

June 17, 2011

Financial problems and SMEs

- **Japanese experiences of the collapse of bubble economy, the world financial crisis in 2008 and the 3.11 disaster in 2011**

presented at the ISBC Workshop;
"Responding to the Economic Crisis: Small Business Lessons",
56th ICSB World Conference in Stockholm
17 June 2011

(partly corrected and abridged)

Professor Itsutomo MITSUI
Yokohama National University
(Chairman, International Small Business Committee of Japan)

Foreword: 3.11, a tragic and most serious crisis in the modern history of Japan

The historical big earthquake and following tsunami attacked the eastern part of Japan in the afternoon of Friday March 11, 2011, the magnitude of which was nearly 9, which so far has been quite rare all over the world. The height of tsunami wave exceeded 10-40m at its peak, and invaded deep into coasts, creeks, gulfs, rivers and inlands as far as 5-10 km, covering more than 400 km². Many places sagged down and are still drenched at high tide. Since then, still the size and number of its destruction and casualties are not so clear, at least more than 24,000 people are dead or missing, 5,000 injured, nearly 500,000 once lost their homes and properties or abandoned them and obliged to evacuate and stay in temporary shelters, and 200,000 have been officially recognised as sufferers. More than 100,000 houses and buildings were completely destroyed, 350,000 were partially destroyed or damaged. In 6 Prefectures, more than 270 municipal cities, towns and villages suffered, 20 of which in Miyagi, Iwate and Fukushima Prefectures were totally or almost destroyed, where most of urban areas, buildings, roads, railways and other facilities were completely wiped out from the bottom. Even town halls were also destroyed, leaving many staff dead, including one mayor. After 3.11, more than 5 big earthquakes of magnitude 6-7 happened in Tohoku, Chubu and sea around, and small afterquakes were numberless. The total sum of the loss is not yet enough calculated, World Bank already suggested the financial loss is more than ¥20 trillion, or some suggest it nearly ¥25 trillion, i.e. \$1/4 trillion, without counting any human losses. (The Government's estimates it ¥16-25 trillion.) In 3 months, still more than 90,000 people cannot find their homes, stay in shelters such as school buildings, public halls or gymnasiums, and are waiting for their provisionary housings to be built.

The tsunami attack was so huge and quick, many people who lived or worked seashores were unable to escape, despite of quick alerts and large scale of emergency facilities and dikes, some drowned when reaching shelters, hospitals and town halls. Houses, furniture, cars, and even ships were drifted and swept to destroy more, and left nothing but mount of wreckage and dead bodies. The saddest tragedy was the case of Okawa Primary School, in Ishinomaki City, where more than 70% of 120 pupils and teachers were dead or missing, when they had started evacuation. Another sad but heroic story is the case of Sato Suisan, a small seafood processing factory in Onagawa of Miyagi Prefecture, where 20 Chinese trainees were working. When tsunami attacked, Mr. Mitsuru Sato who was the executive director and the owner's son did his best to guide trainees to evacuate and run away but finally was drawn and lost his life.

These depressing figures and stories do not include the damages caused by the accident and following radiation crisis at the Fukushima No.1 Nuclear Power Plant (FNPP), which was severely damaged by the earthquake and tsunami and lost control. Among 6 nuclear reactors there, 4 or 5 caused hydrogen explosions, 2 or 3 started reactor core melt-downs immediately, radiation leakage quickly spread to lands and sea, and the Government declared an evacuation order for

surrounding towns and villages, nearly 20-30 km radius zone from the FNPP, where 140,000 people live. They are obliged to abandon their homes, farms or business units and have no hope to come back to resume their former lives because the FNPP has not given any easy solution to suppress the radiation leaks and deal with its melted cores, destroyed containers and buildings and contaminated water despite the TEPCO, SDF and fire brigades' efforts. Under the Government's official statements, the worst could be avoided, but the TEPCO's own progress schedule to control and solve the FNPP crisis, which was endorsed by the Government, so far does not seem to be smoothly kept in 2 months. As a result, not only the people's businesses and lives within the evacuation zone are completely destroyed, but many other areas in Fukushima also suffer considerably. Spreading harmful rumours triggered obliged suspension of sales of local plants, vegetables or foods.

The shutdown of the FNPP power supply, as well as several power plants' damages caused by the earthquake and tsunami, dramatically reduced the electric power supply in Tohoku and Kanto regions. FNPP was one of the key electric power sources for TEPCO's grid in Kanto region, and the aggregate size of supply was reduced to nearly 2/3 if compared with the peak demand. TEPCO, just after the disaster and FNPP crisis, declared an emergency planned cut of electric power, to avoid any fatal black-outs, which caused nearly a chaos in civil life and business activities in big cities such as Tokyo, Yokohama or Chiba. On 3.11, as most of the public transport systems were immediately suspended after the earthquake, millions of people were obliged to go home by walking or stayed in their offices, schools or emergency shelters for a night. Not only that nightmare, following power crisis seemed to cause a large scale social disorder and economic collapse. Fortunately, people's efforts and businesses' cooperation and contribution, electric power balance has been kept for these 3 months, TEPCO repealed its power cut plan, and mostly normal lives and economic activities are resumed. However, despite the TEPCO's efforts to repair damaged plants and to increase power supply by several means, the prospect for the demand peak time in the midsummer is not so optimistic, and the electric power restriction may cause a long-term and serious difficulties in business activities and production operations, without mentioning people's hard life.

Due to these destruction and turmoil, Japan's economy and social system immediately faced an unprecedented crisis after the WW 2, and production and distribution operations were severely disrupted, markets faced considerable shortage of supply, including foods, daily necessities, and industrial commodities and goods as well. Tokyo stock exchange index fell down by 10 %, and the GDP also fell, i.e. that of the first quarter trend of 2011 recorded -0.9% (annually -3.7%). This figure is only reflecting half of March, and it was widely feared that the economic depression will continue for years. According to the JCER's survey, April recorded -0.9% downfall of the GDP and -5.9% of the export over the preceding month. It also predicted the annual GDP growth rate of FY2011 would be declining or at least just flat. Only the Yen's exchange rate quickly soared because of the speculation that the Japan's foreign investments

would be pulled back to cover the domestic reconstruction expenses. Naturally the reconstruction investment will be considerable, but it involves the problem how to raise the fund and who can do it. Some talk of the expansion of the government bonds, others the increase of consumption tax rate. At least the Government has already decided to cut the public servants' wages to allocate them to the reconstruction expenses, which will automatically affect university teachers' ones!

