

## **A presentation about my book “The Nonmetropolitan Industrial District in Modern Japan: From Woodworking to Machinery”\***

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### **Introduction: The Dynamism of the Nonmetropolitan Industrial District**

#### **1. The Subject of this book:**

I aimed to empirically clarify the dynamic historical development process of the nonmetropolitan industrial district in modern Japan based on the viewpoint of industrial and business history. I focused on the historical industrial linkage between the woodworking industry (Geta and furniture) and the machine industry in the Bingo-Fukuyama area.

#### **2. Problem setting:**

When formulating the problem, I aimed to relativize the accumulated typologies of industrial district by exploring the diversity and complexity of the nonmetropolitan industrial districts from a longer historical perspective.

#### **3. Typology of existing industrial districts:**

The typology included in Japan: production regional type, company town type, metropolitan area type, urban complex (urban-type), regional industrial type, mixed invitation complex type, and factory complex type.

##### **->Features:**

##### **-The metropolitan area type or urban complex (urban-type) in metropolitan areas**

This is characterized by: The large-scale concentration of various industries with the machinery industry as the core; the formation of vertical and horizontal divisions of labor; a mixture of independent and subcontracting types; made-to-order production of high-grade and special products, and small-lot production of various types of products.

##### **- Production regional district, urban complex districts, and regional industrial districts**

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#### in nonmetropolitan areas

This is characterized by: The small scale of districts; low-cost mass production; weak R&D functions; lack of high-mix low-volume production and precision/specialized processing; dependence on metropolitan areas, and so forth.

#### **->Problems:**

(1) A delayed historical analysis of the changes in transactions and combinations of firms located in nonmetropolitan areas and the successive development of industries with the rise and fall of firms.

(2) Disregarding the dynamic changes and fluctuations in industrial districts.

#### **4. Feature of this book: Dynamism of the industrial district**

I emphasized the gradual development of supporting industries (machine-related industries) that emerged in response to the strong demand—generated by the active production regional districts that have historically been formed in the region—and that gradually developed into the main industries that represent the region.

->I sought to understand the dynamic change in industrial districts—from production area-type to urban complex type—characterized by the concentration of various industries, especially machine-related industries.

(1) The types of industrial districts can change.

(2) The industries of production region districts can change.

(3) The development of production region districts has historically promoted the development of regional machine industries.

#### **5. Two Issues in the Production Regional District and Nonmetropolitan Machine Industry Districts**

##### **(1) Issues related to the development, decline and business transformation of production regional districts**

a) While there has been a strong interest in the development logic of production regional districts in the early postwar period, there has been insufficient research on the development mechanism of production regional districts—that manufacture products for the domestic market—considering the long-term time horizon of prewar, wartime, and postwar periods. It is worth remembering that woodworking is a representative industry based on the domestic market.

b) Insufficient attention has been paid to the decline and business transformation of production regional districts in studies of production regional districts history over time.

\*In contrast, the contributions of SMEs (small and medium-sized enterprises) and local industry research in the post-war are significant.

c) The relationship between production regional districts of different industries located in the same or adjacent regions has also been insufficiently studied.

## **(2) Evaluation of the formation and development of nonmetropolitan machine industry districts**

**-Research on the history of the nonmetropolitan machine industry Pre-war and Post-War.** \*Jun Suzuki, Minoru Sawai, Nobuyuki Fujii, and so forth.

->**Evaluation:** The nonmetropolitan machine industry plays a key role. However, this does not lead to a reevaluation of the concentration of the nonmetropolitan machine industry in the postwar period.

->**Reasons:** Lack of historical research approaches to the current analysis of economic geography research, SME research, and industrial district research.

