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The Samurai Company:
Double Creative Response in Meiji Japan
—The Case of Onoda Cement

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I. Preface

In 1868, the lower class samurai in Japan toppled the Tokugawa Shogunate that ruled the country for 268 years, and in its place they established new Meiji government. Japan was the first country in Asia to embark upon modernization, and thus try to avoid the threat of colonization. This might give the impression that the Restoration government had an easy time overturning feudalism and establishing a new modern state. That was not the case. Over the course of more than 200 years, Japan had created a precisely decentralized system. Toppling that and establishing a new centralized system was extraordinarily difficult. At the time, there were no means for rapid communication and transportation, and it was a truly daunting task to eliminate the inertia that had accumulated over two centuries. What is more, mid-19th century Asia was in the midst of a struggle for colonization, as evidenced by the Opium Wars between England and Chin-Dynasty China. Creating a unified government was about more than just centralizing authority; it meant establishing political and economic foundations that would impress even the great powers.

Nonetheless, the Meiji Restoration was a unique revolution even by the standards of world history. It was very much a bourgeois revolution. The feudal system of the Tokugawa Shogunate was overthrown and in its place emerged a form of democracy inspired by ideas like "equality of the four social classes (shimin byodo)" and "open discussion (Banki koron)." Nonetheless, the revolution was done in the name of the Emperor, an absolute monarch, and was led by lower samurai class, key members of the feudal system. It was thus also a pre-bourgeois revolution to restore an absolute monarchy. These two conflicting aspects of the revolution had to be resolved creatively, and in that sense, the Meiji Restoration was also a "creative response" of modern Japan. As Joseph Schumpeter mentioned for economic development, there must be a creative response of entrepreneurs of time¹. For the developing countries such as the 19th Century Japan, however, as this paper will examine, it was necessary to have double creative responses from entrepreneurs as well as policy makers and bureaucrats.

The lower class samurai who were central in the new government were generally young and had no experience running a unified state. Even Takamori Saigo and Toshimichi Okubo, the "elders" Satsuma, were only 40 and 37 years of age in 1867, the year before the Restoration. Choshu's leader, Takayoshi Kido, was 34, Kaoru Inoue 32 and Hirobumi Ito a mere 26. The architect of the bloodless revolution, Ryoma Sakamoto, was assassinated that year at the age of 32. Shigenobu Okuma, who was responsible for foreign affairs and finance in early Meiji, was just 29. They may have been revolutionary patriots, but they were not politicians or bureaucrats who knew how to administer a modern state. They grew from late-Edo revolutionaries to Meiji politicians and bureaucrats because they understood Japan's international position of having to confront the great powers, and their spirit of economic self-sufficiency demanded they create a financial foundation that would ensure independence.

¹ Joseph A. Schumpeter, "The Creative Response in Economic History," *The Journal of Economic History*, Vol. VII, 1947.

The author has already described in a separate paper² how foreign affairs transformed early Meiji officials like Shigenobu Okuma, who was responsible for foreign relations and finance, from the functionaries to the politicians of an independent state. This paper examines how the financial issues that emerged out of foreign affairs made it necessary for them not just to become Restoration politicians and bureaucrats, but to dismantle samurai class ("shizoku") from which they emerged. Restoration officials had an extremely creative response to the task of dismantling their own class for the purpose of rebuilding the country's finances. Their idea was to use national bonds to purchase the status of having belonged to the former samurai class and to convert those national bonds to industrial capital. However, this idea would never have gotten off the ground had it not been for another creative response by those responsible for it --to transform the samurai into entrepreneurs, indeed, to create the "samurai entrepreneur." An enormous amount of research has already been done on the Meiji Restoration, but few studies have attempted to empirically verify the role played by the samurai class in dismantling feudalism and promoting industrialization.³

This paper examines the creativity of Restoration officials in institutional reform and the creative corporate activities of the former samurai class in response. We call this process the "double creative response."

II. Rebuilding Finances and Dismantling the Shizoku (samurai)

Early on, the Meiji government had to grapple with the Tokugawa Shogunate's ignorance of foreign affairs and the outflow of gold coins facilitated by European and North American merchants who had been empowered by the great powers' diplomacy of intimidation. In the Ansei Treaties signed in 1854, the Tokugawa Shogunate was forced to unilaterally agree to exchange 311 ichibu-gin (Japanese silver) coins for 100 dollars in Mexican silver coins. Foreign merchants took advantage of the rate in the treaties to use 4 Mexican silver coins to purchase 12 ichibu-gin coins, which they then exchanged for 3 koban (gold coins). The 3 koban had the value of 12 Mexican silver coins in other countries, and that enabled the merchants to triple their profits without lifting a finger.⁴ There were also disputes with foreign merchants about conversion of the "dajo-kansatsu," a form of inconvertible note issued in large volumes by the Meiji government after the Restoration. Shigenobu Okuma, the newly-appointed Vice Governor of Foreign Affairs, was sent to Yokohama to resolve matters. He had already shown his skills in dealing with the Christian problem in Nagasaki, and as he rushed to Yokohama to negotiate with the foreign merchants, what he discovered was that the heart of the problem was not foreign relations at all. It was internal, a question of Japan's own finances.

The revolutionaries were successful at toppling the shogunate, but that does not mean that centralization was smooth. The government had control of territories directly under the jurisdiction of the shogunate, but individual fiefs retained administrative organizations and

² Seiichiro Yonekura, "From Revolutionary Samurai to Japanese: Shigenobu Okuma, the Diplomat" in *Hitotsubashi Business Review*, Vol58-4, 2011 Spring.

³ The most systematic analysis is Shuzo Yoshikawa, *A Study on Samurai Relief Plan*, (Yuhikaku: 1935) that provides an excellent and detailed survey of shizoku companies, but no case study analysis from the perspective of converting status to capital. More recently, Hiroki Oichiai, *Repeal of Hereditary Stipends*, (Chuko Shinsho, 2005) follows the process of repealing hereditary stipends in detail, but does not analyze relief companies.

⁴ For more details, see Shunpei Okada, *End of the Shogunate and Restoration Monetary Policy*, (Moriyama Shoten, 1955) and Ryuzo Mikami, *History of Edo Currency*, (Toyo Keizai shinposha, 1996).

taxation powers, and that forced the new government to continue to print inconvertible notes to cover its own tax shortfalls. Discipline lax, the fiefs degraded their own coins and at irregular intervals issued their own fiat money. The new government therefore faced more than just a massive outflow of gold coins. It was frequently involved in disputes with foreign merchants over the handling of inconvertible notes.

Having realized that the diplomatic problems in Yokohama were actually financial problems for Japan, Okuma launched a sharp attack on Kimimasa Yuri, who was responsible for government accounting, and proposed a program to issue uniform currency and rebuild the national finances. As a result, in 1869, Okuma suddenly found himself succeeding Yuri as Minister of Finance. Estimates from 1869 put the total revenue of the Meiji government at approximately 1.98 million koku of rice, and total expenditures, including interest on domestic and foreign bonds, at 3.24 million koku. It was thus running a deficit of 1.26 million koku.⁵ What is more, only 8 million koku of the total 30 million koku in Japan was under the government's direct control; most remained in the hands of the former fief lords. Unequal treaties meant that even in 1876, tariff revenue brought in only 3.2% of Japan's total income. It was therefore urgent for the Meiji government to bring gross domestic income under its control. Adding to all this, expenses continued to increase as the country moved to modernize and develop the infrastructure required of a modern state, establish a Western-style military, and promote industry to reduce imports.

In the midst of the financial troubles, from stipends to December 1872, hereditary stipends to noble samurai-- hereditary stipends, reward stipends and temple/shrine stipends-- accounted for approximately 32% of all expenditures.⁶ The samurai class was not just a major financial burden on new government; it was also an impediment to establishing a modern state. This fact caused the lower samurai class, the main drivers of the Restoration, to lose faith in the new government. The leaders, however, were confronted by both diplomatic and financial problems, and having grown from revolutionaries to Restoration officials, they could not allow their personal feelings to get in the way of the dismantlement of the samurai. It was particularly urgent for Okuma to eliminate hereditary stipends so that he could get on with unifying the currency, preventing the outflow specie and building sound national finances.

II-1 Return of land and people from the feudal lords to the Emperor, return of hereditary stipends and conscription

The first step taken to dismantle the Tokugawa Shogunate came in 1869 with the return of land and people from the feudal lords to the Emperor. The Meiji government was still frail, and the procedures for return were intentionally ambiguous and designed to reward the samurai class who had fought for the Restoration. But while there were buffers, the return essentially marked the end of feudal system and the relinquishment of the entrenched rights that the samurai class had enjoyed since the Kamakura Shogunate established in 1192. As discussed earlier, "reward stipends" were used to recognize meritorious service during the Restoration, and they counted for 30% of national expenditures. Reward stipends were generously distributed the fief lords and vassals, and while being compensation for overthrowing the feudal

⁵ Kunio Niwa, *Land Reform in the Meiji Restoration*, (Ochanomizu shobo, 1972) p.120.