Facing the massive disaster, numerous victims and economic and social losses, we Japanese deeply shocked and distressed. We felt powerlessness against absolute forces of nature, very isolated and even human civilisation itself destroyed. At the same time, we quickly found the world stood up to express their sympathy, to extend their helping as friends or members of human community and to send direct and indirect supports. "We are not alone," and "we can survive and revive," that was my own prompt idea when my overseas friends gave me sympathetic e-mails immediately.

Officially 159 nations and 43 organisations expressed they were well prepared to support Japan, among them 28 nations sent their emergency rescue teams, 55 sent huge number of aid supplies and 80 made relief donations. US Navy, Air Force and Marines quickly deployed their ships, planes and troops in a large scale. Naturally in Japan domestic police forces, fire brigades, coast guards, SDF (Self Defence Force) troops, medical teams and even local government staff from every region of the country were quickly despatched to Tohoku region, and joined with local forces, public servants and ordinary citizens to rescue survivors, to check the spread of damage and fires, to recover life lines and to resume the daily life. Whole sum of 400,000 citizen volunteers in 3 months visited to help, above all to assist people in temporary shelters and to work to clear off wreckage.

Despite the nationwide efforts and international supports, the crisis of FNPP revealed the decisive weakness of Japan's security system, emergency control, and too optimistic dependence on nuclear energy, which considerably damaged its world-wide credibility and betrayed the global sympathy and supports. In 3 months, the prospect of the large-scale operations for suppressing the FNPP radioactive contamination cannot be so optimistic, and even Prime Minister Kan admitted his and the Government's responsibility and mismanagement at the primary but decisive stage. Above all, it is now clear that the Government and TEPCO first tried to disguise and underestimate the real scale of nuclear crisis and damages within reactors.

Even if Japan becomes isolated and ordinary life is jeopardised, we can only do our best to resume the normal daily life, revive business activities, reconstruct social system and restore our confidence and honour in the international community step by step. At least our united efforts and solidarity both at national and local levels, as well as safety principle and practices, should be reflected to the future of socio-economic system and its basic philosophy in Japan, and policy

ideas and frameworks as well. They might be a historical lesson to the rest part of the world, including how to survive and reconstruct ourselves after an unprecedented natural disaster and man-made crisis.

For SMEs in Japan, 3.11 was the most serious crisis, the damage of which was far from that of the 2008 world financial crisis, and their efforts and policy supports are the key to overcome. On the other hand, ironically the damage directly caused by the 2008 financial crisis was relatively smaller than even by the collapse of bubble economy. Therefore, it would be very interesting and suggestive to take up three stages; the collapse of bubble and aftermath in the 1990s and early 2000s, the world financial crisis in 2008 and the still ongoing 3.11 disaster in 2011.

1. SME finance and its twists and developments in Japan

In Japan, it was widely believed that the most serious problem for SMEs had been financial difficulty and their disadvantaged position in the financial market. This may be interpreted as the size constraints and higher lending costs; overall higher risks of loan loss; difficulties in individually monitoring. At the same time, historical stage of overall shortage of funds and liquidity caused insufficient supply in the financial market and made SMEs marginal borrowers. Nonetheless, most countries regardless developing or advanced economies, admit SME's financial problem and the necessity of dedicated policy supports are universally common and necessary.

As a result, the Japanese Government implemented a number of financial policies dedicated to SMEs.

They can be classified as following:

1. Direct support

Governmental financial institutions dedicated for SMEs

Modernisation and Upgrading Fund for SMEs

Lending packages and schemes to support SMEs

Equity finance mechanisms for SMEs

2. Indirect support

Credit supplementation (guarantee) system

Facilitating investments in high-tech / growing SMEs

3. Promotion of SME finance framework

Supporting private financial Institutions dedicated for SMEs

As far as financial institutions are concerned, SMEs can ask financial supports or favourable credits to following ones;

Japan Finance Corporation (JFC), which is an amalgamated body of former National and Life Finance Corporation, Japan Finance Corporation for Small and Medium Enterprise and some other bodies, is expected to offer favourable loans to SMEs, micro businesses and new start-ups. The Government backs it by its 100% ownership and variety of policy schemes.

Shokochukin Bank (Bank for industrial associations), which is now overwhelmingly funded by the private sector, mainly supports SME associations and Industrial cooperatives.

The Government also operates credit supplementation system, which can offer SMEs credit guarantees when they ask new credits to financial institutions by making applications and paying charges. Individual guarantees can be offered by prefectural credit guarantee corporations,

sponsored by prefectural governments, and they also make insurance contracts with the national credit insurance body, which is now operated by the JFC. In case of SME's default of guaranteed loan, corporations are bound to subrogated performance, and the insurance scheme allows insurance reimbursement to cover their loss. This credit supplementation system has been rather popular for decades, which can materialise the advantages of market principle, private finance and public support, but, after the collapse of bubble economy, the payment balance of the national credit insurance body became very bad and the Government was obliged to reconstruct it and merged with the JASMEC and later with JFSME (JFC). However, the Government repeatedly enhance the credit supplementation system to deal with the unfavourable financial market to support SMEs.

Private financial institutions which are mainly support SMEs and local economies also can enjoy rather favourable status. They were mainly originated by SMEs' own effort of fund raising, relying on mutual finance mechanisms, developed as local mutual finance systems and institutions, and the Government recognised their roles and set legal frameworks for them. They are now classified as follows;

↓

SME finance cooperatives (credit cooperatives), 160

Credit associations (Shinkin banks), 273

Regional banks, 108

* including former Mutual banks (2nd Regional banks), 44

In the 1990s, these financial institutions faced rather difficult situation, due to the collapse of bubble economy, the huge burden of increasing bad loans, excessive competition between each other and against big high street banks^{*1}. In addition, the Government launched "financial revitalization program" in 2002, to recover the soundness of the financial sector, by accelerating bad loans clearance and by restructuring financial institutions' management. This program and some other related regulations and market trends obliged smaller financial institutions to be merged or to be liquidated, and SMEs felt they were facing "reluctant credit giving (no-performing loans)" or "early debt collection demands" problems, which seemed rather strange in the easier monetary conditions and lowest interest-rates in the financial market.

