

# **GRIPS Development Forum Policy Minutes**

**No.9**

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## **Foreword**

The Japan International Cooperation Agency (JICA) has since 2000 been conducting a joint research project on Vietnam's trade and industrial policies under international integration with the participation of Japanese scholars and Vietnamese researchers from the National Economic University, Hanoi. This project inherits the spirit of JICA's previous joint research project with Vietnam (the so-called "Ishikawa Project," 1995-2001), including real-sector orientation, emphasis on field works, and the fostering of long-term and mutually respecting relationship with our counterparts.

We would like to publish some of our policy discussions in the National Graduate Institute for Policy Studies (GRIPS) policy minutes series to introduce the concrete contents of our policy dialogue and invite comments and suggestions from the fellow experts and policy makers.

For more details on the project, please visit:  
<http://www.neujica.org.vn/>

October 2002  
GRIPS Development Forum

## Contents

Intensive Steel Seminar .....	P. 1
Second Intensive Steel Seminar .....	P.13
< Supplement >	
Summary of the Japanese Views on Steel Industry and Trade Policy .....	P.37

## **Intensive Steel Seminar**

Date: October 16, 2000 (8:30-17:00)

Place: Daewoo Hotel, Hanoi

### **<Vietnamese side>**

#### *Active participants:*

Nguyen Quang Thai (Vice President, Development Strategy Institute (DSI))

Pham Quang Ham (Former Director, DSI/ Industry Department)

Do Huu Hao (Director General, MPI/ Institute for Industry Policy & Strategy)

Nguyen Kim Son (President, Vietnam Steel Corporation (VSC))

Pham Chi Cuong (Vice President, VSC)

Nguyen Huu Tho (VSC/Planning and Investment Department)

Hoang Duc Than (Research Member, National Economic University (NEU))

Bui Van Muu (Dean, Polytechnic University/Iron and Steel Making Department)

Ngo Tri Phuc (Polytechnic University)

*Other participants:* Pham Hong Chuong (NEU), Tran Hoe (NEU), Nguyen The Anh (NEU), Dinh Huy Tam (VSC), Nguyen Van Vinh (MPI(Ministry of Planning and Investment), DSI), Vu Thi Ngoc Phung (Vietnam Economic Association), Nguyen Thi Nga (MPI, DSI), others.

### **<Japanese side>**

#### *Active participants:*

Kenichi Ohno (Professor, National Graduate Institute for Policy Studies (GRIPS))

Fukunari Kimura (Professor, Keio University)

Nozomu Kawabata (Associate Professor, Tohoku University)

Takao Aiba (Japan Economic Research Institute)

Nobuyoshi Tanaka (Japan International Cooperation Agency (JICA) expert, NSC)

Toshiki Yabuta (Nippon Steel Corporation (NSC))

*Other participants:* Morimasa Kanamaru (JICA Resident Representative), Daisuke Hosokawa (JICA), Miho Ota (JICA), Tadashi Kikuchi (Keio University), others.

### **<Chairpersons>**

Pham Quang Ham (morning), Kenichi Ohno (afternoon)

### **<Interpreter>**

Dang Dinh Quy (The Ministry of Foreign Affairs of Vietnam)

## [Morning Session]

Opening remarks by Mr. Kanamaru and Mr. Thai (Omitted)

### Presentation-- **Pham Chi Cuong:**

Let me present my personal opinion, as someone who has worked in the steel industry for 37 years. The VSC (:Vietnam Steel Corporation)'s M/P (:Master Plan) has already been presented and approved by the government [for details, see Mr. Tho's comments below]. I have four points.

1. NISW (:New Integrated Steel Works) and separate investments in smaller plants are both needed (two-track approach). The NISW is large and efficient and will be the core of our steel industry in the future. By contrast, smaller plants are less costly and can be established sooner. Decision to build NISW must be made quickly, since free trade will start to bite by 2010 or so.
2. We will initiate the production of flat products, currently all imported, by building CRMs (:Cold Rolling Mill) and HSMs (:Hot Strip Mill). The first HSM should be a prior investment to NISW. If it is built separately, securing the supply of slabs will be difficult.
3. For steel making, NISW is the correct answer. EAFs (:Electrical Arc Furnace) alone will be too small to fill our need and face the shortage of input (scrap).
4. Regarding the rehabilitation of TISCO (:Thai Nguyen Iron and Steel Corporation) and SSC (:Southern Steel Corporation); TISCO's capacity is being expanded to 240,000 tons using Chinese technology, completed by 2001. Additional expansion to 500,000 or even 1-2 million tons, although suggested, is questionable. Far from the port and markets, TISCO faces an inherent weakness of high transport costs. As to SSC, its current performance is good because of (i) cheap scrap, (ii) import protection, and (iii) low-price orientation of users. But these advantages will disappear in the future, and SSC will lose competitiveness. To avoid this, a combination of closing old plants and building new ones is necessary. As a first step, we want to build an EAF plant in Phu My.

### Presentation-- **Kenichi Ohno:**

I have translated the VSC's plans into a spreadsheet model and numerically and graphically evaluated four uncertainties. Simulations are based on the 1998 JICA (:Japan International Cooperation Agency) M/P with necessary updates and subject to further revision [Excel files were provided to MPI, NEU and VSC].

#### 1. *Uncertainty over financing:*

If all finance is borrowed, debt service and current-account deficit will be too large. If a

JV (:Joint Venture) is chosen, no such deficits will occur but future profits must be shared (if successful). Also, a JV means Vietnam will not have full control.

2. *International price fluctuations:*

During the 1990s, steel prices exhibited medium-term cycles of roughly 5 years. The previous JICA M/P assumed high prices of 1997, but if this year's very low prices are used, projected profits will be significantly reduced. Either is extreme. It is certain that prices will fluctuate. In my paper, the range of profitability is shown graphically assuming that instability of steel markets will remain basically the same as in the 1990s.

3. *Tariff scenarios:*

Five cases are examined: full AFTA (:ASEAN Free Trade Area) compliance, zero tariffs, high tariffs, moderate tariffs, temporary moderate tariffs. High tariffs will naturally boost profitability, but actually it cannot be chosen due to international pressure and adverse effects on steel-using industries.

4. *Investment timing:*

Two-track gradualism, single-track NISW construction, and accelerated single-track NISW construction are compared. The last will require an enormous sum beyond Vietnam's financial capacity. The first will need less (but still large) amounts.

**Nozomu Kawabata:**

Short-term profit motive and domestic competition are not enough to strengthen the steel industry, but also the strategies encompassing a long-term vision and international competitiveness are required. Import substitution industries require the same. The most important thing is to establish technical integrity, not technical fragmentation. As in the case of TISCO in Vietnam, there are also some unsuccessful cases of steel investment in India due to technical fragmentation. We have estimated the material flow of the steel industry for the next every five years until 2020 based on the VSC's investment plan that was made available to us. [It was found afterwards that the VSC's investment plan had actually been proposed at an even more accelerated pace.]

There are three advantages in completion of the first BF (:Blast Furnace) around 2016-2017, which we call the gradual approach.

1. Even if the gradual approach is adopted for building the modern NISW, it will be able to sustain technical integrity as long as the appropriate sizes and technical plans are selected. This is important.
2. This slow approach can offer wider options in the future, by expanding the availability of techniques such as Dios and Romelt.
3. CRM1 (:the 1<sup>st</sup> Cold Rolling Mill) and HSM1 (:the 1<sup>st</sup> Hot Strip Mill) can be built independently prior to the NISW without affecting the technical integrity of NISW.

CRM2 and HSM2 should, however, become a part of the future NISW.

However, some drawbacks also exist with this gradual approach; it will be necessary to avoid technical fragmentation forced by political/regional pressure. Also it will be important to adequately cope with the market and price fluctuations. High quality production will be expected so as not to compete with the cheap exports from CIS. As for import protection, high protection should not be applied, as it will hurt domestic steel users. The best solution is to increase competitiveness and form a strong industry that only needs little protection.

I would like to add three other points. First, Vietnam's FDI policy has been unclear and lacks consistency. Why does the Vietnamese government allow so much foreign investment in steel rolling which is not capital-intensive? Secondly, the electricity tariff is too expensive for the healthy development of the steel industry. Third, there is inconsistency between domestic entry policy and external protection policy. The combination of free investment and free trade, or investment restriction and protection would be acceptable, but actually, the government allows free investment in Vietnam's steel rolling while following protectionism externally. This will only encourage inefficient makers to enter and result in excessive competition.

**Fukunari Kimura:**

Under AFTA, protection will become almost impossible by 2006-10, although there may be some room during the transition years. Two points should be mentioned. First, the AFTA deadline—2006 for Vietnam—may be delayed due to Malaysia's desire to protect automobiles, but it will arrive sooner or later. As for the WTO (:World Trade Organization), the days are gone when high tariff ceilings were permitted; some countries, such as Mongolia, had zero tariffs before entering the WTO. Vietnam must also prepare for low tariffs. Second, steel is an industry with potentially large forward and backward linkage. FDI (:Foreign Direct Investment) was key to the creation of supporting industries in other ASEAN (:Association of Southeast Asian Nations) members. If steel is overly protected in Vietnam, high steel prices may discourage FDI inflows and no supporting industries may grow.