⁶ Akira Tanaka ed , *Japanese History 5: The Meiji Restoration*, (Nippon Hyoron Sha,1967), p.148.

system, they were also a factor for maintaining the status quo.⁷ Reward stipends were issued with such abandon and came to exert such pressure on Meiji finances that they became a factor in the demise of the samurai class itself.

The Meiji government followed up on the return of land and people from the feudal lords to the Emperor by naming 427 families, mostly noble houses and former fief lords, as new "peers" of the realm, while renaming fief retainers "shizoku." The addition of this new class gave Meiji Japan three distinct classes: peers, shizoku=samurai class and commoners (farmers, artisans and merchants). The next year, the samurai began to lose their privileges as a feudal class. In 1870, the Meiji government applied the principle of "equality of the four social classes (samurai, farmers, artisans and merchants)" to government positions, which till that time had been the province of the samurai class. The samurai class that had dominated politics and administration no longer had exclusive rights to those domains. In 1873, the government announced the return of hereditary stipends, under which the samurai class would voluntarily return to the new government the "hereditary stipends" that had been the foundation of feudalism. The government maintained that the return of hereditary stipends was not an abandonment of status, but in point of fact, the separation of samurai status from hereditary stipends was the first step towards the elimination of the class itself.

The final nail in its coffin was conscription. The samurai were warriors, and their receipt of retainer's stipends during peacetime was justified by the service they provided to their lords in risking their lives during war. The Meiji government announced conscription in 1873 as part of a move to create a military under central authority and based on the idea of universal service. The government believed that universal conscription was essential to the establishment of a centralized state, but its establishment was also a death blow to the samurai as warriors, a class that for several hundred years had enjoyed the special privileges of using surnames and carrying swords. The "master-servant relationship" was one of the pillars supporting feudalism, and the elimination of the privilege of military "service" also eliminated the rationale for the retainer's stipends paid in return. The end of the shogunate Choshu Fief had an irregular militia organized by Shinsaku Takasugi, and it demonstrated the possibility of building a strong military even with common farmers, not just samurai. In that sense, Shinsaku Takasugi not only created a mixed militia, he also gave the Meiji government confidence in conscription. Indeed, the chief promoter of conscription was Aritomo Yamagata, Shinsaku's disciple.

The samurai class who had driven the Restoration, and particularly the lower samurai class, was increasingly dissatisfied as they saw their entrenched interests stripped away the name of Meiji. Even the reward stipends that were to repay service during the Restoration were paid in meager sums to the lower samurai class who actually did the work, but generously to the old fief lords and noble families. That is why revolts by discontented samurai were seen in precisely the fiefs that had been the strongest supporters of the Restoration. The 1874 Saga Rebellion led by former Counselor State Shinpei Eto took place in the prefecture from which Okuma hailed, and was unmercifully put down by Toshimichi Okubo, who feared the spread of samurai uprisings. In 1876, there was the Shin-pu-ren Rebellion in Kumamoto, which gave rise to the Akizuki Rebellion in Fukuoka (the former Akizuki Fief), and from there spread to the Choshu Fief, which had been a leading force in the Restoration itself. In Choshu it became the "Hagi Rebellion" under former Counselor of State Issei Maebara. Then in 1877, Takamori Saigo led the Satsuma Rebellion in the Satsuma Fief, the other leading actor in the Restoration. Saigo

⁷ On this point, Kunio Niwa says, "The reason why the conflict over reward stipends did not develop into a major political battle was that the bureaucratic class was still immature and had not yet developed an internal policy for the governance of the fief lords" (Niwa, *ibid*, p. 79).

found himself caught between the goals of the Restoration and the dissatisfactions of the samurai. He pinned his hopes on an invasion of Korea, but ultimately was unable to avoid collision with the new government. Perhaps more than anyone else, Saigo embodies conflicts of the Meiji Restoration, a semi-feudal revolution by the lower samurai class.

II-2 Innovations with the repeal of hereditary stipends and the issuing of hereditary pension bonds

As described above, the return of hereditary stipends took place at the same time as the 1869 return of land and people from the feudal lords to the Emperor, and through this the stipend system was brought under the control of the Ministry of Finance. The next year, the government embarked on a stipend reform for the noble families. The peers were placed under the control of the Imperial Household Ministry as the "Emperor's Life Guard," but were generously protected, receiving bequests from the Imperial family of 15,000 yen a year for a period of 15 years.⁸

The reform of stipends for the samurai class took longer than for peers because there was strong advocacy within the government for the protection of samurai interests. The full-fledged elimination of stipends did not take place until 1876, when government finances had become particularly strained. The financial stresses of 1876 caused the Meiji government to issue hereditary pension bonds that eliminated the retainer's stipends paid to the samurai and fief vassals, who numbered roughly 190,000 households and 320,000 people at the time. The most important aspect of the repeal of hereditary stipends was the issue of national bonds to "buy out" of the samurai status, in other words, to pay for the elimination of feudal system itself. The new government unilaterally abolished the samurai's hereditary stipends, but their place made a one-off issue of hereditary pension bonds geared to the stipend's value. To mitigate opposition, the bonds guaranteed 5-7% annual interest. From an objective perspective, the Meiji government purchased the privileges and status of the former samurai for a lump sum payment of 170 million yen, and the samurai likewise sold their status to the new government for that amount.

As a revolution, the Meiji Restoration had two competing aspects. On the one hand, it overthrew 260 years of the Tokugawa Shogunate and restored the Imperial system as an absolute monarchy, but on the other it was also a popular revolution based on ideas like "equality of the four social classes." A popular revolution cannot survive unless it demolishes the entrenched rights of the privileged classes that benefit from feudalism. In most cases, a great deal of blood is shed. The repressions of Cromwell in England and the Jacobin Party in France are examples of the bloody history of popular revolution. The "Glorious Revolution" of England in 1688 is often held up as an example of a bloodless revolution, but even less blood was shed during the Meiji Restoration. Obviously, there were some casualties during the process. Ryoma Sakamoto and many other revolutionaries gave their lives, as did shogunate and military officials, but that was not the revolution purging the old dominating class. Behind this bloodless revolution was an excellent policy design in which the old dominating class ultimately converted its status into national bonds while samurai relief plans converted the national bonds into industrial capital. This was the creative response of the Meiji government.

⁸ See Shuzo Yoshikawa, *op cit* (*A study on Samurai Relief Plan.*) The establishment of the peerage in 1884 brought with it a system of titles and added renowned statesman and officers into the nobility, which strengthened the peerage system and laid the foundation for the House of Lords. The expansion of the peerage system was one of the preparations for the introduction of democracy with the opening of the Imperial Diet.

There are some who interpret the repeal of hereditary stipends as the equivalent of firing all the government employees, paying them severance benefits in the form of government bonds and then rehiring only the minimum number required,⁹ but in actuality there was a much more innovative policy design at work. The severance benefits of the public employees were converted into industrial capital that was put to use in industrialization programs, and the most ambitious of them emerged as entrepreneurs leading the way to modernization.

When hereditary stipends were finally eliminated in 1876, according to the annual income, the Meiji government classified them in four groups: 5%, 6%, 7% and 10%. Table.1 illustrates the issuing standards.

Table.1 Abolition Measures of Hereditary Stipend

Stipend Classification base on annual income	Bond Categories		Ratio of Interest Amount to Previous Annual Stipend	Number of Recipients	Total Amount of Bonds Issued	Average Amount per Recipient
	Interest Rate	Multipled years				
Over ¥1,000	5%	5 to 7.5 years	34 - 44	519 (0.2)	31,413,586 (18.0)	60,527
Over ¥100	6%	7.75 to 11	46 - 74	15,377 (4.9)	25,038,957 (14.3)	1,628
Over ¥10	7%	11.5 to 14	88 - 98	262,317 (83.7)	108,838,013 (62.3)	415
Already Traded Stipend	10%	10.00		35,304 (11.3)	9,347,657 (5.4)	265
Total				313,517 (100)	174,638,215 (100)	557

Source : Kanji Ishii, *Nihon keizaishi*, (University of Tokyo Press,1976), p 94.

These hereditary pension bonds were issued to 313,517 samurai and worth a total of approximately 175 million yen, but stipends valued in excess of 1,000 yen (5% interest) were given to only 0.2% of the samurai representing the very top ranks. The vast majority (83.7%) received 7% interest-bearing national bonds (approximately 415 yen per person), which earned them an annual income of only 29.5 yen.¹⁰ Obviously, an income of less than 30 yen was insufficient to support oneself, so only a very few members of the top class of samurai were

⁹ Hiroki Ochiai, *op cit*, Preface, p. II.