\* "Regional production system" by Atsuhiko Takeuchi, "Triangle model" by Mitsuhiro Seki, "Alps structure type social division of labor structure" by Yukio Watanabe

### **->Problems:**

a) Although the analysis of nonmetropolitan machine industry districts has taken different perspectives, it has consistently focused on the Keihin region as the primary focus.

b) The analysis has been limited to specific regions.

c) The historical and empirical analysis of the establishment, division of labor, and the close relationship between the nonmetropolitan machine industry and the local production region district, which is the source of strong demand and supply for the nonmetropolitan machine industry as a "supporting industry" were neglected. These are important to understand the industry district's formation and development.

## **Part I. Geta Industry**

### **Chapter 1: The End of the Meiji Era to the Early Showa Era**

**-Features:** Geta industry primarily shows two periods that the growth period from the end of the Meiji era to the Taisho era, and the stagnation period after the late 1920s.

->**The Matsunaga area grows from a latecomer to a "geta manufacturing town".**

->**Growth conditions:**

(1) Production of inexpensive miscellaneous wooden Getas.

- (2) Active procurement of logs, mainly from Hokkaido, led by manufacturers.
- (3) Active development and introduction of original woodworking machinery, supported by the ingenuity of manufacturers and the woodworking machinery industry as a supporting industry.
- (4) A strong orientation toward manufacturer-led integrated factory production that also emphasizes the maintenance and strengthening of the division of labor among manufacturers in the production district (subcontracting to outside workers non-employed, processing, and coating).

## Chapter 2: Period of War Economic Control

### -Features:

- (1) Rapid expansion during the Sino-Japanese War and contraction during the Pacific War.
- (2) Survival as a major production district during the contraction process, and voluntary organizational activities.

### ->Conditions of the rapid expansion during the Sino-Japanese War:

- (1) Reorganization of sales destinations.
- (2) Quick conversion of wood to South Sea Islands wood and Japanese internal wood by manufacturers and production district organization in response to the threat of wood shortages due to wood control.
- (3) Development of integrated factory production through the introduction and expansion of mechanization, particularly in the final finishing process.

### -> Conditions of the survival during the Pacific War period

- (1) Focused wood distribution to the five largest producing prefectures.
- (2) Systematic transfer and participation in the military and munitions industries.
- (3) Production district-led industry activities and sales activities.

## Chapter 3: Postwar Recovery to High-Growth Period

- **Features:** Rapid scale expansion of the production district during the postwar recovery period and a shift in industry due to competition among production districts after the start of high-growth period.

### ->Conditions for rapid expansion during the postwar recovery period:

- (1) Intensive establishment and entry of manufacturers and sellers, as well as dealers (wholesalers) and processors
- (2) A change in the structure of the production district (from an integrated factory-based

production and distribution system dominated by manufacturers and sellers -> a diverse production and distribution system in which manufacturers, sellers, and distributors were the main players).

(3) Fierce and unfair competition among sellers as a major source of competition among production districts, was a major source of competitiveness.

**->Features of industry transformation during the high-growth period:**

(1) In contrast to Shizuoka, the public-private sector cooperative approach to business transformation failed.

(2) The structural recession within the production district worsened and the production district was destroyed due to the uncooperative aspect of the business.

(3) The groping of a unique industry transformation by the individual business led to the formation of the Matsunaga Furniture Production district (Chapter 6).

## **Part II: Furniture Industry (High Growth Period)**

**-The main reason for the limited period of high growth:**

The dynamic formation and development of the machine industry district (Part III) reached an important point during the period of high growth in close association with the Geta and wooden furniture industries in the region.

## **Chapter 4: Production System and Distribution System in the Fuchu High-grade Wedding Furniture Production District**

**- Features:** Rapid growth as a newly risen production district.

**-> Conditions of the rapid growth:**

(1) Establishment of a unique mass-production system in the production district that balances high-grade products and mass production, led by a medium-sized manufacturer.

**\*conditions:**

(a) Furniture manufacturers implemented structural reform by establishing the planning department as an independent and specialized section, expanding and improving production facilities introduced mainly from local woodworking machine makers.

(b) A sustainable division of labor between manufacturers and related companies in the production district, including veneer and decorative plywood manufacturers.