**Takao Aiba:**

I am a credit analyst with international experience including China. To me, the VSC's plan for NISW looks too risky and hasty; it is not a project that can be financed on a commercial basis. Although the financial data of the VSC are not entirely open, let us assume a turnover of \$500m, net income of \$6m, and depreciation of \$5-7m. The rule of thumb is that maximum commercial bank borrowing is 10 times the cash flow (net income plus depreciation), which means that the VSC can safely borrow about \$100-150m. On the other hand, the proposed NISW will require \$6 billion—10 times the turnover and a thousand times the profit. This

amount is out of question, from the viewpoint of credit analysis (the first CRM alone, \$100+ million, may be affordable). The VSC considers steel as the backbone of the entire economy. But this will be a very weak backbone in Vietnam. Mr. Ohno's simulation predicts a string of losses up to 2020, but this will mean bankruptcy if it is an ordinary joint stock company. Vietnam must be very careful in steel investment.

**Cuong:**

We admit that the biggest problem is financing and rapid construction of NISW will be risky. But it must be remembered that this is not a VSC project, but a national project with government involvement for the purpose of reducing imports. In other ASEAN countries, BFs are built by the government even though their steel companies are more profitable than us. Of course, VSC cannot finance it alone. As to the concrete steps toward NISW, no consensus exists and I myself am not sure. It will depend on the financial capability of the government and VSC. We hope to complete the first step toward it by 2010, but many problems are already arising.

**Nguyen Huu Tho:**

We appreciate Japanese advice on many aspects of our industry. We too have studied these issues for long. Let me briefly explain the VSC's M/P using transparencies. We have three investment scenarios (base, high, low) up to 2010 [These transparencies were later provided on a confidential basis]. The base scenario builds HSM in 2009, CRM in 2010, and slab production in 2012, as prior investments for NISW. The high case assumes HSM in 2005, CRM in 2006, and slab production in 2010. In the low case, NISW construction will not be started before 2010 (preparations only) while HSM is built in two steps: hot coil production with imported slabs in 2006, and slab production in 2009. This low case is similar to Mr. Ohno's "gradual" scenario.

**Nobuyoshi Tanaka:**

Steel investments should begin with relatively inexpensive and profitable downstream plants, gradually and separately from NISW. As for flat steel production, appropriate capacity will be about 30-50% of domestic demand. Domestic demand for flat products is expected to grow from the current 1 million to 3 million tons in ten years. Timely investment is needed.

As for quality and product mix, Vietnam should target ordinary carbon steel of high quality. To achieve this, appropriate latest proven technology must be carefully chosen. Specifically, 6Hi is recommended for CRM and Coil-Box-Tandem for HSM. Ladle furnace is traditional technology but will contribute significantly to quality and productivity. To produce a broad range of products, BF-BOF (:Blast Furnace-Basic Oxygen Furnace) technology is more suited

than EAF. Long products can be produced by EAF, but flat products will require BF. If EAF is to be also used, choose the latest proven type with easy maintenance.

Metal source also requires careful consideration. In order to secure a stable supply of imported scrap, long-term contracts with a reliable trading company will be desirable. If DRI (:Direct Reduction Iron) is to be adopted, it can lower the dependency on scrap. If domestic coal is to be used, the right kind of DRI technology must be chosen. Smelting direct reduction is not yet established technology and Vietnam should not adopt it now.

### **[Afternoon Session]**

#### **Presentation--Do Huu Hao:**

Steel promotion policy is still under consideration by the government. I will present my personal view. First, the priority should be import substitution to meet domestic demand. At the same time, product diversification from construction steel to hot rolls, cold rolls, special steel, alloys etc. should be attempted. Second, we must combine traditional integrated mills (BF-BOF) and other specific methods (DRI, EAF-CC (:Continuous Casting), etc.). Ways to utilize domestic natural gas should be explored. Third, investment financing will mainly be domestic, but the possibility of foreign JVs will not be ruled out. Fourth, downstream segments grew during 1991-2000, but emphasis must now be shifted upstream during 2001-2010. As for the timing of NISW, various opinions exist—this issue is of course related to the feasibility of upstream investment.

Domestic steel demand is expected to grow robustly in the future. We hope to achieve a self-sufficiency ratio of 70-80% by 2010.

The big problem with our steel industry is shortage of domestic billets. We aim to boost billet production from the current 400 thousand tons to 1.0-1.4 million tons during 2001-05, achieving a sufficiency ratio of 50%. This will require development of domestic mines in Thai Nguyen, Cao Bang and Lao Cai. Locations of CRM, HSM and EAF-CC mill should be carefully selected. The capacity of SSC must be expanded. We also need pre-F/S (Feasibility Study) and F/S for NISW with the use of Thach Khe ore. We already have a few feasibility studies, but with different conclusions. I personally support the use of Thach Khe ore and the initial capacity of 2.5 million tons, with later expansion.

During 2006-10, three steel industry centers should be established: Thai Nguyen in the North, NISW in Ha Tinh (North Central Region) using Thach Khe ore, and SSC in the South. The

biggest obstacle is financing. As Mr. Aiba noted, VSC alone cannot finance it. The government should mobilize all possible means including long-term subsidized loans. High tariff protection cannot be used, but specially reduced electricity and gas prices are worth consideration.

**Presentation--Toshiki Yabuta:**

I am a flat product specialist with 25 years of experience. Steel is an industry with extensive forward and backward linkage. It is a heavy industry requiring complex and delicate processes which must be integrated into one coherent system. If everything goes smoothly, it takes 21 days from injection into BF to final products. But even one hitch greatly lowers operation efficiency. There are only a few steel mills in the world that achieve consistently high operation efficiency. Low operation ratios are common even in Europe and America. Exceedingly low efficiency of 50-60% is often observed in developing countries. This is so because producers purchase machinery without acquiring necessary operation and maintenance skills. Demand constantly diversifies while machinery constantly depreciates. To fill this gap, frequent maintenance and occasional revamping are required.

Moreover, a large number of managers and engineers are needed to operate these integrated machines. Also, one NISW employs great amounts of computer memories and terminals, and tens of thousands of cranes and motors. You must understand how difficult it is to operate this complex and huge system on a commercially viable basis. In our company (NSC), a large number and a great variety of engineers are at work. Computer software alone is so voluminous that it is managed by one of the largest software companies in Japan. I would like to emphasize that the steel industry requires the extensive support of related technological systems.

**Presentation--Nobuyoshi Tanaka:**

I would like to comment concretely on the proposed NISW. At present, there are 141 large BFs operating in the world, of which 15, mainly in Asia, were added in the 1990s. The crucial thing about BF today is large capacity and longevity. This is true also in Japan, where firms try to extend the life of large BFs as much as possible. To achieve this, a complex high-tech system, unthinkable before, is utilized. If a new BF is to be built in Vietnam, its capacity should be at least 3,000m<sup>3</sup> (2 million tons/year) and if possible, over 4,500m<sup>3</sup> (3 million tons/year). Large BFs are more efficient and can compete with newer processes such as Corex, Romelt, Dios, etc.

The construction cost of NISW, measured in hot coils, will be about \$1,000/ton. Assuming an interest rate of 7.5% and maturity of 10-20 years, the depreciation cost will be \$100-150 per a

ton of hot coils. If a medium-sized BF is built in inland Thai Nguyen, its cost will be much higher than when a more appropriate site is chosen. Such a plan will be unrealistic.

NISW, requiring huge investment, should be built in the following steps. First, build smaller downstream plants (HSM, CRM, etc.) separately from NISW. Second, consider coal-based DRI or smelting reduction which can use domestic resources. These should be linked with proposed billet centers. Third, NISW should be built from downstream and only when domestic demand is large enough. After completion, steel production by NISW and EAFs (i.e., billet centers) should meet 40-50% of domestic demand.

**Ohno:**

As a co-chairperson, let me sum up the discussion so far. The biggest question is of course the speed of NISW construction. In addition, we have identified the following issues:

1. Should Thach Khe be used as a main input to NISW, or should ore be imported?
2. Should TISCO be further expanded to become a steel center in the future?
3. What is the proper tariff system?

In free discussion, please refer to these points as much as possible.

**Bui Van Muu:**

Let me first respond to the co-chairperson's points. First, NISW should be built before 2010. Preparations should begin immediately. Second, thorough F/S of Thach Khe ore has not been conducted, and no consensus has been reached. In my opinion, Thach Khe ore—and other domestic raw materials—should be supplementary inputs after 2010. Exploration should however begin right now. Third, Thai Nguyen is far from both materials and markets and is therefore not a good candidate for a steel industry center. TISCO's capacity should not be expanded beyond 500,000 tons/year. Fourth, temporary tariff protection is necessary, especially in initial years.

Absorption of management skills will take time, and we must immediately begin to learn it. We thank JICA for all the studies in the past, but the M/P must be translated into specific investment plans. Financing, management skills, domestic raw materials must also be considered in designing concrete steps.

Primary concerns for the near future are: (i) rehabilitation of existing plants to improve technology and supply capacity; (ii) securing scrap supply, expand efficient EAFs and close inefficient ones; (iii) methods and processes to utilize domestic resources must be studied; and (iv) build a plant to produce various alloys, to meet diverse demand.

**Hoang Duc Than:**

JICA's studies are academically respectable, but for practical applications, we need a broader context including financing and cost-benefit analysis. The steel question is not of one company or one industry; steel is a national industry and the government should officially support it.

The interests of politicians and the steel industry (producers and importers) are often in conflict. Some politicians want to build NISW at any cost, but that will not be sustainable in the long run. Private importers are after their own short-term profits and welcome rising imports. To promote steel, profitability of VSC is an inappropriate indicator. Investment decision must be made by an economy-wide criterion. Even if VSC encounters losses, steel-using industries may develop and become competitive. If so, steel promotion is worth its cost.

