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**Show Me the Money:  
Japan's Most Profitable Companies in the 2000s**

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## **Show Me the Money:**

### **Japan's Most Profitable Companies in the 2000s**

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#### **Abstract:**

The most interesting and profitable Japanese companies are no longer those that mass-produce high-quality consumer end products. In their stead, leadership in technology and success in terms of profitability have shifted to companies that excel in input components and materials, but many of these companies are largely unknown. This paper explores a set of manufacturing companies that are among the most profitable in Japan, in order to analyze their management practices and show how they differ from our stereotypical view of “the Japanese firm”. First, using Japanese data sets companies were ranked by average profitability for the ten fiscal years ending in March of 2001 through March of 2010. From the resulting list, 13 companies from differing industries and backgrounds were selected for interviews. These interviews were conducted with CEOs or C-level senior executives in the summer of 2010. Following a brief outline of several of these companies, seven characteristics – here presented as the “7 P” - of highly profitable companies in Japan are identified: profits, position, paranoia, parsimony, public relations, people and pride. These stand in stark contrast with Old Japan management approaches. To properly evaluate Japan, rather than looking solely at companies familiar the 1980s we need to turn our attention to these new leaders.

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## 1. Introduction

Business news from Japan have been predominantly negative for more than a decade, and the public and academic interest has shifted to China. After the economic bubble burst in 1991, our view of Japanese managers fell from heroes that provided role models for the US, to pitiful dawdlers unable to make a strategic decision (e.g., Abegglen 1985, Prahalad/Hamel 1990, in contrast to Porter/ Takeuchi/Sakakibara 2000). As a result of the reduced interest, when evaluating Japan many observers rely on the knowledge garnered in the 1980s, and they look at companies that were relevant then. Yet, perhaps even more than other countries Japan has changed over the past 20 years. While many might agree that it would be preposterous to evaluate the U.S. of today based on the performance of Fortune 500 firms as of 1988 (such as GM, Sunbeam/Oster, Texaco, or Digital Equipment), for Japan they do precisely that. In doing so, they miss out on New Japan's successful competitors.

While the 1990s are often referred to as Japan's "lost decade", a new evaluation is emerging that it was in fact a decade of transformation, of a "strategic inflection point" that has changed what it takes to win (e.g., Schaede 2008). The rise of Asian competitors in Japan's former mainstay, the mass production of high-quality consumer end products in Asia, and the erosion of Japan's erstwhile cost advantage in assembly coincided with a deep banking crisis in 1998 that triggered a fundamental reform of laws, rules, and incentives faced by Japanese managers. It has been estimated that about 75% of Japan's Nikkei 500 firms have refocused, and many have turned into nimble technology leaders in upstream components and materials, to compete where Asian competitors cannot, and where margins are highest (Schaede 2008). These reformers have been joined by new companies, such as Astellas in pharmaceuticals, SUMCO in silicon wavers, or JSR in photo-resists.

Average profitability indicators of Japan's listed companies continue to be lower than those for the U.S. For example, Fujitsu's consolidated average operating margin of 2.6% for the years 2000-2009 easily trumped that of Hitachi (2.1%) and NEC (1.8%).<sup>1</sup> These are dismal numbers. However, the impression changes when one looks at Japan's profitable companies, which include Keyence, Pacific Metals, Ono Pharmaceuticals, Nippon Electric Glass, Hirose Electronic, and Union Tool, all of which have consistently earned well over 15% throughout the tumultuous 2000s. It is these companies that one should look to for an analysis of the New Japan.

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<sup>1</sup> Author's calculations based on Nikkei Needs data.

This paper explores the management characteristics of the “New Japan” leaders. First, I create a ranking of Japan's most profitable manufacturing companies for the 2000s, based on two databases, one with consolidated data for listed firms, and one with unconsolidated data for listed and unlisted firms. From this ranking I introduce qualitative information on 13 companies, based on extensive interviews at the C-level, mostly with the CEOs themselves. These interviews were conducted in the summer of 2010. I identify seven characteristics of these companies that stand out in stark contrast with the stereotypical “Old Japan” management practices of the 1980s, and I label these the “7P” of newly competitive Japanese companies: profits, position (strategy), paranoia (a crisis spirit), parsimony, public relations (disclosure), people (HR practices) and pride (confidence). I conclude that for an accurate evaluation of Japanese business in 2011, we must switch our analysis toward these new leading companies.

## **2. Background: Changes in Japan in the 1990s**

The postwar Japanese political economy of the 1950s through 1980s, as has been extensively studied, set strong incentives for corporate growth through aggressive diversification, often structured as affiliated subsidiaries. They benefited from size measured in sales, because industry rankings were based on sales (e.g., Abegglen 1985), and size afforded access to trade quotas and the best university graduates. There was implicit insurance in size as well, with “too big to fail” adopted as a government policy to maintain employment. Because layoffs were difficult, companies found it much easier to add new businesses than to exit unprofitable ones. Little pruning was done in the growing conglomerates, as 75% of shareholders at the time were other corporations and banks that were widely known as supportive, stable owners (cf. Figure 1). Banks, too, valued diversification, because regulated interest rates and the “too big to fail” insurance equated more loans with revenues and power.<sup>2</sup>

Research on the U.S. has shown that after a certain point, diversification yields diminishing returns, as resources are spread too thinly into businesses too distant from the core competencies (e.g., Palich et al. 2000). What is more, after 30 years of incentives for growth Japan's bubble economy of 1987-1991 encouraged exuberant diversification into completely unrelated businesses. When the

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<sup>2</sup> The following summarizes the main argument proposed in Schaede (2008). On diversification in Japan, see, e.g., Goto (1981), Yoshihara et al. (1981), Ushijima (2007), Fukui/Ushijima (2007). Also, see Asaba/Lieberman (1999) on companies mimicking competitive behavior in that period.

stock market collapsed in 1991, the country found itself stuck with excessively large, unprofitable companies and a serious non-performing loan (NPL) crisis. After a long period of “wait-and-see”, the government could no longer sustain the “too big to fail” approach in the late 1990s, and banks were forced to write off NPLs at increasing speed. This meant pushing companies to sell or close down failing business units. Bargain-hunting foreign investors picked up Japanese business units or collateral underlying NPLs at 10 cents to the dollar.

In the meantime, the global competitive environment also changed, as Japan lost its previous cost advantage in the mass-manufacturing of consumer end products. Realizing that as unwieldy behemoths they could not compete globally against emerging Asian competitors, many companies were forced to restructure and find a new strategic position in the global value chain. They demanded reforms that would facilitate reorganization. This included easier ways to spin out business units, to sell off or close down subsidiaries, and to dismiss employees in efforts towards downsizing.

A further push for change was a steady overall decline in profitability – measured in stock (such as return on equity or return on assets) or flow (operating margin, ordinary margin). Figure 1 shows the movement of those four measures between fiscal years 1980 (ending in March 1981) and 2009 (March 2010). While variation is understandably high, especially as caused by exogenous shocks such as the “2<sup>nd</sup> Oil Shock” of 1982 or the “Lehman Shock” of 2008, an overall downward trend is apparent. Beginning in the 1990s, the arrival of hostile takeover rules made this long-term trend of low profitability a problem<sup>3</sup>. Even though unsuccessful cases occupied the news, quietly the number of domestic M&A increased dramatically after 1998. Moreover, the simple threat of becoming an acquisition target forced many CEOs to place more importance on efficiency of operations. The change in Japan’s ownership structure pushed managers to pay attention to return on investment. Figure 2 shows the shift in shareholders at the Tokyo Stock Exchange between 1985 and 2008. Many of the previous stable owners - banks and companies – have been replaced by institutional and foreign investors. The new category of “trust banks” consists mainly of three large “re-trusts” which are investment funds that manage corporate pension accounts and amalgamated mutual funds. They vote on proxy and compete for clients through return on investments. The category “foreign investors” is

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<sup>3</sup> In 2000, Japan introduced new rules regarding acquisitions, in particular a “squeeze-out” system that enables an acquirer to force minority shareholders to surrender their shares at a fair price once the raider controls more than 66% of shares. This obliterated the previous insurance against hostile takeovers provided through cross-shareholdings, as these came in very small stakes only (Nakayama 2010).

dominated by so-called “street names”, which are foreign investment accounts managed in New York or London that pool a variety of accounts, including Japanese money. These investors, too, compete through return on investment. As these two categories came to account for almost 50% of owners, no Japanese CEO can ignore the new reality that a clear strategic compass and efficient operations have become the best defense against falling stock prices and acquisitions.

These pressures resulted in all-encompassing business reforms. The 1998 financial “Big Bang” brought two main changes regarding corporate reform: compulsory consolidated accounting (i.e., transparency in financial reporting) and unlimited cross-border transactions (i.e., foreign investors). The former reduced the utility and increased the costs of owning many small subsidiaries. The latter brought the fear of a hostile takeover. In order not to become an obvious and easy target, operations had to be streamlined: non-profitable, non-core businesses had to go if profit indicators such as return on equity (ROE) or operating margins were to rise.

In addition to downsizing and focus, an important shift in positioning occurred. Combining the need for increased profits at a time when previous labor cost and mass-production advantages had moved elsewhere, to be successful companies had to reposition into higher margin segments, i.e., upstream. The profitability of activities along the supply chain is sometimes simplified as the “smiley curve of profits” (Figure 3), which charts operating margins in upstream, midstream, and downstream businesses. Many Japanese firms realized they could no longer compete at the bottom of the “smile”, and therefore have begun to reduce end product assembly to move up the value chain. The leaders came to dominate various markets for input materials and components. In 2003, a study by the Economics Ministry looked at the combined global market share of Japanese firms in advanced household electronics, divided by stage of production. They found that while Japan accounted for only 27% of end products worldwide, it dominated in input materials and parts, ranging from flash memory or fine electronics chemicals to production equipment for semiconductors and LCD panels (METI et al, 2005; for an account of the value added in the iPod, see Linden et al., 2007). Because these products are not as visible as end products, the strategic shift has gone almost unnoticed.