¹⁰ Kanji Ishii, *Japanese Economic History*, (University of Tokyo Press, 1976), pp.96-97. The samurai in the end of Tokugawa period earned a very few money

able to live on interest alone. Most of the samurai had to find jobs or to sell their hereditary pension bonds to make it through emergencies. To raise the military funding required to deal with Takamori Saigo's rebellion in 1877, the Meiji government printed large volumes of inconvertible notes. The resulting inflation further diminished the face value of the national bonds and ultimately sent the samurai into poverty.

The government reacted to the rapid devaluation with its own national bonds with a repurchase scheme in August 1878, immediately after their issue. It purchased 100 yen in face value at 73 yen for 5% bonds, 64 yen for 6% bonds, and 83 yen for 7% bonds. The program was terminated in December 1879, but over the course of a year and a half the government purchased more than 29,111,000 yen in national bonds. In other words, in just a year and a half the samurai gave up 17% of the issued value at 70% of worth.¹¹ While that says much about the extreme poverty of the samurai, it also means that the Meiji government had already redeemed 17% of its debt at 70% of value.

Nonetheless, it was not in the interest of the new government merely to impoverish the samurai. They represented the intellectual class, were strongly interested in politics and could become the core of an antigovernment movement. Giving them jobs would have been one effective way to do this, but there were only a limited number of government posts available, and larger numbers of officials would also mean larger fiscal burdens. Instead, the government emphasized a "Samurai Relief Plan (shizoku jyusan)" as a comprehensive program to encourage the samurai to work in industry. It was Toshimichi Okubo, a strong rivalry with Takamori Saigo and the Minister of Internal Affairs, who on the one hand vigorously cracked down on discontented the samurai rebellions to stabilize domestic control but on the other promoted samurai relief plans to encourage them to take up the cause of industrialization.

Travels in Europe and North America had shown Okubo the differences between Japan and the great powers and inspired him to establish a Ministry of Internal Affairs with strong authority over "the stability of the state and the protection of the people." He beefed-up supervision of provincial governors and enhanced police organizations, but also promoted industrialization and business as a means of restraining disgruntled citizens. When it was clear that the government would go ahead with the repeal of hereditary stipends, Okubo began formulating a full-fledged samurai relief plan as a means to ensure "state stability." In 1886, together with Minister of Finance Shigenobu Okuma, he used the surplus funds from the elimination of stipends to create a capital lending institution and provide funding for samurai relief programs. The lending of capital to samurai was the central focus of the samurai relief program that began in 1877. Okubo's samurai relief plan had two pillars: One was to give samurai uncultivated lands and the other was to assist samurai to start businesses. Okubo wanted to give samurai, who had lost their pride and privileges, a new mission to turn uncultivated lands into rich farms. Lending went extremely well, but Okubo's shizoku reclamation project did not produce results over the short term because bidders incurred significant costs for travel and management.

By contrast, the samurai relief companies who received loans became leaders in areas like silk and tea that were the country's major exports at the time. There are also numerous examples of successful expansion of local specialty products like lacquerware, ceramics and weaves. There were some failures too as companies tried to reduce imports by bringing in technology wholesale from Europe and North America only to discover that it was unsuited to Japanese conditions. Sheep farming is the prime example. These loans were forgiven immediately prior to the commencement of the Imperial Diet, and the vast majority was never collected, which has

¹¹ Yoshikawa, op cit, p.65.

caused some to argue that samurai relief programs were a total failure. However, even if the direct program did not achieve success, it nonetheless played a major role in Japanese modernization by encouraging samurai, members of the very limited intellectual class at the time, to take the initial business risks of importing Western technologies and corporate systems, and also by converting most of the national bonds into industrial capital. Hirschmeier=Yui state, "that they (=samurai) could be made to co-operate at all, and co-operate they did very well, on the whole, in the modernization programme, indicates that this class was indeed an elite class with high motivations and ethical consciousness. The fact that their concept of public service was enlisted in the work of modernization constitutes one of the great success stories of Meiji Japan."¹²

On the other side of the argument, Kozo Yamamura rejects the assumption that most of the leading Meiji businessman were samurai and the common wisdom that they were motivated by the "samurai spirit" instead demonstrating that most of the zaibatsu were formed by members of the former merchant and farmer classes and that the success of the national banks was primarily due to commoners.¹³ Certainly, merely to rely on impressions to tie Meiji modernization to the samurai spirit would be overstating the contributions of the samurai class and understanding the ability of the commoners to effect change from below. Nonetheless, one must also appreciate how the samurai, as the intellectual class of early Meiji, functioned and the way in which samurai relief plans converted national bonds into capital. Rather than arguing from impressions, an elucidation of the facts is required. In the chapters that follow, we examine a case study of a samurai relief company to analyze the process of converting status to capital.

III. Onoda Cement, a Samurai Relief Company

We have already seen that the repeal of hereditary stipends and the integration of samurai relief plans transformed feudal status into national bonds that were further transformed into the capital to drive modernization. This was a creative response at the national level. Nonetheless, no matter how creative the response of the government as, like the rest of Asia, it faced the threat of colonization by the Western powers, economic development would not have taken place had there not been a class of people willing to make their own creative response to policy (i.e., entrepreneurs). As a late comer on the world stage, economic development in Japan required a double creative response, an institutional response by the government and an entrepreneurial response by private businessmen. We examine Onoda Cement as a case study of a samurai relief company that responded with entrepreneurial alertness to the government's repeal of hereditary stipends and industrialization policy, and through it we track double creative response of Meiji Japan.

Onoda Cement was the first private cement company to be established in Japan, in 1881 in what is now the city of Onoda in Yamaguchi Prefecture (Choshu Feif). It was one of the leading cement manufacturers in Japan and indeed split the Japanese cement industry in both the prewar and postwar periods with Asano Cement, which had purchased the Fukagawa State-owned

¹² Hirschmeier, J. and T. Yui, *The Development of Japanese Business 1600-1973*, (Routledge: 1975), pp.82-83.

¹³ See Kozo Yamamura, *A Study of Samurai Income and Entrepreneurship*, (Harvard University Press: 1974).

Cement Factory,¹⁴ Onoda Cement was also one of the few modern companies to be established with a loan from the government's Samurai Relief Plan. There were four samurai relief companies that had modern factory systems from the time of the establishment: Onoda Cement, Hiroshima Spinning Company (established 1881), Okayama Spinning Company (established 1883) and Nagoya Electric Light Company (established 1886). However, Hiroshima Spinning Company's No. 1 Factory was a state-owned factory that the company had purchased, while Okayama Spinning Company was an existing spinning company in which a samurai group that had received a loan from the samurai relief plan took a capital stake. Nagoya Electric Light Company is also hard to consider the genuine samurai relief company because the decision to redeem samurai relief subsidy had already been made before it ever opened for business.¹⁵ It is Onoda Cement that provides the opportunity for long-term observation of the motivations of the samurai, the fund-raising strategies, technology transfers, and business activities that brought them through the difficult startup years. In that sense, Onoda Cement can be considered the representative samurai relief company.¹⁶

III-1 Junpachi Kasai, a samurai entrepreneur

Onoda Cement was established by Junpachi Kasai (1835-1919), a samurai from the Choshu Fief. Kasai was born in 1835 as the third son of Kanpei Arita, a lower-class samurai, and at age seven was adopted by Einoshin Kasai, a fief retainer who was unmarried and had no heirs. The adoption was merely to ensure the continuation of the Kasai name. It was the Arita family raised Junpachi.¹⁷ In 1848 the Choshu Fief rebuilt and reopened Meirin-kan, the fief's elite school, and the 14-year-old Kasai enrolled. He was ranked second in his class. It was customary for the top three students in the class to deliver a lecture to the fief lord, but Kasai was forbidden because of his "low status." He subsequently left school, saying, "It is irrational to base even the study of etiquette on family origin," and from that point onwards was self-taught. This episode indicates a great deal about both Kasai's origin and his personality.

Japan strengthened its patrols of coastal waters after the arrival of Commodore Perry and his freights of the US Navy, and the Choshu Fief was assigned to guard the Miura Penninsula depot in Sagami. Kasai was conscripted as part of the force. He subsequently served for two years at the fief's Edo residence, where he showed talent at financial accounting. After returning to the fief, he held several important posts, including accounting, finance and justice before being

¹⁴ Onoda Cement KK was the predecessor of Nihon Cement Co., Ltd., which enjoys the top share of the Japanese market today. It was established in 1881 in Onoda, Yamaguchi with the name "Cement Manufacturing Company." In 1891 it changed its name to the Onoda Cement Manufacturing Limited Liability Company, in 1893 to Onoda Cement Manufacturing KK, and in 1951 to Onoda Cement KK. In this paper, we use "Onoda Cement" as a generic name encompassing them all.

¹⁵ For the Hiroshima and Okayama spinning companies, the author referred to Taiichi Kinugawa's *History of Japanese Spinning*, Vol. 3 (Japanese Cotton Industry Club: 1938); for the Nagoya Electric Light Company, the unfinished manuscript, *History of the Nagoya Electric Light Company*, (Nagoya Electric Company: 1938).

