

Table 1. Food, Agriculture and Rural Area Policy Hierarchy

Goals	Objectives
1 Securing food safety and food confidence	1) Securing food safety 2) Securing food confidence
2 Securing stable food supply	1) Promoting food education and better dietary patterns 2) Securing stable imports of agricultural products and food
3 Sustainable agricultural development and sound development of food-industry	1) Securing productive farmland 2) Improving agricultural and food-industrial productivity by constructing and effectively utilizing agricultural production facilities 2-1) Improving agricultural productivity 2-2) Improving food-industry productivity 3) Securing and fostering a workforce to play a major role in effective and stable farm management 4) Stabilizing farm management 5) Controlling agricultural production and stabilizing prices of agricultural products 6) Developing and promoting technology 6-1) Developing and promoting agricultural technology 6-2) Developing food-industrial technology
4 Development of rural areas	1) Developing and maintaining rural economy 2) Improving living infrastructure in rural areas
5 Maintenance and fulfillment of the multifunctional roles of agriculture	1) Maintaining and promoting the natural cyclical function of agriculture
6 Others	

achievement of the objectives could be measured. We proposed the policy hierarchy as shown in Table 1 and the outcome indicators to the Administrative Departments of MAFF in order that they may conduct policy evaluation

more efficiently and effectively.

Research Members

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Analysis of Fruit Prices and Distribution Costs: Focusing on the Case of *Unsyu* Mandarins

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Recently it has been pointed out that fruit distribution costs are increasing although the farmers' received prices remain low. In accounting for such circumstances, the purpose of this research is to make clear the following. (1) in which crops are the distribution costs increasing? (2) which items of cost are increasing in such crops? and (3) why are they increasing?

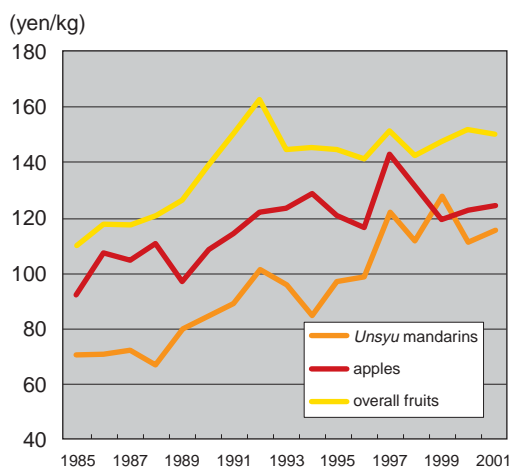


Fig. 1. Changes of Differential Between Consumer Price and Wholesale Price by Major Fruits

Firstly, the result indicated was that the differential between the consumer price and wholesale price of *Unsyu* mandarins is increasing, a trend which stands out clearly from others. As shown in Fig. 1 the differential of *Unsyu* mandarins has been increasing on the whole since the second half of the 1980s to recent years. Also the wholesale price of *Unsyu* mandarins has been falling since 1991, after rising greatly. On the other hand, the differential of fruits overall was almost constant after around 1993. Also, the average wholesale price of fruits overall remained almost constant during the same period. The phenomenon mentioned above is peculiar to *Unsyu* mandarins.

Second, taking into account these characteristics of *Unsyu* mandarins, the research examines the changes of their retail and consumption conditions. Until around 1985 *Unsyu* mandarins were regarded as the representative "cheap and popular" fruit. However, the *Unsyu* mandarins' share of fruits overall in household purchase volume dropped from 26% in 1985 to less than 20% in 1996, and the volume of *Unsyu* mandarins of one purchase per