This trend is not restricted to the electronics industry. There are many companies in Japan that occupy the Number One position in global markets, including Keyence (sensors), Osaka Titanium, Teikoku Piston Ring (cylinder liners), Nihon Parkerizing (chemical coating for industrial materials), Mabuchi Motors (mini-motors), or Shimano (advanced bicycle parts). The combined global market

share of Japanese companies in fine chemicals for electronics exceed 70%, and for carbon fiber 65%<sup>4</sup>. In green technologies, where the jockeying for positioning is still evolving, several Japanese companies lead the field in power plant technologies, hard grid-ware, and batteries.

The question of this paper is: Who are these new competitors? As of 2010, Japanese industry is still in the midst of repositioning. As in all countries, laggards remain, as do companies that are unable to reposition. Some of these include previous industry leaders and large employers whose fate is often seen as representative of Japan. Yet, it is enlightening to study profitable New Japan's leading firms. Because most of the current discourse is on how Japan has lost its prowess in manufacturing, this paper limits itself to an analysis of manufacturing firms. The remainder of this paper studies the most successful such companies.

### **3. Data Analysis: Ranking of Most Profitable Companies**

To analyze Japan's new and successful manufacturing firms, a ranking of companies by profitability, measured in operating margin, was created from Nikkei Needs data. This includes all listed companies in fiscal years 2000-2009, except for financial institutions. The number of listed firms (all industries) in the sample changes from year to year, with a low of 1,832 in 2000 and a high of 2,360 in 2009, with an average of 2,147 for the decade. Of these about half are manufacturing firms, numbering an average of 1,107 companies for the decade.

To identify special trends, the profitability data for Japan were compared with those for the United States, based on data drawn from Compustat for 2000-2009, for all U.S. firms listed (except financial institutions) on the NYSE, AMEX and NASDAQ. The average number of U.S. firms listed on these three exchanges for the decade was 3,615, of which 1,758 were manufacturing firms. Profitability for both countries was calculated as operating income over net sales.

It is possible that non-listed firms are among the most profitable companies. To explore this, a second data set was constructed from TDB (Teikoku Data Bank) for FY 2006 and 2007 (i.e., fiscal years ending in March 2007 and March 2008). The TDB dataset consists of non-consolidated data for roughly 90,000 companies, but has data on net income and sales only. After reducing the list to manufacturing firms and controlling for extreme outliers, an analysis of 7,499 remaining

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<sup>4</sup> According to corporate information by JSR and the Monitor Group; company websites.



manufacturing firms showed that unlisted companies were on average somewhat less profitable than listed (with 10.7% vs. 9.5% margins, respectively, for the two years), and they had significantly fewer employees (193 vs. 1,253 on average; 80 vs 302 for the median company). A few unlisted companies were at the top of the profitability ranking; however, these were parts of large, stock-exchange listed holding companies. Thus, a study of profitable firms can be limited to listed companies without major loss in information.

To graph profitability measures, four brackets were created: (1) companies earning less than 2%; (2) companies earning between 2% and 8%; (3) companies earning between 8% and 15%; and (4) companies earning over 15%. These brackets were determined arbitrarily, but changing cutoff points does not affect the overall impression from the descriptive data. Figures 4a and 4b show the number of companies in each bracket, for all industries and manufacturing respectively, in each year of the 2000s; and Figures 5a and 5b show the same count for the United States. For Japan (all industries, Figure 4a) we see that the largest group of companies, about 50% of total, earned operating margins between 2%-8% during the 2000s; the number of companies earning less than 2% increased sharply after the “Lehman Shock” of 2008. The smallest group – ranging between 100 and 220 firms – earned more than 15%. For manufacturing firms only (Figure 4b) the picture is very similar.

In comparison, for the United States, in all industries (Figure 5a), the groups are more equal-sized, and the largest group is companies that earned more than 15%, followed by more than 700 firms earning between 8% and 15%. Thus, more than half of U.S. firms earned more than 8%. This picture changes when only manufacturing firms are considered (Figure 5b): for most of the decade there were as many manufacturers earning more than 15% operating margins as less than 2%.

This simple comparison confirms the notion that Japanese profitability is lower than in the United States. Exploring the many reasons why this may be so is left for future research. One possibility is that until recently profitability was not a main concern for those Japanese companies that had stable shareholders and were “too big to fail” or too big to be acquired. Whatever the case may be, this finding makes Japan’s highly profitable firms even more special.

To gain insights into who these profitable companies are, a ranking by profitability on average for the decade was created. Table 1 shows the result for all industries, and Table 2 ranks manufacturing firms only. This longer perspective is taken to exclude one-year wonders that ranked high only temporarily, and to measure variance over time the ranking also includes the standard

deviation in profitability over that period. Reducing the period to five years, by ranking average profitability for the years 2005-2009, does not substantially change the results, except that newly listed firms such as Yahoo Japan, DeNA, kakaku.com and Axell (one of the interviewed companies) appear among the profitability leaders. It should be noted that the profitability of firms in the pharmaceutical and software industries may be comparatively overstated when considering operating margin, because operations are not their largest cost aspect. Pharmaceutical companies were not included in the interviews.

In manufacturing (Table 2), Japan's leaders of the decade were sensor-maker Keyence (which was Japan's most profitable manufacturer throughout the decade), robot company Fanuc, Hirose Electric (electrical and electronic connectors), Sankyo (pachinko machines), Pacific Metals (nickel), Hogy Medical (medical instruments), Union Tool (semiconductor manufacturing equipment) and Mars Engineering (measuring, scaling and counting devices). With the exception of Nintendo, none of these leaders is a "household" name, and while industries vary none produces consumer end products.

#### 4. Case Studies

From the aggregate rankings, thirteen companies were selected for interviews based on their being leaders in their product categories, straddling a variety of industries, not being known widely, and standing out for a particular strategy.<sup>5</sup> Table 3 summarizes main data for these companies, which can be categorized in various ways. By industries, the group represents: chemicals (JSR, Nihon Parkerizing, Tokai Carbon), industrial equipment (Yushin Seiki, Advantest, THK, Nabtesco), plastics (Nifco), semiconductors (Axell), advanced printing (Nissha), fine mechanics (Optex), rare metals (Pacific Metals), and lighting (Ushio). By buyers, some companies sell in more than one industry, and categories are: auto parts (Nifco, THK), semiconductors (JSR, Axell, Advantest), machinery parts (Ushio, THK, Nabtesco), tire makers (JSR, Tokai Carbon), electronics makers (Yushin Seiki, Axell, Nissha), construction materials (Nihon Parkerizing, Optex), and the steel industry (Pacific Metal). Therefore, these 13 companies cover a wide range of industrial activities.

Table 3 shows that basic profiles vary widely as well. The oldest (Tokai Carbon) was founded in 1918, the youngest in 1996 (Axell) and 2002 (Nabtesco, a merger between sensor maker Nabco and

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<sup>5</sup> Further interviews, including of the top companies of the decade, are planned for 2011.

industrial equipment maker Teijin Seiki). Some operate large manufacturing sites (JSR, Pacific Metals), others are fabless (Axell). Employees, as of FY 2007, range from 57 to 7,000, and sales from roughly ¥13 billion (\$140 million) to ¥400 billion (more than \$4 billion). On average, in March 2008 these 13 companies reported operating margins of 19%, ROE of 13%, ROA of 8.4%, an export ratio of 43.4%, and average foreign ownership of 24.3% (ranging between 7% and 49%). The only obvious characteristic these firms share in common is that their profitability greatly exceeds the average for listed Japanese firms in that year.

All interviews were conducted with senior managers at the companies: in 5 cases with the President/Chairman, in 4 cases with an Executive Director (mostly of Strategic Planning), and another 4 were held at the Director level. Interviews lasted between one and two hours. Interviewees were sent a standard set of questions about their company beforehand, concerning market share, competitors, and HR practices, and in all cases the conversation centered around business strategy and competitive analysis.

A complete analysis of each company is beyond the scope of this paper and will be left for future publication. This section therefore introduces brief sketches of seven companies, in an effort to distill and highlight outstanding aspects from a corporate strategy perspective. Based on these sketches, and additional information from the interviews, an extrapolation of the reasons for success of these companies will be offered in Section 5.

#### **a. JSR**

JSR is a chemical company founded in 1957 as *Nihon gōsei gomū* (Japan Synthetic Rubber). The company started as a “national project” to secure synthetic rubber production in Japan, backed by Shōjirō Ishibashi, the founder of Bridgestone (Yamaguchi 2009). The crisis following the second oil shock in the early 1980s forced the company to reposition by extending its existent technologies into polymers, in particular fine chemicals for the electronics industry. Currently, JSR's business divides into two main segments. The first is petrochemical materials, in particular elastomers (synthetic rubber used in tires and industrial equipment such as hoses, belts, auto parts), TPE (thermoplastic elastomers, used for example in shoe soles such as sneakers), and also emulsions (latex). For these items, the share of synthetic rubber over natural rubber is about 55% (44% for tires), and JSR's domestic market share in each of these materials is about 30%.

The second, and increasingly important, segment is information and electronics materials,

which consists of LCD and plasma display materials (alignment film, color filter materials, dielectric layers), optical film (such as anti-reflection coating and retardation film for use in display layers and filters, as well as touch panel circuit boards), and materials for semiconductor manufacturing (photoresists). In addition, a third, smaller segment is plastics, such as ABS resin, and materials used in buildings, electrical appliances, and auto parts. JSR's buyers range from auto tire and auto makers to paper companies, semiconductor firms, display materials manufacturers and LCD and plasma panel display assemblers. Global sales account for over 40%.

