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COMPILATION AND ANALYSIS OF DEMAND ELASTICITIES FOR LIVESTOCK PRODUCTS IN THE EUROPEAN COMMUNITY AND JAPAN: BASED ON STUDIES USING HISTORICAL SERIES FROM THE 1950's TO 1970's WITH PROJECTIONS UP TO 1985

by

Myles J. Mielke

Foreign Demand and Competition Division

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FOREWARD

A number of studies have examined the demand for food in the European Community (EC) and Japan, the two major trading partners of the United States, covering the post World War II period to the mid-1970's. Many also conducted projection exercises of supply and demand for agricultural products with 1985 being the latest year. This paper reviews the literature concerned with measuring the retail consumer demand response for livestock products with respect to changes in income and prices. Almost 50 studies presenting numerical estimates of demand elasticities were reviewed. 1/

The paper is in three parts. The first part provides some general information on the studies reviewed and an interpretation of their results. The second part summarizes the demand sections of the studies that give information on methodology, economic assumptions, and variable descriptions used by the authors. The reader may wish to refer to these summaries as an aid in using the tables. For convenience, the studies are differentiated by whether they pertain to one country or to more than one (multi-country studies). The third part of the report presents the elasticities of demand for income and price in two tabular sections--one for meat and one for dairy products. The compilation tables list the demand elasticities by author in alphabetical order. A key to the tables appears on pages 36-37.

1/ The formal definition of demand elasticity is the ratio of a percentage change in consumption to a unit percent change in income or price.

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Interpretation of Results

Introduction

The studies reviewed here were, in general, based on time-series (historical) data, although cross-section analysis was utilized extensively for France, Japan, and the United Kingdom. Time-series statistics for no earlier than 1950 were examined because of severe market disruptions caused by the Depression, World War II, and the early post-war period. Statistical analysis relied, in most cases, on least-squares regression techniques which related per capita consumption to per capita income and retail prices.

Income elasticity of demand was the most common estimate found in the studies. This measurement, however, is not always the most relevant in determining the causes of change in consumption. Price changes are critical, especially in the short run. Although the statistical isolation of price-demand relationships is more difficult to calculate, several studies attempted to measure the effect of direct-price changes on the consumption of particular foods. Also considered in some studies were changes in the consumption of a particular commodity that was due to a change in the price of complementary or competing products (both food and nonfood). However, unlike simple equations with one or two independent variables, statistical measurement of a number of these cross-price elasticities was limited by the complexity of such an analysis. In most cases, the measurement of cross-price relationship was restricted to a few close substitutes or complementary goods.

As might be expected, elasticities for the same commodities within the same country were seldom the same. This occurs for several reasons, the most important of which are: 1) Elasticity coefficients were computed both from household or family budget surveys (cross section) and from time series.

It is to be expected that there should be some differences in the elasticities calculated by these two procedures -- particularly because changes in demand relationships over time are not reflected in a cross-section study. Furthermore, consumption and income variables are generally defined differently between cross-section and time-series studies. For example, cross-section consumption was usually measured in terms of expenditures, while time-series consumption was most likely measured in volume: 2) Different equation functions were utilized depending on how the authors viewed the demand relationships; and 3) alternative estimating procedures were used to calculate regression coefficients. Of course, the use of different time periods, demographic and economic classes, and urban and rural dichotomies were also responsible for variation in demand elasticities.

Unless otherwise indicated, most demand elasticities presented in the tables have the following common basis analysis: elasticity estimates were derived from per capita income and per capita consumption figures; prices were generally measured at the retail level; and data was usually expressed on an annual basis and for the population as a whole, i.e., not just one segment of the population.

Despite the variety of economic conditions, data bases, and research methodologies of the studies surveyed, there are general conclusions which can be drawn if the reader is willing to accept the ceterus paribus assumptions presented in the studies. Two broad areas are examined here. One deals with possible changes in the magnitude of elasticities over time. This involves detecting apparent trends of patterns of change and also determining the causal factors. The other area of investigation concerns the estimation and use of elasticity coefficients for projecting future demand for agricultural

products. The principal difficulty lies in estimating repsonses to price changes in the context of long-run projections. Of course, the use of elasticities for projection purposes is related directly to the interpretation of changing demand elasticities over a historical period of time.