*1 At the peak of bubble economy, total money supply annually grew by 10%, financial lending to businesses exceeded ¥450 trillion, private capital investment grew by 12-- 19%, GDP annual growth 6%, manufacturing shipment ¥340 trillion, wholesale sales ¥573 trillion and Nikkei stock average ¥38,915. Since then, everything declined for these 2 decades, i.e. financial lending became 2/3, and the stock price 1/4. Not only the direct damage to SMEs' management, they became more vulnerable than before due to excessive reliance on debt finance, smaller capital adequacy ratio and lower capital-turnover ratio.

Prior to the "revitalization program," the Government launched "special credit guarantee scheme for SMEs' financial stabilization" in 1998, intended to rescue them from bankruptcies and failures and to solve the "reluctant credit giving," by setting ¥30 trillion independent budget. In addition, it started examining a new financial policy idea, "relationship banking," because otherwise the implementation of the "financial revitalization program" might drive many SMEs to marginal presence and difficult position, only result to increase bad debts and accelerate the decline of local economies. To avoid that vicious circle, the program regulations should be eased, SMEs be in a more favourable financial conditions and local economies more boosted for growth.

"Relationship banking" is a business model in financial institutions, which was mainly developed among local banks in the US, based on long-term close relationship with customers, accumulating their information, and to offer variety of financial services including providing loans. This idea is theoretically based on "asymmetry of information" and "agency cost" ideas, which are supposed to cause SME's overall disadvantage in the financial market. If the relationship banking is properly exercised, it will reduce judgement cost and cover the size disadvantage of small amount of lending cost, as well keeping the soundness of both lenders and borrowers, by reflecting credit risks properly, promptly exercising supporting schemes for borrower's reconstruction when their performances are worsened or problems detected.

The Government supposed that relationship banking would be suitable for regional or dedicated financial institutions for SMEs, because face-to face relationships and long-term commitment promote relationship lending, and may help to reduce SME's disadvantage for their size constraints and scarcity of information in the financial market, and these institutions may reduce costs, supportable to find good and loyal customers, and evade directly competing with big financial institutions which are simply depending on "transaction banking" models and scale advantages. Relationship banking may also reduce excessive dependence on collaterals and personal guarantees, which are thought to be most wide spreading among SME borrowers to save banks' information and examination costs and to reduce irrecoverable risks.

In 2003, the Financial Service Agency announced its "relationship banking implementation action program,"^{*2} which was dedicated to local financial institutions, Shinkin, Shinkumi and Regional banks, that they were expected to positively implement relationship banking practices including valuing closer and friendly relationship to SME customers, enhancing consultations and advices, implementing activities in promoting local economies, new business creation or innovative business partnerships, less relying on collaterals and personal guarantees, more utilising new financial tools like DES or securitisation and supporting business revival operations. At the same

^{*2} Mitsui was a member of the FSA's working group investigating and developing "Relationship banking action program.'

time, the FSA can ease and apply more flexibly the detailed regulation of "revitalisation program" on financial institutions in return for their active implementation of "relationship banking action program," including relaxed criteria on 'bad loan' appraisal.

Since the launch of relationship banking idea, as well as the implementation of special guarantee scheme, the financial situation for SMEs were considerably improved, for instance the cash position index of SMEs had been improved by more than 15% from 2001 to 2007. Interestingly enough, many local financial institutions felt that despite the almost doubled works and documents to respond to 2 governmental programs their businesses seemed much improved, could accumulate variety of information, experiences and good partnerships in local business communities, and realised that relationship banking itself is their own origin as a member of local communities, by keeping good relation with local businesses. Typical activity is to organise local trade fairs in cooperation with SME manufacturers or traders, or to send joint missions for making displays and shops at national big trade fairs.

However, we must be careful that the overall sum of banks, Shinkin and Shinkumi's credits had noticeably declined from 1997-2005 after the collapse of bubble economy, by 30%, and the rest were considerably covered by governmental institutions such as the JFC, which still shows the very roles played by the public sector. Above all, in the late 2000s, SMEs' financial demand itself was absolutely declining, despite the efforts among private and public institutions. The aggregate sum of lending outstanding to SMEs shrank by more than 20%, ¥322 to ¥251 trillion, between 2000-2009. This is mainly because of their very low motivation to invest, and ironically that was part of the reason why Japanese SMEs were not so strongly hit and damaged by the world financial crisis in 2008.

This might be an early lesson for the rest of advanced economies, 10-15 years earlier.

2. World financial crisis, but relatively smaller damage in Japanese industries and SMEs

Despite the scale and seriousness of the world financial crisis in 2008, its bad effects in Japan were relatively small and temporary, above all in the SME sector. Though the Governmental White paper on SMEs of 2010 described it seriously affected Japanese SMEs, the bad effects mainly came from the quickly declining world market and slump of the Japanese export such as cars. As far as SMEs' financial conditions are concerned, naturally they became unfavourable and many SMEs felt their fund management became difficult, above all new IPO became almost impossible in the deteriorating stock market, but the bad trend was quickly changed. For instance, according to the JSMEA's quarterly business trend survey, SME's availability of long-term and short-term finances quickly recovered in 2009 and 2010, not yet recovering to the peak in 2007, but considerable improvement.

This is partly because of the Government's very prompt policy implementation including the rescue lending schemes and emergency credit guarantee schemes, and the SME Finance Facilitation Law in December 2009. The Government launched a package of SME rescue program in the early 2009, which could cover as following:

1. financial measures (¥1.5452 trillion); 2. supports for manufacturing and sales cultivation of markets (¥73.6 billion); 3. subcontracting and public procurements promotion (¥0.1 billion); 4. business revitalisation support (¥0.5 billion); 5. promotion of shopping malls (¥1.9 billion); and 6. tax reform.

Among these measures, Section 1 Financial measures were intended that the given economic uncertainties would be expected to continue in FY2009, support will be continued for small and medium enterprises facing such financial difficulties through the steady implementation of safety-net finances such as emergency guarantees and safety-net loans.

[Specific measures]

- (1) Enhancing safety-net finances
- (2) Promoting the guarantee system for securities backed by movable assets
- (3) Promoting the support to convert accounts
- (4) Promoting subordinated loans
- (5) Promoting SMEs' finances by private financial institutions in cooperation with the FSA

Under these objectives, following financial schemes were quickly implemented:

- a. Emergency rescue credit guarantee scheme
- b. Enhancing safety net lending
- c. Expansion of micro enterprise improvement lending program ('Maru kei Yushi')
- d. Expansion of SME employment lending program (Japan Finance Corporation)
- e. Expansion of new start-ups and entrepreneur credit program (JFC)
- f. Deferred (extended) credit principal repayment (JFC, Shoko Chukin Bank)

Credit guarantee again became the core tool to improve SMEs' financial position. The 1998 special credit guarantee scheme was generally appraised for facilitating credits to SMEs under very difficult market conditions after the bubble economy and severe depression, but also criticised that many financial institutions took advantage of it to transfer own bad loans to public money's burden by refinancing them to guaranteed loans, or just prolonged zombie enterprises alive. Though these criticisms are not necessarily correct and justified, it became a public opinion that the credit guarantee must not be a tool of financial institutions' opportunistic conducts and balanced risk sharing among concerned parties should be assured like many other countries' schemes. As a result, in 2007, the system was partly reformed, introducing 'responsible guarantee' idea, which means CGCs cover not the total sum of SME loans, but 80%, and private financial institutions should take some risks.