JSR's severe crisis in the late 1970s/early 1980s and the subsequent repositioning have left the company both "paranoid" – always watchful about technological shifts - and self-confident. As JSR sees it, it underwent a strategic inflection point in the 1980s when it moved away from being a national project petrochemical firm and entered the fine chemical markets. The "Lehman Shock" of 2008 created another breaking point, and the company is now moving into new fine chemical segments yet again, such as materials for medical instruments and green technologies, including lithium ion capacitors. Current strategic planning extends to the year 2030, given long product development and life-cycles in industries that use advanced polymers as inputs. JSR is in a long-term trend to reduce the synthetic rubber segment, which is mostly a commodity business earning margins below 10%, and instead develop into new industries such as life science applications and clinical diagnostics, as well as green technology sectors. As of 2009, synthetic rubber (elastomers), emulsions, and plastics combined to 58.5% of sales yet generated only 34% of profits, whereas fine chemicals and other advanced products accounted for 41.5% of sales and 66% of its profits.

JSR's core competency is the ability to make precise hi-tech chemicals with consistent quality, and develop new chemicals around polymers. The company builds on long-term customer relations by co-developing new materials as customers develop new products. The motto is that "we like to sell customers on our materials before they even know they need them". Thus, JSR follows customers around the world, and has a sizable operation in Silicon Valley.

As a result of this strategic focus, JSR is a major player in most of the specialized LCD/plasma display materials it produces. Global market shares range from 30% in color pigmented resists, 60% in photosensitive spacers, 65% in alignment film, 80% in dielectric film, and 90% in protective coating. All of these determine the quality of the ultimate LCD and plasma panels. As of 2008, the total world market of LCD components was estimated at Yen 6.6 trillion (about \$66 billion), and these upstream

materials accounted for almost 50% of input value. With few exceptions such as LG Chemical, JSR's competitors in these products are other Japanese companies, such as Toyo Ink, Nissan Chemical, Chisso, and Osaka Organic Chemical. In retardation and anti-reflection films, JSR is likewise a global leader and competes with other Japanese companies such as Zeon and Konica Minolta.

In semiconductor materials, JSR holds a global market share from 25%-40% in photoresists (depending on type). This specialized chemical solution is critical for the manufacturing of semiconductors. Main competitors, again, are mostly Japanese companies, including TOK, Shin-Etsu Chemicals, Fujifilm Electronic Materials, and Sumitomo Chemicals. Rohm&Haas Microelectronics, a Dow-related company, is the only viable foreign competitor. JSR leads this group, and competes as a high-quality leader and technological co-developer. For example, its production facility in Silicon Valley has repeatedly been awarded Intel's supplier quality award. Even though JSR is not the cheapest, Intel values the high consistency of the product.

***b. Nifco***

Nifco is a car part company that makes small plastic fasteners and buckles. It was founded in 1967, as the second company of Toshiaki Ogasawara, who as a student started his first venture, Nichiei Bussan, and coined the trademark "magic tape". He sold that business when he discovered plastic fastener technology in the United States and founded Nippon Industrial Technology in 1967 as a joint venture with Illinois Tool Works (ITW). This setup afforded technology transfer from the Big Three US auto makers, and subsequently led to a "fastener revolution" (website) in Japanese car production. Fasteners are small plastic parts that replace screws for attaching parts, such as the interior of a car door to the outer steel. Fasteners are only 1/7 the weight of a screw, do not rust, and at least for Nifco's product, require no tools, thus speeding up the assembly process. In addition, Nifco also makes dampeners that smooth the movement of pop-out things on the dashboard and console, thus reducing the cheap feel of cupholders and compartment lids. As testimony to Nifco's constant attempts at innovation, since the mid-1990s, both the number of fastener/damper per car and the price per part have increased by some 30%, in spite of deflation and price pressures in automobile construction. Today, there are on average 658 fasteners and dampers in a Japanese car, worth about \$55 (with an average price of about 8 cents). Japanese car makers produce perhaps 9 million cars a year, resulting in a total Japanese market size of about \$500 million; globally, annual production of 15 million results in a total achievable market of roughly \$825 million.

When Nifco went public in 1977, ITW sold off their shares, but a 35-year-territory agreement kept Nifco out of the Western markets. Currently, Nifco faces two competitors in ITW Fastex and TRW EFC, both of which are members of larger U.S. firms; each of the three companies has a global market share of about 23%. As of 2010, 82% of Nifco's sales were in fasteners, and almost 70% went into cars. Within that business, 79% of sales were domestic, and 14% to Hyundai in South Korea. Nifco's market share in both Japan and Korea is about 70%. Since the territorial agreement expired in 2002, the company has refocused by selling off most of its unrelated business and has launched an aggressive global push. Two unrelated businesses remain in the English-language newspaper "The Japan Times" and Simmons mattresses. The latter has generated constant positive cash flow with the Asian luxury hotel boom of the early 2000s, and will be kept until either this changes or an opportunity to divest presents itself.

Nifco's core competence is creative engineering. Of Nifco's 1,200 employees in Japan, 65% are design engineers. The corporate motto is "always a challenge". The company stays ahead of the competition through constant product innovation. It dispatches engineers to the car makers to develop new parts for each new make and model. The company is co-located with its largest customers, and lists speed and immediacy as its first weapon of competitive strength. At Tokyo headquarters, all senior managers share a large cubicle office with the founder and chairman, and if possible, decisions are made on the spot.

Nifco prides itself on holding thousands of patents and intellectual property rights. Still, it is sometimes difficult to protect the intellectual property of plastic parts that cost but a few cents each. Nifco's main line of defense is through rapid new product development (such that by the time a fastener is copied by a competitor, it has already been superseded by a better one) as well as reliability and quality. It is not as easy as it may seem to make these fasteners, and plastic quality is a great factor. The 2010 Toyota recall of floor mat clasps was a vindication for Nifco, as those parts had been sourced at cheaper places.

Nifco outsources the majority of production to a network of mostly Japanese small firms. Nifco designs the parts, as well as the molds needed to make them. As Nifco makes roughly 35,000 different parts, scale economies are limited and outsourcing to smaller firms greatly reduces production costs. Yet, as fasteners are becoming more critical and hi-tech, in 2005 the company began to produce in-house higher-value added parts where the accumulation of proprietary know-how as well as quality

control are vital, such as fuel-related parts or newly developed product lines.

Unlike most other Japanese auto part makers, Nifco is not a member of any keiretsu, nor is there a strong main bank relation. The company sells to all major car manufacturers in the world, and has facilities around the globe, in particular in the U.S., Korea and China. Thus, its success rest on constant technology upgrading and close cooperation and co-development with customers in ways other companies cannot do.

### ***c. Yushin Precision Instruments***

Yushin Seiki builds robots that take plastic products out of their molds after injection. These parts range from tiny plastic plugs in cell phones to automobile fenders, and the robots range in size from a little box with a long arm to a full room-sized machine. They cost anywhere between \$3,000 and \$100,000 and have a lifespan of 5-10 years. A robot is particularly helpful if the plastic device is complicated and has other parts (such as screws or wiring) built into the injection mold. For simple plastic parts such as kitchen utensils that are made in developing economies, the take-out function is often still performed by humans, and Yushin sees great growth potential as labor costs rise.

Yushin was founded in 1973 in a rice paddy in Fushimi (Kyoto). After the founder passed away in 2002, his wife became president and the older daughter is currently the IR Director. Yushin may well be the world's only stock-exchange listed robot company run by a woman. The idea of a take-out robot was developed in Japan, and Yushin subsequently pushed its development through the introduction of pneumatic (servo) robots that have since become the industry standard. In 30+ years, Yushin has not experienced a single year with negative profit. As a family business with 400 employees (many of whom are in the foreign subsidiaries), this company is quick and nimble. It is also very international, with 60% of sales to foreign countries, and mostly to non-Japanese firms there. Clients are plastic part makers that supply companies such as Sony, Canon, Honda and the US auto makers.

Few data exist about the global size of the market for these robots, and Yushin believes its domestic market share is somewhere between 50-80%. Globally, a few competitors exist in Europe, yet according to Nomura Research, Yushin held a 40% market share in the early 2000s (Ishibashi 2007). About half of sales and profits are from standard take-out robots, and an increasing portion of business are made-to-order machines. Yushin's core competence is constant new development in robot engineering, and its approach is reflected in the motto "make it possible". Clients approach Yushin with a manufacturing process need, and Yushin will build a robot to solve that need. Thus,

made-to-order robots are becoming increasingly important and now also cover aspects other than injection molding. A first spike in custom-made robots came with the arrival of DVDs as a mass item; now that movie technology is moving away from hardware storage, Yushin has worked with 3M to develop a new wafer production support system. Yushin has enjoyed a steady increase in sales during the 2000s mainly because it is building ever more advanced, expensive robots.

Although Yushin has so far grown without increasing the number of employees or plants, if an opportunity presents itself, it will look into growth. As an owner-founder company, it can make decisions fast, and should they perceive that land prices are bottoming out will put their cash to use for expansion. And even though the company is always concerned about market shifts, it is not nearly as worried about having its robots copied by competitors abroad. As they put it, “the niche is our protection”: large firms in China may be able to mimic the technology, but they are too big to care about such a small market. Meanwhile small Chinese firms do not have sufficient staying power to acquire the needed expertise and often exit before they have succeeded.

#### ***d. Optex***

Optex makes sensors, and the main applications are security systems (50% of sales), automatic doors (24%) and factory automation (21%). Its specialty is infrared sensors of two types: passive (measuring temperature changes in the room) and active (sending out a beam to meet people; this is mostly used in outdoor applications). Japanese companies own the world market in active infrared sensors with 90%; of this, Optex holds 31% and its main competitor, Takenaka 34% (due to supplying OEM to GE and Siemens). Optex has recently developed a way to use passive infrared for outdoor security systems as well, and has a 37% share in this market.

In automatic doors, Optex leads the Japanese market with 50%, followed by Horoton with roughly 20% and Takenaka and Hyokko with about 15% each. This results in high profits because there are probably more automatic doors in Japan than all over Europe. However, globally Japan may hold 15% of the market which is dominated by the Belgium firm BEA, which employs the main competing technology, microwave (radar) sensors. Microwave works better in large places, as it sees a circle before the door even when ceilings are high and where swing doors are employed, such as in department stores in Europe and the United States. Infrared, in contrast, sees a sharp box just in front of the door and works more reliably; it is particularly useful in small places with lots of people and motion where sliding doors are common, such as in convenience stores along busy Tokyo streets.