It is important to jump to the latest technology. Otherwise, low competitiveness, losses, and permanent subsidies will be the result. This cannot be achieved by one company alone, so official help is essential. Let me point out four objectives. First, financing is beyond the VSC or government budget. Inflow of FDI is still not enough. The government should designate steel as a high priority industry, much above present treatment. Second, we need F/S on the usability of domestic raw materials. Third, I believe the domestic market is sufficiently large, but no precise projections have been made. Fourth, despite Mr. Yabuta's contention that steel requires a complex technological system, I believe Vietnam can quickly absorb necessary skills. I do not worry about it.

NISW should be completed after 2010. But preparations must be made before 2005, and construction must start following that.

**Ngo Tri Phuc:**

I was much interested in the presentations by JICA and VSC. For Vietnam, the only advantage is that of a latecomer; we can learn and introduce optimal technology from other countries. On the other hand, we have many disadvantages: low competitiveness due to high cost, outdated equipment, quality good enough only for construction bars, etc. As Mr. Kimura points out, we must join AFTA and compete internationally. But I cannot agree with the idea that small plants should be initially built. From the beginning, we should establish modern large-scale steel works.

I agree with Mr. Than that the biggest problems are financing and the use of domestic materials. Financing must be the responsibility of the government. As to the usability of

domestic resources, a few foreign studies exist, but no study has been conducted by the Vietnamese. We ourselves must study and come to a conclusion, be it Thai Nguyen expansion or Thech Khe ore. Some people have warned that Thach Khe ore is of low quality, but technical problems can surely be overcome in the future. Others noted high transportation cost of Thai Nguyen, but this is no problem either. Since Vietnam is now investing in transportation infrastructure as a matter of priority, shipping cost for Thai Nguyen will be reduced, sooner or later. In conclusion, NISW should be established at the earliest date. The year 2010 is not soon enough.

**Kimura:**

Even if gradualism is adopted, under international integration, the VSC's strategy will become extremely important. The key issue is how to deal with inefficient units. With AFTA, some outdated plants will inevitably be driven to closure—but that is good. The highest priority for the VSC is to design a policy of productivity improvement so that relatively efficient plants can survive. TISCO is an inefficient unit with excessive employment. Under integration, good plants should not be sacrificed for the survival of bad plants. Similarly, domestic materials should be used only when they are very cost-effective by international standards.

**Ohno:**

Mr. Phuc said that Thai Nguyen's transportation cost would be reduced in the future. But we already have a super highway from Hai Phong port to Hanoi, and from Hanoi to Thai Nguyen the road is not so bad either. Even so, Thai Nguyen suffers from high transportation costs and this can hardly be lowered in the future. As for Thach Khe ore, I understand that its high zinc content is a serious problem for BF operation. It is much better to import the kind of ore with ideal quality and composition. The profit margin of the steel industry is very slim, and any compromise in plant location or materials will be fatal in the international survival race.

**Yabuta:**

We also used high-zinc ore in Japan thirty years ago, but that required frequent stoppages and maintenance of BF, which was very inefficient. We no longer use such ore, and no engineer at our company (NSC) remembers the technology for it. We now face another type of high-zinc problem: how to extract zinc contained in automobile scrap.

**Phuc:**

Zinc in scrap and zinc in ore are completely different problems.

**Nguyen Kim Son:**

Our steel industry is facing great challenges in the age of integration. It is imperative that we

should incur no losses while steel is being supported. Vietnam should closely examine the feasibility of each proposed steel project. VSC has a two-pronged strategy: short-term independent investments and long-term NISW. The former consist of seven projects such as TISCO and SSC rehabilitation, billet centers in the North and South, the first CRM, the first HSM, etc.

One question is whether the first HSM should be a prior investment to NISW or separately built. If separately built, stable supply of scrap may not be secured. For this reason, we believe the first HSM should be part of future NISW.

We have no consensus on the timing of NISW construction. Some say the first BF should be completed by 2010, but we at VSC consider 2012 to be a more reasonable target. Mr. Tanaka recommends an even later date. If we want to use temporary protection, early construction will be better, before the AFTA deadline. But if we think of financing, a gradual approach will be suitable.

Regarding steel, we have many disagreements in Vietnam. First, we at the VSC think that there is no input supply problem with CRM but slab supply for HSM may be difficult to obtain. Second, the location of NISW is hotly debated. Some propose to build NISW in Thai Nguyen with the capacity of 1.3-3.0 million tons, but we disagree. Thai Nguyen is displaced from materials and markets, hardly an ideal location. NISW must be at a port in Central Region. Third, as to the timing of NISW, the proposal of VSC aims at the first BF in 2012, covering 50% of domestic demand. Our M/P has already been submitted and approved by the government. Before and after the approval, our views remained the same.

Closing remark--**Ohno:**

In steel promotion, financing is among the biggest problems and it appears there are only two ways to overcome it. And at present, neither way faces a bright prospect.

The first is for government to designate steel as the highest priority national industry and pour a large amount of soft policy loans into it. But whether the government will do so, and whether steel deserves such a privilege in the first place, remains uncertain. People who study steel like us often develop emotional attachment to this industry, but it is not the only industry in Vietnam. The merit to the national economy as a whole is a more important concern.

The second is to find foreign partners willing to share costs. Cooperation with foreigners will also facilitate information collection, technology transfer, shock response, etc. On the other hand, joint venture means the Vietnamese side will not have full control of the projects for the

pursuit of national interest. Foreign investors are often interested only in short-term commercial profits; they have no obligation to act on behalf of Vietnam's industrialization. Incidentally, ODA (Official Development Assistance) funds are no longer available for industrial projects like steel.

Let me summarize the Japanese view presented today. We are not against Vietnam's plan to establish NISW as a long-term goal, but it must be achieved gradually and in two tracks, because of financial constraints and the necessary lead-time to learn the skills to manage a huge plant complex and to cope with integration shocks. We do not consider it proper to finalize the site of NISW and begin to commit financially to it at present.

I thank your active participation in this seminar. Members of Trade and Industry Group, let me again remind you that we are to submit our drafts by November 15 and exchange comments prior to Hanoi Workshop in December.

[Produced by Kenichi Ohno and Tadashi Kikuchi]

## Second Intensive Steel Seminar

Date: October 25, 2001 (8:30-16:35)

Place: Conference Room in the head office of Vietnam Steel Corporation (Hanoi)

As an important part of the research activities and policy dialog of the NEU-JICA joint research project, a one-day seminar to discuss the current and future policy of Vietnam's steel industry was held in Hanoi on October 25, 2001. This was the second such meeting. The seminar was hosted by Mr. Pham Chi Cuong, our project member and Deputy General Director of Vietnam Steel Corporation, and attended by concerned ministries, Japanese and Vietnamese steel experts, and project members.

The steel industry master plan was approved by the Prime Minister in September 2001 (No.134/2001/QD-TTg). It was considered very important at this time to evaluate this Decision and make suggestions for concrete implementation. The contents of the Decision were explained by the VSC and discussed extensively by the panel. Japanese experts noted ambiguities and potential problems in the master plan and advised on the technical and managerial choices that VSC was about to make. Concrete technical options and product targeting were proposed to meet the shifting market demand. The MOF presented its views on protection on the steel industry in the future, which was also lively discussed.

The contents of the entire discussion are reported below. All statements are on the record.

### <Vietnamese side>

#### *Active participants:*

Nguyen Kim Son (President, Vietnam Steel Corporation (VSC))

Pham Chi Cuong (Vice President, VSC)

Tran Minh Huan (Director, Ministry of Industry (MOI)/International Relation Dept)

Nguyen Thi Lan (Ministry of Finance (MOF)/Import-Export Tax Division)

Bui Van Muu (Dean, Polytechnics University/Iron and Steel Making Department)

Hoang Duc Than (Research Member, National Economic University (NEU))

Tran Van Hoe (Research Member, NEU)

Pham Hong Chuong (Project Coordinator, NEU)

Truong Chi Trung (Ministry of Planning and Investment(MPI) in charge of steel industry)

*Other participants:*

Nguyen Huu Tho (Director, VSC/Planning and Investment Dept)

Nguyen Phuc (Deputy Director, VSC/Planning and Investment Dept)

Nguyen Van Thong (Director, VSC/Engineering Dept)

Truong Dinh Viet (Acting-Director, VSC/Im-export Dept)

Dang Thuc Khang (Director, VSC/Accounting and Financial Dept)

Vu Truong Xuan (Deputy Director, VSC/Engineering Dept)

Dinh Van Tam (Deputy Director, VSC/Office Cabinet)

Trinh Khoi Nguyen (VSC/Planning and Investment Dept)

Nguyen Van Nghiep (Dean, Polytechnics University/Integration-Material Technology Faculty)

Than (Vice-Dean, Polytechnics University/Integration-Material Technology Faculty)

Nguyen Minh Ngoc (Research Member, NEU)

Hang (Cong Nghiep [Industry] Newspaper)

Reporter (Tap chi Khoa hoc [Science Journal])

**<Japanese side>**

*Active participants:*

Kenichi Ohno (Professor, National Graduate Institute for Policy Studies (GRIPS))

Nozomu Kawabata (Associate Professor, Tohoku University)

Nobuyoshi Tanaka (Japan International Cooperation Agency (JICA) expert, NSC)

Toshiki Yabuta (Nippon Steel Corporation (NSC))

Yoshiyuki Sakaguchi (Nippon Steel Trading Co.)

