative. The Czech titles Ing., JUDr., PhDr., Mgr., RNDr., and Dr. refer to Master's degrees in various disciplines. Data are compiled from the Trade Registry managed by the Prague City Court.

Director	Dates (mmddyy)																							
	050192-062292	062392-123192	010193-062993	063093-123193	010194-062994	063094-123194	010195-080495	080595-123195	010196-052896	052896-112996	112996-123196	010197-061897	061897-123197	010198-022898	030198-070798	070898-123198	010199-051599	051599-092899	092899-123199	010100-123100	010101-123101	010102-123102	010103-123103	
Milan Benes, Ing.	M																							
Vladimir Handl, Ing.	M																							
Jiri Sladkovsky, Ing.	M																							
Vaclav Drda, Ing.		C	C	C	C	C																		
Jiri Kuchar, Ing.		ER	ER	ER	ER	ER	ER																	
Jan Kaderavek		ER	ER	ER	ER	ER	ER																	
Josef Valjent, JUDr.				M	VC	VC																		
Zdenek Cervenka, PhDr.				M	M	M	M	VC	VC	VC														
Josef Oravkin, Mgr.				M	M	M	M	M	M															
Frantisek Vlasak, RNDr.							C	C	C	C	C	C	C	C	C	M	M							
Vladimir Broukal								M	M	M														
Jiri Nemecek								ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER				
Frantisek Stetina								ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER				
Miroslav Lestina									M	M	M	M	M	M										
Pavel Prochazka, Ing.									ER															
Jiri Stanek, JUDr.										M	M	M	M	M	M									
Jindrich Valis, JUDr.										M														
Frantisek Fefjar, Ing.											VC	M												
<b>Oldrich Chronc, JUDr., CSc.*</b>													M	M		M	M	M	M	M	M	M	M	M
Vaclav Pudil, Dr.															VC	C	C							
<b>Josef Homola, Ing.*</b>																VC	VC	C	C	C	C	C	C	
<b>Miloslav Soldat, Ing.*</b>																		VC	VC	VC	VC	VC	VC	VC
<b>Vincent Strebel, Ing.*</b>																		VC						
<b>Ladislav Odvarka, Dr.*</b>																			M	M	M	M	M	M
Karel Hrdinka																					ER	ER	ER	ER
Ludek Malek																					ER	ER	ER	ER
<b>Tomas Nebesky*</b>																								C
<b>Supervisory board size</b>	3	3	3	5	6	6	5	6	6	9	6	6	6	6	6	6	6	6	6	6	6	6	6	6

\* R.E.M.O. Corporation representatives (in bold).

**Table 4**  
**Sellier and Bellot board of directors, 1992-2003**

Sellier and Bellot board of directors members are shown for May 1992-December 2003. C, CP, CO, VC, and M denote Chairperson, Chairperson and President, Chief Executive Officer, Vice-Chairperson, and Member. The Czech titles Ing., JUDr., PhDr., Mgr., RNDr., and Dr. refer to Master's degrees in various disciplines. Data are compiled from the Trade Registry managed by the Prague City Court.