Finally, even though factory automation is dominated by Keyence and Omron, Optex is carving out a niche for semiconductor and car production, and in particular bottling (food, drugs, cosmetics) as its infrared technology works very well with look-through containers such as pet bottles. Profitability differs by segment, with automatic doors earning margins in excess of 20%, security about 15%, and factory automation 10%. The company plans to grow all three segments, because these businesses have uncorrelated business cycles even as they employ the same core technology.

One growth approach is to complement the small sales force by selling OEM. As the company develops new methods of using infrared sensors for swing doors or in large spaces, it is trying to eat into BEA's share by selling OEM to automatic door makers. In addition, the company is setting up to compete actively in emerging markets: thus far, security systems have been targeted at the top level (military, airports, nuclear power plants, and very rich VIPs) and the company is making a push into home security systems. The plan is to make sufficient money at the high end to subsidize the entry into the lower segments. A plant has been built in China to produce security systems, although the infrared technology itself is manufactured in Japan and shipped as a "black box". The company is also constantly searching for other applications such as light switches. A new push is into measuring water quality. Yet, Optex is clear about staying out of markets that could easily be controlled by larger competitors, such as indoor light controls (where sensors switch light on or off in a room) which might be of interest to players such as Panasonic.

The "Optex Spirit" contains several features, topped by the values "create", "be different" (carve out niches through unique products) and "be self-confident and responsible" (*jishūsei/jiritsusei*). This reflects the attitude of the founder and CEO, Toru Kobayashi, an engineer who believes that people are Optex' biggest assets. Kobayashi started his firm after quitting Takenaka, Optex' biggest competitor. Takenaka is an unlisted family business where the son was preordained to assume the CEO position. Kobayashi, originally from Kyoto, founded Optex in 1979 at Lake Biwa, to create a nice work environment that allows people to be creative. Of Optex' Japanese workforce of 400, 25% are development engineers, and in 2005 the company built a new complex with direct access to the lake, such that any employee so inclined could go kayaking during lunch break. The "self" emphasis is Kobayashi's answer to the nepotism encountered in his previous employment that thwarted personal ambitions. In order to create competition for a successor, Kobayashi does not allow family members – in particular his own – to work at Optex.

**e. Advantest**

Advantest was founded in 1954 as a measurement company, and looked much like the old HP, complete with a booklet on the “Advantest Way”. To this day, the company is true to its core competence of “measurement”, and the main application is “testing”. In the 1970s, the company fell on hard times and was turned around by Fujitsu, which became a 20% owner. Fujitsu entered the semiconductor market at the time, and in the early 1980s, Advantest focused on semiconductor testing, primarily in memory. Fujitsu has since exited the memory semiconductor market, is no longer a customer and has reduced its share to 10%. Given the rise of semiconductor companies in other parts of Asia, Advantest's export ratio is 77%; in the domestic market it has a share of between 60-73%, depending on the type of chip. In 2001, it also listed on the NYSE.

Semiconductor testing equipment divides into two main segments: memory and non-memory (logic). Sub-categories in memory are DRAM and flash, the latter further dividing into NAND and NOR (both developed originally in Japan). The non-memory market divides into a variety of subsegments, such as analog, digital, data, logic, and system-on-chip. Advantest's main competitors are Teradyne, Verigy (formerly a part of Agilent) and LTX-Credence. Advantest and Teradyne are switching industry pole positions, depending on varying demand by type of semiconductor. Advantest is stronger in memory, whereas Teradyne leads the logic segment. In 2009, Teradyne sold about 37% of testers worldwide, Advantest 24% and Verigy 24%. In 2010, Verigy launched a bid to acquire LTX-Credence, and before that was even consummated, in December 2010 Advantest launched an unsolicited bid to acquire Verigy, in order to increase its standing in the logic segment.

Advantest developed its leadership in DRAM testers when Japanese companies dominated that market in the 1980s and 1990s. Since then customers have consolidated greatly, and only five main DRAM makers exist worldwide today: Samsung, Elpida, Hynix, Micron, and TMC (Taiwan Memory Company) which is now partnering with Elpida. Advantest expects the memory market to continue to grow, yet prices to fall, and thus builds strength in logic testers. While Advantest competes through functionality, its greatest source of pride is the long-term reliability of its testing equipment.

According to its leaders, the key to Advantest's success is the realization that selling testers is like selling insurance. Naturally semiconductor makers would like to believe that they make 100% good products, and testing comes with the tradeoff calculation of buying insurance: You don't think you'll need it but you can't afford not to have it. Because the tester adds no value-added to the chip,

customers unhappily spend money on this equipment which can cost between \$100,000 to several million dollars. Two main aspects determine demand: the number of semiconductors produced, and the time needed to test each (the more complicated the chip, the longer, thus the more testers needed). In addition to low prices, semiconductor makers demand versatility: even though the normal life span of a tester is 10 years, the lifespan of a semiconductor is much shorter.

Advantest's answer to this insurance challenge was to introduce a system they have trademarked as "open architecture", and its star model is the T2000. This tester consists of a set of modules, and allows replacing only certain parts if a new chip model needs to be tested. For instance, if the new chip has more "legs", runs faster, or has different functions than what the tester was originally built for, rather than buying a whole new tester the customer can replace the motherboard or other parts to suit the new needs. The business model is similar to the "printer" and "ink" model pursued by companies such as HP, where the money is in the ink. Initially, Advantest had hoped that its tester might become the industry standard, so it could compete on high-end parts, but its main competitors did not follow. As a result, the industry currently has three main competitors and three different standards. Their mode of competition is differentiation in terms of architecture, software and hardware, and all three compete by trying to increase switching costs.

The biggest concern is the complete dependence on the crystal cycle, as semiconductors are a highly volatile industry. After the IT bubble, Advantest adopted three measures to survive in the medium run. First, it sits on a lot of cash, which in good times makes shareholders raise concerns yet in bad times has proven to be the lifeline. Moreover, given the strong Yen in late 2010 this stash allowed the bid for Verify. Second, when the cycle takes a fast dive, test equipment makers are often stuck with high inventory due to sudden cancellations. To reduce the probability of cancellations, Advantest has shortened the lead time for new products to reduce delivery time; the open architecture T2000 is helpful in this as well. Finally, the company introduced elements of the Toyota Production System such as just-in-time delivery to reduce the risk of part inventory.

All of this information is readily available on the company website, including in its 20-F form, a 100-page document. In terms of human resource management, too, the company policy is openness. It discarded seniority pay and promotion in 2000, and bonus is determined by company profit and cash flow. Employees earn points in a system that also feeds into the amount they will receive as a pension upon retirement. HR practices are truly global, as the foreign subsidiaries are run by locals.

***f. Axell***

Axell is the type of company that many claim does not exist in Japan: it is a fabless chipmaker started in 1996 by a group of semiconductor engineers that used to work at Nippon Steel, and it operates like a Silicon Valley firm. In the 1990s, Nippon Steel reversed its diversification and exited the semiconductor segment. With the help of venture funding from JAFECO, Yuzuru Sasaki took a group of colleagues with him to launch Axell. The company went public in 2002 and in 2010 was listed on the first section of the Tokyo Stock Exchange. The secret to success was summarized as “we build great chips, and we have very high value-added”. In 15 years, the company has grown from zero to ¥15.4 billion (\$150 million) in annual sales, and a net income of ¥3.8 billion (\$38 million). At 2010 stock prices, the personal wealth of the founder, who owns about 10%, can be estimated at approaching \$40 million; six other directors are also main shareholders. A super-sized (empty) bottle of champagne is the focal point of the bar in the very stylish reception area of this Akihabara company.

Axell makes LSI (semiconductors) and controllers for graphics, sound and LED lights for pachinko and pachislot machines. Pachinko is Japan's most popular quasi-gambling game using vertical machines with metal balls; parlors compete through location and design of these machines. The estimated market size is roughly 4 million machines per year. Axell owns 65% of that market, and no other chipmaker is even close. An obvious concern is that Pachinko is played only in Japan and may be a maturing industry. However, industry data suggest that it may be recession-proof, and Axell's sales grew even in 2008 and 2009. The company is currently developing LSI for LEDs and touch panels to reduce dependence on the game segment.

The company's success is anchored in being a fabless semiconductor design shop. It has only 70 employees and easily records one of the highest “sales per employee” ratios among listed firms. The core competence is R&D in 2D chips, in differentiation to Nvidia of the US, which specializes in 3D graphics that require a different type of LSI technology. To grow this competence, Axell is exceedingly selective in hiring. There is no advertisement of open positions; rather, if a university or headhunter discovers a promising candidate, Axell will follow the lead; if no such candidates are proposed, it will not. As a result, the company has added only 30 employees in 10 years. Of the 70 employees, 40 are engineers; there is very little administrative overhead. Axell pays well, but does not advertise this either. Everybody is paid according to ability, regardless of age.

In addition to delegating production to foundries such as Fujitsu, Renesas, and Rohm, Axell also

outsources distribution to specialized trading companies. This leaves the company lean and nimble, and able to focus on product development and some aspects of marketing. Clients are the pachinko machine builders such as Sankyo (with a 35% market share) and a long list of others, such that there is no dominant buyer. Axell tries to answer their needs by making chips faster and smaller. The end customers, of course, are the pachinko parlors, and here needs are expressed as new types of graphic and sound demands, and the recent addition of flashing LED lights. The additional features of a pachinko machine have raised the price of one machine from roughly \$2,000 to \$4,000, which is bound to reduce the replacement rate, unless new features can constantly be added. Axell is clear that this market, while stable, is unlikely to grow in the future. Thus, a new AG11 chip is of a different type and for a different market related to embedded communication. Axell will not enter the communication or cell phone market per se, as that is too crowded.