¹⁶ On this point, see Seiichiro Yonekura "The Samurai Relief Plan and Onoda Cement," in *Hitotsubashi Review*, Vol. 87 No. 3, March 1982.

¹⁷ For the history of Junpachi Kasai, the author referred to Sakuichi Ito's *Biography of Junpachi Kasai*, (Onoda Chamber of Commerce and Industry: 1934, not for sale), "County Head's Statement on the Matter of Conferment of Posthumous Rank, Governor's Secretariat" (found in the Yamaguchi Prefectural Archives), and Seiji Fujitsu's "Prehistory of Cement Companies," *Hitotsubashi Business Review*, Vol. 14 No. 3, 1968

appointed Supervisor of the Agricultural and Commercial Development (Buikukata) at the young age of 34 in 1868.¹⁸

The Buikukata was responsible for the fief's agricultural and commercial development and other civil engineering works. In the period of the Meiji Restoration, Kasai proved to be adept at developing agriculture and commerce and administering the back office of the fief. In particular, the post of Supervisor of the Buikukata was by custom given to prominent older figures, but he was appointed at the age of 34, a testament to his administrative skills. In addition to his personal skills, Kasai is also said to have had the backing of childhood friend Shinsaku Takasugi within the Choshu Fief as well as Issei Maebara, one of the leaders of the restoration.¹⁹

When the fief system was reformed after the Restoration, Kasai was appointed as Assistant Supervisor of General Affairs in the Accounting Bureau, where he reorganized the debts and the currency of the old fief government. When Choshu Fief was replaced by Yamaguchi Prefecture in 1871, he became an official of the prefectural government and was involved in preparations for its commencement. One illustration of Kasai's skills comes from the often repeated story of his return to the central government of more than 1 million yen in surplus uncovered in the process of reorganizing the fief's finances. The episode also illustrates the honesty of his character. Most of the fiefs that identified surpluses underreported and tried to conceal funds from the new government.

In 1873 the new prefectural government established a Bureau of Industry to improve stability by promoting industrial development policy in the region. At the time, his administrative skills led to Kasai to head up the prefecture's Bureau of Industry. During feudal times the fief retainers of Choshu put away "emergency reserves" and the general public also stored up "community reserves" of rice to protect against famine. This gave the prefecture more than 500,000 yen in cash and 500 koku in rice. The new Bureau of Industry was responsible for administering these reserves and formulating industrial development policy for the prefecture. Kasai's idea was to use the funds to create a mutual company for both samurai and commoners within the prefecture and thus integrate the samurai relief plans with industrial development policy. His approach was extremely democratic. A total of 21 representatives were selected, eight from the fief retainers and 13 from local farmers, artisans and merchants. This body consulted on the selection of businesses and their operations. Kasai to a large extent embodied the new ideas of the Meiji Restoration.

Unfortunately, the project was not realized. It was opposed at the central government level by Councilor of State Takayoshi Kido, who feared conflict between the shizoku and farmers. When he returned home in 1874, Kido told Kasai, "In the days to come, there will be class warfare between the samurai and commoners... It would be better to distribute these reserves now to the samurai and commoners in their respective portions." Kasai was not happy with the decision, but he could not go up against Takayoshi Kido, who had become an elder statesman renowned for his great service to the Restoration. In the end, the Bureau of Industry was divided into two parts, a Samurai Relief Bureau and a mutual company for the farmers and merchants. Dissatisfied with the split, Kasai was beginning to see the limits of what he could accomplish as

¹⁸ *Biography of Junpachi Kasai*, pp.11-12.

¹⁹ It is said that Kasai and Maebara knew each other from childhood and Maebara helped Kasai find a position in the central government. (Ibid, p.7)

a Yamaguchi Prefectural official. He resigned his post as well as bureaucracy, writing, "I am resolved to start some sort of private business."²⁰

III-2 Encounter with the cement business

Kido's worries did not materialize in the form of a conflict between samurai and commoners so much as rebellion by discontented samurai against the Meiji government. In 1876, Kasai's close friend as well as former Counselor of State, Issei Maebara, launched the "Hagi Rebellion." Maebara had been appointed a Minister of Military (Hyobu Dayu) and Councilor of State in the new government, but was strongly critical of the universal conscription and repeal of hereditary stipends, which he saw as destroying the basis for the existence of the samurai class. He was particularly sharp in his opposition to Takayoshi Kido over universal conscription. The uprising began with the "Shin-pu-ren Rebellion" of discontented samurai led by Tomoo Otaguro in Kumamoto. Maebara responded by leading approximately 200 discontented his fellows in the "Hagi Rebellion." The Meiji government, already nervous about rebellion by discontented samurai, moved quickly to suppress. The Hiroshima Guard was sent to put it down, which it quickly did. Maebara and other leading conspirators were immediately beheaded. It is said that Maebara, knowing Junpachi's character, intentionally did not invite him to participate in the rebellion. *Biography of Junpachi Kasai* discusses a poem made by Junpachi around that time as his moderate attitude against the Meiji Government.

"When the wind blows, the grass on the shore is content not to rebel"

According to the Biography, Maebara knew that Kasai was content to live within the system and intentionally did not invite him.²¹ However, the poem is not an expression of accommodation to the system, but actually the opposite, as the following events illustrate.

At the end of the Hagi Rebellion, Yamaguchi Prefecture ironically asked Kasai, now no more bureaucrat, to be in charge of the accounting for the extraordinary expenses that the rebellion caused. Kasai agreed and reentered the government in November, quickly and quietly completed his administrative tasks, and the next May requested to be relieved. Kasai had been friends with Maebara since childhood, and while he took care of paying for the "Hagi Rebellion," he was also firmly resolved to help the samurai through industrial development policy rather than Maebara's pointless violence. At the beginning of the "Petition for Samurai Relief Funds" that he submitted to raise funds for the establishment of a samurai relief company later, Kasai wrote, "Ashamed of our birth as samurai and wanting to avoid the epithet of freeloaders, we desire to embark on the path of work and self-sufficiency." This sentence, combined with the clean way in which he resigned his post, indicates an extraordinarily firm resolve in his mind. This was Junpachi Kasai's faith to his friend Issei Maebara.

Kido's decision caused Yamaguchi's reserves to be divided up to create a "Samurai Relief Bureau" (later the "Samurai Employment Office") for the samurai, and a "Bocho Mutual Company" for the farmers and merchants. Neither fared particularly well, and there was a growing consensus that Kasai was right and they should have embarked on a large-scale business together. In particular, Kaoru Inoue, who first supported the Kido proposal, gradually came over to Kasai's side and would go on to support his ideas for new businesses in many

²⁰ Kaoru Inoue, who was also Councilor of State, agreed with Kido's argument and the Kasai proposal eventually collapsed, *ibid*, p.10.

²¹ *Ibid*, p.22.

different forms. One of them was a project to quarry and process marble for the building of an Imperial Palace after the ravages of the fire of 1873. Inoue realized that the construction of a new Imperial Palace would trigger demand for Western-style marble and indicated to Kasai that he should study the potential for marble quarrying in Yamaguchi. Kasai searched in the area around Akiyoshi Village and discovered a promising marble deposit in Miya-gun. The quality of the marble was so good that it later won a prize at the St. Louis Expo in the United States, but at the time there was no suitable means of transportation, and it was discovered that the costs of cutting and hauling would be prohibitive. In addition to the expense, Kasai was not very interested in the marble business. There was something else he wanted to do more: Cement.

History can be ironic. The building that housed the "Bocho Mutual Company," a company established because of a split up that Kasai vehemently opposed, gave him the idea for new business. In 1875, Kasai without any job was invited to tour a stone warehouse that the company had just completed building. What he saw there was a very convenient product, a "powder that joins together large rocks, " in other words, cement. Kasai knew that cement was a very expensive import, and he became extremely interested in producing a domestic version.

In 1879, while the marble study was going on, Michinori Hiraoka from Yamaguchi (former Choshu Fief) returned home after serving as the head of the Manufacturing Department in the Ministry of Industry in the central government, and he took every opportunity to discuss the need for cement. Hiraoka was one of the first to recognize the necessity of domestic cement production for Japan's modernization. He was in charge of shipbuilding for the new government, at which time he assumed responsibility for the construction of the Yokosuka Shipyards and saw for himself the extraordinary high price of imported cement. He subsequently moved to the Manufacturing Department in the Ministry of Industry, where he encountered Saburo Utsunomiya, Head of the Civil Engineering Department in the Ministry of Internal Affairs, who also understood the importance of domestic cement production. Together they researched cement manufacturing, and eventually opened a cement plant in the Ministry of Industry's Fukagawa State-owned Cement Factory. In that sense, Hiraoka is rightly termed the father of the Japanese cement industry. Kasai, who had long been interested, heard Hiraoka's advocacy and became more attracted than ever to cement manufacturing.