Possible Changes in Demand Elasticities

Only elasticities of demand for meat are examined because of a lack of information on dairy products and because of the greater importance of meat products in consumer budgets in the EC and Japan. Tables 1-3 present both income and price elasticities as nearly as possible in chronological order.

Income Elasticities--The study of income elasticities is usually related to the classical demand theory of Ernst Engel, who postulated that as real income grows the demand for food increases by a declining proportion. Engel's theory was based on cross-section analysis of different income groups among Belgian clerical workers. His findings have been interpreted in an economic development context to mean that, over time, income elasticity will be most elastic in an early period but less elastic later, when incomes are higher. The estimates of income elasticities for the EC and Japan tended to confirm this hypothesis. It is apparent from examining the tables that the income elasticity for each meat category has a tendency to decline over time, with the possible exceptions of beef in Japan and the United Kingdom.

Plate (43) claims, based on examination of several studies, that the income elasticity for meat in West Germany declined by half between the early 1950's and late 1960's. This conclusion appears to be substantiated given the available information (table 1). Results from Stamer and Wolffram (49)

also indicate higher income elasticities for beef and pork during the 1950's. However, any conclusion is conditional because each study was based on different methodologies and the variables measured were not always the same. For example, Weber measured income as per capita consumption expenditure whereas Langen used per capita disposable income. As incomes change there may not be a proportionate change in consumption expenditures if the savings rate is changed to accomodate a new income level.

Table 1--West Germany: Selected demand elasticities, 1950-69

Commodity, source, and time period	Income elasticity	Price elasticity	
		Direct	Cross
Beef:			
Weber, 1950-58	1.07(.05)	-.59(.10)	.31(.15)(pork)
Langen, 1955-65	.69	-.75	.23(pork) .10(poultry)
Plate/Neidlinger, 1960-69	.55	-.60	.20(pork)
Pork:			
Weber, 1950-58	.47(.05)	0.68(.15)	.60(.13)(beef)
Langen, 1955-65	.37	-.45	.13(beef)
Plate/Neidlinger, 1960-69	.30	-.55	.30(beef)
Poultry:			
Stamer/Wolffram, 1950-62	1.31(.16)	-2.67(.45)	NA
Langen, 1955-65	.93	-1.93	NA
Plate/Neidlinger, 1960-69	.50	-.80	NA

Note: NA = Not available. Numbers in parentheses are standard errors.
Source: Table 6, p. 44.

Table 2--United Kingdom: Selected demand elasticities, 1955-74

Commodity and time period	Income elasticity 1/		Price elasticity 2/				
				Cross price elasticity w.r.t.			
	Expenditure	Quantity	Direct	Beef	Pork	Mutton	Poultry
Beef/veal:							
1955	.18	.08					
1958	.06	-.02					
1960	.16	.07					
1962	.16	.09					
1965	.21	.10					
1967	.24(.03)	.16(.02)					
1969	.36(.04)	.25(.04)					
1971	.35(.05)	.30(.05)					
1973	.42(.03)	.36(.02)					
1974	.40(.05)	.32(.05)					
1956-63			-1.29(.19)				
1964-69			-1.24(.15)				
1969-74			-.81(.19)				
1956-66			-1.30(.18)		-.04(.08)	.04(.10)	.12(.07)
3/1967-74			-1.07(.18)		.15(.07)	.22(.10)	.05(.07)
Pork:							
1955	.38	.30					
1958	.62	.53					
1960	.46	.43					
1962	.41	.34					
1965	.35	.31					
1967	.35(.09)	.32(.09)					
1969	.30(.08)	.25(.12)					
1971	.32(.05)	.31(.06)					
1973	.32(.08)	.29(.11)					
1974	.38(.10)	.23(.18)					
1956-63			-1.36(.40)				
1964-69			-1.12(.31)				
1969-74			-1.21(.21)				
1956-66			-1.24(.33)	- 18(.35)		.46(.27)	.20(.18)
3/1967-74			-1.35(.18)	.48(.23)		.18(.17)	-.12(.13)
Mutton/lamb:							
1955	.48	.35					
1958	.47	.34					
1960	.38	.29					
1962	.41	.32					
1965	.27	.21					
1967	.17(.07)	.10(.06)					
1969	.28(.03)	.19(.05)					
1971	.07(.06)	.01(.06)					
1973	.24(.04)	.21(.05)					
1974	.23(.05)	.15(.08)					