Even though Axell is a purely domestic firm, 13.7% of its owners are foreigners, all in small positions. JAFCO sold out when Axell went public, and the company sits on a nice cushion of cash and carries no debt. It is also willing to issue more equity should an acquisition target present itself, perhaps in the form of a new startup company with a cool idea. But here, too, Axell can afford to be exceedingly picky, and they will not grow just for growth sake.

#### ***g. Nissha***

Nihon Shashin Insatsu was founded in 1929 as a high-end printing company for artwork. During the 1980s the company realized that this was a maturing industry and built a new core competence in “identifying new definitions of printing”, which include graphics, product imprints, surface patterning, transfer of surfaces and creating connections between media. Currently this translates into three business segments: (1) the standard printing (and sales promotion) with 16% of sales; (2) in-mold decoration (IMD) with 45% of sales; and (3) input devices, i.e., touch panels and game consoles (39% of sales). Almost 70% of sales are exports.

IMD technology involves a thin foil that is attached to a plastic part during molding to create a deep, 3D appearance and shine (to make it look like steel), or an artistic pattern. The main client is HP, as Nissha makes almost all of their computer casings, followed by Acer, Dell, and Japanese companies. All told, Nissha processes about 50% of all PC and notebook covers in the world, which translates in an 80% global market share in dollar terms. Another application are cell phones, and Nissha foils can be found in almost all Blackberries, most Nokia phones, Samsung, LG, and many Japanese phones. Finally,

foils are also used in some car consoles, to make plastic look more elegant. The effect of the coating is to make cars more luxurious, and less “like pachinko machines”. The challenge in this segment is that car surfaces are not flat, but while competing products are easier to use, Nissha's sheen and 3D effects are unsurpassed.

The touch panel technology was developed in 1990, in the days of PDAs – the Newton, the Palm as well as Sony and Sharp handheld calendars. When Nintendo launched a touch panel game in 2004, this market took off for Nissha. In the next wave – smartphones – Nissha supplies to Nokia, LG and Samsung. The main competitors in this market segment are two companies in Taiwan (YoungFirst, WinTech) and Korea (Digitech), and Nissha believes its global market share in smartphones may be about 30%, although the number of competitors is rising fast, reaching perhaps 70 players in 2010. The smartphone market is still evolving; a first breakthrough moment occurred in 2007 when LG launched a Prada smart phone with a price tag of \$1,500 which met surprising enthusiasm in Korea and Japan. However, as recently as 2009 only perhaps 15% of all phones had a touch panel. The arrival of the iPhone and iPad have changed the game, with a decreasing portion of Japanese input parts. In the midst of these development, the world markets crashed, and cell phone prices halved. Moreover, netbooks that sell for \$400 are a true competitor to smartphones. As a result, the industry is facing competition for ever better technologies at falling prices.

As of 2010, Nissha is facing a declining market in printing, turmoil in the touch panel industry, and uncertainty about its IMD technology. In the latter the main concern is that the customer profile is changing as emerging markets are the new growth areas. Will enough buyers in China, India or Brazil value a glitzy sheen on their phones enough to pay extra? Therefore, the company is moving forward in its search for new definitions of printing and new applications, such as on uneven surfaces. As of today, touch panels have to be flat for the electricity to flow through it, but curved panels appear to have a future, for instance in household goods where flat surfaces are rare. The company spirit is “If you think it can be done, we can do it” (*yarō to omoeba dekiru*). At this 80-year old company, the aspiration is to make sure it will last another 80 years.

## **5. Analysis: The “7 P” of Winning Japanese Companies**

The companies studied for this paper were selected with an eye toward diversity: different industries, different age and size profiles, and different requirements for “winning”. In spite of this

variety, stepping back from the details of each company the interviews revealed seven characteristics these firms share in common that help explain their outstanding performance within Japan.

### ***Profits***

The first characteristic is a clear profit orientation. This is not surprising, given that the companies were selected based on profitability. But high profits are not an accident here; they are hard-earned. Unlike some of the Old Japan companies, the firms studied here will not do things that do not earn money. For example, they cherish connections, which are always important, but will ask “what it is in it for us?”. And if it doesn't pay, they will not continue an activity. Every activity has a purpose, which is to earn money. If a company sits on substantial cash (such as Advantest) it is for a purpose. New Japan companies have clear accounting metrics, too: if a business does not earn more than 10% in operating margin, they will think about phasing it out.

### ***Position***

The second characteristic is positioning and planning, i.e., corporate strategy. These companies are very clear on the two basic questions of strategy: (1) “what business are we in?”, and (2) “how do we compete?”. Asking this question in an Old Japan conglomerate usually results in a perplexed facial expression. New Japan companies have absolute clarity about this. Nor are the answers to these questions a secret, they are widely shared, as discussed below.

A helpful diagnostic question to gauge clarity about strategy is to ask several people in a company “who are your main competitors?”. If one gets several different answers, something is probably amiss. The New Japan companies studied here were clear about this. They conduct competitor analysis, and constantly try to not only react, but to design preemptive competitive strikes. In industries with long life-cycles, planning is done way into the future (e.g., JSR has a plan for 2030).

Based on clear identification of who they are and who they compete against, the companies studied here have all moved to design a compelling, persuasive strategy. Just how they plan to win differs, of course. Yushin Seiki has carved out a niche that others do not care to or cannot enter. Nissha will redefine the meaning of “printing” only into niche markets that are too specialized for large competitors. Ushio, which makes highly advanced bulbs, has adopted the “cartridge & ink” approach of Canon and HP: sell the movie projector cheaply (or lease it, or give it away) and earn money by selling lots of replacement bulbs. To be able to do this, Ushio has to produce both bulbs and equipment, and it is the only company in that business that does both. JSR has developed a quality

and product design skill in photo-resists so specialized yet reliable that large semiconductor firms are willing to pay a premium for the product, and in the process have also become dependent on it.

These strategies are not necessarily new. Yet, New Japan companies stand out in the clarity of their approach, the attention strategic thinking receives, and the implementation as seen in the following “P”s. The difference from the Old Japan behemoths and their “also-run” approach, often expressed in mimicking competitors investments, could not be starker.

### ***Paranoia***

In line with Andy Grove's insight that “Only the Paranoid Survive” (Grove 1996), New Japan companies are constantly worried. They fear disruptions around every corner and see potential competitors in everybody. This keeps them on their toes in product development, customer relations and strategy formulation.

Like sufferers from paranoia, these companies are loath to trust anybody. They greatly prefer to be off the government's radar screen, unless policies are market-based and uniform, such as tax cuts. Moreover, dependencies are reduced wherever possible. The companies studied here are not core members of a business group (*keiretsu*). All sell to more than one buyer, and of course globally. There are no main bank dependencies, and most transactions are arm's-length. Insofar as tight relations to a trading partner are maintained, this is a strategic choice and considered with great care. Pacific Metal, a nickel specialist, has invested greatly in two nickel mines and works closely with those mines to ensure that they will not sell to competitors or new entrants. JSR and Nifco work closely with their clients on product development to create dependencies – not for themselves, but for the buyer.

### ***Parsimony***

Lowering costs is usually the first approach to increase profits. Often when Japanese companies talk about cost reduction they refer to increasing the efficiency of their production processes and perhaps a reduction in the workforce. However, many Old Japan companies stop there and often continue rather inefficient processes at the administrative level. Japanese social norms and values, too, add to the cost factor. A pun in Japanese refers to doing business there as engaging in a lot of “spinach” (*hōrensō*), referring to a tendency of white-collar workers to spend enormous amounts of time on *hōkoku* (presentations), *renraku* (contacting other people for no reason other than a greeting), and *sōdan* (meetings and discussions).

The companies interviewed here engage in as little “spinach-ing” as possible. Efficiency is a



good, and often-used, word. Processes are cut to minimal necessity along all dimensions. Language is polite but not excessively laden with polite honorific (*keigō*). Getting things done – such as scheduling an interview – is kept as straightforward as possible. In Japanese e-mail use it sometimes seems impossible to end a trail, as there is always another confirmation to the confirmation (*kakunin*). In New Japan companies, e-mails that do not require an answer will not receive one; nor is everything confirmed three times over.

Another aspect of parsimony is speed. Naturally, smaller companies find it easier to make decisions fast, especially in owner-run firms. However, dawdling is rampant even in small firms of the Old Japan type, as everything has to be double-checked several times over and risks are feared. New Japan companies, in contrast, have a clear compass: they have already identified their strategies. This facilitates risk evaluation, as trade-offs can be calculated more easily. One challenge for Old Japan companies was that they had no plan where they were going, and therefore mimicked their competitors' moves if only not to fall behind. New Japan companies know where they are going, and are carving out their routes constantly. Making decisions and taking risks is a very different process.

***Public Relations: No Secrets***

As Figure 1 showed, during the postwar period about 75% of corporate shareholders were banks and other companies that usually had a trade relationship with the company. Disclosure of information in an organized fashion was not considered necessary by these shareholders, as they met the companies repeatedly in regular trade transactions. Members of the large horizontal business groups (*keiretsu*) also met for regular lunches to feel their mutual pulse. From 40 years of doing business in this fashion, a norm developed that corporate information is best kept internal, and that plans are not to be shared. Until 2000, when consolidated accounting became compulsory, general shareholders were often left in the dark, treated as an afterthought when it came to writing a glitzy Annual Report.

Japan's new shareholder structure, and the globalization of business with its switch to arms-length transactions, has necessitated a shift in thinking about information, and New Japan companies have embraced this shift. JSR recently won a disclosure award from the Tokyo Stock Exchange, and attributes the accomplishment to the CFO, who is a specialist who has worked in this capacity for decades. New Japan companies do not rotate employees in and out of this critical function.

In almost all companies studied here, the basic strategy is outlined on the corporate website.

Just how it will be implemented may not be advertised, but New Japan companies have come to realize that restructuring, reorganization, and having clear goals and a plan of how to get there are all things to boast about, as they will result in a higher estimation of the company. In this day and age, hiding what the company is trying to accomplish is a recipe for low stock prices. New Japan companies consider stock price an important strategic variable and therefore engage in investor marketing.