When Kasai told Inoue that he wanted to manufacture cement, Inoue was not only extremely supportive, he found a position for Sahei Arakawa, Kasai's technical partner, at the Fukagawa State-owned Cement Factory where he worked as a trainee and learned production methods.²² During this training, Kasai became confident that the village of Onoda in Yamaguchi was more competitive than the Fukagawa State-Owned Factory in Tokyo. The Fukagawa Factory had to source its raw materials, lime and coal, from remote locations in Shikoku and Kyushu. Onoda, by contrast, was a producer of coal and could easily obtain lime from Shikoku, just a short way across the inland sea. In 1880, Kasai recruited 37 former samurai to establish a cement manufacturing company. To raise funds, he submitted a "Petition for Samurai Relief Funds" to Yamaguchi Prefecture.

That is where the sentence about "ashamed of our birth as samurai " quoted above comes from. It illustrates the disgrace and anger of lower samurai class like Kasai, but also their firm commitment to undertake businesses that would help build a modern state. Below is the full quote.

²² The history is found in *Junpachi Kasai Transcriptions* (hereafter *Kasai Transcriptions*) in the archives of the head office of Onoda Cement KK.

"Ashamed of our birth as samurai and wanting to avoid the epithet of freeloaders, we desire to embark on the path of work and self-sufficiency. We have contemplated for several years and recently recruited ambitious fellows to achieve our purposes and form a company. Working in solidarity, our lower goal is to achieve individual independence and our higher purpose is to help the country resolve the gaps in exports and imports. However, we are without financial means and will require large amounts of capital to launch our business after we join together. We therefore look to the charity of the government and ask that this project be adopted so that we can achieve our objectives."²³

The petition illustrates the pain of the samurai class, who had lived and worked faithfully under the Tokugawa Shogunate only to find themselves "shamed by their births as samurai" under the Restoration. One can also see a sense of inferiority at the "epithet of freeloaders" who wasted the national finances without working. However, they were also determined to use that shame as a springboard, obtaining new industrial capital and creating domestic products that would reduce imports.

IV. The Innovation of Onoda Cement

Onoda Cement was indeed a "samurai company," established with all of the pride and spirit of Japan's warriors. Junpachi Kasai was innovative in the way that he established the company, not only in providing jobs for samurai, but also in protecting hereditary pension bonds and introducing new technology. The early years of Onoda Cement were a process of clarifying just how samurai relief companies should be run, and also of transplanting the concept of "company" and modern industry to early Meiji business. In the pages that follow, we examine the creative innovations that took place.

IV-1 Innovation in capital procurement and joint-stock company

The samurai subsidies for which Kasai applied were funds lent by the government for farming and commercial businesses undertaken by groups of samurai who had been impoverished by the repeal of hereditary stipends. Loan terms were extremely generous, and this was indeed the most broadly used component of the government's samurai relief plan.²⁴

Kasai's creative response began with the fund-raising. The first innovation was to establish a joint-stock company capitalized by the samurai at 88,000 yen to serve as the borrower of funds. Investors received one share per 50 yen face value in hereditary pension bonds bearing 7% interest. As noted above, the 7% national bonds were broadly issued to the lower-class samurai during the repeal of hereditary stipends. In organizing the company, Kasai recruited lower-class samurai from the Choshu Fief, just like himself, to create a business of, by and for the samurai. The statement "ashamed of our birth as samurai" was an expression of defiance on the part of Kasai and his partners.

The joint stock system was introduced to form the national bank in 1872 and it is said that the first legislated joint-stock company is Nippon Yusen KK (NYK) in 1893. Onoda Cement

²³ The entire loan petition is reproduced in Koji Ida ed., *The First 50 Years of Onoda Cement Manufacturing KK* (hereafter *First 50 Years*), (Onoda Cement Mfg KK: 1931), pp.36-41.

²⁴ The government made loans to shizoku from March 1879 to March 1890 with a total value of approximately 5.25 million yen (Yoshikawa, op cit, *Samurai Relief Plan Research*).

was the forerunner of the joint stock company in the Meiji Period. The concept of limited liability according to amount invested was just beginning to gain currency among entrepreneurs like Kasai. It is well-known that Ryoma Sakamoto heard about joint-stock companies before he had gained sufficient mastery of Dutch, but was strongly interested in the idea of risk diversification. The joint-stock company was a concept for modern enterprise that had spread rapidly in England and Holland. In recruiting investors for an unknown venture in "cement manufacturing," an industry that did not even exist in Japan at the time, Kasai adopted the joint-stock company format and the idea of diversifying risk according to investment. However, the company did not accept investments in cash, but only in the form of national bonds. This was Kasai's second innovation. The investing samurai retained ownership of the national bonds. They were simply used as security to borrow funds and raise capital. In other words, the 7% interest paid by the bonds remained as income for the shareholders. Kasai made every effort to ensure that there would be no impairment of the value of the bonds for which they had traded their status.

After the national bank registration was amended, several national banks were established around the country and became the most popular investment for hereditary pension bonds. There was a perception of stability, because the peers who were former fief lords invested heavily in the national banks. Compared to the stabilized national banks, cement manufacturing was an unknown and therefore a very high-risk business. Kasai alleviated their concerns by taking steps to allow investors to retain ownership of their national bonds and continue to receive the 7% income. The hereditary pension bonds distributed to lower samurai class were valued at no more than double annual income, which meant there was no way that the samurai could live on 7%. Many lost them entirely by cashing them in to embark on commercial ventures of which they had no knowledge, or by investing them in highly uncertain prospects. The more he learned about these events, the more determined Kasai was to protect principal.

Kasai and his partners applied to the government for a samurai relief loan of 61,600 yen. The reason for securing it with 88,000 yen in 7% hereditary pension bonds was because rampant inflation had reduced the market value of the bonds to about 70% face value ($88,000 \times 0.7 = 61,600$). One can again see Kasai's conscientiousness in accurately discounting the inflation rate in his application. As borrowing terms for a samurai subsidy secured with national bonds, Kasai sought a waiver of principal and interest payments for the first five years, with redemption beginning the sixth year over a period of 15 years at 4% interest. Even with the investors retaining ownership and getting 7% of the interest, the company was designed to be able to exist for at least 20 years. In August 1880, the government approved the terms of the loan as applied, but cut the value to 25,000 yen, since the government had to tighten its exploded budget. This forced Kasai to start the plan in a smaller scale. A shareholder registry from 1890 indicates that investors with 1 to 9 shares (50-450 yen in national bonds) made up 63.6% of the total investors and 29.9% of the total investment. The investors with less than 20 shares made up 91.6% and 67.1% respectively.²⁵ The majority of the investors were with small shares and from the lower class samurai such as Junpachi Kasai.

As one can see from the history of the company's founding, the repeal of hereditary stipends did not automatically transform "status" into "capital." It was Kasai and other entrepreneurs made the innovations that caused status to become capital.

²⁵ Seiichiro Yonekura, "The Transformation of Onoda Cement from a Samurai Relief Company," in Shinichi Yonekawa and Mitsuhiro Hirata eds. *Theory and History of Corporate Activities*, (Chikura-shobo, 1983).

IV-2 Innovation in technology transfer

Having found the funding, the next challenge was transferring the manufacturing technology. As already described, Kasai and his partners had access to Fukagawa Cement State-owned Factory and obtained an estimate of its startup costs from which they were able to calculate the construction expenses for a new factory of their own. When the decision was made to establish the company, five technician trainees under the leadership of Sahei Arakawa spent approximately 10 months at Fukagawa Factory to learn technology. Kasai also sent carpenters to make a construction blueprint of the cement plant. The new plant was almost completed by the spring of 1883. Takayuki Sasaki, who succeeded Inoue as Minister of Industry, visited around that time. During his tour, the Minister was surprised that such a large plant could be operated without a technical supervisor and promised to send the Imperial Factories' Chief Technology Officer, Saburo Utsunomiya, at government expense. Utsunomiya spent a week at the plant, providing careful technical guidance at all hours of the day and night.

A simple hypothesis, that the state-owned factories were so cheaply sold to businessmen with political connections and became foundations of the zaibatsu that they were a total waste of the national budget, had already been empirically rejected.²⁶ The state-owned factories played much more important roles such as a risk bearing of the latest technological transfer from abroad and a large capital investment that private businessmen at the beginning of the modernization were hardly to bear. Also we should not forget the fact that there were already private entrepreneurs and companies in existence that could receive those factories. Although, Fukagawa State-owned Cement Factory was sold to Soichiro Asano in 1884 and provided the impetus for the Asano Zaibatsu, it also played a very important roles for Onoda, which would go on to split the Japanese cement market with Asano. Fukagawa Factory provided enormous cooperation to Onoda Cement in the form of training technicians, technical guidance by the top engineer, models of equipment and machinery, and estimates of investment costs. It is particularly important to point out that in industrial sectors like cement transplanted from Europe and North America, Fukagawa engaged in the trial and error process of establishing the business. The factory not only modernized, through a process of trial and error it accumulated expertise in plant operations and transferred that tacit knowledge and experience to the private sector, a point that deserves high praise in the context of the development of modern industry by a late-coming capitalist country.²⁷

Another point to highlight concerning the factory construction was that the major pieces of equipment were ordered from the Army's Osaka Ordnance Factory. To purchase the equipment, Kasai obtained estimates from the state-owned factories such as the Ministry of Industry's Akabane Works and Hyogo Shipbuilding Works, the Navy's Tsukiji Armaments Factory, and

²⁶ Smith, T.C., *The Meiji Revolution and Industrial Development* (Kazuo Sugiyama translation),(University of Tokyo Press, 1971) and Masaaki Kobayashi, "The Sale of Government Businesses, " *Japanese Business History Vol.2: Industrialization and Entrepreneurial Activity*, (Nihonkeizai shinbunsha, 1976) etc.