(c) A technical guidance system (woodworking guidance center) in the production area.

(2) A new distribution system was constructed in Fuchu—a new production area without wholesalers.

## **Chapter 5: Procurement and Training of Skilled Labor in the Fuchu High-Grade Wedding Furniture Production District**

**-Features:** Graduates of vocational training schools and technical high schools were positioned at the center of the job market as an important strategy to respond to the new production system that balanced high-grade products with mass production.

**->Conditions for success:**

- (1) Active implementation under the leadership of a medium-sized manufacturer.
- (2) The establishment and use of a systematic training system consisting of on-the-job training and off-the-job training.

## **Chapter 6: The Formation and Growth of the Fukuyama Furniture Production district: Focusing on the Matsunaga District**

**-Features:** Since the early 1960s, Matsunaga has grown rapidly as a mid-grade production district under the strong influence of the Fuchu production district.

**-> Conditions for success:**

- (1) Progress in mass production of high quality furniture.

**\*conditions:**

- (a) Expansion of manufacturing facilities and progress in the demand for skilled workers and the acquisition of painting techniques to improve quality by medium-sized manufacturers.
  - (b) The development of a diverse and wide-ranging division of labor.
  - (c) Organic cooperative relationships with Fuchu companies in the subcontracting of veneer and the acquisition of painting techniques, and the role of the production district association.
- (2) Establishment of a distribution system through fair trade activities.

**\*condition:** Strategic segregation from the Fuchu region of high-grade products.

- (3) Development as a mid-grade production district: A strategy for district that took advantage of the high level of technology, branding, and overwhelmingly strong customer attraction that Fuchu, a neighboring area, possesses as a high-grade wedding furniture production district.

## **Part III: Machinery Industry**

The Bingo-Fukuyama district was characterized by various machine industries, such as woodworking machinery, which started as a supporting industry for the production of

Matsunaga Geta and Fuchu furniture and was layered and expanded through the district mechanism unique to the Bingo-Fukuyama region.

## Chapter 7: Pre-War and War time

-The machine industry district in Bingo-Fukuyama was formed by various establishment routes and division of labor networks.

**(1) types of start-up:** Self-help, local company spin-out, non-local company spin-out, spin-off, extra-territorial company and subcontractor type.

->(a) The self-help type, local company spin-out type, and non-local company spin-out type continued to be the most important sources of supply for the creation of distinctive cross-industrial companies with diverse technologies ranging from various types of machinery manufacturing to basic technologies.

->(b) The entrepreneurial spirit and strong self-employment orientation of those who saw the diverse needs that existed in the Bingo-Fukuyama area as a business opportunity and actively and proactively took up the challenge, supported the continuous occurrence of business startups during the pre-war and wartime periods.

### **(2) Division of labor network**

->(a) Steadily formed as a foundation for catching up with the regional machinery industry, mainly in the production of consumer goods

->(b) The development and expansion of subcontracting and cooperating industries during the war period hindered the potential of the Bingo-Fukuyama machinery industrial district for independent development, but spontaneous production activities were actively developed. Companies accepted, learned from, and accumulated the "wartime manufacturing experience" associated with subcontracting and cooperating industries in a wide range of industries, adding layers to the industrial district structure.

#### **\*Important condition:**

It was important to maintain and develop a variety of indigenous industries in the region (woodworking and cotton weaving industries), and to develop the fundamental technologies (machine casting, wood molds, machining, etc.).

## Chapter 8: Postwar Recovery and High-Growth Period

- The continuous development of a unique regional district mechanism underpinned the rapid growth of the Bingo-Fukuyama machinery industrial district. This differs from the "Company Town" logic of NKK Fukuyama.

### **(1) Start-up route:**

- (a) The number of self-help type companies and spin-outs type companies from local and non-local companies (which had been temporarily interrupted or reduced during the war) rapidly revived after the postwar recovery period.
- (b) As the spin-out chain within the district became more active in the postwar era, extra-territorial and subcontractor type companies (Mitsubishi Electric Fukuyama Manufacturing Co.) acted as incubators in addition to self-help and local spin-out type companies.
- (c) The entrepreneurial spirit and strong self-employment orientation showed that they were alive and well.