*Other participants:*

Hitomi Asano (Attaché, Embassy of Japan)

Koji Nishimiya (JICA)

Chiaki Konuma (JICA)

Kuniaki Amatsu (JICA)

Taro Hamada (GRIPS)

**<Chairpersons>**

Nguyen Kim Son, Tran Minh Huan, Hoang Duc Than and Kenichi Ohno

**<Interpretation>**

Translation Dept, The Ministry of Foreign Affairs of Vietnam

## [Morning Session]

Opening remarks by Nguyen Kim Son (Omitted)

Presentation-- **Pham Chi Cuong:**

“The Real State and Future of the Steel Industry in Vietnam”

The development stages of the Vietnamese steel industry in the past are explained according to the presented paper. Since 1990, the steel industry has achieved strong development. The VSC (:Vietnam Steel Corporation) plays a key role in the industry. Even so, the steel industry faces a number of serious problems. Its technology is obsolete, capacities of furnaces and machines are too small, and production costs are higher than the world average.

The industry’s M/P (:Master Plan) is based on the JICA Plan and revised further by domestic experts and various ministries. In August 2001, the Vietnam government approved the M/P up to 2010, outlining key directions for future development of the Vietnamese steel industry. This was subsequently issued as the Prime Minister’s Decision. However, the M/P will be revised as necessary to reflect a new situation in the international and domestic markets in the next 10 or 20 years. It is not something fixed permanently.

The major targets of the M/P include the following.

1. The steel industry must maintain stable growth to meet the requirements of the national industrialization and modernization, gradually becoming a pillar of Vietnam’s industry.
2. Closely coordinate the use of domestic and foreign resources. Opportunities for international cooperation and labor division should be fully exploited.
3. Balanced development between steel making and steel rolling is essential for reducing billet imports.
4. Product diversification and establishment of standards are needed to meet the market demand.
5. Investments should be directed to the VSC (which now has a 31% share) to become a leading corporation in domestic steel production while encouraging other economic sectors also to participate in steel production.
6. Exploitation of domestic natural resources, especially iron ore, should be considered.
7. Taking rational steps to develop the industry in the current difficult condition for fund mobilization. Mobilize different sources including state investment loans, which will be the main source in the first period, and foreign loans with government guarantee.
8. Development of human resources and technology should be given more attention.

The detailed investment plan for 2001-05 was shown in the table. The total targeted investment from 2001 to 2005 is approximately 1 billion USD in the M/P, and this does not include any investment for new integrated steel works. The financial source remains unclear. Since the government must also invest in other projects, it has only limited funding for the steel industry. Finding the remaining balance will be the responsibility of the VSC.

**Nozomu Kawabata:**

I would like to ask three questions about the M/P.

First, the M/P includes investment in the production of long products. However, under the current oversupply of long products, more investment would surely make the future situation worse. Why does Vietnam want to do this?

Second, did the government decide to exploit Thach Khe iron ore mine, which is already included in the M/P (450 billion VND)? Also, has the detailed construction plan for an integrated steel works been proposed with respect to location and material procurement?

Third, the table in the Cuong paper indicates that the location of HSM1 (:the 1<sup>st</sup> Hot Strip Mill) will be in the South (Phu My), which is appropriate from the viewpoint of efficiency, while the Prime Minister's Decision leaves it blank. Has the location of HSM1 been decided?

**Cuong:**

Construction of the new long product mills is to replace the old, inefficient mills. That will not add to the nation's capacity but will make, the VSC more competitive.

As for the Thach Khe mine, the Vietnamese government is now conducting a pre-F/S (:pre-Feasibility Study) in cooperation with Russia, especially regarding future processing and using high-zinc ore. This will be completed in two years. If the result is favorable, the government will assign the VSC to carry out a full F/S with the Russian partner. The amount included in the M/P is the cost of F/S, but it may not be used if the pre-F/S turns out to be negative.

The location of HSM1 has not been decided officially. The table in my paper reflects my personal view. The Japanese experts have already raised the issue, and we need to consult with more international experts before the final official decision is made.

**Kawabata:**

The location of HSM1 should be decided as soon as possible. Otherwise, the construction plan to meet the domestic demand will be delayed.

**Tran Minh Huan:**

The Ambassador of South Africa asked me about the Thach Khe situation. They are also interested in the possibility of exploitation.

**Hoang Duc Than:**

Mr. Cuong presented four missing links in the Vietnamese steel industry: capacity, market-orientation, management and skills and human resources. May I ask two questions?

First, in the resolution of the 9th Party Congress, very ambitious goals are presented for the steel industry, including 1-2 integrated steel works, producing flats and sheets, and domestic rolling capacity. These targets are quite high. By what concrete measure will you achieve them?

Second, the domestic market share of VSC has declined from 95% previously to a mere 31% today. With this background, what is the roll of the non-state sector in the construction of the new integrated steel works and other investments?

**Nguyen Kim Son:**

The four shortcomings mentioned above are permanent. But we cannot stop here. There is no way but to go forward and develop steel; there is no other choice.

It is true that the targets of the M/P in its first phase, including billet production, are ambitious and will be a very heavy burden on us in financing, human resources, infrastructure, etc. Even so, I am sure we can meet this challenge. The billet centers in the North and South are already approved.

Difficulties we now face are largely global. International competition is very tough. Even without exporting, strengthening competitiveness is necessary to meet the requirements of the domestic market under stiff international competition. But some protection, as shown in the Ohno paper last year, is needed. Even in the process of integrating into the WTO (:World Trade Organization) regime, some level of protection is permitted.

As to the role of the non-state sector, the government does not make any preference for or discrimination against any sector within any particular industry, including steel. Although the share of the non-state sector is increasing, it cannot develop the steel industry alone. Since capital requirements are very high, many sectors, including the VSC, must participate in its development.

**Nobuyoshi Tanaka:**

The new rolling plant in Da Nang listed in the Cuong paper is not included in the M/P of the government. Under the situation of overcapacity in rolling nationwide, how is the market to be divided among the VSC, joint ventures and the private sector?

I would also like to hear more details on the proposed F/S of the Thach Khe mine to be conducted by the Russian team.

**Son:**

You are right, the Da Nang rolling plant is not included in the official M/P. But in order to improve competitiveness and raise output of VSC to meet the future demand, we believe new rolling plants need to be constructed, raising the market share of VSC to 54% by 2005. The old plants in Thai Nguyen must be rehabilitated and a new Da Nang plant must be built to keep our presence in the market. Otherwise, VSC will be marginalized. The proposed Da Nang plant will be in the center of the Vietnam, 700 km away from the steel production centers. This distance will be an advantage to the new plant.

Russia's first F/S on Thach Khe dates back to the 1960s. They made a thorough study of it and other teams also conducted similar studies. The ground was dug and samples were collected. Russia has two steel mills using ore with high-zinc content of 0.07-0.1%. Russia can make use of their own experience and technology in conducting the Thach Khe F/S. It is also less costly to ask Russia to do an F/S. The pre-F/S will make an assessment of the mine's feasibility, including infrastructure, topology and processing technology. If we receive a favorable result, we go on to the F/S.

**Kenichi Ohno:**

I wonder what is the role of the public sector in the development of the steel industry. If the VSC tries to participate in all branches of steel production for fear of marginalization, including long products which are now in oversupply, it will aggravate the problem. The role of the public sector should be precisely to avoid such wasteful investment by issuing proper

warning signs to the private sector and execute investment coordination. To join the race for overproduction is not the right target. The proper role of the public sector is to initiate the production of flat products and to increase billet production which no private firms are willing to undertake because of uncertainty and the lack of capital, in order to adjust the imbalance in steel supply.

**Cuong:**

Now I come back to the question Mr. Kawabata and Mr. Ohno raised. The VSC's plan is to replace many existing old rolling mills by new investment. This is true both for Thai Nguyen and Da Nang. The total production capacity of long products will not be increased. The Prime Minister also instructed not to increase the capacity of long products especially by local authorities. For now, no more licenses will be issued for the production of long products.

As to Thach Khe, I personally took part in the bilateral talks where Russia agreed to do the pre-F/S. They proposed to study the following two aspects, namely the exploration of the mine and the processing of ore to reduce the zinc content to less than 0.04%. But we still need high quality ore for the blast furnace. As we said before, whether this pre-F/S will lead to a full F/S is uncertain at this moment.

**Presentation--Nobuyoshi Tanaka:**

“The Selection of the Most Appropriate Process for Steel Production”

As a JICA expert, I worked daily with VSC top management for three years. This is my first return to Hanoi after six months.

It is not unreasonable to expect Vietnam's steel demand to continue to increase vigorously in the future. Regarding long products, the target of supplying 80-90% of domestic demand is desirable. Large-size section, wide flange, large-diameter bar and other special steel had better be imported, because domestic demand is too small and investment to produce them is too large.

To increase capacity by new investment, the gradual, two-track approach is recommended.

Regarding flat products, 30-50% of market demand for cold rolled steel should be supplied domestically. It is not wise to enter into the market of low quality cold rolled products, since such a market is being flooded by cheap Russian steel and a new investment will not produce any profit. One-stand reverse CRM (:Cold Rolling Mill) is recommended for ease in quality control and handling thin materials. Here again, special steel should not be produced for the same reason.

As for HR (:Hot Rolled) steel, domestic demand for thin HR coil is likely to rise. A compact tandem HR mill with six stands and finishing which can handle from thin to heavy materials is recommended.

EAFs (:Electric Arc Furnace) for long products with state of the art technology, including the LF (:Ladle Furnace), will shorten time for making steel. CCC (:Continuous Continuous Casting) will improve productivity.

With regard to the choice between BF-BOF (:Blast Furnace-Blow Oxygen Furnace) versus other technology, we must consider the global shortage of coke in the future. As the life spans of many existing coke ovens will expire in 2010-2030, it is essential to consider whether to build new coke ovens or to adopt an entirely new smelting process. In either case, there are both merits and demerits. New smelting technology is developing, but its speed is uncertain. It is also possible to produce flat products with EAF-made steel with much lower cost (about half), but the quality is low and products are limited. Only the US has succeeded in commercializing this method, but the US market is huge.