²⁷ Hisajiro Wada ed., *70 Year History of Asano Cement*, (Asano Cement KK, 1940), pp. 1-91. According to this book, the Fukagawa State-Owned Cement Factory was established under the Ministry of Finance around 1872, but subsequently placed under the Ministry of Internal Affairs and then the Ministry of Industry. Utsunomiya and other technology bureaucrats used it to experiment, gradually expanding through a process of trial and error. Between the time it came under the Ministry of Industry in 1874 and 1888, a total of more than 170,000 yen in capital had been invested in it (startup costs, operating costs, government subsidies etc.).

the Army's Osaka Ordnance Factory. The Army gave the best price.²⁸ At the time, the Osaka Ordnance Factory manufactured a great deal of steam equipment and lathes for the private sector as well as Army and helped to make up for what were still relatively low levels of private-sector machinery production. It is thus seen that Osaka Ordnance Factory and other military equipment works as one of the leaders in early Japanese industrialization.²⁹ What should be noted is that armaments factories in Osaka and other parts of Japan were manned by engineers who had the same sense of mission as Kasai and pooled their knowledge and wisdom to produce steam engines and other equipments required by the private sector. Their goal was to produce the means of production, or in other words, to create a domestic source of the machinery to create machines.³⁰

IV-3 Innovations in demand serching and quality improvement

Onoda Cement was very much the embodiment of the complex political intent of Restoration officials like Takayoshi Kido, Toshimichi Okubo, Kaoru Inoue and Shigenobu Okuma to "use peacetime to dismantle the samurai, rebuild the finances and create a new base of production."

From today's vantage point, cement manufacturing may appear to be an extraordinarily simple industry, but it was not easy for the ordinary Japanese, the samurai in particular, of the time, who had neither knowledge nor experience of such things. Masayoshi Matsukata, who followed Okuma as Minister of Finance after the upheavals of 1881 pushed through a starkly deflationary policy in an attempt to quell inflation that had reached crisis proportions. This involved sharp cuts in government expenditures on public works and sent Japan into the worst recession of the Meiji Period. Onoda Cement was established with the expectation of government demand, but was forced to deal with declining demand during its initial years in addition the technical hurdles that confronted it. Obviously, the severe recession resulted in heavy attrition among all new companies, including samurai relief companies. There was an air of pessimism within Onoda Cement, and the employees as well as the investors began to call for it to disband. Kasai, however, kept the company alive by satisfying the small-scale demand still available in the prefecture.

Having gotten off to an extremely rocky start, the year 1886 marked a turning point for Onoda Cement. During the Matsukata deflation period, the government had focused on reorganizing the currency and establishing a silver standard. With deflation over, it was in a position to build the infrastructures and military facilities that it had foregone, and that demand triggered a recovery in the domestic economy. The recovery in turn triggered a boom in the formation of Japan's first industrial fever, particularly railways and spinning companies. The demand for cement rose as well. Onoda Cement could not let this opportunity slip by. Hearing rumors of the construction of a Diet Building and other government offices, the resumption of work on a Tokaido Line railway that had been opposed by the military, and the construction of the large navel facilities in Kure and Sasebo, Kasai rushed Tokyo and actively began to seek the demand out.

²⁸ Onoda Cement's the first *Business Report* and *Kasai Transcriptions* (op cit).

²⁹ Hirotake Koyama, "History of Japanese Military Industrialization" in Hirotake Koyama et. al., *Japanese Industrial Structures Studies*, (Ito Shoten, 1943), p.71.

³⁰ As to the roles of the Japanese armaments factories, see Jun Suzuki, *History of Japanese Mechanical Engineering*, (University of Tokyo Press, 1999)

In 1886, a Tokyo Temporary Construction Bureau was established under the direct control of the cabinet, and appointed as its governor was Kaoru Inoue, who was also Minister of Foreign Affairs.³¹ It was a stroke of luck for Kasai. He began to attract demand from the Construction Bureau. A trunk railway was to be built between Tokyo and Kyoto, but the military opposed the use of the coastal Tokaido because it was exposed to cannon fire, and instead insisted the line take the Nakasendo through the mountains of the interior. Railway officials fought back, and eventually were able to return the project to the Tokaido. This was expected to create a surge in cement demand.³² There was also the potential for huge demand from the Imperial Japanese Navy as it followed its facilities in Yokosuka with new construction in Kure and Sasebo. Though it emphasized deflation, Matsukata's economic policy also promoted expansionary military spending after the Korean uprising of 1882.³³ The enhancement of military spending would create enormous demand for cement.

Having been hit so hard by the Matsukata deflation that it had thought seriously of disbanding, Onoda now enjoyed a "breath of fresh air" from the demand generated by the Tokyo Temporary Construction Bureau, not to mention the railways and military.³⁴ It is often said that the most important factor in new businesses is the "entrepreneurial alertness" to understand and fill the gaps between demand and production. Kasai missed neither the major trends of his times nor the demand-supply gap.

With the end of deflation and economic recovery in sight, there were still two hurdles to overcome if a small samurai relief company from Yamaguchi were to achieve credibility and price superiority in competition with imported cement and Asano Cement. The first was technology, or in other words quality; the second, production and marketing capacity. The Fukagawa State-owned Factory had been sold to Soichiro Asano as part of the deflationary policy and was now a private company, and the major task before Onoda was to catch up with it in terms of quality and capacity.³⁵

Kasai went to Tokyo to meet with Inoue and he introduced a German engineer who worked for the Tokyo Temporary Construction Bureau. During a conversation, the German engineer learned that there were no technological officers with professional expertise at Onoda Cement and advised the company to hire an engineer if it wanted to attract demand from the Bureau. Wanting to do everything he could to ensure that his company benefited from the demand, Kasai decided to employ a professional German engineer and also built a second factory using German techniques to increase production capacity. This turned out to be an extremely important decision.

³¹ Teijiro Muramatsu, *Oyatoi Gaikokujin (Foreign Engineers in Meiji) 15: Architecture and Civil Engineering*, (Kajima Institute Publishing, 1970, pp.51-83.

³² Hiromi Arisawa ed., *One Hundred Years of Japanese Industry*, Vol. 1, (Nihon Kezai shinbunsha, 1972), p.101.

³³ See Shoichiro Sato, "Matsukata Fiscal Policy and Expansionary Military Spending," in *Fukushima University Business Studies*, Nos. 32 and 33, "Expansionary Military Spending in the Industrial Fever Period," in *Journal of Historical Studies*, No. 295.

³⁴ Koji Ida ed., *First 50 Years*, p.88.

³⁵ In 1881, the Fukagawa State-Owned Factory was sold to Soichiro Asano, who also had entered into the governmental network by using his connections with Eiichi Shibusawa (see *70 Years History of Asano Cement*).

It was also an extremely reckless one given the company's circumstances during its early years. Not only was there the difficulty of stimulating demand for this new product called "cement," the company's founding coincided with the Matsukata deflation period, and by the end of June 1886 it had accumulated approximately 12,000 yen in losses.³⁶ No matter how much of a surge in cement demand it anticipated, the company did not have the financial wherewithal to be hiring foreign engineers and expanding facilities. Kasai relied instead on the fact that Onoda Cement was a Choshu Fief samurai relief company and had connections with Kaoru Inoue. We have already seen that Inoue was the Governor of the Tokyo Temporary Construction Bureau, the largest direct factor in expanding demand. The hiring of the German engineer for the construction of the second factory was also contracted in the name of Minister of Foreign Affairs Kaoru Inoue, with the engineer then seconded from the Ministry to the company.³⁷

Inoue was also instrumental in raising funds for the second factory. Another of his positions was Governor of the Yamaguchi Prefecture Samurai Employment Office, which loaned the money for the construction. The Samurai Employment Office, as mentioned before, was organized under the leadership of Takayoshi Kido against the wishes of Kasai, and like Kasai anticipated, have not achieved anything significant. Inoue initially agreed with Kido's proposal but later realized he had wronged Kasai. Impressed with Kasai's indefatigability, he arranged for Onoda to receive a loan of 75,000 yen, far in excess of its capital stock 51,500 yen.