See footnotes at end of table

Continued--

Table 2--United Kingdom: Selected demand elasticities, 1955-74--continued

Commodity and time period	Income elasticity 1/		Price elasticity 2/				
				Cross price elasticity w.r.t.			
	Expenditure	Quantity	Direct	Beef	Pork	Mutton	Poultry
Mutton/con't:							
1956-63			-.57(.18)				
1964-69			-.47(.27)				
1969-74			-1.12(.19)				
1956-66			-.52(.10)	.07(.18)	.19(.11)		-.10(.10)
3/1967-74			-1.43(.21)	.44(.21)	.12(.11)		.25(.12)
Poultry: 4/							
1955	1.70	1.61					
1958	1.51	1.40					
1960	1.37	1.34					
1962	.90	.88					
1965	.42	.42					
1967	.52(.14)	.53(.14)					
1969	.32(.08)	.25(.09)					
1971	.39(.07)	.37(.07)					
1973	.10(.07)	.04(.07)					
1974	.37(.08)	.31(.08)					
5/1956-63			-1.15(.43)				
5/1962-67			-.47(.55)				
6/1969-74			-.97(.27)				
5/ 1956-66			-1.26(.36)	.68(.39)	.26(.24)	-.31(.10)	
3/6/1967-74			-1.30(.30)	.20(.31)	-.16(.18)	.53(.27)	

Note: Numbers in parentheses are standard errors.

1/ Income elasticities were derived from cross-section analysis where demand is measured in terms of either household expenditures or volume purchased (per capita basis).

2/ Price elasticities are computed from monthly data for the years indicated.

3/ R^2 is less than .50.

4/ All poultry meat uncooked, fresh and frozen - 1955, 1958, 1960, 1962; broiler chicken, uncooked 1965, 1967, 1969, 1971, 1973; broiler chicken, uncooked, including frozen - 1974.

5/ Poultry, uncooked.

6/ Broiler chicken, uncooked, including frozen.

Source: Table 11, p. 62.

Table 3--Japan: Selected demand elasticities, 1955-73

Commodity and time period	Income elasticity	Direct price elasticity
Beef:		
1963	1.31	
1965	1.16	
1967	1.20	
1969	.98	
1970	1.02	
1972	.88	
1973	.89	
1955-64 1/	1.10(.34)	-.96(.42)
1964-73	1.18(.30)	-1.68(.34)
Pork:		
1963	1.23	
1965	1.17	
1967	.87	
1969	.75	
1970	.71	
1972	.67	
1973	.61	
1955-64	2.78(.16)	-1.83(.30)
1964-73	1.46(.16)	-1.76(.48)
Poultry:		
1963	.90	
1965	.73	
1967	.68	
1969	.49	
1970	.53	
1972 1/	.37	
1973 1/	.31	
1955-64	3.10(.21)	-1.19(.77)
1964-73	.56(.58)	-2.33(.87)

Note: Numbers in parentheses are standard errors.
1/ R^2 less than .64.

Source: Table 12, p. 69.

The downward trend in the West German estimates is complicated by problems of comparability. To establish consistency in methodology and variable selection, a statistical test was run using Kost's equation (32) and a revised data series for beef. The null hypothesis that demand functions were not changing over time was assumed. The equations were run with dummy variables to allow the coefficients to take on separate values for earlier (1955-63) and later (1964-71) periods. The results indicated that the equations for each period were not statistically different from each other, and thus, the null hypothesis was not challenged. Regressions were run separately over each period with similar results. This is contrary to what the West German studies indicate.