Nevertheless, the new "emergency rescue credit guarantee scheme" reinstalled the 100% covered loans for SMEs, which was part of the very determined financial supports to evade the 2nd crisis among SMEs in 2 decades. The scale of the emergency credit guarantee was also increased from ¥6 trillion to ¥20 trillion, expanded to cover most industries, enhanced and extended as "emergency credit guarantee responding economic slump" in 2010. At the same time, safety net lending was also enhanced to ¥21 trillion, carried by the JFC and Shoko Chukin Bank.

2009 SME Finance Facilitation Law was one of the key policy agendas of the new Democratic coalition Government as well as the enhancement of financial schemes. The Law was intended to encourage private financial institutions to rewrite lending conditions for their SME customers who face difficult business situations and financial management, including payback periods, and impose them to implement the necessary systems and regularly to report to the FSA. Many SMEs then asked their banks whether their loans could be reviewed, and most were approved. The Law was temporary one but agreed to be extended for one year on March 31 2011, to deal with the disaster problem, and financial institutions can exercise more choice whether the loans can be rescheduled or other measures should be introduced to solve the debts.

Not only these quick and short-term deployments of policy supports to fill the gap and to keep businesses' financing and soundness, but also long-term experiences or changes in the principles, frameworks and regulations in the financial sector, the world financial crisis did not affect so much to most of SMEs' financial management. The safety-nets did work better. In addition, as financial institutions had not made so strong commitment to the risky investments markets in the world except few ones, their damages were not so serious as causing own operation crisis and credit crunch. This could be explained by their bad experiences at the time of bubble, the governmental regulations and rather conservative attitudes. Nobody wished the same nightmare in the 1990s. In addition, businesses including both SMEs and LEs had not been so much interested

in speculative investments^{*3}, which caused the trigger of the bubble economy and its collapse as large-scale investments in real estates, stocks and bonds, again leaving rather exceptional failures. At the same time, as explained above, SMEs' motivation to invest itself and their demand for credits or other financial sources became rather weaker even as the positive sense, due to the slacking markets, bleak outlooks and own business difficulties. Local financial institutions faced the relative shortage of lending against growing savings.

Asian market growth has been another key for Japanese industries. The damage caused by the quick decline of demands in the American and European markets were serious problem for Japan, and the total sum of Japanese export to the world declined by 17% in FY 2009, by 23% to the North America and by 25% to the Western Europe. To Asia, however, the decline in FY2009 was 8% and in FY2010 the export to Asia grew by 17%, which is nearly approaching the peak year of 2007 and dominating more than half of Japanese export for the first time. The recovery of the exports to North America and Europe is rather slower. The growth of emerging markets such as China and India is a following wind for the Japanese industries, growing direct investment opportunities as well.

Fortunately or unfortunately, these experiences and practices are succeeded by the 3.11 disaster and aftermath, and the rescue policies as well.

*3 Obviously after the collapse of the world bubble some Japanese business enterprises lost money in global investments, including LEs and SMEs and even universities. Keio lost ¥22 billion and Komazawa lost ¥15 billion for their derivatives trading in the financial markets. The former is Mitsui's alma mater and the latter is previous place of work!

3. The 3.11 damages to industries and businesses

Obviously the number of business owner-managers and working staff who died or are missing is not yet clear, but it must be very huge, including fishermen, farmers, manufacturing, construction, transporting, retailing, wholesale and service businessmen/women. At the same time, the loss of premises, buildings, shops, warehouses, facilities, machinery, vehicles, ships, materials, parts, products or merchandise should be beyond any imagination. It is not easy to estimate the scale of industrial losses, but it will be beyond ¥10 trillion without doubt. KISER already showed a figure, ¥4 trillion loss in the industrial capital stock.

The damages are far from temporary ones, because not only the loss of these humans, assets and properties, but also basic indispensable infrastructures and even lands required are destroyed or lost. For instance, many industrial parks and shopping malls are totally destroyed, and some are still under the water. It is widely believed that social stock loss including the loss in industrial sectors will be more than ¥20 trillion, and road systems are gradually recovered, but various supplies like water, electricity or gas are still cut off in many places.

According to the Central Federation of Societies of Commerce and Industry's survey, which is the central body of local business associations, 13,185, 96% of the responding SMEs suffered in Tohoku 4 Prefectures, including Aomori. Among them 3,535 were completely destroyed, 988 half destroyed. This survey does not cover larger cities, and only 20% of the total members replied, which means some did not reply because of no damage, but others could not because of complete human losses or evacuation. In Tohoku 4 Prefectures there were 73 thousand businesses with 600 thousand people, which produced ¥3.9 trillion in manufacturing and sold ¥7.1 trillion in commerce. And 4 Prefectural governments showed a temporary estimation of total industrial damages as ¥1.462 trillion except the losses in primary industries and the FNPP impacts. MAFF announced that the total losses in the agriculture, fishery and forestry industries should be ¥17.760 trillion, again except the FNPP damages. More than 20,000 fishing vessels were lost, 319 harbours destroyed, 33,000 farming lands and facilities damaged.