### **People**

Like many Old Japan firms, New Japan companies have built a strong corporate culture, but they differ in that this culture is geared toward profit. Part of this can be explained by an underdog spirit, a niche spirit, or perhaps a continuing start-up spirit. The important point here is that human resource practices are aligned with the efficiency goal (O'Reilly/Tushman 2008). Only a small fraction, if any, of promotion considerations are based on seniority, i.e., tenure with the company. Several CEOs explained that they reward employees who make new proposals, especially if that means challenging a boss. Performance metrics are expressed in efficiency and “getting things done”. Promising people are put on fast tracks. At Advantest, even the pension is tied to performance. At Axell, engineers will be paid relative to their contribution to a project, and they may challenge the assessment, in which case they are reviewed again a few months later. One company labeled its assessment standards as “tough but fair”, with the “tough” portion being an absolute performance standard; the Old Japan individual standard, where the evaluation was whether somebody did as well as they possibly could, has been replaced with the question whether the employee contributes effectively to the company.

Succession, too, is often a competitive tournament. At Optex, the CEO has opened this up as a direct competition by not hiring his own family members. A quick look at recent CEO successions in these companies suggest that it is not very often the next in line and hierarchy that takes over.

### **Pride**

The final characteristic is their self-confidence. Self-deprecating (*herikudaru*) behavior is a strong social norm in Japan, as evidenced by every presentation beginning with an apology of how poor it will be. New Japan executives, too, politely may engage in the practice – for about 30 seconds. Then they switch to discussing the matters at hand, in a straightforward and assured way. Naturally, their self-confidence is based on a sense of accomplishment, but has also been nurtured by working in an organization that expects people to take responsibility for a project and drive things forward. While empowerment has long been hailed as an important feature of Japanese HR practices – such as in

discussions of the *andon* practice in the Toyota Production System – in many Old Japan companies one meets a hesitancy toward accountability, responsibility and therefore action-taking, especially at the white collar level. Under seniority promotion standards, doing nothing was often considered the safest path, and therefore people often did not search for efficient solutions or new possibilities.

In Japan's recent business history we find some of Japan's most successful corporate founders who have risen to the top by exploiting the unclear in Japan's regulatory system and business practices, such as Yamato Transportation (exploiting a loophole in postal regulation), Orix (going where financial regulation could not reach), Softbank (undermining the rules that used to favor NTT), or Fast Retailing and other large retailers (exploiting the breakup of former retailing practices). Some of the companies studied in this project can be considered the manufacturing equivalent to these stories. A root cause for their success is that, with clear guidance from the top, all employees are constantly searching to exploit the undone and find new efficient ways to do things that Old Japan has considered “not doable”.

Another impression is that people who work at these companies are happy. Research has established a clear relationship between happiness and labor productivity, and it has also been shown that happiness at work can be structured. Self-empowerment is one aspect; another is buy-in into the company's goals through full disclosure of goals; and a nice work environment adds to it all.

### ***Interrelated System***

Importantly, these 7 “P” form an interrelated system. For example, one way the story can be told is that parsimony feeds into profit, which is sustained through paranoia, which feeds into sharper positioning, which allows the company to disclose what it is doing as great strategy that cannot easily be copied, which allows people to buy-in and results in pride. Alternatively, one can think of excellent strategic direction-setting leading to strong identification by employees who therefore become highly efficient and competitive (paranoid), which makes parsimony natural and disclosure an important tactic, which leads to profits. It doesn't matter where one starts the logic; the arrows between these 7 “P” can go in all directions.

## **6. Conclusions**

A new type of Japanese company is emerging: strategic, driven, nimble, and pragmatic. This “New Japan” company stands out for its clear competitive strategy, and an alignment of all its

activities toward the profit goal. It does not engage in “also-run” business, but strategically determines its markets as pockets of profitability that can be exploited, and excels in those. These pockets can be fairly large, so it is helpful not to think of these companies as niche players, but as specialists.

These descriptors are shared across companies in different industries, of different age and size, and of different production processes. Some of the companies in the sample extract raw materials, others run huge chemical plants, and others outsource all production. Core competencies differ, but all are related to an exceptional technological skill that cannot easily be copied. Perhaps the biggest difference with the stereotypical Japanese company of old is the clear direction and strategy at the top level, and the full buy-in by employees in these companies.

One implication of this study is that the behavioral traits of large, unwieldy Japanese firms – that have brought many of them to the brink of failure – are not culturally bound. They were created by the incentives of Japan's political economy in the postwar period, with its emphasis on a lockstep march toward size. It would be wrong to conclude from this that Japanese CEOs cannot be analytical managers with leadership skills. The strategic inflection point at the turn of the century has changed the incentives faced by CEOs, as size and market presence have been replaced by strategic focus and effectiveness.

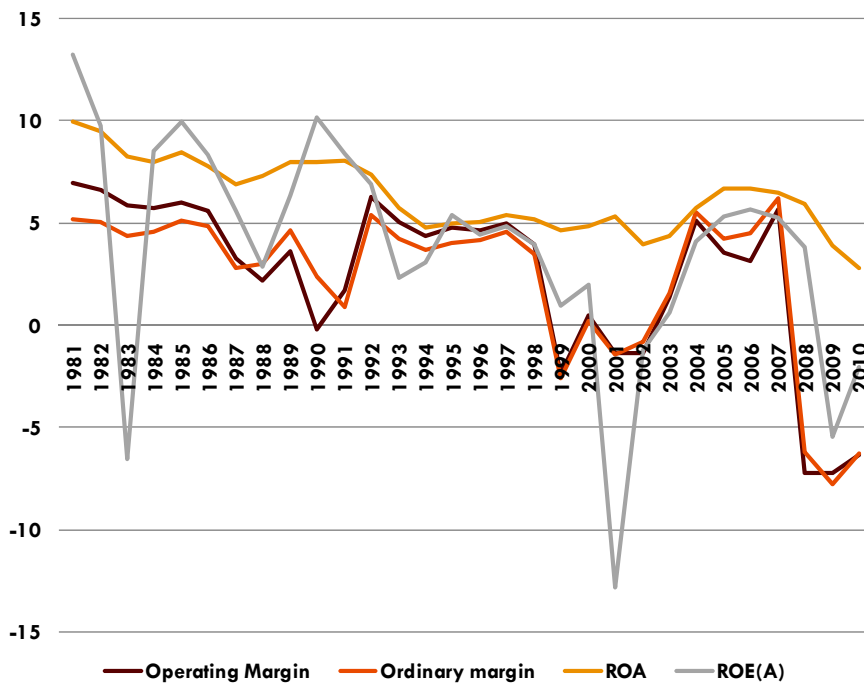
Finally, one might wonder how the companies studied here differ from other successful companies in the world. It is quite possible that they do not differ, though a full evaluation is beyond the boundaries of this paper. The point here, rather, is to show how these companies differ from “Old Japan” companies, and therefore also from the typical stereotype that persists in the thinking of many observers, including within Japan itself. Many of the companies studied here are of the kind that are usually said not to exist in Japan. Relying on the old stereotype in evaluating Japanese industrial strength could be a grave mistake, as these companies are more than “niche” players – combined, in many industries they dominate world markets. The world economy's dependence on their success is much greater than meets the eye.

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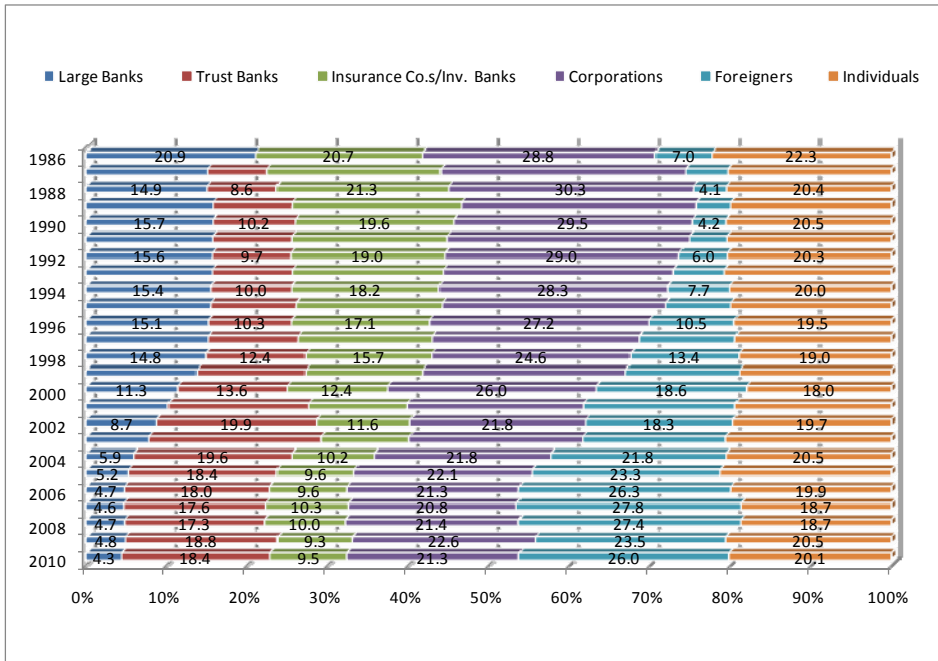
**Figure 1: Average Profitability Data for Listed Companies, 1981-2010 (in %)**

Source: Constructed from Nikkei Needs data; non-consolidated, unweighted average for all firms listed in a given year