Director	Dates (mmddyy)																												
	050192-062292	062392-123192	010193-062993	063093-123193	010194-062994	063094-123194	010195-080495	080595-123195	010196-052896	052896-112996	112996-123196	010197-061897	061897-121597	121597-123197	010198-022898	030198-070798	070898-080998	081098-122098	122198-123198	010199-051599	051599-062899	062899-092799	092899-123199	010100-123100	010101-123101	010102-123102	010103-123103		
Jiri Hanak, Ing.	C	C	C	CP	CP	CP	CP	CP	C	CO																			
Milos Dolezal, Ing.	VC																												
Karl Kopecek, Ing.	CO																												
Frantisek Bubenicek, Ing.	M	M	M																										
Pavel Popovic, JUDr.		VC	VC																										
Josef Trnka, Ing.		CO	CO	CO	CO	CO	CO																						
Peter Kraus, Ing., CSc.			M																										
Antonin Svitil, Ing., CSc.				VC	VC	M	M																						
Frantisek Bartusek, Ing.				VC	VC	VC	VC	VC	VC																				
Josef Majtan, Ing.				M	M	M	M	M																					
Vlastimil Sindylek, PhDr.				M	M	M	M	M	M																				
Frantisek Drbohlav, JUDr.				M	M																								
Josef Benes, Ing., CSc.						M	M	M	M	M	M	M	M	M	M	M	VC	VC	VC	M									
Jiri Popelka, Ing.								CO	CO																				
Jindrich Valis, JUDr.								M	M																				
Miroslav Vanek, Ing.								M	M	M	M	M	M	M															
Oldrich Chronc, JUDr., CSc.								M	M							VC													
Jiri Dvorak, Ing., Dr.										VC	C	C	C	C	CP														
Vladislav Briza, Ing.										M	M	M	M																
Peter Cermak, MUDr.										M																			
Tomas Endl, Ing.										M	M	M	M	M	M	M													
Frantisek Fejfar, Ing.										M																			
Tomas Nebesky, JUDr.										M	M	M	M	M	M	M													

Table 4 (contd.)

050192-062292	Dates (mmddyy)																												
	050192-062292	062392-123192	010193-062993	063093-123193	010194-062994	063094-123194	010195-080495	080595-123195	010196-052896	052896-112996	112996-123196	010197-061897	061897-121597	121597-123197	010198-022898	030198-070798	070898-080998	081098-122098	122198-123198	010199-051599	051599-062899	062899-092799	092899-123199	010100-123100	010101-123101	010102-123102	010103-123103		
Karel Kopecek, Ing.											CO	CO	CO	CO	CO	CO	CO												
Josef Homola, Ing.															M	VC													
Petr Dedek, Ing., Dr.																C	C	C											
Bohuslav Popelka, Ing.																	VC	CO	CO	CO	CO	CO	CO						
Ludek Tichy, Ing.																	M	M	VC	VC	VC								
Jan Chabera, JUDr.																		M	M	M									
Jaroslava Svacinova, Ing.																			M	M									
Maxmilian Deutsch, Ing.																					C	C							
Ivo Bastyr, Ing.																					M	M	M						
<b>Radek Musil, Ing.*</b>																					M	M	CO	CO	CO	CO	CO	CO	CO
<b>Jiri Zelenka, Ing.*</b>																						M	M	M	M				
<b>Pavel Kolar, Ing.*</b>																								VC	VC	VC	VC	VC	VC
<b>Vincent Strebel, Ing.*</b>																								VC					
<b>Jaroslav Kopper, Ing.*</b>																									VC	VC	VC	VC	VC
<b>Jiri Radosta, Ing.*</b>																									M	M	M	M	M
<b>Milan Meduna, Ing.*</b>																										M	M	M	M
<b>Board size</b>	4	4	5	7	7	7	7	8	8	9	7	7	7	6	6	7	5	5	5	5	5	5	5	5	5	5	5	5	

\* R.E.M.O. Corporation representatives (in bold).