The damage in the primary sector is also a serious threat to some other local industries, which were strongly depending on these local products and resources, such as vegetables, fruits, plants, fishery, shellfish and seaweeds, which were very distinguished local cuisines in Tohoku region. At the same time, the region has been very industrialised these years, the key suppliers of raw material, metal, steel, plastic, electric products, car parts or semi conductors. Therefore, the damage to the industry is not limited to the Tohoku, but to Japan islands as a whole or even the world production bases. A typical example is the case of Toyota Motors, which locates in Aichi Prefecture, Central Japan, and is believed to organise rather concentrated and centralised production basis there, but it was obliged to reduce the production by 70%, because of key parts

supplies were lost or suspended and Toyota did not keep enough inventory stocks. Toyota's cut spread all over the world, which ironically demonstrates how the domestic manufacturing and supply bases in Japan are still working and indispensable despite the trend of expanding global or offshore production. One of Toyota's tier-2 suppliers, Murakoshi in Iwaki, Fukushima Prefecture, stopped its production for weeks, and caused an overall stall for the shortage of its small bleeder screw which is indispensable for break system and Murakoshi claimed 70% domestic share. According to the METI's survey in April, nearly 90% of manufacturing firms interviewed replied they had been affected by the suppliers' damages and closedowns but most of them were trying to find alternative supply sources. However, some could not find any alternative supplies, such as cosmetic materials, rubber products and semiconductors. Tohoku region also keeps raw materials production such as woods or paper and pulp, as well as metal, steel or even shipbuilding.

Consumer's goods market and service industries are also severely damaged, and the damage is again across Japan. The glooming reports, shortage of electric power supply and of merchandise as well are very discouraging everywhere, "jisyuku" voluntary restraint spreads among the people who are reluctant to buy or to play alone with ignoring the suffering people's hardship and toil. Their voluntary supports and donations to Tohoku are also very large, but sinking markets are not a good news for businesses. The number of overseas tourists dramatically decreased, mainly fearing the radiation crisis in Japan, and this decline strongly hit tourism, hotel and restaurant businesses, and Akihabara as well. The radiation crisis also threatens domestic people's life and they lose their future's confidence in many senses, only snapping up buying energy-saving products and emergency stocks. The fame of Japanese products in the world was considerably damaged, and some countries introduced curb on Japanese imports, not only on foods but even manufacturing products.

As a result, the production index in March 2011 showed a dramatic fall on month-to-month basis, -15.3%, and April recorded a small recovery but still serious decline on year-to-year basis, -14.0%. The export on month-to-month basis fell by 2.3% in March, by 12.4% in April and by 9.3% in May 1-2/3. The current balance of payments still kept surplus in April, but the trade balance of goods and services showed a deficit of ¥838.8 billion. Consumers' confidence index fell by 5.5% in April. The number of overseas tourists fell by 50.3% in March and by 62.5% in April on year-to-year basis.

These depressing facts and figures clearly propose unprecedented scale of public policy supports and new economic or institutional frameworks.

4. Business people's efforts and nation-wide supports and solidarity

Members of Iwate Doyu-kai (Iwate Prefectural SME Entrepreneurs Association, 300 members) quickly started resumption of business operations in April, with receiving many other SME members' supports across the country. On May 1, it opened an outdoor shopping bazaar market in the heart of Rikuzen Takada City, which was one of the most disastrously destroyed towns, there most of shops, industrial premises and houses were completely wiped out and more than 20 % of its 20,000 citizens died or are missing. Temporary shops were built on a suburban hill, many other members joined to assist, bringing building tools, materials, wind mill generators or solar cooking systems from all over the country, and morning bazaar was opened with more than 2000 local resident shoppers. They had been staying in temporary shelters for 2 months with only rationed meals and box lunches, and started again enjoying shopping, eating and reunion, moved to tears.

Rikuzen Takada's outdoor shopping bazaar, Kesen Asaichi Rikuzen Takada, has already recorded 1 month's business and become a symbol of the town's start for the reconstruction and rebirth. Many other towns opened these temporary shopping bazaars and malls by the collective efforts of local business people and retailers, which have been very crowded and full of delights.

Doyu-kai, a national association of independent SME entrepreneurs, promptly called for all kinds of supports among its 40,000 members and prefectural associations, not only financial donations and daily necessities, but equipments such as solar power generators, vehicles, and even alternative manufacturing operations and parts supplies. Its member transportation services offered rescue delivery services to suffered regions when most of roads and traffic systems were severely damaged and public transports were suspended. This is a typical example how SME people can quickly create actions at an emergency and disastrous occasion, and jointly help each other at both local and national levels.

Not only SME people's independent efforts and solidarity, national chain stores also quickly restored their supply chains and started their sales to local residents. Just after the earthquake and tsunami, survived local CVS stores opened shops and offered all of their stocks free or at normal prices for residents who were desperate for foods and daily necessities. Seven Eleven Japan, the biggest CVS chain in Japan with 13,000 shops and annual turnover of ¥2.947 trillion, which kept more than 600 chain stores in suffering regions, restored supply and 95% of these shops were reopened in 1 month. Not only the shops in Tohoku, but the national chain itself was strongly hit and most shops faced the shortage of merchandise supply in an unprecedented scale, but the business operation was dramatically improved. This quick recovery operation could be done for a series of its BCP efforts, including dispatching rescue staff, securing alternative supply basis, delivery routes and systems, concentrating efforts on the recovery of Tohoku factories, depots and

warehouses, squeezing the assortment planning and making clear priorities on its salable goods and services. At the same time, we must admit this quick recovery could be done by the small local shop owners' extraordinary efforts and residents' strong wishes.

Not only these joint efforts, individual businesses have been struggling to resume operations and to survive. Abe-cho, a mid-sized food manufacturing company in Kesen-numa, Miyagi, which once employed nearly 800 people, lost most of its factories, ships and production equipment, and several key staff as well after the big tsunami had attacked. Its owner manager himself lost his house and property, almost gave up the business and started dismantling crippled ships, but finally he has decided to continue his business and not dismiss workers, who had been just engaged in rescue activities and cleaning up operations for more than 1 month. He ordered the utilizable material fishes which had been kept in cold storage warehouses to be transferred to other safer locations for the comeback.

Its satellite subsidiary in Ofunato, Iwate Prefecture, which had been opened just 6 months ago, also suffered severe damage, but the upper floor of its brand-new factory building survived. This satellite is targeted to regime operations this Autumn, and expected to take some workers from other plants. Abe-cho's priority is to keep employment in the local communities and to survive local industries as long as the supply of material fishes is maintained. Fortunately Abe-cho has been expanding its tourism business including several resort hotels, which can employ numbers of existing staff.

Abe-cho and other SMEs' struggle for survival obviously request various dedicated supports and most favourable conditions. Abe-cho already claimed the Governmental grant for the employment adjustment, which is funded by the Employment Insurance account and operated by the Health, Labour and Welfare Ministry. The grant will be given if businesses are obliged to contraction and to exercise lay-offs, training or transfers, consisting of the 2/3 of their wages for up to 300 days.