**Figure 2: Changes in the Tokyo Stock Exchange Shareholder Structure, 1986-2010**

Source: TSE, 平成21年度株式分布状況調査の調査結果について



**Figure 3: The “Smiley Curve of Profits”**

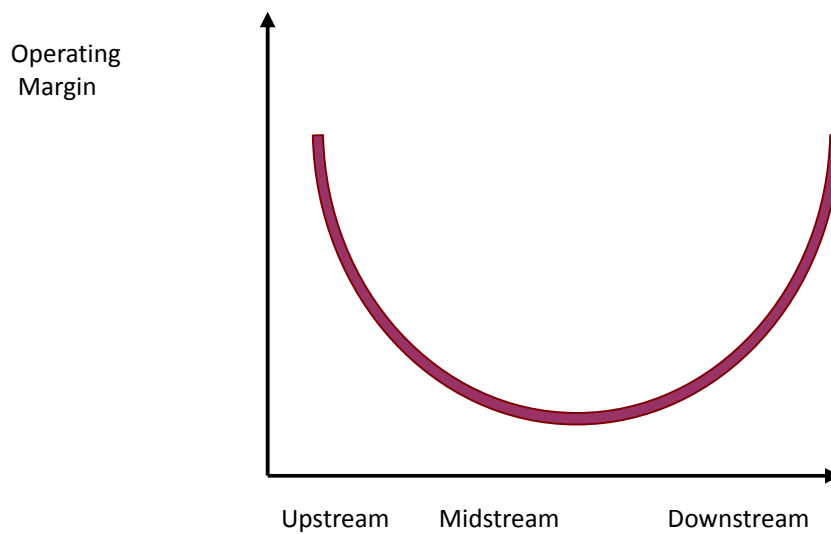


Figure 4a: Japan's Listed Companies, All Industries, by Profitability Bracket

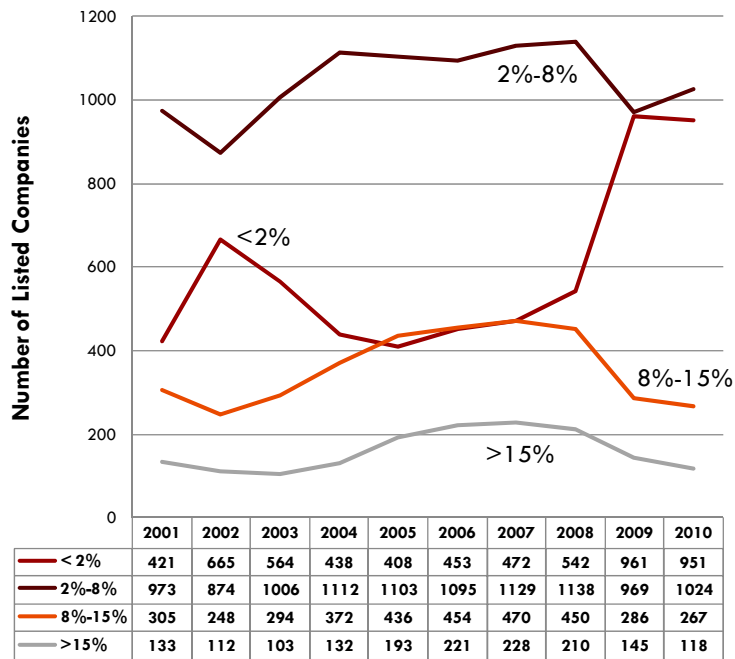
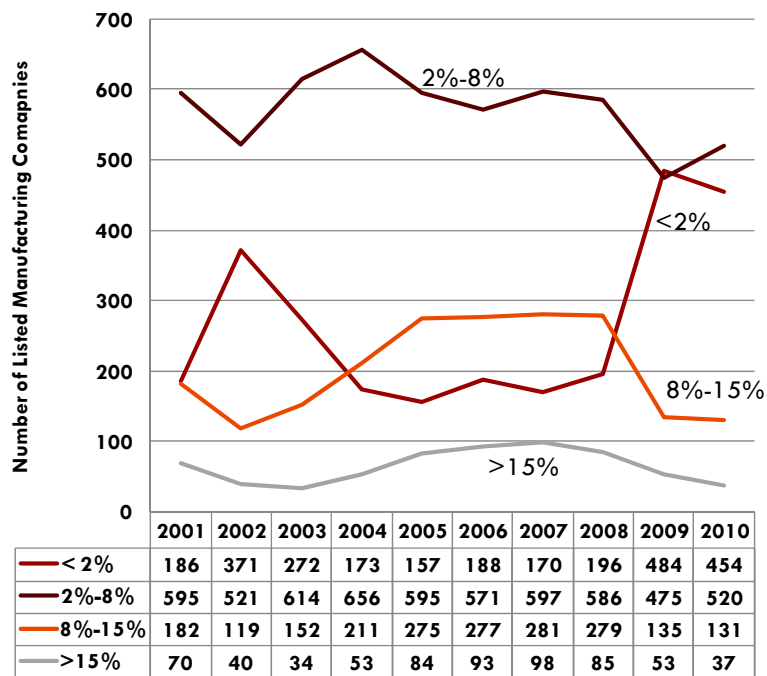


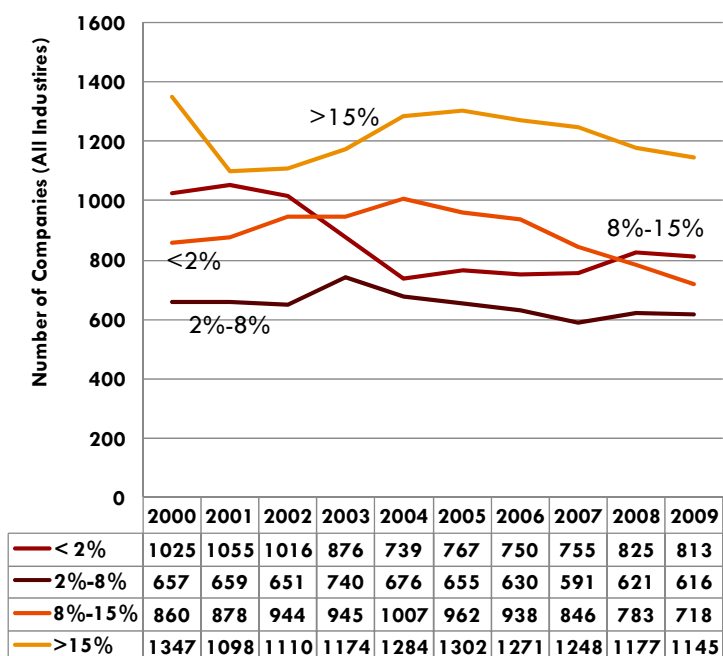
Figure 4b: Japan's Listed Companies, Manufacturing Only, by Profitability Bracket



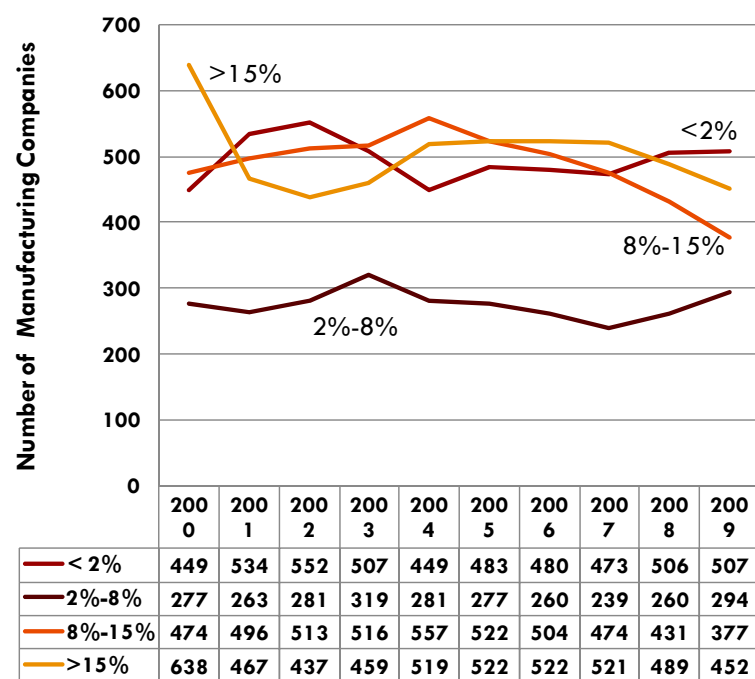


**Figure 5a: U.S. Listed Companies, All Industries, by Profitability Bracket**

Source: Constructed from Compustat, U.S. companies only, listed on NYSE, AMEX, NASDAQ

**Figure 5b: U.S. Listed Companies, Manufacturing Only, by Profitability Bracket**

Source: Constructed from Compustat, U.S. companies only, listed on NYSE, AMEX, NASDAQ



**Table 1: Japan's Most Profitable Companies, All Industries, Average Operating Margin for 2001-2010**

Constructed from Nikkei Needs; includes all companies that were listed and reported every year between FY2000-2009

Rank	Company	Industry	Avg OM 00-09	Standard Deviation
1	TACHIHI ENTERPRISE	69	54.29	3.58
2	KEYENCE	29	47.48	4.45
3	USS	92	39.96	3.40
4	KENEDIX	72	39.09	20.19
5	KEIHANSHIN REAL ESTATE	69	37.81	1.84
6	ONO PHARMACEUTICAL	16	36.94	3.81
7	DAIBIRU	69	33.82	4.26
8	TREND MICRO	39	33.57	3.66
9	FANUC	30	32.69	6.22
10	AEON MALL	69	30.82	3.65
11	TOC	69	29.94	2.06
12	TAKEDA PHARMACEUTICAL	16	29.74	4.98
13	HIROSE ELECTRIC	28	29.42	4.76
14	SANKYO	27	27.56	3.90
15	OBIC	39	27.17	3.43
16	PACIFIC METALS	23	26.00	13.15
17	NAGAILEBEN	51	25.40	1.15
18	CENTRAL JAPAN RAILWAY	42	25.34	2.36
19	HOGY MEDICAL	11	24.72	1.79
20	HEIWA REAL ESTATE	68	24.48	5.35
21	UNION TOOL	26	24.38	8.10
22	MARS ENGINEERING	27	24.22	3.03
23	COSEL	28	23.77	5.50
24	HISAMITSU PHARMACEUTICAL	16	23.71	1.56
25	AEON CREDIT SERVICE	64	23.49	6.16
26	ARIAKE JAPAN	9	22.89	6.08
27	SEIKAGAKU	16	22.89	4.45
28	SUMITOMO REAL ESTATE SALES	68	22.83	4.96
29	NINTENDO	32	22.75	4.22
30	ASTELLAS PHARMA	16	22.20	3.05
31	SIMPLEX TECHNOLOGY	39	22.05	2.13
32	ABC-MART	57	21.82	3.09
33	HOYA	21	21.71	5.49
34	ACOM	64	21.62	19.49
35	PCA	39	21.49	4.28
36	TOKYO RAKUTENCHI	69	21.28	1.90
37	ASJ	40	20.69	8.27
38	FUNAI CONSULTING	72	20.62	3.53
39	SMC	25	20.39	5.73
40	GOLDCREST	68	20.32	7.06
41	HITACHI CAPITAL	64	20.17	3.42
42	ADVAN	53	19.95	2.15
43	SHOEI	11	19.79	12.55
44	OHARA	21	19.77	9.11
45	AIRPORT FACILITIES	69	19.48	2.12
46	ROHM	28	19.11	9.30
47	SANTEN PHARMACEUTICAL	16	18.61	4.07
48	NIPPON ELECTRIC GLASS	21	18.50	7.39
49	NTT DOCOMO	37	18.49	2.17
50	TERUMO	27	18.49	2.44