Inoue played significant roles in stimulating demand and improving marketing capacity as well. It was extremely difficult for a rural company located in Onoda, Yamaguchi to respond quickly to the large demand from Tokyo, not to mention the construction of the Tokaido railway line, the Imperial Japanese Navy facilities at Kure and Sasebo, or other cement demand around the country. Kaoru Inoue also had close ties with Mitsui & Co. and provided Kasai with a referral, which led to an arrangement that the head office of Mitsui & Co. would deliver its products to the Temporary Construction Bureau. These events are related in the company's *First 50 Years*.³⁸

"Transactions began gradually with the consignment of Tokyo-area sales to Mitsui & Co. in June 1886 and deliveries to the Tokyo Construction Bureau by Mitsui & Co. at the end of 1887. ...Mutual concessions led to the exclusive consignment of sales within certain geographical and volume restrictions. The contract was for a period of three years covering all of the regions from Hiroshima to Niigata as well as territories in China, with a volume of 1,000 barrels per month. After establishing the sales agreement with Mitsui & Co. , only thing that Onoda has to do is to increase production capacity and improve the quality."

Mitsui & Co. was originally established by Kaoru Inoue. In 1873, Inoue stepped down from the government and established a trading company named Senshu-sha with Takashi Masuda. The company was closed in 1876 when Inoue returned to the government, but was taken over by Rizaemon Minomura, the leader of the Mitsui Family. It later became the famous Mitsui &

³⁶ Onoda's "the 3rd Business Report, June 1886." The financial statements indicate a cumulative loss of 11,887 yen 29 sen.

³⁷ "Hiring of a Foreign Engineer, July 1887, " (in the archives of Onoda Cement KK). The Contract states, "This contract is entered into by Count Inoue, Imperial Japanese Minister of Foreign Affairs, and Dr. Briegleb of Germany."

³⁸ *First 50 Years*, pp. 134-135.

Co., but even by the mid-1880s had laid the foundations for a general trading house and was involved not only in Japanese distribution, but in international exports and imports.³⁹ The marketing partnership with Mitsui & Co. was to prove significant for Onoda Cement's subsequent development.

The construction of the second factory in anticipation of an upswing in demand at the end of the Matsukata deflation, the hiring of a German engineer, and the broad marketing efforts mediated by Mitsui & Co. were all the result of assistance provided by Kaoru Inoue, the Minister of Foreign Affairs, Governor of the Tokyo Temporary Construction Bureau and Governor of the Samurai Employment Office. The General Meeting of Shareholders gave quick approval to the construction of the second factory in October 1886, and work began the next year. Junpachi Kasai had voluntarily responded to the government's samurai relief plan, collected extremely small-value hereditary stipend national bonds, started a company in difficult times and survived to capitalize on new demand. It was obvious in doing so that he would maximize his relationship with Inoue, while also availing himself of every other means at his disposal. It was because of his bold entrepreneurship that Onoda Cement was able to grow into the first class company capable of splitting the Japanese market with Asano Cement. That is not to suggest, however, that the road to success was simple or easy. The company was confronted by a series of challenges, which are examined in the next section.

IV-4 Creating proprietary technology and sending Shinzo Kasai to study abroad

In addition to the governmental demand we have already described, 1887 marked the beginning of a surge in ordinary private sector demand as the first generation of railway and spinning companies were established. Onoda Cement's business report contains the happy lament, "Our limited production capacity is unfortunately unable to keep up with the orders pouring in from the railways in Sanyo, Kyushu, Kansai and Osaka, plus those from Tokyo Construction Bureau and Nippon Doboku Gaisha (Japan Civil Engineering Company)."⁴⁰ Certainly the post-Matsukata surge in cement demand exceeded the company's production capacity of just under 10,000 barrels per year, and all it could do was wait for the completion of the second factory and its capacity of roughly 30,000 barrels.

The new factory was finished in 1889, but the main equipment, a rotary kiln imported from Germany, did not function properly and the products were not adequately fired. The company's production capacity did increase, but in the second half of FY 1889 and first half of FY 1891 it was forced to carry over more than 6,000 and 7,000 barrels respectively of unfinished goods.⁴¹ The rotary kiln had been invented by the German Hoffmann specifically for firing cement, and was vastly more fuel-efficient than conventional shaft kilns because the rotation allowed the excess sintering heat to be reused. Unfortunately, the new technology developed in Germany was unsuited to Japan, where the environment was different and peripheral technologies undeveloped.

³⁹ For details on the history of Mitsui & Co., see Japanese Business History Institute ed., *Mitsui Bussan Hyakunen-shi (The First 100 Years of Mitsui & Co., Ltd.)* Vol. 1. (Japanese Business History Institute, 1990)

⁴⁰ "Onoda 7th Business Report." The document states that the company was anxiously awaiting the completion of the second factory

⁴¹ "Onoda 9th Business Report" and "Onoda 10th Business Report."

There were also difficulties with Mr. Briegleb, a German engineer hired with the backing of Inoue. Much is made of the achievements of the "hired foreigners" in transferring technology during the Meiji Period, and indeed many of them did make excellent contributions, but more than a few of the foreign engineers who were willing to come to an unknown island country in the Far East did so because they were useless at home. Onoda's foreign engineer was, unfortunately, one of them. With the mediation of Inoue, Kasai invited Gottfried Wagener, a professor of Tokyo Vocational School (the predecessor of today's Tokyo Institute of Technology) to visit the facility and identify the causes. Professor Wagener discovered problems with the rotary kiln designed by Briegleb and recommended Onoda immediately halte the usage of the kiln and construct the two conventional shaft kilns instead.

Fighting back tears, Kasai suspended production with its state-of-the-art rotary kiln and decided to build the two shaft kilns, and he also made an even more momentous decision. His second son, Shinzo, would go to Germany to study technology.⁴²

Junpachi's second son, Shinzo Kasai, was born in 1873 and attended the preparatory course at the Yamaguchi High School, where he excelled in mathematics. While Kaoru Inoue was in Onoda for the completion of the second factory, he asked Shinzo about his hopes for the future. Shinzo replied:

"Japan is a country with many rapidly-flowing rivers, and this water could be used to generate hydroelectricity. Electrical engineering is a relatively new field, and I want to continue on to a higher institution and study it."

Inoue convinced him otherwise:

"That's an interesting idea, but when their parents brew sake, children should not study soy sauce. Your father is in cement, why don't you study cement too?"

Shinzo was stubborn and did not easily acquiesce, but Inoue spent three days talking with him, and at the end, Shinzo was resolved to study in Germany.

In 1890, 18-year-old Shinzo Kasai accompanied Professor Wagener to Germany to do scientific research in cement manufacturing since Wagener was returning home temporarily for treatment of his rheumatism. As Inoue and Junpachi had hoped, Shinzo enrolled in the Hamburg School of Industrial Technology and then matriculated to Braunschweig University, eventually earning a doctorate from the University of Munich in 1896. His PhD dissertation was on the basic cement ingredients, silica, silicon and limestone. When Shinzo returned to Japan, he was immediately given a job as an engineer at Onoda Cement. He was later appointed to the board of director as well as Chief Technology Office, and in 1918 became the company's third president. It is worth noting that while Shinzo worked for Onoda Cement, in 1908 he also submitted a paper in German entitled "Research into Portland Coagulation" to Kyoto University that earned him the second PhD from that school as well, and indeed throughout his career continued to perform basic research into cement manufacturing. Not only did he bring his company alongside Asano Cement at the top of the Japanese cement industry, he also made significant contributions to the development of cement technology in Japan.

⁴² The descriptions of Shinzo Kasai rely on Biography of Shinzo Kasai Editorial Committee ed., *Biography of Shinzo Kasai* (Onoda Cement KK, 1954).

What transformed the Restoration revolutionaries into true state officials was foreign relations. What transformed Meiji entrepreneurs into global businessmen was also the opportunity to encounter state-of-the-art technologies and management approaches in a globalizing environment. It is particularly impressive that the entrepreneurs of Meiji sent many of their own children and employees overseas to study technology and management. It is well known that Yataro Iwasaki, the founder of Mitsubishi zaibatsu sent his own son Koyata to the United States and England for his studies and Mitsui zaibatsu hired many foreign educated young men, but it should be noted that the small samurai relief company in Yamaguchi also had global aspirations at that time.

IV-5 International expansion and Mitsui & Co.: Beyond the samurai relief company

In September 1887, the Tokyo Temporary Construction Bureau was moved from the cabinet to the jurisdiction of the Ministry of Internal Affairs, and Inoue was replaced as its governor by Akimasa Yoshikawa, a vice minister for internal affairs. Due to a reactionary deflation after the first industrial fever, the expansion economic policy also changed from intensive construction of government buildings to a more modest course. Even the Diet would, for the moment, have to make do with a temporary structure.⁴³ Onoda Cement's deliveries through Mitsui & Co. came to an end in 1888. The second factory's capacity only came fully online in November 1890 when the shaft kilns were completed, but the industrial fever boom had come to an end and the pendulum was swinging back towards recession.