As for BF (:Blast Furnace) proposed for a future integrated steel works, we can learn from international experience. BFs in landlocked areas are uncompetitive; all such BFs in EU have been shut down or replaced by EAFs. In Japan, BFs have large capacity, with the average size of 3,580m<sup>3</sup>. Meanwhile, bars and wire rods are all produced with EAF only, no BF-made steel is used for these products.

In Korea, POSCO (:Pohang Iron and Steel Company) has many BFs of the same size (3,800 m<sup>3</sup>), which reduces investment and maintenance costs. Their Corex technology is more efficient than a small BF but less efficient than a large BF. EAFs are efficient but their product prices are low.

Taiwan faces a shortage of crude steel; their BFs are inefficient. We can also draw many other lessons from the experiences of China, India, Brazil and South Africa.

In conclusion, I would like to repeat the two key recommendations. First, produce flat products with good quality, in order to avoid head-on competition in the poor quality market. Second, Vietnam must be very careful in the use of domestically available resources. High zinc ore is unsuitable for BFs. Even if you increase the coke rate, productivity will be low and BF life will be shortened. I understand VSC is currently contemplating an F/S on domestic ore. Even if it yields a positive result technically, we still have the question of cost effectiveness.

Presentation-- **Toshiki Yabuta:**

“Technology Transfer by Technical Cooperation in Steel Industry”

In technology transfer in steel, Japan has been a net exporter since 1994. In steel products, Japan has been a net exporter since the 1970s. There are four types of technical cooperation: diagnosis, consultation, training and information. All these are known as “software know-how transfer” and not patent licensing.

The steel industry is a heavy industry, but it is quite unique because it needs a large amount of know-how type technical cooperation for efficient operation. Through-process improvement and flat rolling improvement are the two major areas of technical cooperation in the steel industry.

There are seven secrets for a successful production of flat products:

1. Selection, design and installation of necessary and sufficient equipment
2. Systematic and continuous training of operators
3. Theoretical and practical training of maintenance crew and regular monitoring of equipment
4. Securing material coil of good quality
5. Strict policy and appropriate organization for quality control
6. Accurate market research and quick action
7. Optimal production control system

Technology is influenced significantly by human factors. This is a major difference between technology and science. Therefore, technology is affected by the cultural feature of each country.

The following points are typical patterns of failure in installing new equipment: (1) lack of equipment capability; (2) long delay and poor performance in the startup period; (3) use of an unsuitable mathematical model; (4) wrong selection of the manufacturing process; (5) insufficient survey on quality requirement of the market. These failures are frequently observed in the introduction process of new technology especially in the field of flat rolled products.

The problem almost always arises with technological know-how and not equipment itself. Production of cold rolled products is quite different from iron making, steel making or hot rolling. In the cold rolling process, quick response, beauty of the product, and the sense of “area” are the key factors.

**Cuong:**

Mr. Tanaka recommends that VSC produce long products to meet 80-90% of the domestic market, and flat products to meet a lower percentage of demand, i.e. 30-40%. One of the practical reasons why Vietnam cannot produce all its steel is lack of investment funds.

According to his advice, Corex and Romelt may have a better chance than a big EAF. But these processes also have limitations. They require better quality coal and lump ore, which is difficult to supply in Vietnam. These methods are not implemented in many countries. Russia does have these, but its production is only in small amounts.

**Tanaka:**

It is not wise to meet all domestic demand for flat steel, because a large part of this demand is of poor quality. While there are many customers who want to get only low price and low quality, such a market does not bear any profit for a newly constructed rolling mill, with a very stiff competition from Russia and Ukraine offering ultra low prices. Vietnam must aim at higher quality flat products.

Efficient smelting reduction will be realized perhaps in 10-30 years; it will take a long time. This method was first implemented by South Africa and India. They did so because their iron ore and coal are not of best quality, so they cannot be used for normal steel making. Three years ago at the IISI (:International Iron and Steel Institute) meeting, these countries announced their plans to shift from BF to smelting, step by step. They claim this would also reduce pollution. India may adopt Romelt in the near future too.

Some EAFs are very efficient and these will continue to exist in the future. Small BFs in landlocked areas in EU have been already replaced by these EAFs. If Vietnam improves efficiency of the existing EAFs through rehabilitation and consolidation, two efficient EAFs in the North and three in the South should be sufficient and be operated to produce necessary billets. CCC is desirable.

**Bui Van Muu:**

If Japan has already studied the Romelt process, please let us know its results. Can Vietnam, which has no high-quality coal but only anthracite, apply this process?

**Tanaka:**

It is a difficult question, but let me try.

Romelt is possibly a good idea for reducing the initial investment because its investment cost is lower in comparison to other steel making processes. But in operation, BF is more efficient; it uses only half the coal compared with Romelt. The key for a successful Romelt operation is how to efficiently utilize a huge amount of generated gas as a by-product. One way is to use it for a power plant, but then the investment cost for that plant will have to be considered. In South Africa, ISCOR has already constructed Corex combined with DRI (:Direct Reduction Iron) a few years ago. In order to improve quality of products by using low quality materials, such as high zinc proportion, this combination might be appropriate for Vietnam. But overall, the technology still belongs to the future.

The domestically available anthracite can be utilized for the commercial coal-base DRI plant. Japan already uses special coal produced from the rotary hearth method. Anthracite can also be used for injection into the BF.

**Cuong:**

You say that small BFs have been mostly shut down in the world. What proportion of steel do BFs produce in Japan?

**Tanaka:**

In Japan, BFs produce 68-70% of steel. We have a small capacity of EAFs relative to demand, so scrap is exported. In EU, EAFs produce 40% of steel. In Brazil, EAFs produce only 20%.

**Ohno:**

With all respect to Russian scientists and engineers, we must be careful. Russia is a transition country like Vietnam. It is not famous for economic efficiency or international competitiveness. As we know, Russia exports steel at extremely low prices ignoring cost. I am certain that Russian experts can solve technical problems of high zinc content etc. but Japanese experts are more concerned with demand side and international cost competitiveness, not just technical possibility. In evaluating the Russian reports, VSC must also add this perspective.

**Cuong:**

Not only Japanese experts but experts from other countries also warn against the Russian studies. Because Russia recently moved to the market mechanism, the country may not be good at building efficient projects. The Russian pre-F/S might not fully evaluate market factors such as demand for iron ore. So we will be very careful. With regard to market

research, we have to do it ourselves.

**Ohno:**

When a developing country establishes a new domestic industry, it is customary to start with low quality, mass produced products. As the country accumulates experience and technology, step by step, the product mix moves up to more high-tech products. However, in the case of the steel industry, I do not think you can do this. If you go to low quality, mass produced steel products, you will have to directly compete with unreasonably low prices of Russia and Ukraine. Your project will incur huge losses in the initial years, and it will be judged a failure.

Your CRM1 (:the 1<sup>st</sup> Cold Rolling Mill) should not directly compete with Russia and other CIS (:Commonwealth of Independent States) countries. If you fail with CRM1, there will be no money or investors for a HSM. That will be the end of the modern steel industry in Vietnam.

Investment in steel is very expensive. Naturally, the government tries to economize on the investment cost. It wants to buy the cheapest equipment. But if you do this, your competitor will be Russia and the project will fail, with all money wasted. It is difficult to make a jump in technology, but in the case of Vietnam's steel industry, a medium-sized jump is called for. You must produce not low quality but medium quality from the beginning. This is a big challenge for a country like Vietnam at the premature stage of industrial development.

**Son:**

Japan has extended much assistance to the VSC. We at the VSC also examined various technical options. Non-coke technology is not yet put to practical use. We believe the best technology for steel making is BF-BOF. As to Romelt, there will be a 10-30 year wait.

My desire in the next five years is as follows. After the pre-F/S on Thach Khe is completed, there should be an F/S for the NISW (:New Integrated Steel Works). We hope to receive JICA assistance on both mines and NISW, possibly beginning in 2004 or so. JICA has extended much assistance, but it still remains an unborn baby. If the baby is not born, it is very painful to the mother.

**Yoshiyuki Sakaguchi:**

I have been in the steel trading business in Vietnam for five years. I go to the actual market every day throughout this country. Market research is crucially important.

In my opinion, Vietnam's demand for steel will reach 8-9 million tons in 2010, not 6 million tons as forecast by the VSC. Imports of Japanese steel are also increasing. 700,000 tons will be imported this year, of which 200,000 tons are billets and 250,000 tons are hot coil. This is a "catch-up" demand and is going to rise further.

The key question are: how will the VSC operate, even with new plants, in this increasingly competitive market? And how and whether to establish upstream processes?

**Son:**

Last year, the actual demand was 2.8 million tons against projected 2.5 million tons. This year also, the actual demand is already higher than projected in the M/P. If the demand continues to increase like this, it will reach 5 million tons by 2005, much higher than projection.

Regarding the upstream issue, the M/P aims to strengthen both upstream and downstream. Demand in 2010 may well reach 8-9 million tons. In that case, the integrated steel work will be able to meet only half that amount.

**[Afternoon Session]**

**Presentation-- Nozomu Kawabata:**

“Steel Market and Investment Strategy in NIEs (:New Industrialized Economy) and ASEAN Economies: Sheets and Strip Case”

Development of the domestic market with vertical linkage is a key factor for the steel industry. It is difficult for a developing country to establish an export-oriented steel industry, so most demand must be found domestically. Regarding the domestic market, the first point to be noted is that Vietnam's market is relatively small compared with other developing countries, but it is expanding rapidly. The second point is relative intensity of steel use. Developing economies like Vietnam are steel intensive economies. The third point is that a large part of domestic demand is for products with low levels of processing. In short, not only quantitative expansion but qualitative upgrading is important.