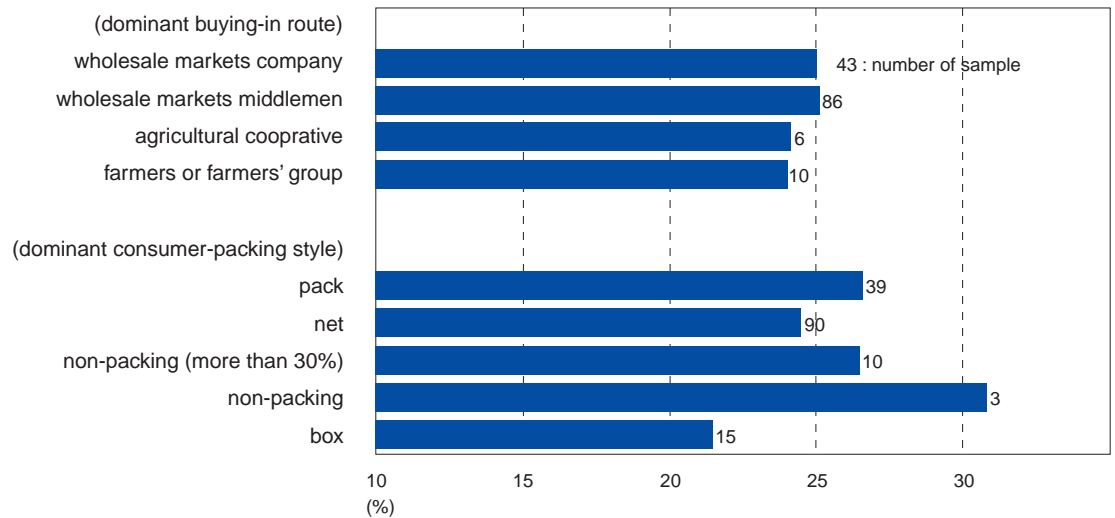


Fig. 2. Margin-rates of *Unsyu* Mandarins in Supermarkets (2002)
 Note : "Dominant" means more than 50% except non-packing (more than 30%).

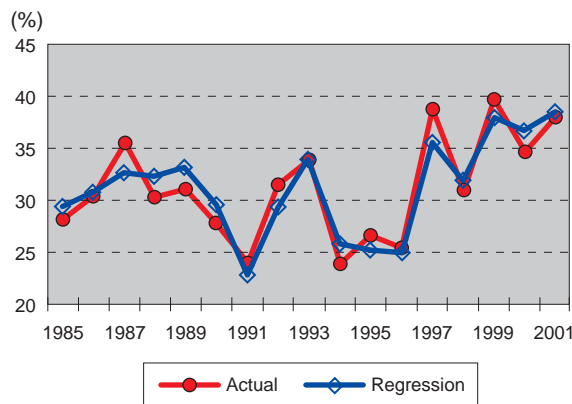


Fig. 3. The Margin-rates of *Unsyu* Mandarins
 Note: Regression by wholesale price and volume at each purchase.

household have fallen from 2.6kg in 1985-1987 to 1.9kg in 1999-2001. Further, this situation accompanied a rise in the consumer price as compared to other fruits that lasted until the middle of the 1990s.

These trends mean that *Unsyu* mandarins have been shifting to a lower consumption volume, and consumers require high quality at the same time.

Incidentally, in order to make clear the determining factors of the margin-rate of fruit-

retailing, we conducted a questionnaire at supermarkets. According to this investigation the majority of respondents answered that they lay less stress on wholesale prices as a determining factor of the margin for fruit selling. Regarding *Unsyu* mandarins, other factors are also important. As shown in Fig. 2 the margin-rates of *Unsyu* mandarins are related to divergence of retail packing types. On the other hand, the margin-rates are almost the same among the buying-in routes of supermarkets.

Finally, taking into account the investigation thus far, we hypothesize that the determining factors of the margin-rate of *Unsyu* mandarins are the level of wholesale prices and changes of sales volume of one purchase by consumers. The latter is related to the packing costs of the retailers. In order to prove this, we conducted regression analysis in which the independent valuable is the margin-rate and dependant valuables are the wholesale price and the volume of one purchase. As shown in Fig. 3, it almost traces the actual trends (adjusted R-squared is 0.853). It is indicated that the rise of the margin-rate of *Unsyu* mandarins in recent years is related to a reduction in sales volume at each purchase.

Macro-economic Analysis of Food Distribution Costs

Tetsuro YAKUSHIJI

Environments surrounding food distribution are changing. For example, the food distribution channel is diversifying and food imports are increasing.

In order to secure the farmers' income and to supply food to consumers at lower prices, a decrease in food distribution costs is necessary.

In the food system, the importance of the

related distribution industry is growing in Japan. In the period from 1990 to 1995, of 12 trillion yen of the increase of food and beverage expenditure (from 68 to 80 trillion yen), 7 trillion yen was accounted for by the increase of the value added by the distribution industry (from 16 to 23 trillion yen). In other word, 57% of the increase in food and beverage expendi-