This dissertation is to study on livestock products consumption as well as identify potential variables which effect to the consumption. Specific objectives are to identify the development of livestock products consumption, to identify the demand model for household livestock products consumption, to examine the determinant factor of livestock product consumption, to analyze how the household food consumption patterns have changed, and how the changes are related to the social economic of individual households, and to analyze projection of livestock product consumption.

Consumer behaviour theory provides a useful theoretical framework for analysing food consumption. In the basic setting, income, prices, and preferences are the factors that determine food demand. In order to choose a suitable model for the purpose of this study, selected complete demand systems are presented. The comparative assessment leads to the selection of the “Linear Approximation of the Almost Ideal Demand System” (LA/AIDS) because of its theoretical consistency and its ability to depict non-linear Engel curves.

The determining factors at individual household levels become important outcomes explored by this study. Livestock products are known to be both income and price elastic. With changes in income the consumption of all food items is likely to change. Other economic factors including value of household assets and age of household head, and mother’s education level were also significantly related to this animal protein foods consumption.

Applied demand analyses are of interest because they provide updated estimates of price and income elasticities and demand forecasts. The quest for better and more reliable estimation methods is bound to continue. Improved model specification in cross-sectional data may be obtained by combining linear parametric information from demand analysis.
with demographic information.

The impacts of socioeconomic factors on the demand for livestock products were measured with the help of dummy variables added to the model. The impact of socioeconomic values was found to be very low particularly in the rural household. However, likelihood ratio test statistics suggest that demographic variables have effect on food consumption. For instance, while the size of households was statistically significant only in egg and milk consumption in urban area, this variable was insignificant in other categories. While the number of the household members increases, the budget share of milk in total expenditures on food decreases while increase for egg. The education levels of the wives are statistically significant on consumption of meat and egg in urban area. On the other hand, as the education level increases, meat consumptions increase, too. However, there is a negative relation between education level and egg consumption.

There is no statistically significant relation between the age of the household head and the consumption of meat and egg in different region. The coefficient of household head occupation is statistically significant to all livestock products consumption in both regions except meat product.

Generally, the expenditure elasticities for selected food groups such as livestock products in Indonesia are relatively high. This can be explained by the economic situation in Indonesia. Many households, especially the poor, face tight budgetary constraints and all of the selected food commodity groups are considered as very important items because they fulfill fundamental needs of people.

The uncompensated own price elasticities of household livestock products in the urban and rural area show a negative sign and follow the theory of demand. Own-price elasticities of all livestock products are significant at the 1 percent level. The uncompensated own-price elasticities of livestock products consumption in urban and rural area shown that meat, egg and milk product consumption is sensitive to the change of prices. The compensated price elasticities are very similar to the uncompensated elasticities in terms of sign and statistical significance. Own-price elasticities of household livestock products carry a negative sign and this show that households are very sensitive to the change of price.

Cross-price elasticity with negative sign implied that increasing price of one good causes a decreasing consumption of another good. From the cross-price analysis, change in the meat price was statistically significant to the change of egg and milk consumption with negative sign. Increasing price of meat caused decreasing consumption in egg and milk product. Meat becomes important food for household especially in the urban area. Cross-price elasticities show competitive or complementary relations among products. All positive cross-price elasticity indicates that there is substitute response, while negative cross-price elasticity means that products are complements. For instance in the urban area, consumption of meat to the price of egg (0.27) and milk price (0.418). It is also shown on the consumption of milk to the price of meat (0.13) and egg price (0.16).

The dynamic LA/AIDS models have meat and milk expenditure elasticities of 1.0625 and 1.02200, respectively, and low expenditure elasticities for egg of 0.848. Meat and milk have the highest expenditure elasticities, which seem to be plausible, particularly in urban area, while egg has high expenditure elasticity in rural area.

The dynamic LA/AIDS model not only delivers a much more reasonable set of expenditure elasticities for almost all of the livestock products food items we selected but
also satisfies all the theoretical constraints. Meat, egg and milk all have expenditure elasticities larger than one, meaning that the urban households will consume more of these food items at a higher rate than other foods when their income increases. These results support that previous purchases do affect current consumption and strong habit effects exist in Javanese households. Without considering these dynamic effects, the demand models may be miss-specified and elasticities for necessity items may be overestimated and more luxury food items be underestimated. Given the trend that average income has been increasing and Engel Coefficients decreasing steadily, we might expect the habit effects would lower the budget shares and therefore reduce the expenditure elasticities for necessity food items. The dynamic parameters do not affect the estimated expenditure elasticities much from using the dynamic specification. The estimated habit effect coefficients are presented. Egg has the largest estimated $\delta$ coefficients. As we mentioned earlier, $\delta$'s do not enter into elasticity computation directly but affect the expenditure elasticity through $\beta_i$. From table 2, we can see that positive $\delta_i$ lead to a decreased $\beta_i$ while negative $\delta_i$ lead to an increased $\beta_i$. As we noted earlier, these coefficients capture the habit effects of lagged purchases of the individual items. Habit effects imply consumption of livestock products having an income effect on current consumption decision. Livestock products demand projections model are made from the changes in the budget share of each livestock products items from the base year. The model produces projections for each of livestock products in household and regional levels. Projected budget share for household in the future period is possible to estimate future expenditure and quantity consumed. The result shows that for most livestock products, the household-level growth rates for livestock products consumption were projected to year 2020. According to these projections, total livestock products consumption will grow at annual rate of 4.3-5.0% during the projection period. The average growth rates are achieved 4.14%, 4.43% and 2.21% for meat, egg, and milk, respectively. In the household level, the prediction of budget share of the livestock products to the total food expenditure gave significant increase. During the projected period, budget share of meat will increase by 6.6% and 3.5% for egg, and milk will grow by 7.7%. Regional projections consumption are projections of livestock products consumption for urban and rural Java by using average population shares of urban and rural Java in the total population of Java. For each of the two regions, livestock products consumption projections are generated for three livestock products by combining the estimated demand response parameters from the structural model with population projections and assumptions about the future livestock products prices and real total food expenditure. The growth rate of food expenditure has decreased from 0.6% to 0.4% in urban and from 0.8 to 0.5% in rural area. The annual growth rates in the consumption of livestock products in urban area are around 2.3%, 2.5% and 1.2% for meat, egg and milk, respectively, while only 0.5%-2% in rural area during the entire projection period. The results presented here show substantial growth in the consumption for meat (including poultry meat), egg and milk throughout the projection period. Therefore the domestic demand for livestock products could become important source of rapid growth
for the livestock industry in Indonesia. Projection of livestock products analysis implies that the demand for most livestock products in Java will continue growing during the next 15 years. Consequently, self-sufficiency in meat, egg and milk product would require the substantial increases in the production of livestock products in the future. Domestic demand for meat, egg and milk products could become an important source for the growing of livestock industry in Indonesia. This sector should respond to these phenomena by enhancing the production of meat, egg and milk products, focusing in the poultry industry, dairy product processing and the feedlot beef cattle fattening.

Remark: The summary of the dissertation should be written on A4-size pages and should not exceed 4,000 Japanese characters. When written in English, it should not exceed 1,500 words.