**Table 5**  
**Sellier and Bellot balance sheet as of December 31, 1993-2003**

This table reports Sellier and Bellot (S&B) balance sheet data for the period 1993-2003. The data are compiled from publicly available S&B annual reports (until 2000) and from proprietary private S&B annual reports (for the 2001-2003 period). The data are reported in CZK thousands.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Assets</b>											
Current assets											
Cash and near cash	30,962	21,870	14,081	52,002	16,642	6,499	21,893	22,836	23,948	4,575	6,955
Accounts receivable	144,659	223,708	229,470	193,781	217,019	127,923	207,389	230,991	251,122	257,582	270,350
Inventories	257,483	275,251	325,339	260,604	245,622	220,527	135,242	160,775	179,547	186,659	197,855
Other current assets										3,300	
Total current assets	433,104	520,829	568,890	506,387	479,283	354,949	364,524	414,602	454,617	448,816	475,160
Long term assets											
Long term investment assets	5,400	5,648	6,279	249,368	227,595	1,475	22,791	17,691	17,634	17,634	132,069
Long term intangibles	7,462	5,927	4,752	4,050	4,975	12,991	4,112	7,746	12,646	3,482	2,495
Long term tangibles	672,933	681,054	727,550	684,169	706,363	633,421	619,300	593,670	597,437	639,280	651,280
Total long term assets	685,795	692,629	738,581	937,587	938,933	647,887	646,203	619,107	627,717	660,396	785,844
Other assets	2,217	6,125	8,066	8,217	19,457	25,514	14,853	15,800	14,038	7,421	5,261
Total assets	1,121,116	1,219,583	1,315,537	1,452,191	1,437,673	1,028,350	1,025,580	1,049,509	1,096,372	1,116,633	1,266,265
<b>Liabilities</b>											
Current liabilities	83,007	151,726	169,897	195,862	195,807	148,392	118,752	113,143	161,899	160,170	105,904
Long term liabilities			1,500	1,500	1,500	1,500	1,500	1,500	1,500	24,767	28,420
Bank loans	122,220	167,411	244,627	275,824	278,337	234,176	208,367	165,326	103,677	65,969	104,453
Other liabilities*	11,710	13,148	17,812	62,439	42,185	37,396	41,709	29,189	19,217	3,236	2,718
Total liabilities	216,937	332,285	433,836	535,625	517,829	421,464	370,328	309,158	286,293	252,770	241,495
Owners' equity											
Base capital	776,743	776,743	776,743	1,009,000	1,009,000	1,009,000	1,009,000	1,009,000	1,008,916	1,008,916	1,009,000
Current year profit (loss)	36,806	23,523	-15,333	-197,057	3,564	-312,928	48,338	85,183	69,860	53,828	160,922
Prior years' profits (losses)	11,842	16,112	37,859	22,526	-93,128	-89,742	-402,670	-356,749	-275,828	-209,535	-158,651
Other equity	78,788	80,920	82,432	82,097	408	556	584	2,917	7,131	10,654	13,499
Total owners' equity	904,179	887,298	881,701	916,566	919,844	606,886	655,252	740,351	810,079	863,863	1,024,770
Total liabilities and owners' equity	1,121,116	1,219,583	1,315,537	1,452,191	1,437,673	1,028,350	1,025,580	1,049,509	1,096,372	1,116,633	1,266,265

\* Czech accounting standards do not require listing of leases. In 1998, S&B leases were CZK 49 million; by 2003, they were 0.

**Table 6****Sellier and Bellot income statement for the year ending December 31, 1993-2003**

This table reports Sellier and Bellot (S&B) income statement data for the period 1993-2003. The data are compiled from publicly available S&B annual reports (until 2000) and from proprietary private S&B annual reports (for the 2001-2003 period). The data are reported in CZK thousands.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Revenues											
Sales	668,216	770,097	792,259	675,022	881,127	941,482	1,139,571	986,832	1,177,320	1,266,224	1,064,681
Cost of goods sold	333,130	389,899	399,726	432,872	525,904	514,183	656,057	564,620	718,576	725,000	586,169
Gross profit	335,086	380,198	392,533	242,150	355,223	427,299	483,514	422,212	458,744	541,224	478,512
SGA and other expenses	233,967	312,413	358,803	407,317	335,138	401,367	402,376	318,685	348,558	401,687	351,944
Operating profit (loss)	101,119	67,785	33,730	-165,167	20,085	25,932	81,138	103,527	110,186	139,537	126,568
Financing profit (loss)	-58,195	-38,041	-48,610	-45,107	-30,773	-319,385	-29,043	-19,287	-26,124	-67,260	45,796
Pre-tax profit (loss)	42,924	29,744	-14,880	-210,274	-10,688	-293,453	52,095	84,240	84,062	72,277	172,364
Tax received (paid) on ordinary income	-3,253	-6,270	0	10,225	-4,233	-390	6,010	-7,099	-18,878	-18,403	10,903
Income before extraordinary items	39,671	23,474	-14,880	-200,049	-14,921	-293,843	58,105	77,141	65,184	53,874	161,461
Extraordinary items (net)	-2,865	49	-453	2,992	18,485	-19,085	-9,767	8,042	4,676	-46	-539
Net income	36,806	23,523	-15,333	-197,057	3,564	-312,928	48,338	85,183	69,860	53,828	160,922