For the construction of CRM and HSM in Vietnam, the experiences of other ASEAN countries are instructive. Most of producers in ASEAN cannot produce high-grade sheets. Two things should be remembered for the Vietnamese industry. First, mills invested by foreign enterprises are showing superior technological performance. Second, technological

performance is the necessary but not the sufficient condition for success.

Currently, international steel prices are depressed. Two things can be said about this. First, any producer will have difficulty in competing with cheap products from Russia and Ukraine. Second, with respect to CIS products the price margin between hot coil and cold coil is very narrow. If the new CRM in Vietnam sells cold coil at the same price as the CIS products, it cannot make profits even if it uses CIS-made hot coil as an input.

In Vietnam, we see no market for high-grade products and no profit for low-grade products. Under these circumstances, the middle range market should be the main target for the new CRM and HSM in Vietnam. Vietnamese companies should concentrate their effort to establish clientele in this market. They should listen to both immediate customers and end users. They should promote use of steel for industries as well as households.

If CRM1 succeeds in building customer confidence in the middle range market, its operation will be efficient initially because its supply capacity will be less than domestic demand. However, there is a problem in later years. According to the approved M/P, when CRM2 and HSM1 become operational by 2010, the domestic supply of CR is 805,000 tons while its demand is expected to be 501-651,000 tons. Implementation of the M/P will create an oversupply. How can this be?

**Son:**

Our investment strategy depends on the market size. The implementation of the investment projects will be revised according to the actual market size, and it can be delayed if oversupply is foreseen. Mr. Kawabata's calculation seems correct, but demand forecast is still uncertain. What we need to do first is to conduct a full F/S with all elements included, especially a further demand research. The basis of investment should be the market, and not political will.

**Pham Hong Chuong:**

I would like to ask two questions to Mr. Kawabata. First, what is the basis of your market forecast in the future? Second, should we not expect a greater oversupply, since Vietnam is not the only country investing in steel?

**Kawabata:**

My forecast of demand for cold rolled products is based on the F/S report by JICA and

Nippon Steel Corporation. High and middle grade markets include motorbike assemblers, galvanized sheets, substrate and export-oriented appliance assemblers, etc. I recommend that VSC strengthen its market research activity.

I add one more important comment. If the HSM1 and CRM2 are not constructed by 2010 but delayed to a later date, oversupply of CR will be avoided. I recommend a gradual approach for constructing your new mills.

**Than:**

I have three questions.

First, what is Vietnam's competitiveness relative to the rest of ASEAN?

Second, which country is the competitor for Vietnam?

Third, I would like to know Japan's experience of technical assistance to countries like Vietnam.

**Kawabata:**

As to the first question, my forecast is only about demand and supply quantities. Competitiveness depends on Vietnamese efforts. My forecast assumes full capacity operation. If operational difficulties are encountered, that will make the situation worse.

As to the second question, Korea and Japan will be your main competitors if you produce high and middle quality products. According to a coil center operating in Vietnam, Indonesian and Taiwanese coils were rejected by customers such as appliance assemblers. Only Korean and Japanese coils were accepted. Thailand can also become your competitor. SUS (:Siam United Steel Co.,Ltd.) and TCR (:Thai Cold Rolled Steel Sheet Public Co.,Ltd.) export CR to solve their overcapacity problem. If you ever choose to enter the low-end market, Russian and Ukrainian mills will be your competitors with cutthroat competition. As we said before, competition with CIS countries is not recommended.

**Yabuta:**

As to the third question, Japan's technical transfer has been offered to Thailand, India, Indonesia, Vietnam, Taiwan, Korea (POSCO), etc. What we notice is, first, the level of automation and theoretical accuracy is rising recently. Second, a new equipment has greater advantage over an older one, and even a difference of 1 to 2 years also matters. However, equipment alone is not sufficient for productivity, efficiency and cost reduction. Operational and maintenance skills are more relevant for the flat rolling process. According to my

experience, the skills of workers and operators will determine whether new technology contributes to competitiveness.

**Ohno:**

Vietnam can decide its competitors; it is not a given thing. One of the key messages from the Japanese experts is that Vietnam should choose your competitors carefully. You also ask if Vietnam's steel will be competitive. Again, it all depends on your strategy. Mr. Tanaka stressed this morning that Vietnam should choose appropriate equipment. Mr. Yabuta just now emphasized the importance of "software," that operational and maintenance skills are equally important. It all depends on your business plan and government policy. We are here to help you make the right choice.

**Cuong:**

A while ago Mr. Kawabata pointed out an inconsistency in the M/P, that domestic supply of CR would exceed its demand in 2010. He wants to advise that investment in CRM2 and HSM1 should be delayed, that the timing should be extended into the future. Is my understanding correct?

**Kawabata:**

Yes.

**Cuong:**

When the M/P was approved last August, our Prime Minister said that its implementation should be based on market reality and the timing should be adjusted as necessary. Indeed, we shall do so. In the previous M/P prepared by the Japanese experts, the operation of NISW would begin in 2017 while the VSC's plan puts it some time after 2010. But this timing remains flexible. We will continue to choose and adjust for the right timing.

The Vietnamese market is small. When we permitted joint-venture companies to produce long products in 1995-96, supply increased quickly and created an oversupply. But if we stopped approving further investment in new mills, demand would have overtaken supply again very soon.

**Tanaka:**

I agree with Mr. Cuong completely. It is essential to consider the demand-supply balance. Every mill to be constructed in the future must consider this condition. I recommended last year that the integrated steel works should be operational when the Vietnam's steel demand

would reach 10 million tons. At that time, that was forecast to happen around 2017. But if 10 million tons are reached sooner, the target year could be moved forward.

Domestic demand composition is likely to be about 50:50 between flat and long products in the future.

I again stress that normal commercial grade steel with high quality should be produced in Vietnam. If so, Vietnam's CRM and HSM will be sufficiently competitive in the Southeast Asia, even against SUS in Thailand. SUS's capital cost per ton is greater than the proposed CRM1 in Vietnam. SUS has to produce higher grade CR using more expensive Japanese or Korean hot coils to satisfy its customer needs such as sheets for outer panels of automobiles. In addition, transportation cost from Thailand to Vietnam in small shipment is 20-30 USD per ton. This is also a big handicap for SUS. Will SUS be able to export CR to Vietnam? It is very doubtful.

**Cuong:**

I want to ask Mr. Kawabata and Mr. Tanaka. We want to produce cold rolled sheet, but its price is currently depressed globally. The price is so low that it is almost the same as the price of billet or even scrap. Steel manufacturers are very worried about this. Meanwhile, we can protect our products only until 2006 under AFTA (:ASEAN Free Trade Area). What is your future perspective and opinion?

**Kawabata:**

Price fluctuation is a destiny for the modern steel industry. It is inescapable for all steel manufacturers in the world.

As my data showed, the worst situation is in the price of hot coil. It is too depressed now, and this situation cannot prevail permanently. But in a sense, it is partly a permanent problem with too many developing countries building their own hot and cold rolling mills. In addition, advanced countries already have too many HSMs. It is natural to see a general trend for overcapacity in the hot sheet and strip industry.

The slab-to-HR price margin is very thin all over the world. But as my data shows, the margin between hot and cold rolled coils in Europe is normal (\$80-125/ton). European products are for high and middle range markets. If you produce high quality cold rolled sheet for this middle range market, you will possibly have a reasonable margin. But the same margin for CIS products, with low quality, is much narrower (\$35-72). No profit can be made in this market.

Regarding trade friction over steel, it is beyond the power of individual companies. It is a problem of the global steel trade system.

**Tanaka:**

The current prices of cold rolled sheets and coils are strongly influenced by Russian and Ukrainian exports. These prices are very mysterious and cannot be justified in any way. Maybe their raw material cost is zero. Maybe these countries do this to earn foreign exchange. No one can produce at such a low cost. But this cannot continue for a long time. Most customers are now aware of the low quality of Russian steel. In the future the market will eliminate such producers. The same can be said about low quality bars produced by tiny private companies in Vietnam. I do not think these mills will survive for long.

**Yabuta:**

My impression of the Vietnamese steel industry is that the quality of operators and maintenance staff is high. They are especially good at Vina-Kyoei Steel Ltd. But you still have two defects. The first is lack of market research methods. The second is lack of “customer-first” policy. These problems are responsibilities of the management.

In Argentina, capacity utilization in ETL (:Electrolytic Tinning Line) production was initially very low at 40% and that of HSM was only 65%. However, with technical assistance, these ratios improved to 100% and 90%, respectively. The HSM’s pass ratio improved from 73% to 83% and through yield jumped from 77% to 90%. Given the same equipment, technical assistance can be quite effective in improving efficiency. Leading CRMs can achieve even 100% capacity.

Presentation-- **Nguyen Thi Lan** (for Dang Thi Binh An):

“Protection policy for steel industry under economic integration”

Vietnam’s protection policy for encouraging import substitution worked well over the past years. But in the integration process, domestic companies have to face stiff competition from imports. We must shift policy to a new direction. We now need to encourage export orientation. To do so, protection policy should be applied on the selective basis. We should protect only those industries which contribute large value-added to the national economy such as food processing. Vietnam already has high competitiveness in certain industries like coffee and rice. Protection should be applied only for limited periods. The candidates and periods for protection should be decided in accordance with ASEAN and APEC (:Asia Pacific Economic Cooperation) tariff reduction roadmaps.