Without public supports, some businesses have already started to collect investments to recover the losses and to start operations again. One of their ways for fund raising is a sort of 'voluntary recovery fund investment,' which is a joint venture between fund investment company in Tokyo, local NPO and SMEs in Tohoku suffering areas. The investment company openly offers micro fund raising packages, half of which are equity investments and the rests are donation, specified to individual companies. Naturally investments involve some risks, but investors can support local economic revival and encourage suffering SMEs directly. So far 3,500 units have been sold, i.e. ¥35 million, for 8 local companies and even big businesses are backing the venture. One of the invested companies, Ishiwata, a 50 year old fishery processing factory in Kesennuma, Miyagi Prefecture, lost ¥250 million of refrigerators, equipment and office, and to start again new investment of ¥150 million is necessary. It offers 1,000 units and hopes to rehire once redundant

staff. (Asahi May 24 2011)

Some security companies also started offering subscriptions of "Fund bonds for disaster recovery supports," which are dedicated to suffering businesses and part of their trust fees will be donated.

"Consumers' ownership" models are also supportive mainly for farmers and fishermen, in which individual people can invest some as advanced payments for the subscription of products, and later can receive the results according to the size of payments. Even if the damage is so severe that the expected harvests or hauls will be years' later, investing consumers believe it as a support for local businesses. One of the examples is the case of "Save Sanriku Oysters" project to sustain oyster cultivating operators in Kesennuma, and 7,100 customers invested more than ¥90 million, expecting good harvests in several years.

Local financial institutions are also exercising their cooperativity based on local communities and relationship business models to the utmost extent, organising support teams and providing dedicated special loan packages. Central associations supplied emergency funds to Tohoku member institutions, and some are planning to establish large-scale reconstruction funds in cooperation with governmental institutions, such as the DBJ^{*4}. These local institutions themselves suffered damages, among 2,700 branches of financial institutions in Tohoku more than 10% were closed, destroyed or damaged after the earthquake, and the number declined in 3 months but 72 are still not working. Even though, for instance, local banks in Tohoku 3 Prefectures accepted more than 10,000 respites of debt payment in 2 months, including business finance loans and housing loans. Nevertheless, without policy support and public intervention or funding, individual institutions could not cope with the unprecedented scale of disaster and damage to industries and local communities.

^{*4} DBJ (Development Bank of Japan) is also expected to establish a new rescue fund of ¥50 billion dedicated to support car parts suppliers' revival efforts including capital investments and M&As, in cooperation with the Japan Automobile Manufacturers Association and some other banks.

5. The Government's emergency policy supports for suffering SMEs

In June JSMEA announced its emergency policy measures dedicated to suffering SMEs in Tohoku, and others which had been involved in direct or indirect damages and affected by the FNPP nuclear crisis. Its standing points are a) the necessity of various financial supports, including relief funds and long-term investment funds. b) Keeping employments is crucial despite the uncountable damages and dramatic decline in sales. c) Even businesses which lost most of premises and assets for tsunami attack are determined to reopen, at least if wreckage is cleaned and business sites can be found. d) Suffering SMEs are wishing to reopen by receiving fellow businesses' or prime customers' support and cooperation, and fishery operators and food manufacturers should be integrally revived. e) The shortage of professional staff for facility repairing jobs are decisive. f) Local products should be given new sales markets and chancels which are suffering from harmful rumours and reluctance, and exports are affected by the fear of radiation contamination and necessary to be checked by dosimeters.

Then, JSMEA proposed 5 key policy measures, 1. financial supports, 2. facility recovery supports, 3. business counselling supports, 4. supports for businesses under the FNPP damages, 5. enhancing the publicity of policy measures.

1. Financial supports:

a. Higashi Nippon Daishinsai Fukko Tokubetsu Yushi (Special Credit Scheme of the 3.11 Disaster Recovery); aggregate sum of ¥10 trillion, long-term low interest credits with maximum 20 years redemption period and maximum 5 years repayment grace period. Maximum ceiling is ¥500 million and interest rate is -0.5% lower than market standard rate. This scheme involves not only directly suffering businesses, but their trade partners and indirectly suffering ones.

b. Higashi Nippon Daishinsai Fukko Kinkyu Hosho (Emergency Credit Guarantee Scheme); Special credit guarantee frames for the businesses which are already assuming contracts of guaranteed liabilities to cover the disaster damages. The credit guarantee frame ceiling is ¥560 million by combining other guarantee supports. New law is expected to enact, to allow this new credit guarantee scheme.

c. "Marukei Yushi" enhancement (Fiscal Investment and Loan Program); "Marukei" is dedicated to smaller businesses and operated by local CCIs and Shokokai (Local Business Associations), combining credits without collaterals and guarantees and with management consultation. Its individual ceiling is to be raised to ¥25 million, and interest rate to be reduced from -0.3 to -1.2% against market rate.

d. Tokubetsu Rishi Hokyū Seido (Special Interest Subsidy Scheme); new credits given by the JFC or other public institutions can be subsidised to reduce interest rate, which is dedicated to the

suffering businesses which have lost their establishments or are obliged to evacuate from the no-go zone of the FNPP. The 1st supplementary budget of 2010 allocated ¥10 billion, and the details will be arranged on the basis of negotiations with local governments.

JFC, Shoko Chukin Bank and some other financial institutions already decided to enhance their credits or to allow suffering SMEs payment deferrals, including fishery and farming. They are also supposed to be fronts of other policy schemes. JFC reported it had provided 10,719 new loans to suffering SMEs, farmers and fishery operators by May 25, and the total amount was ¥105.1 billion.

e. "Dual debts problem"; this is the most serious problem for the suffering businesses which lost their premises, machinery or vehicles which had been bought by debt finances. Though they lost the assets, they are still debt-laden and new credits to restart or rebuild their business operations mean they will be under dual burdens even if they succeed in arranging new loans. Nevertheless, it is quite unlikely for them to pay back dual debts even in the normal business environments, or financial institutions will be very reluctant to extend their credit line without the prospects of recovering existing credits. This "dual debts problem" becomes one of the very hot policy issues, and developments are just ongoing. Therefore, it would be taken up later in detail.

2. Facility recovery supports: as many premises or buildings were completely destroyed and difficult to reconstruct independently, policy supports are very necessary. SMRJ, the policy implementation body of the Government, in cooperation with local governments, launches construction plans for local factories and shops to build temporary premises which will be let to these suffering businesses. The first budget allocated is ¥1 billion and more than 200 requests have been received. Another scheme is to support collective business operations for reconstruction among suffering SMEs, including business groups, cooperative associations and shopping mall associations. Shopping malls are paid dedicated attention because they were severely damaged by tsunami, where street facilities, arcades, lights or parking were destroyed or lost. It is indispensable to clear wreckage or debris before reconstructing streets, and the cost will be huge. The Government has already approved 160 clearance plans and will subsidise.