**Table 2: Japan's Most Profitable Manufacturing Companies, 2001-2010**

Constructed from Nikkei Needs; includes all companies that were listed and reported every year between FY2000-2009

Rank	Company	Industry Code	Avg Margin 00-09	Standard Deviation
1	KEYENCE	29	47.48	4.45
2	ONO PHARMACEUTIC	16	36.94	3.81
3	FANUC	30	32.69	6.22
4	TAKEDA PHARMACEU	16	29.74	4.98
5	HIROSE ELECTRIC	28	29.42	4.76
6	SANKYO	27	27.56	3.90
7	PACIFIC METALS	23	26.00	13.15
8	HOGY MEDICAL	11	24.72	1.79
9	UNION TOOL	26	24.38	8.10
10	MARS ENGINEERING	27	24.22	3.03
11	COSEL	28	23.77	5.50
12	HISAMITSU PHARMAC	16	23.71	1.56
13	ARIAKE JAPAN	9	22.89	6.08
14	SEIKAGAKU	16	22.89	4.45
15	NINTENDO	32	22.75	4.22
16	ASTELLAS PHARMA	16	22.20	3.05
17	HOYA	21	21.71	5.49
18	SMC	25	20.39	5.73
19	SHOEI	11	19.79	12.55
20	OHARA	21	19.77	9.11
21	ROHM	28	19.11	9.30
22	SANTEN PHARMACEU	16	18.61	4.07
23	NIPPON ELECTRIC GLA	21	18.50	7.39
24	TERUMO	27	18.49	2.44
25	JAPAN DIGITAL LABOR	30	18.03	2.99
26	TAISHO PHARMACEUT	16	17.56	4.54
27	TAIYO INK	16	17.56	4.59
28	CHUGAI PHARMACEU	16	17.26	3.46
29	NODA SCREEN	15	16.95	7.92
30	NIHON TRIM	29	16.85	4.78
31	MEC	16	16.74	4.66
32	MITSUBISHI TANABE P	16	16.62	0.86
33	KITAGAWA INDUSTRIE	18	16.36	5.49
34	SHIN-ETSU CHEMICAL	16	16.28	2.54
35	HITACHI TOOL ENGIN	24	15.90	6.87
36	SHIMA SEIKI MFG.	26	15.88	6.70
37	TSUMURA	16	15.68	2.99
38	MABUCHI MOTOR	29	15.19	7.98
39	MURATA MANUFACTU	28	15.06	8.88
40	NITTO KOHKI	26	14.65	4.98
41	PRONEXUS	15	14.45	3.51
42	MARUICHI STEEL TUB	22	14.30	3.56
43	MOCHIDA PHARMACE	16	14.16	3.60
44	EISAI	16	13.88	4.55
45	TOHO TITANIUM	23	13.81	12.29
46	NIPPON CERAMIC	29	13.71	6.38
47	SEC CARBON	21	13.60	6.30
48	JAPAN CASH MACHIN	30	13.58	7.16
49	HAMAMATSU PHOTO	28	13.56	5.34
50	SHIMANO	31	13.28	2.67
51	ROLAND DG	30	13.26	5.64
52	YUSHIN PRECISION EC	25	13.17	3.78
53	SAWAI PHARMACEUT	16	13.16	3.02
54	NISSEI	26	13.14	7.74

Rank	Company	Industry Code	Avg Margin 00-09	Standard Deviation
55	USHIO	29	12.90	3.64
56	FREESIA MACROSS	26	12.88	7.58
57	CANON	27	12.83	3.60
58	CANARE ELECTRIC	23	12.75	2.67
59	MAKITA	26	12.70	6.08
60	OPTEX	30	12.57	4.07
61	C.UYEMURA	16	12.56	1.89
62	HELIOS TECHNO HO	29	12.54	9.16
63	DISCO	26	12.47	11.33
64	MIURA	25	12.40	2.05
65	SAIBO	11	12.38	3.49
66	NISSHA PRINTING	15	12.33	4.17
67	TAKARA PRINTING	15	12.30	1.91
68	T.HASEGAWA	16	12.29	2.41
69	NIDEC COPAL ELECT	28	12.21	3.76
70	SHIONOGI	16	12.20	5.31
71	MANDOM	16	12.16	1.93
72	OSG	26	12.15	7.02
73	NBC MESHTEC	11	12.12	6.63
74	TOKAI CARBON	21	11.88	4.09
75	ICOM	30	11.86	4.26
76	CAPCOM	32	11.76	4.19
77	KURAKI	26	11.55	8.10
78	RIKEN KEIKI	30	11.52	1.43
79	HIOKI E.E.	29	11.52	6.51
80	ADERANS HOLDINGS	32	11.48	9.68
81	NICHI-IKO PHARMAC	16	11.44	2.97
82	KAKEN PHARMACEU	16	11.25	1.31
83	KAO	16	11.24	2.41
84	KURITA WATER INDU	26	11.16	2.64
85	SANSEI YUSOKI	31	11.15	2.38
86	SYSMEX	27	11.14	2.44
87	TORIGOE	9	10.88	1.21
88	FUJIMI INC.	21	10.77	5.40
89	DAINIPPON SUMITO	16	10.76	3.79
90	LEC	18	10.75	4.62
91	TOHOKU STEEL	22	10.75	1.99
92	OSAKA STEEL	22	10.67	5.93
93	WACOM	30	10.55	4.05
94	NIPPON PILLAR PACI	24	10.55	6.28
95	ROHTO PHARMACEU	16	10.54	1.57
96	FCC	31	10.52	2.86
97	NISSAN CHEMICAL IN	16	10.52	2.71
98	NIPPON FELT	11	10.46	3.13
99	SUMITOMO METAL I	22	10.44	6.84
100	NGK INSULATORS	21	10.41	4.45
101	JSR	16	10.39	4.66
102	GLORY	27	10.38	5.26
103	NIHON PARKERIZING	16	10.30	2.87
104	THK	25	10.19	8.87
105	STAR MICRONICS	26	10.14	9.30
106	TOKYO TEKKO	22	10.11	3.98
107	NIPPON CARBON	21	10.09	7.97
108	PARAMOUNT BED	13	10.07	4.73

Table 3: Overview Data for 13 Companies Interviewed

Name	会社名	main product	est.	employees	operating cashflow	sales (in million Yen)	operating margin	ordinary margin	ROA	ROE	consol. subs	product 1 of sales	export ratio	% foreign owner**
JSR	JSR(株)	polastomers, polymers	1957	5,122	53,890	406,967	14.7	13.8	8.9	15.0	28	31.7	40.9	25.1
Nifco	(株)ニフコ	fasteners	1967	4,976	20,097	141,646	10.3	10.7	8.4	12.9	32	83.7	41.9	40.0
Yushin Seiki	(株)ユージン精機	robots	1973	480	1,323	21,109	16.7	17.0	8.1	11.4	12	51.8	55.4	7.7
Nissha	日本写真印刷(株)	plastic print	1929	3,126	11,647	101,649	16.5	15.3	7.2	14.4	23	56.8	54.0	17.6
Optex	オプテックス(株)	sensors	1979	1,092	2,176	22,167	17.4	18.4	10.0	13.1	14	50.3	64.5	11.9
Ushio	ウシオ電機(株)	bulb& projectors	1964	4,681	15,237	148,148	13.5	15.7	7.1	10.5	39	44.0	65.1	33.1
Advantest	(株)アドバンテスタ	semi testers	1954	3,666	24,166	182,767	12.4	12.9	5.5	6.3	40	72.0	77.0	26.5
Axell	アクセル	graphic LSI (fabless)	1996	57	4,611	13,794	43.3	na	na	30.4	0	98.0	0.0	13.7
Nihon Parkerizing	日本パーカライジング	coating	1928	3,233	14,393	103,489	13.7	14.9	6.1	13.4	41	41.2	29.9	17.3
Pacific Metals	大平洋金属(株)	nickel	1949	431	25,378	116,419	44.8	48.3	27.3	35.0	3	97.5	58.2	18.5
Nabtesco	ナブテスコ(株)	fine machinery	2002*	3,884	18,249	174,254	11.1	11.5	6.8	14.7	32	18.9	27.0	36.1
THK	THK(株)	linear motion devices	1971	6,924	19,381	208,708	12.9	12.9	6.9	9.9	29	na	39.0	49.2
Tokai Carbon	東海カーボン(株)	carbon	1918	1,794	16,115	117,432	17.7	17.8	6.5	12.3	21	92.2	49.8	19.2
average interviews			49***	3,035	17,435.6	135,273	18.9	17.4	9.1	15.0	24.2	53.3	43.4	24.3
average listed firms			52***	5,556	na	288,000	6.0	5.9	2.4	3.8	na	56.5	14.8	na

\* merger of Teijin Seiki and Nabco \*\* as of FY 2009 \*\*\*age as of 2010