Over the past years, the steel industry has not shown strong competitiveness and good performance. Now, we have some joint ventures producing high grade steel products. But most steel is still imported. Moreover, steel industry requires high technology and big capital but produces low profit. The effective protection ratio of the steel industry is very high. The domestic steel industry does not look competitive according to cost and benefit analysis. We should not invest more to this industry from the viewpoint of economic efficiency. But, strategically speaking, we still have to develop this industry for industrialization of the country.

The following should be a reasonable way to protect steel. For billet, it is our policy to raise its tariff in the future, but the increase will not be very large, i.e. with a maximum of 10%. For ordinary steel for construction, we will lower import tariffs beginning in 2003. According to the CEPT (:Common Effective Preferential Tariff) requirement, the tariff for construction steel will be reduced to less than 20% in 2003 and to 0-5% by 2006. For other steel products (sheet, strip and flat products) which are not produced domestically, the current tariffs are very low. The government should raise these tariffs as domestic production begins in the future, but not to a very high level since they are inputs for many industries. The maximum rate should be 20%. According to the CEPT tariff reduction schedule, the tariffs for these products also need to be reduced to 0-5% by 2006. However, this reduction is unlikely to have a strong impact on domestic steel producers because the ASEAN members are not very competitive in these high grade steel products.

**Chuong:**

I have two questions.

First, is it the MOF policy to protect “key” industries, including steel, although they lack competitiveness?

Second, we should encourage domestic industries to export, but they first must meet domestic demand so exportation will be difficult for them. Mr. Son said that Vietnam already has overcapacity in construction steel. In that case, VSC should be encouraged to export this product, should it not? What is the policy on the steel industry regarding the production for domestic market or for export?

**Lan:**

Apart from economic analysis, the socio-economic strategy requires the country to implement a protection policy for those industries which promote the modernization of Vietnam. They tend to be heavy industries with low profitability. Protection must be geared to the national

need. These key industries will continue to enjoy policy assistance.

For them, protection for 5-10 years is acceptable. In some cases, to ensure a level playing field, extended protection of even 15-20 years is also permissible. High protection. Manufacture or heavy industries, which deem to be key industries, are put on the temporal list for 5, 10 or 15 years' protection. But after 5, 10 or 15 years this protection has to be removed.

That is my answer to your first question. As to the second question, I will invite Mr. Trung, steel expert at MPI, to answer.

**Truong Chi Trung:**

The government has identified priority areas in which we should produce domestically, i.e. billets, flat products as well as metallurgy and mining industries. VSC should develop construction steel capacity by replacing old mills to improve competitiveness. Private companies should invest in new mills. Investment will come from the state budget, commercial bank loans and the budget for mining. For pre-F/S and F/S for the integrated steel works, preferential state loans at the interest rate of 3-5% will be provided. For mills for flats products and other rolling mills, commercial bank loans and other credits should be sought.

**Tran Van Hoe:**

According to our research on the AFTA roadmap, there are two issues.

The first question is what to do with non-ASEAN countries like Korea. What are we going to do with tariffs with outsiders?

The other issue is that some people argue the government should have not only a plan for cutting tariffs, but it should also have a plan to increase tariffs. What about this idea?

**Lan:**

First, according to the CEPT scheme, tariffs are reduced gradually until 2006 except those commodities on the exclusion list for state security and other reasons. For commodities originating in non-ASEAN countries, normal tariff are levied. But we cannot maintain too big a difference between these two rates if we are to avoid trade diversion effects.

Second, a plan for tariff increase is out of question. We will not offset tariff reduction by raising other tariffs! If lost revenues must be covered, we will use other means such as VAT (:Value Added Tax).

**Kawabata:**

I agree with Ms. Lan about tariff cuts for long products. But flat products are a different matter. For hot and cold rolled products, tentative protection should be applied because any steel mill will need a certain adjustment period at the outset before realizing full capacity utilization. On the other hand, CRM1 will provide only a part of domestic demand. It will have to compete with foreign CRMs. A fine-tuning of Vietnam's trade policy is necessary in this regard.

A trade war is going on in the global steel market. Many anti-dumping and safeguard measures are being applied. This problem cannot be simply solved by tax and tariff policies alone. Vietnam should prepare trade laws. And I recommend that Vietnam to participate in a multilateral forum for steel trade. Now only OECD (:Organization for Economic Cooperation and Development) has such a forum.

**Lan:**

We already have clear roadmaps according to APEC and AFTA. We will also join WTO in the future. We are improving our trade-related institutions so they will be compatible with the WTO/GATT (:General Agreement on Tariffs and Trade) regime. Customs valuation rules are revised. True, tariff protection alone will be impotent against foreign malpractices, but to offset them, we can use anti-dumping and safeguard measures as well as taxes and subsidies. MOF and MOT (:Ministry of Trade) are jointly mapping out these rules and we are in the drafting them for submission to National Assembly in 2002.

**Hoe:**

New policies to counter foreign trade practices are being introduced. Previously, we had only taxes. Now, measures such as new valuation method and taxation at border are prepared. Tariffs and certificate and licensing systems are being revised. MOT is now preparing to remove licenses but we may still need other non-tariff measures such as certification of origin and standards to replace them. These measures are being prepared to be ready by 2002.

**Than:**

Infant industries also need protection. I think that protection should be based on the use of local resources and inputs. For example, there should be a regulation on local contents for motorbike assembly.

**Lan:**

Our taxation department at MOF is keen to analyze the comparative advantage of our economy. Industries that can create high value-added by using local resources should receive assistance. Employment is a very important issue for us. On the other hand, the automobile and motorbike industries actually are not that important from this perspective.

**Ohno:**

We have to very clearly distinguish between long products, which are already oversupplied, and flat products with no domestic production at present.

For long products, according to Ms. Lan's presentation, the maximum tariff will be 10% and should be reduced to 0% very soon, together with the removal of non-tariff barriers. To me it sounds a bit too fast. I would prefer a little longer adjustment period.

By contrast, for flat steel, the AFTA schedule up to 2006 is inconsequential since Vietnam will not produce very much of it by that time. What really matters is protection after that. According to Ms. Lan, an extended protection of 15 to 20 years is even permissible for these industries. Here, I think she is a bit too generous. In my opinion, protection periods for new hot and cold rolling mills and billet centers should be extended beyond 2006, but only during their start-up periods. This will probably mean 7-8 years, and at the maximum, 10 years. 15-20 years will be too long.

**Lan:**

For most products, the CEPT limits must be observed and tariffs must be lowered to 0-5% by 2006. For long products such as construction steel, supply exceeds demand. For flat products, all are imported. The future situation is that we will reduce tariffs on long products and increase tariffs on flat products. Actually, we do not have to worry too much about flat products in ASEAN because they lack competitiveness. For flat products originating elsewhere, the 20% tariffs will still apply.

**Sakaguchi:**

I would like to report my observation on the current market situation, especially concerning the newly emerging products. Domestic steel demand is now increasing. Imported steel from Japan is processed here to be exported to other countries. Pipes, for example, are exported this way. My company as well as VSC's trading companies export them to Singapore. We are now thinking of exporting Vietnamese steel pipes to the United States.

Concerning Mr. Than's previous question, I think Vietnamese customers will decide who will be Vietnam's competitors. Customers will also decide which grade and which quality are needed. When you build plants, you have to listen to the customers' voice if you want to survive. The market situations are changing day by day. For example, SUS of Thailand was targeting domestic customers, but it now has to export because of the depressed domestic demand. This can happen to any company.

As Japanese companies invest in Vietnam, such as Canon in the north and Toshiba in the south, the market will change. If Toshiba decides to procure domestic flat steel for their refrigerators, the market of flat products will change and expand dramatically in the next five years. If you plan to build a plant, you should check the market constantly. I even think exporting deformed bar, currently in oversupply, is possible with proper policies.

Closing remark by Pham Chi Cuong (Omitted)

[Produced by Nozomu Kawabata and Kenichi Ohno]

# Summary of the Japanese Views on Steel Industry and Trade Policy\*

by

## Japanese members of Trade and Industry Group Japan-Vietnam Research Project

January 11, 2001

### *1. Overview on steel industry promotion*

We, on the Japanese side, conditionally support Vietnam's effort to designate steel as a national industry, aim at partial import substitution, plan a NISW (:New Integrated Steel Works) as a long-term goal, and realize these objectives under restrained import protection. The condition for our support is that Vietnam should implement these with sequencing and methods that are realistic and concrete. It will take a long time for Vietnam to learn steel production technology and operational know-how appropriate for international integration. At present, Vietnamese enterprises do not possess sufficient technology or management skill, and the Vietnamese government lacks a proper policy framework or crisis management capability. It is risky to try to promote capital-intensive industries, including the steel industry, without simultaneously strengthening domestic capability. We urge Vietnam to use the rather difficult process of steel industry promotion under international integration as an excellent opportunity to improve domestic capability. In promoting the steel industry, we do not consider it proper to give it a very special priority status, well above other candidate industries (however, moderate support on a par with other industries is acceptable). Even in the case of import substitution, strict criterion based on efficiency and international competition are required.