**Table 7**  
**Sellier and Belot financial ratios, 1993-2003**

This table reports Sellier and Belot (S&B) financial ratios for the period 1993-2003. The data are compiled from publicly available S&B annual reports (until 2000) and from proprietary private S&B annual reports (for the 2001-2003 period).

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Profitability ratios</b>											
Return on sales = net income/sales (1)	5.51%	3.05%	-1.94%	-29.19%	0.40%	-33.24%	4.24%	8.63%	5.93%	4.25%	15.11%
Asset turnover = sales/average total assets (2)	61.25%	65.80%	62.50%	48.78%	60.98%	76.36%	110.96%	95.11%	109.73%	114.43%	89.36%
Leverage = total assets/total equity (3)	123.99%	137.45%	149.20%	158.44%	156.30%	169.45%	156.52%	141.76%	135.34%	129.26%	123.57%
Return on equity = return on sales x asset turnover x leverage (1 x 2 x 3)	4.18%	2.76%	-1.80%	-22.56%	0.39%	-43.00%	7.37%	11.64%	8.81%	6.29%	16.69%
Return on assets = net income/average total assets	3.37%	2.01%	-1.21%	-14.24%	0.25%	-25.38%	4.71%	8.21%	6.51%	4.86%	13.51%
Operating profit/average total assets	9.27%	5.79%	2.66%	-11.94%	1.39%	2.10%	7.90%	9.98%	10.27%	12.61%	10.62%
Average no. of employees	2,190	2,300	1,896	1,644	1,667	1,764	1,520	1,410	1,426	1,505	1,420
Operating profit per employee (in CZK thousands)	46.17	29.47	17.79	-100.47	12.05	14.70	53.38	73.42	77.27	92.72	89.13
<b>Leverage ratios</b>											
Debt ratio = (long term debt + bank loans)/(long term debt + equity)	0.14	0.19	0.28	0.30	0.30	0.39	0.32	0.22	0.13	0.10	0.13
Debt to common equity = long term debt/owners' equity	0.14	0.19	0.28	0.30	0.30	0.39	0.32	0.23	0.13	0.11	0.13
Total debt to operating profit	1.98	4.05	11.36	-2.93	26.22	18.11	4.88	3.28	2.70	1.93	1.95

**Table 7 (contd.)**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Activity ratios</b>											
Days receivables = average receivables/(sales/365)	64.52	87.30	104.39	114.43	85.09	66.86	53.70	81.07	74.73	73.32	90.49
Days inventory = average inventory/(cost of goods sold/365)	255.33	249.36	274.21	247.04	175.67	165.45	98.97	95.68	86.43	92.18	119.72
<b>Liquidity ratios</b>											
Cash + marketable securities / total assets	0.03	0.02	0.01	0.04	0.01	0.01	0.02	0.02	0.02	0.00	0.01
Quick ratio=(cash + receivables)/(current liabilities)	2.12	1.62	1.43	1.25	1.19	0.91	1.93	2.24	1.70	1.64	2.62
Current ratio = current assets/current liabilities	5.22	3.43	3.35	2.59	2.45	2.39	3.07	3.66	2.81	2.80	4.49
Working capital/sales = (average current assets – average current liabilities)/sales	0.49	0.47	0.48	0.53	0.34	0.26	0.20	0.28	0.25	0.23	0.31
<b>Price ratios</b>											
Market to book	1.04	0.76	0.35	0.19	0.16	0.17	0.12	0.12	0.16*	0.32*	0.33*
Firm value/operating profit	11.52	13.75	13.78	-1.66	11.25	6.69	1.50	1.27	1.63*	2.55*	3.28*
P/E	31.66	39.62	-30.30	-1.39	63.42	-0.55	2.53	1.54	2.57*	6.60*	2.58*