At the same time, SMRJ and other public bodies had been supporting SMEs' collective operations such as industrial parks, joint factories, wholesale complexes, common warehouses and shopping buildings or malls by giving credits based on SME Upgrading fund. As these premises or facilities were severely damaged or destroyed, it is very difficult for these SME collective bodies to reimburse the debts to the Upgrading fund. The Government decided the existing debts could be reprieved or even pardoned after making detailed investigations and consultations. More than 100 cases have been already taken up and examined by the SMRJ and public bodies.

3. Business counselling supports; SMRJ dispatches professional consultants and counsellors, based on local temporary supporting centres in suffering areas and SMRJ satellites. They can give

management counselling, town management advice, reconstruction plans or facilities repairs. SMRJ also supports networks of local SME aid arms which had been damaged and lost facilities and staff.

4. Supports for businesses under the FNPP damages; dedicated special fund for SMEs which were obliged to evacuate from the FNPP affecting zone, mainly interest-free credits for their operating capitals, up to ¥30 million. They are also the subject to TEPCO's temporary compensation payments. The Government implements employment policy measures to keep 6,000 jobs in Fukushima by subsidy, to carry out collective job creation measures by utilising internship or training benefits and to promote long-term business strategies including cross industrial alliances. Businesses and products suffering from harmful rumours are a serious problem and not limited to those in Fukushima Prefecture. The Government tries to wipe out ungrounded rumours and guarantee product's safety and harmlessness by introducing enough tests and examinations, and enhance explanations and publicity both for domestic markets and abroad. Professional advices and supports are also organised. Not only for businesses which had to evacuate in Fukushima, but businesses in affected areas, the Government requested 22,000 big customers to keep fair trade transactions and rather preferentially to increase business orders to promote and support the revival efforts.

The dual debt problem and solution

The dual debt problem is very serious among strongly suffered SMEs, which means businesses which have long-term loans from banks or public financial institutions have lost their properties, premises equipments face very insolvent liabilities, only keeping debts and valueless collateral assets, but need more credits to reconstruct and restart own business operations again. Their liabilities are very difficult to clear even if they are declared bankruptcies, and would only leave mount of unrecoverable bad loans and destroyed business activities, job losses and tumbling local economies. This would be the very trigger for financial institutions to face their own stalemates and crashes. On the other hand, financial institutions could not extend more credit line to these severely damaged clients without clearing the past debts, even if they would like to assist local SMEs' continuity or rebirth and the reconstruction of local economies.

SMEs in Tohoku region and business organisations are strongly requesting public policy measures to ease and solve the dual debt problem, and local financial institutions as well. Financial institutions reveal their managing conditions are quickly deteriorating despite the governmental supports and deregulation and central bodies' help. Though the FSA urges them to support local clients as the part of 'relationship banking' policy for suffering clients' efforts of revival, they feel the situation is very critical and they are in a dilemma unless they are given external solution concerning mount of existing loans. Many politicians and parties, business associations, bank

associations or central bodies and even the Japan Bar Association also propose policy framework and scheme to cope with dual debt problem.

FSA decided to enact a new law which can allow local financial institutions, Shinkin and Shinkumi, moratorium or even forgiveness of debts if they receive the injections of public funds as bail-out plan. However, this is not a very good news for individual clients who are saddled with debt and keep no hope to reimburse. On April 18 Shichiju-shichi Bank, a Sendai-based old local bank, announced that it would request the injection of public fund, and also revealed that the bad loans which are involved in dual debt problem and not reimbursable would mount up to ¥500 -- 800 billion, including other institutions' clients, and that the Government should buy out bad loans to release and allow new investment opportunities and business revivals. The Governor of Iwate Prefecture explained that ¥1 trillion-scale fund would be necessary to buy out ¥100 billion of bad debts among local businesses. 'Dual debt problem' also widely exist among local inhabitants who lost houses which are still mortgaged for housing loans. If they wish to rebuild a new one, the existing loans will be too heavy for them.

In June, the ruling Democratic Party and the Government were reported to draw up an overall policy framework to cope with the 'dual debt problem,' which is not likely to buy out bad loans from financial institutions in fear of their opportunistic conducts of arbitrary transferring bad loans and seeking own relieves. Instead, a new fund, SME business revival fund invested by the SMRJ, local governments and public institutions will be established, and it will mainly support businesses which are supposed to be rebornable after sorrow examination and consultation. It can buy out their credits from financial institutions, invest in them or make new loans. SME Revitalization Support Councils in prefectures are expected to play important roles in choosing rebornable businesses and arranging measures. Revitalization Councils were established in 2002 to encourage SME revival by mobilizing the various measures for supporting the revitalization of SMEs facing a deterioration in business, and measures finely tailored to local conditions would be recommended, are believed well working and tailored more than 3,000 revival plans. Other financial institutions can offer no-interest credits for them. In addition, reviving SMEs can utilise leasing finances to replace facilities and machinery with receiving the support of new "public lease credit guarantee scheme."

On the other hand, some businesses will be judged to be unreconstructable, and offered the ways of disposition and clearance, including debt relieves, which will be backed by the Government as corporate tax relieves for banks. For destroyed house owners, respite of loan payments will be also encouraged, and the Government will pay banks the interests for the grace periods.

This framework is rather unpopular among business people and bankers as well. It seems too cautious, too selective and not friendly with financial institutions. Many micro or family businesses might be dismissed for their will of revival. Opposition parties are mainly demanding a

powerful organisation which can buy out bad debts from financial institutions in a large scale. MOF and FSA are rather negative, because of the market discipline and the shortage of national resource revenue, and this issue inevitably involves that serious political problem how to carry out a national recovery plan in macro and state finance senses^{*5}.

On June 15, ruling Democrat and 2 opposition parties, LDP and Komei, basically agreed the policy framework, but not a big change. The new framework includes the Government's stronger commitment, credit guarantee for leasing, interest subsidy, and tax relieves for banks. The Government proposes these schemes will be covered by the 2nd extra budget of 2011, which is expected to pass the Diet in June. As the majority approval cannot be guaranteed because of the hung parliament in the Upper House, this agreement is important.^{*6}

*5 It must be remembered that the world financial crisis in 2008 was triggered by the collapse of sub prime housing loans in the US.