### *2. Timing of construction of an NISW*

In strengthening the steel industry, Vietnam should adopt a gradual and two-track

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\* This document summarizes the common view at this moment of the Japanese members of Trade and Industry Group (Kenichi Ohno, Nozomu Kawabata and Fukunari Kimura) based on intensive consultations with the concerned members of General Commentary Group (Koichiro Fukui and Takao Aiba) and a JICA expert (Nobuyoshi Tanaka), and the results of Intensive Steel Seminar in Hanoi, October 2000, and Hanoi Workshop, December 2000. It is drafted by Kenichi Ohno.

approach. That is to say, rather than immediately starting to construct an NISW, Vietnam should initially build relatively small-scale facilities independently from the proposed NISW—such as a CRM (:Cold Rolling Mill), a HSM (:Hot Strip Mill) and billet centers—at appropriate sites and step by step (the first track). Only after making adequate preparations and gaining sufficient experiences, Vietnam should seriously undertake the construction of an NISW mainly during the 2010s (the second track). One possible scenario of NISW construction which we regard as appropriate entails the following: start port construction and land preparation around 2008, complete a CRM and an HSM around 2013, complete the first BF (:Blast Furnace) around 2017, and complete the second BF around 2021. The “Base Case” presented by VSC (:Vietnam Steel Corporation) is also a two-track approach, but it proposes to build an NISW at a much accelerated pace than what we regard as suitable.

We recommend the two-track gradualism above for the following reasons:

- (i) By extending the construction period, annually required financial resources will be reduced and the experience of steel promotion can be accumulated. These will in turn facilitate the mobilization of domestic and foreign resources, which will have to be very large eventually.
- (ii) An NISW is a huge and concentrated technological complex. Vietnam needs a sufficient learning time before it can acquire operational and management skills.
- (iii) The menu of technology available to Vietnam is always changing and expanding. To maximize the degrees of freedom, Vietnam should select technology over time, rather than making irreversible commitments for the entire projects at the outset.
- (iv) Adequate room for adjustment must be preserved in order to respond effectively to possible negative shocks, such as global recession, regional crisis, sharp falls in international steel prices or deterioration of the domestic economy. Should an extremely adverse situation emerge, Vietnam also needs the flexibility to postpone the construction of an NISW for a certain period.

### ***3. The role of HSM1 (:the 1<sup>st</sup> Hot Strip Mill)***

In view of the above consideration, we do not take the position that HSM1 should be constructed as a prior investment to the future NISW. Now that Phu My has been selected as the site of CRM1 (:the 1<sup>st</sup> Cold Rolling Mill), we recommend that HSM1 should be built on the site adjacent to it. If HSM1 is deemed as a prior investment to an NISW, its construction is subject to inadvertent delay since an NISW itself may face difficulty in raising funds or other problems and be postponed. For the timely establishment of the domestic supply capacity of flat products in line with growing demand, we consider it important to build HSM1 separately

from and in advance of an NISW. Inter-process linkage can be ensured by locating CRM1 and HSM1 on the same site. As to the problem of stable supply of slabs, it must be noted that slab imports will be necessary anyway, regardless of whether HSM1 is built separately from or together with an NISW, until two BFs of an NISW are completed and steel-making capacity is greatly enhanced. To ensure stable sourcing of imported slabs, we recommend long-term contracts with countries which are likely to have excess capacity in slab production. In addition, it may be worthwhile to study the possibility of EAF (:Electrical Arc Furnace)-based slab production (As for HSM2, it can be constructed as the same site as an NISW).

#### ***4. Usability of domestic raw materials***

We recommend a full-scale F/S (:Feasibility Study) on the usability of Thach Khe ore. However, we are already informed that this ore suffers from high zinc content and is not suitable for BF use, and that it will also be difficult to develop due to geographical and geological reasons (deposits are located from and up to 400-700 meters below sea level, requiring vast draining). For the purpose of realizing efficient BF operation under international competition, the extent to which Thach Khe ore can be used in BF is impossible to judge at the moment. Usability, required investment and operational costs should be evaluated by a full-scale F/S. If the outcome of F/S is unfavorable, importing 100% of raw materials and deciding not to exploit domestic mines becomes a plausible option. Generally speaking, domestic raw materials should be used only if they are equal to internationally best materials in terms of quality and cost. Any compromise in quality or cost of raw materials will seriously endanger the survivability of the industry under international integration. This is true not only with raw material procurement but also with the location of the NISW or selection of technology as discussed below.

#### ***5. Location of the NISW***

Regardless of whether raw materials are 100% imported or partially domestically supplied, the NISW should be built on a newly developed coastal site. To guarantee international competitiveness, Vietnam must select a site suitable for building a deep sea port in Middle Region and use a large specialized vessel to transport raw materials. Inland areas, including Thai Nguyen, are not appropriate for building an NISW due to the permanent handicap in additional land transportation cost. When iron ore can be transported from Australia to Japan for \$6/ton, the current land transportation cost of \$6/ton or more between Hai Phong and Thai Nguyen is too large for financial viability.

## ***6. Selection of technology, production capacity and product mix***

Vietnam should avoid both outdated equipment and untested frontier technology. Instead, it should select “state of art technology” from the set of “proven technology.” We call this the “fast-second approach.” At the level of individual production facilities, capacity must be sufficiently large to ensure operational efficiency. At the national level, the total output should cover only part of the domestic demand. We recommend partial import substitution because it enhances efficiency and crisis response capability. Under partial import substitution (compared with full import substitution), it is easier to maintain high operation ratios in the event of negative shocks. Moreover, technical integrity among different processes must always be the primary concern in making investment decisions. In transfer of technology, random buying of cheapest equipment should be avoided; instead, a comprehensive technology transfer contract covering basic design to stable operation should be concluded. As for the product mix, what to produce must be selected carefully based on the size and characteristics of domestic demand and avoidance of head-on clash with foreign exporters offering extremely low prices.

## ***7. Financing***

Financing is a problem common to all projects, but the difficulty is particularly severe in the case of an NISW requiring huge capital. We recommend the pursuit of JV (:Joint Venture) arrangement (MOI (:Ministry of Industry) and VSC have announced that 100% foreign investments in steel will not be permitted but JVs are acceptable). JVs are helpful since they share financing, risks and crisis management with the Vietnamese side. In order to attract FDI (:Foreign Direct Investment), however, investment plans must be realistic and concrete and Vietnam’s ability to promote the steel industry must be dependable in the eyes of foreign partners. It should also be recognized that foreign partners are often in pursuit of their short-term commercial interests, and not the national interest of Vietnam. As noted above, singling out the steel industry as the top priority among all industries and pouring a large amount of scarce national resources into it is not advisable. Such excessive promotion would also militate against the industry’s own efforts to improve competitiveness.

## ***8. Additional investment in TISCO (:Thai Nguyen Iron and Steel Corporation)***

The first rehabilitation plan for TISCO looks reasonable, but we doubt whether its second rehabilitation plan is really necessary. As stated above, inland TISCO lacks the

conditions to become a steel industry center in the 21st century. Minor repairs to improve efficiency and to cope with the employment problem are desirable, but larger amounts should not be invested in TISCO. For the purpose of minimizing the social impact, TISCO should be allowed to survive as a small-scale steel plant located near raw material supply, as long as low-cost materials continue to be locally available. The idea of locating an NISW in Thai Nguyen must be abandoned.

### ***9. Production of special steel***

Special steel is characterized by great diversity, small lots and high quality (with the possible exceptions of structural steel and high-carbon steel produced in relatively large lots and with similar compositions to ordinary steel). We do not recommend building a special steel plant at this time since Vietnam's domestic demand for this kind of steel will be too small for efficient production in the foreseeable future. Except for the items noted above, special steel should be imported.

### ***10. Export orientation***

The MOI and DSI (Development Strategy Institute) suggest steel exports as a target along with import substitution. However, the Vietnamese steel industry is too fragile to become a viable exporter in the competitive and demanding international market (beyond the current tiny exports to neighboring countries such as Laos and Cambodia). We regard import substitution as an appropriate target for now. Even with production for the domestic market, international competitive pressure can be used effectively as an incentive for productivity improvement. The important thing is not how much the industry exports, but whether it is exposed to international competition. Overly ambitious attempt at exporting may even run the risks of excessive investment or selecting the wrong product mix from the viewpoint of the domestic market.

### ***11. AFTA (:ASEAN Free Trade Area) and WTO (:World Trade Organization) policies***

- (i) International integration cannot, and should not, be avoided. Vietnam should accept a free trade regime in principle. Each industry should take this as given when it conducts (forward-looking) new investments or (backward-looking) consolidation and closure of existing plants.

- (ii) Deviation from AFTA (0-5% tariffs by 2006) may be permissible if it is only for a small number of industries, temporary and the tariff rate is only moderately high. Before conducting such a policy, however, concrete and realistic promotion strategies for the proposed industries must be presented. If no such strategy exists, Vietnam will be unable to negotiate with AFTA or WTO with “ownership.”
- (iii) In WTO accession negotiations, “MFN (:Most Favored Nation)”, “national treatment” and “transparency” must be strictly observed. On the other hand, there is room for negotiation in “market access” and “convergence of economic institutions.” For these demands, Vietnam should decide whether or not to accept them individually from the viewpoint of economic principles.
- (iv) Vietnam should consider the possibility of using WTO-consistent subsidies (satisfying non-specificity) as a means of selectively supporting domestic industries.
- (v) Vietnam should prepare “anti-dumping duties,” “counter-veiling duties” and “safeguards” as defense measures against cheap exports from CIS (:Commonwealth of Independent States) or regional crisis. It must be noted however that these are short-term emergency measures and should not be confused with medium- to long-term industrial promotion policies.
- (vi) At present, countries applying for WTO accession are facing demands which are more strict than those for existing LDC (:Least Developed Country) members, and some of these demands are unreasonable. It is advisable for Vietnam to cooperate with countries in similar situations to make an appeal to international organizations and developed countries for fairer treatment.

[End]