\* Price ratios subsequent to 2000 use extrapolated prices after delisting (10/2001) based on subsequent repurchase prices.

**Table 8**  
**Comparison of Sellier and Bellot and its major American competitors, 1996-2003**

Sellier and Bellot (S&B) financial statistics are compared with those of its major American competitors (Winchester and ATK Ammunition Division) for the period 1996-2003. Most ammunition manufacturers are either privately held or are small divisions within much larger firms. Publicly available information on the ammunition segments of peer firms is not available before 1996 (before 1998 for ATK Ammunition Division). Segment level disclosures governed by to FASB No. 14 and by SEC Regulation S-K do not permit estimation of return on assets, return on equity, or operating profit per employee. Sellier and Bellot data are compiled from publicly available annual reports (until 2000) and from the proprietary private annual reports (for the 2001-2003 period). Winchester data are obtained from 10-K filings of Olin Corp. (the parent company of Winchester). ATK Ammunition Division data are gathered from 10-K filings of Alliant Techsystems Inc. (the parent company of ATK Ammunition Division).

	1996	1997	1998	1999	2000	2001	2002	2003
CZK/USD exchange rate	27.2	31.7	32.4	34.8	38.1	38.1	32.7	28.2
<b>Total Assets (\$ million)</b>								
Winchester	152	155	161	165	156	142	135	140
ATK Ammunition Division			224	143	154	172	363	401
Sellier and Bellot	53	45	32	29	28	29	34	45
<b>Total Sales (\$ million)</b>								
Winchester	256	252	266	286	277	269	283	303
ATK Ammunition Division	438	483	464	405	346	494	497	706
Sellier and Bellot	25	28	29	33	26	31	39	38
<b>EBIT (\$ million)</b>								
Winchester	-2	-4	13	21	20	7	16	22
ATK Ammunition Division			19	17	18	38	58	73
Sellier and Bellot	-6	1	1	2	3	3	4	4
<b>EBIT/Assets</b>								
Winchester	-1.32%	-2.58%	8.07%	12.73%	12.82%	4.93%	11.85%	15.71%
ATK Ammunition Division			8.68%	11.65%	11.68%	21.91%	15.86%	18.23%
Sellier and Bellot	-11.37%	1.40%	2.52%	7.91%	9.86%	10.05%	12.50%	10.00%

**Table 9****Sellier and Bellot Machines balance sheet as of December 31, 1999-2003**

This table reports Sellier and Bellot Machines balance sheet data for the period 1999-2003. The data are compiled from publicly available Sellier and Bellot annual reports (until 2000) and from proprietary private Sellier and Bellot annual reports (for the 2001-2003 period). The data are reported in CZK thousands.