*6 The Democratic Government changed its policy, and decided to establish new Prefectural Organizations for Industrial Recovery, depending on the SMRJ's fund and prefectural governments' investments, mainly dedicated to buying bad loans from suffering SMEs. And their targets were expanded to micro enterprises, agricultural or fishery businesses and medical institutions, but the opposition parties were dissatisfied by the Government's compromises and proposed a new bill for establishing an Organization for Supporting Businesses Suffering from the Higashi Nihon Disaster as a private company with the Deposit Insurance Corporation of Japan and the Agricultural and Fishery Savings Insurance Corporation's investments and the Government's credit guarantee. Finally, the Government again accepted this new program in November and two different Organisations actually eventually started to work. As a result, at least the size of bad loan clearance will exceed ¥2 trillion and can cover many SMEs, including local family businesses as livelihood vocations in manufacturing, retail, services or farming and fishery industries.

6. Conclusions: SME Charter and the way to reconstruction and revival

One year ago the Government approved the "SME Charter," after a series of discussions and public hearings^{*7}. This was obviously originated by the EU's European Charter for Small Enterprises in 2000.

The Japanese Charter declares that SMEs are the driving force of the Japanese economy and central players in the society in the long modern history. Japan is facing economic stagnation originating from the global recession, environmental and energy constraints, a falling birthrate and an aging population. It is essential that SMEs make full use of their power and ability, revitalize the declining local economies, and simultaneously open up a new future for Japan by capitalizing on the growth of Asian and other emerging economies.

The Government will become a key supporter of all activities undertaken by SMEs, make concerted efforts to assist SMEs to fully develop their individuality and potential, encourage the SMEs that are self-reliant, support SMEs that are in trouble, and consider all issues from the SME standpoint. The Government will make its best effort to see all SMEs working as glorious entities and contributing to the realization of a stable and vigorous economy and an affluent people's life.

SMEs are to be regarded as the nation's treasure. On the other hand, limited financial and human resources have kept many SMEs vulnerable to changes originating outside, subjected to unfair trade practices, and exposed to many hardships. This is the very era that requires us to make efforts to overcome hardships, and we must highly value working with creativeness and ingenuity. SMEs are and will be a major players in such works and efforts.

Its 5 fundamental principles are;

- (1) Supporting SMEs as a source of economic vitality, to make full use of their capabilities
- (2) Encouraging SMEs to start up new businesses
- (3) Encouraging the challenges of SMEs to advance into and develop new markets with their creativity and ingenuity
- (4) Enhancing fairness in markets
- (5) Providing the safety net for worry-free business operations of SMEs

Its 8 action guidelines are;

- (1) Upgrading and making thoroughly the management support corresponding to the SME standpoint

^{*7} Mitsui was again a member of the JSMEA's research council on SME Charter.

- (2) Supporting SMEs' efforts to develop and secure human resources
- (3) Creating an environment for easier start-up and business advance into new fields
- (4) Supporting SMEs expanding overseas businesses:
- (5) Enhancing fairness in markets
- (6) Facilitating SME financing
- (7) Creating a system to boost SMEs' contributions to communities and society
- (8) Implementing SME policies comprehensively taking into consideration their impacts on SMEs, and reflecting their voices in policy evaluation

This Charter clearly positions SMEs and family businesses as the key players in local economies and their contributions are decisive to communities and society, which is not simply an overall message, but very vital for the emergency situation and the national crisis. Its 'Basic Philosophy' describes "as central players of the society, SMEs make contributions to their communities and the life of inhabitants, and perform important functions in the succession of traditional skills and culture. Many of small enterprises are family-run and contribute to the stability of their local community."

Unfortunately, before implementing the Charter's philosophy, principles and action guidelines in policy framework, governmental policies and individual activities, the 3.11 disaster severely hit national socio-economic system, local economies, businesses and people's life.

A. After the storm of disaster, cooperation and partnership at all the levels of local community, business community, nations' and world-wide are very indispensable, not only for emergency rescues and help but for long-term reconstruction and revival. Unless solidarity works, almost no business could survive.

B. Drastic development and deployment of new policy framework and individual measures are decisive, and all kind of resources should be mobilised and concentrated under the public, private and citizen partnerships. The national and macro frameworks and the issue of revenue sources are very critical and difficult problem which should be discussed and examined by all the parties concerned^{*8}, but the ongoing realities and difficulties of suffering people themselves must be primary concern, including local business people.

C. Financial supports can be formulated, depending on past painful but constructive experiences at the time of the collapse of bubble economy and the world financial crisis in the 1990s and 2000s.

^{*8} The Government is now consulting with the National Council of Reconstruction, a temporary body of professional researchers, high-profile or representative figures who are invited by PM Kan, concerning a comprehensive and long-term plan, as well as preparing the Basic Law of Recovery.

Then, more attention must be paid on the majority of SMEs' roles, conditions and difficulties, including facilitating finances and encouraging financial institutions' commitment and support to local SMEs.

D. The Charter's principle, "considering all sorts of issues from the SMEs' standpoint," or European Charter and SBA of 2008's "Think small first" principle is very important when considering the objectives, frameworks and processes of local socio-economic revival and reconstruction. SMEs, family business as livelihood vocations are the keystones and majorities of local economies and communities and sustain community lives. Joint efforts between SME business people, farmers, fishermen, local inhabitants, public bodies and financial institutions should be more focused to revitalise Japan from the fundamental base.

E. FNPP problem and still ongoing crisis after the natural disaster is very serious question given to the nation and even to the whole world. However, we must be prepared for the very limit of growth and of too centralised socio-economic system and infrastructure, and for dangerous struggle of uncontrollable achievements of 'scientific breakthrough.' At the same time, we must admit nuclear power is far from cheap energy source, if the innumerable costs of socio-economic losses aftermath, control, protection and recovery expenses as well, are counted. Though we cannot make any easy conclusion in either pessimistic or optimistic way, at least we must think again the basic philosophy of the society and E.F. Schumacher's "Small is beautiful" or Lyle Estill's "Small is possible" ideal must be treated more seriously.

Supposed that the ideal 'Too big to fail,' or actually 'Too big to control' ignited bubble economies in Japan and later in the world, and made it very difficult to create any solutions to the bubbles, or allowed the dependence on uncontrollable nuclear power maybe. To the contrary, "Too small to wipe out" and "Too small to isolate" would be alternative copies for the coming world and suffering local communities.