### **(2) Division of labor network:**

The majority of big local businesses, medium-sized local, and small-to-medium-sized local finished product manufacturers, finished product parts manufacturers, and companies specializing in specific processing developed uniquely while maintaining their prewar history.

#### **⇔ Diversity of extra-territorial big company**

- The "Fukuyama Method" Trading Structure of NKK Fukuyama explains the failure to fully develop.

#### **\*Cause:**

- (a) Lack of recognition of the fact that the Bingo-Fukuyama area's unique machinery industry has been concentrated since the prewar period.
- (b) Opposition of local companies.

- Mitsubishi Electric Fukuyama:

The scale of subcontracting expanded, but since the early 1980s, the number of affiliated companies at the head office increased and their influence grew.

### **(3) Case study:**

Business development of a local finished product manufacturer (woodworking machinery, machine tools) and a company specializing in specific processing (casting).

#### **-Woodworking machinery:**

Amid the dizzying changes in the woodworking industry since the postwar reconstruction period (the rapid expansion of the Matsunaga geta production district during the post-war recovery period, and the rapid growth of the Fuchu furniture production district during the period of rapid economic growth), the companies



responded sensitively as a supporting industry and rapidly developed. They then expanded to nationwide production.

**-Castings:**

As a small- and medium-scale plant, it focused on the production of a wide variety of products, small lots, and high unit prices, rather than consistently specializing in specific industrial parts.

## **Chapter 9: The Age of Globalization**

- The Age of Globalization was the age of dynamic structural changes in the Bingo-Fukuyama machinery district corresponding with the era of "Shrinking" industrial district.

**(1) Business startups:**

(a) Continuously occurring, mainly in the form of spin-outs from local and non-local companies.

(b) Maintains its function as an incubator for business startups.

(c) Networks among local companies play an important role in business startups and the relocation of headquarters of non-local companies.

(2) Despite the slowdown in activity in the conversion of companies specializing in specific processing into manufacturers—finished product manufacturers, finished product parts manufacturers—, and the continued bankruptcies and closures of companies in the woodworking machinery and other machinery manufacturer sectors, the increase in the number of active new entrants and conversions to various industrial machinery and electronics-related machinery sectors has prevented the quantitative shrinkage of industrial district and has significantly advanced structural change.

(3) In contrast to the further strengthening of the headquarters-related enterprises of major companies outside the Bingo-Fukuyama area, the multilayered division of labor structure that has been formed primarily by a large number of large, medium- and small-scale local manufacturers of finished products, parts, and specific processing specialties has achieved their own development.

## **Final chapter**

The characteristics of the industrial development—including the rise and fall—of the production district in Bingo-Fukuyama could only be discovered by focusing on the

unique history of the region while accounting for the long-term time axis of prewar, wartime, and postwar periods.

->(1) A key feature was **"multi-layered economic development"**—in which "modern economic development" and "indigenous economic development" exist in multiple layers, at the nonmetropolitan area level. I clarified the interrelationship between the two layers through the rise and fall of production district companies and the successive changes in industry.

->(2) From the pre-war period to the post-war period, **these production districts and their supporting industries**—the machinery industry—**developed in a relatively small area and strategically chosen a unique production organization** based on local small and medium-sized companies that could produce a wide range of products, from low-price (geta) to mid-grade and high grade (furniture), as well as made-to-order capital goods (various types of industrial machinery).

->(3) **The process of development** of both the production district type and machine industry district **included the logic of "indigenous economic development"** characterized by small management and decentralized production organizations, which is different from the logic of big companies. In addition, **Bingo-Fukuyama played a role similar to that of metropolitan area in the sense that it was the nursery for the emergence and development of machine industry districts.**