

The Database of the MAF Survey of Farm Household Economy in Prewar Japan

<Outline>

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Objective: To construct a panel database from individual data extracted from the Ministry of Agriculture and Forestry of Japan (MAF) survey of farm household economy in prewar Japan and to conduct an empirical analysis on the asset accumulation behavior of farm households in the prewar period.

Database constructors: Kitamura, Yukinobu (Institute of Economic Research, Hitotsubashi University); Sato, Masahiro (Institute of Economic Research, Hitotsubashi University); Kusadokoro, Motoi (Tokyo University of Agriculture and Technology); Maru, Takeshi (Research Centre for Information and Statistics of Social Science, Institute of Economic Research, Hitotsubashi University); and Takashima, Masanori (Research Centre for Information and Statistics of Social Science, Institute of Economic Research, Hitotsubashi University)

Data source: The MAF survey of farm household economy

Period: From 1931 to 1941

Coverage area: All prefectures in Japan

Variables: Household structure; Assets (term beginning/end land, buildings, machinery, animals, plants, in-kind stocks, debts, cash and quasi-money, etc.); Agricultural income (from rice-production, grain-production, sericulture, livestock farming, etc.); Farm expenditure (input cost, wage, land rent, etc.); Household expenditure (food and drink, clothing, education, ceremonial occasions, etc.); Labor (hours spent on agriculture, by-business, housework, etc.)

Sample size: The data source contains individual data from all prefectures in Japan. As of November 2012, the database was constructed with 1,071 samples extracted from 16 prefectures (Akita, Fukushima, Ibaragi, Tokyo, Niigata, Toyama, Yamanashi, Nagano, Shizuoka, Aichi, Osaka, Shimane, Hiroshima, Tokushima, Fukuoka, and Miyazaki) from the third period of the MAF survey (1931–1941). The number of extracted households was six or nine per prefecture, per year. Due to the problematic dissipation of individual data and the replacement of surveyed households during

the 11-year surveillance period, the number of households surveyed every year through the period is only five at present. However, owing to the ongoing construction of the panel database, the missing portions will be complemented.

Closed/Disclosed: Closed

Major findings:

Kusadokoro, Maru, and Takashima (2012)

(a) During the reconstruction period from the time of the Showa Depression, farmers tended to give importance to cash and quasi-money and were not inclined toward the accumulation of highly fixed productive assets like machinery and buildings.

(b) Cash and quasi-money, and other farm assets declined in response to the shock in agricultural production. In particular, high liquidity assets like animals and in-kind stocks reacted strongly to the shock. These results are consistent with the process of asset accumulation that follows from the precautionary saving motive for consumption smoothing.

(c) After the Showa Depression, farmers were inactive in the accumulation of highly fixed productive assets, and the accumulated amounts of these assets tended to decline in real terms. In contrast, Hayami (1973) used data based on the assumption that the accumulation of productive assets occurred after the Showa Depression. Using individual data from the survey of farm household economy may generate some scope for a micro-level re-evaluation of the accumulated amounts of productive assets after the Showa Depression.

(d) Proof was found for the mechanism of increase in consumption power augmenting the size of operational land in Japanese agriculture after the Showa Depression, which is the same as that in Tomobe (2007) with regard to the early and late modern periods in Japan.

(e) The ratio of owned land to operational land had a significantly negative impact on the accumulation of land, which is consistent with “Jikosaku Zenshin” (the progress of the independent-tenant farmer) shown in Kurihara (1974).

Asami (2011), Asami (2012)

These studies organized the transition of accounting design in the MAF survey of farm household economy in the prewar period. These papers focused on how the rule of accounting equation can be obtained within the structure of single-entry bookkeeping used in the MAF survey, which is originally found only in the double-entry bookkeeping system. It was revealed that accounting designing in the third-period MAF survey of farm household economy was in the embryonic stage of development with respect to the acquisition of the rule of accounting equation, and that the

introduction of the Otsuki method of bookkeeping in the fourth-period MAF survey fully incorporated the rule into the single-entry and farm-household bookkeeping system.

Kusadokoro (2012)

With individual data from the second-period MAF survey of farm household economy attached to the statistical report, multiple production functions of farm household were estimated. The results obtained showed that there existed a strong substitutive relationship between crop production and sericulture, and that the production technique of these households alone did not support the long-term existence of sericulture and multiple crop farming.

Plans for future research:

(a) Complementation of lost data, (b) extension of the panel database into other prefectures, (c) construction of a more detailed database through the further decomposition of asset variables and utilization of consumption data, and (d) further empirical research regarding the actual condition of farm household economy in the reconstruction period following the Showa Depression.

References:

Asami, Atsuyuki (2011) *Senzenki no Noka Boki to Norin-Sho Noka Keizai Chosa -Kyodai Shiki Boki wo Chushin ni- [The Farm Bookkeeping System and the MAF Survey of Farm Household Economy in the Prewar Period—With a Central Focus on Kyoto University-Method Bookkeeping]*, *Tokei Shiryo Shirizu [Statistical Data and Documentation Series]*, No. 67, Tokyo: The Research Centre for Information and Statistics of Social Science, The Institute of Economic Research, Hitotsubashi University.

Asami, Atsuyuki (2012) “Senzenki Noka Keizai Chosa no Boki Dezain no Hensen [The Transition of Accounting Designing in the Survey of Farm Household Economy in the Prewar Period],” in Inamoto, Shiro eds. *Nogyo Keiei Hatten no Kaikei-Gaku -Gendai, Senzen, Kaigai no Keiei Hatten- [Accounting of Farm Management Development—Farm Development in the Present and Prewar Periods in Japan and Overseas]*, Kyoto: Showa-Do.

Hayami, Yujiro (1973) *Nihon Nogyo no Seicho Katei [Growth Process in Japanese Agriculture]*, Tokyo: Sobun-Sha.

Kurihara, Hakuju (1974) *Kurihara Hakuju Chosakushu I: Nihon Nogyo no Kiso Kozo [Omnibus Volume of Hakuju Kurihara, vol.1: Basic Structure of Japanese Agriculture]*, Tokyo:

Azekura-Shobo.

Kusadokoro, Motoi (2012) “Koshu Yosan Fukugo Keiei no Seisan Gijutu no Keisoku -Senzenki Noka Keizai Chosa no Hensen to Keiryō Bunseki- [The Measurement of Production Technology in Crop-Sericulture Multiple Farming—Econometric Analysis and the Transition of the Survey of Farm Household Economy in the Prewar Period],” in Inamoto, Shiro eds. *Nogyo Keiei Hatten no Kaikai-Gaku -Gendai, Senzen, Kaigai no Keiei Hatten- [Accounting of Farm Management Development—Farm Development in the Present and Prewar Periods in Japan and Overseas]*, Kyoto: Showa-Do.

Kusadokoro, Motoi, Takeshi Maru, and Masanori Takashima (2012) “Asset Accumulation Behavior of Rural Households in the Reconstruction Period following the Showa Depression: A Panel Data Analysis Using the Third Period MAF Survey of Farm Household Economy,” *PRIMCED Discussion Paper Series*, No. 23.

Tomobe, Kenichi (2007) *Zen Kogyokaki Nihon no Noka Keizai: Shutai Kinko to Shijo Keizai [Agricultural Economy in Pre-industrialized Japan: Subjective Equilibrium and Market Economy]*, Tokyo: Yuhikaku.