	1999	2000	2001	2002	2003
<b>Assets</b>					
Current assets					
Cash and near cash	1,330	15,056	4,500	928	6,432
Accounts receivable	8,825	12,381	11,037	16,662	16,391
Inventories	82,521	67,063	60,289	64,417	57,483
Other current assets	0	0	0	0	0
Total current assets	92,676	94,500	75,826	82,007	80,306
Long term assets					
Long term investment assets	0	0	0	0	0
Long term intangibles	8,677	8,789	8,934	8,861	9,665
Long term tangibles	30,583	26,971	38,797	31,017	28,197
Total long term assets	39,260	35,760	47,731	39,878	37,862
Other assets	66	1,792	2,355	1,216	1,277
Total assets	132,002	132,052	125,912	123,101	119,445
<b>Liabilities</b>					
Current liabilities					
Short term debt to S&B	105,238	89,937	73,471	70,593	59,694
Other short term liabilities	10,501	23,166	21,232	20,682	23,958
Total short term liabilities	115,739	113,103	94,703	91,275	83,652
Long term liabilities					
Bank loans	0	0	0	0	0
Other liabilities	161	431	493	1,052	3,929
Total liabilities	115,906	113,534	95,620	96,305	87,581
Owners' equity					
Base capital	35,100	35,100	35,100	35,100	35,100
Current year profit (loss)	-18,933	2,422	11,774	482	5,019
Prior years' profits (losses)	-11	-19,004	-16,824	-9,515	-9,724
Other equity	-60	0	242	729	1,469
Total owners' equity	16,096	18,518	30,292	26,796	31,864
Total liabilities and owners' equity	132,002	132,052	125,912	123,101	119,445

**Table 10****Sellier and Bellot Machines income statement for the year ending December 31, 1999-2003**

This table reports Sellier and Bellot Machines income statement data for the period 1999-2003. The data are compiled from publicly available Sellier and Bellot annual reports (until 2000) and from proprietary private Sellier and Bellot annual reports (for the 2001-2003 period). The data are reported in CZK thousands.

	1999	2000	2001	2002	2003
Revenues					
Sales	73,538	104,310	133,962	113,500	123,055
Cost of goods sold	37,072	50,944	60,260	54,204	59,722
Gross profit	36,466	53,366	73,702	59,296	63,333
SGA and other expenses	45,353	43,961	54,527	49,747	52,507
Operating profit (loss)	-8,887	9,405	19,175	9,549	10,826
Financing profit (loss)	-10,129	-6,970	-7,485	-9,067	-5,807
Pre-tax profit (loss)	-19,016	2,435	11,690	482	5,019
Tax received (paid) on ordinary income	0	0	0	0	0
Income before extraordinary items	-19,016	2,435	11,690	482	5,019
Extraordinary items (net)	23	-13	84	0	0
Net income	-18,993	2,422	11,774	482	5,019

**Table 11**  
**Sellier and Belloc Machines financial ratios, 1999-2003**

This table reports Sellier and Belloc Machines financial ratios data for the period 1999-2003. The data are compiled from publicly available Sellier and Belloc annual reports (until 2000) and from proprietary private Sellier and Belloc annual reports (for the 2001-2003 period). The data are reported in CZK thousands.

	1999	2000	2001	2002	2003
<b>Profitability ratios</b>					
Return on sales = net income/sales (1)	-25.83%	2.32%	8.79%	0.42%	4.08%
Asset turnover = sales/average total assets (2)		79.01%	103.86%	91.16%	101.47%
Leverage = total assets/total equity (3)	820.09%	713.10%	415.66%	459.40%	374.86%
Return on equity = return on sales x asset turnover x leverage (1 x 2 x 3)	0.00%	13.08%	37.94%	1.78%	3.88%
Return on assets = net income/average total assets		1.83%	9.13%	0.39%	1.03%
Operating profit/average total assets		7.12%	14.87%	7.67%	2.23%
<b>Leverage ratios</b>					
Total debt to operating profit		12.20	5.45	10.05	8.49
<b>Activity ratios</b>					
Days receivables = average receivables/(sales/365)		37.10	31.90	44.54	49.02
Days inventory = average inventory/(cost of goods sold/365)		535.86	385.69	419.87	372.51
<b>Liquidity ratios</b>					
Cash + marketable securities / total assets	0.01	0.11	0.04	0.01	0.05
Quick ratio=(cash + receivables)/(current liabilities)	0.09	0.24	0.16	0.19	0.08
Current ratio = current assets/current liabilities	0.80	0.84	0.80	0.9	0.96
Working capital/sales = (average current assets – average current liabilities)/sales		-0.20	-0.14	-0.12	-0.05