Having just completed its capacity expansion, declining domestic demand was a life-and-death issue for Onoda. It reacted by turning to Mitsui & Co. for help in developing international markets and began shifting a part of its new capacity to exports. The company's *First 50 Years* says that it entered into an exclusive international sales contract with Mitsui & Co. in February 1891.⁴⁴ However, the "Record of Mitsui Deliberations" for December of that year notes that the Shanghai Office had submitted an opinion paper advocating cancellation of the exclusive sales contract because there was no way to expand volumes. Mitsui & Co. was extremely cautious about cement exports because of the material's bulkiness and the difficulty of managing quality on-site.⁴⁵ So that it is difficult to believe that at this stage Mitsui actually had exclusive international sales rights, but at the same time that year's "Mitsui & Co. List of Head an Branch Office Future Products" includes Onoda agency services for both the Shanghai and Hong Kong offices, so the company did play a significant role in the development of international markets for Onoda.⁴⁶ With domestic demand slumping, Onoda Cement's strategy was to use the geographical advantage of its location and Yamaguchi to enter the Chinese market. In 1894 the China-Japanese war broke out and the Japanese army won the war in 1895. The victory brought the second industrial fever in Japan. Again Onoda faced a huge business opportunity both in the military and civic demands and it decided to construct the third factory with 500,000 yen capital increase. In order to procure such a large amount of capital, Onoda Cement decided to lift the restriction on its investors as the former samurai class in Yamaguchi. In 1896 when Onoda increased its paid-in capital to 600,000 yen, it became something more than just a samurai relief company. As Table 2 indicates, the percentages of stockholders with less than 20 shares decreased from 91.6% to 66.2% in numbers and from 67.1% to 16.0% in

⁴³ Teiichiro Matsumura, *op cit*, pp. 68-83.

⁴⁴ *First 50 Years*, p.135.

⁴⁵ Mitsui & Co's "1891 Deliberations" (Bussan 94), in Mitsui Archive in Tokyo.

⁴⁶ Mitsui Bunko ed., *History of Mitsui Business*, Documentation Vol. 3, Mitsui Bunko, 1974, p.230.

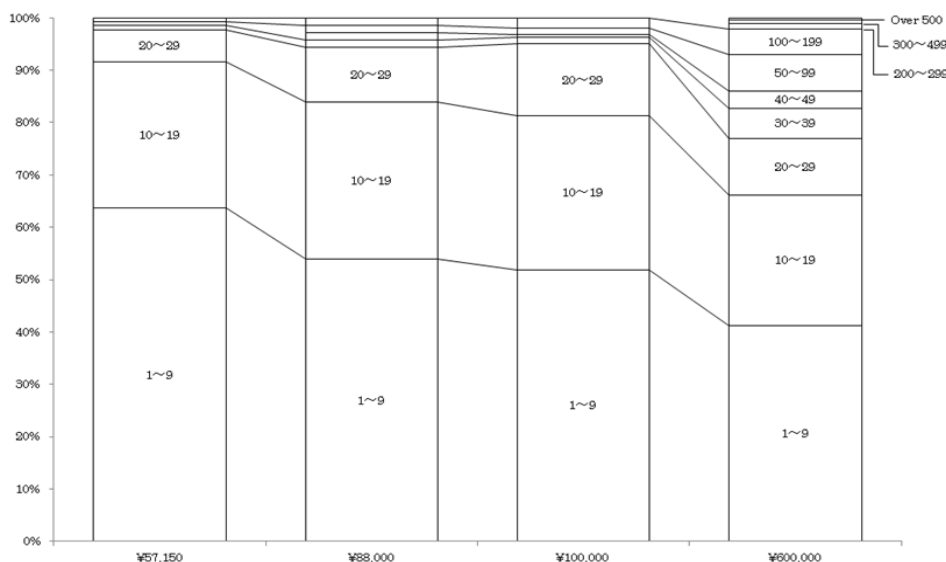
amount respectively. In the turn of the century, Onoda transformed itself from a samurai relief company with a small samurai investors to a large international manufacturing company with a strong partnership with Mitsui & Co.⁴⁷. Along with Mitsui's expansion in China, Onoda was interested in production capacity in China as well as exports. The company established a Dalian office in 1907 to prepare for the construction of a Dalian Factory. It should go without saying that Shinzo Kasai led the international expansion.

Table 2 The Number (Ratio) of Stockholders and Shares Held due to Capital Increase

Capital Amount	¥57,150 December, 1890		¥88,000 June, 1893		¥100,000 December, 1896		¥600,000 June, 1897	
	A Number of Stockholders (%)	B Number of Shares Held (%)	A Number of Stockholders (%)	B Number of Shares Held (%)	A Number of Stockholders (%)	B Number of Shares Held (%)	A Number of Stockholders (%)	B Number of Shares Held (%)
Over 500							2 (0.5)	1,460 (12.2)
300~499							3 (0.7)	1,187 (9.9)
200~299							4 (0.9)	960 (8.0)
100~199	1 (0.8)	100 (8.7)	2 (1.4)	260 (14.8)	3 (1.9)	336 (18.3)	21 (4.9)	2,349 (19.6)
50~99	1 (0.8)	60 (5.2)	2 (1.4)	153 (8.7)	2 (1.3)	123 (6.2)	30 (7.0)	1,749 (14.6)
40~49			2 (1.4)	86 (4.9)	1 (0.6)	46 (2.3)	14 (3.3)	575 (4.8)
30~39	1 (0.8)	37 (3.2)	2 (1.4)	60 (3.4)	2 (1.3)	61 (3.1)	25 (5.8)	796 (6.6)
20~29	8 (6.0)	179 (15.7)	15 (10.5)	335 (19.0)	22 (13.8)	471 (23.6)	46 (10.7)	1,007 (8.4)
10~19	37 (28.0)	425 (37.2)	43 (30.1)	548 (31.1)	47 (29.4)	628 (31.4)	107 (24.9)	1,280 (10.7)
1~9	84 (63.6)	342 (29.9)	77 (53.8)	318 (18.1)	83 (51.9)	305 (15.3)	177 (41.3)	637 (5.3)
Total	132 (100.0)	1,143 (100.0)	143 (100.0)	1,760 (100.0)	160 (100.0)	2,000 (100.0)	429 (100.0)	12,000 (100.0)

Source: Shinichi Yonekawa, Mitsuhiro Hirata, *Kigyō Katsudo no Riron to Rekishi*, (Chikura Shobo,1982), p 246.

Figure A The Number (Ratio) of Stockholders due to Capital Increase



Source: Shinichi Yonekawa, Mitsuhiro Hirata, *Kigyō Katsudo no Riron to Rekishi*, (Chikura Shobo,1982), p 246.

⁴⁷ In order to procure the capital, Onoda had to find investors whoever samurai or not in Tokyo and Osaka. After this capital procurement, Onoda became no more the samurai company. As to this process, see Seichiro Yonekura, "The Transformation of Onoda Cement from a Samurai Relief Company to Nation-wide Large Corporation," in Yonekawa, Shinichi and Mitsuhiro Hirata eds., *Theory and History of Corporate Activities*, (Chikura-shobo, 1982).

V. Conclusions

This paper has examined how the samurai who were central to the Restoration were forced to dismantle their own class in the process of establishing the centralized Meiji government. Along the way, the Meiji government converted the samurai retainer's stipends into cash stipends and then disposed of hereditary stipends altogether by issuing national bonds worth several years of income. Some of this was necessary to deal with the dissatisfaction and increasing militancy of samurai reacting to difficult financial circumstances, but it was also a creative response in converting status to national bonds in the course of a modern political revolution. Obviously, given the financial circumstances, most of the samurai could not survive just on the interest from the national bonds. The government therefore had to also provide samurai relief plans to ensure that the samurai had livelihoods.

There were two main components of the samurai relief plans. On the agricultural side, the samurai were encouraged to develop uncultivated land into rich farms; on the commercial side, they were encouraged to transplant new industries. The role of samurai in industrial promotion policy has not traditionally been highly regarded. They were largely amateurs, and their moves into commerce coincided with the Matsukata deflation period went failure. However, some commentators have rightly noted the role played by the samurai as some of Meiji's few intellectual elite. Nonetheless, little empirical research has been done on the processes involved. This paper attempts to fill in some of the blanks with empirical research on Onoda Cement, a representative samurai relief company. As can be seen from the facts we have presented, the samurai of early Meiji were criticized as "idlers, " but nonetheless with a series of innovations successfully transplanted the cement industry to Japan, and in doing so laid the foundations for modernization. Having been successful in the Meiji Restoration, that very success led to the samurai's dissolution, but the disappointment led them on to success as the rare intellectuals able to tackle new organizations and technologies. The steps they took were extremely advanced for the time. The company reacted dynamically to the surge in demand from Japan's modernization, invested in expansion and was among the first to hire German engineers. The founder even sent his own son to study in Germany and learn a scientific approach to cement manufacturing. This too was a creative response fully imbued with the ethos of the intellectual elite, "samurai."