The studies conducted in the United Kingdom (53) and Japan (31) were more conducive to interpretation since they were carried out by the same respective Government agencies over a number of years where methodologies and variable descriptions tended to be the same. Income elasticities for the United Kingdom and Japan were determined from cross-section analysis, but time series was also used for Japan. Both studies measured consumption expenditures in volume or quantity purchased. Income elasticities for the major meats declined in both countries, except for beef (tables 2 and 3).

This can be partly explained during later years in the United Kingdom because beef consumption apparently became more sensitive to income changes when prices of close substitutes grew at a slower rate. Per capita beef consumption declined from 24 kilos in 1969 to 21.1 kilos in 1973 as retail beef real prices rose faster than other major meat prices, with the exception of lamb prices which grew at the same rate. Compared with the 12 percent decline in beef consumption, per capita pork consumption remained at about the same level but poultry consumption increased 18 percent which accounted

for most of the residual demand for meat. 2/ All of this occurred while real personal consumption expenditures (income variable) rose by an average 4 percent per year from 1970-73.

In the study of Japan, the income elasticities for meat also tended to conform to Engle Curve analysis. 3/ Statistical errors prevent a rigorous comparison of the results. According to the household surveys, the income elasticity for beef had been declining since the mid-1960's. Time series analysis indicates a strengthening of the beef income elasticity between an earlier period and since the mid-1960's. Whether there is a changing income elasticity based on time series is not clear. The estimate for 1955-64 is suspect because of a multiple correlation coefficient of less than .8 ($R^2 < .64$). In an earlier study, regressions estimates for a similar period (1955-62) also show a lower regression correlation. Better statistical results were obtained for regressions run over successively more recent periods (by one-year increments), 1959-68, 1960-69, etc., which resulted in an income elasticity increasing from 1.02 in 1959-68 to 1.18 in 1964-73. This tends to confirm a growing sensitivity (elasticity) of beef consumption to changes in income.

The time-series results are difficult to substantiate and appear contrary to historical data taken from the household surveys. The average annual rate of change in beef consumption (expenditure) slowed during the later period

2/ Together, per capita pork and lamb consumption decreased from 36.8 to 35.1 kilos, with lamb absorbing most of the loss, going from 10 to 8.4 kilos. Per capita poultry consumption increased from 10.1 to 11.9 kilos between 1969 and 1973.

3/ Based on a survey of households in cities with population of 50,000 or more.

(1964-73) and was less than the average rate of change in income, a reversal from the earlier period (1955-64). 4/ Other things being equal, this should dampen the income elasticity measurement rather than make it stronger.

Price elasticities--In theory, price elasticities should be higher when incomes are lower because consumers would tend to be more price conscious on a limited budget. On the other hand as incomes rise and consumers become more affluent, the budget constraint is reduced and changes in the price level would tend to be less important in determining consumption. Thus, one might expect smaller price elasticities as incomes rise. This theory, however, is difficult to substantiate for individual meats in the studies under observation.

No general conclusions can be drawn about the movement of direct price elasticities over time because of the mixed results. Direct price elasticities appear to be weaker for pork in more recent years in all three countries. Beef price elasticity was growing weaker in the United Kingdom but much stronger in Japan. The introduction of the broiler industry into the EC and Japan during the late 1950's and early 1960's makes a comparison of poultry elasticities between periods somewhat tenuous, as a quality change from hen to broiler meat would be expected to influence consumption. This effect was not effectively isolated in the statistical analysis.

Obviously, contervailing factors are affecting the direct price elasticity. The absolute elasticity value would tend to increase as substitutes become available. This occurs in particular when price relationships favor the substitute commodity. Availability may come from two principal sources; technology giving rise to new substitute products, and reductions of trade

4/ All values were deflated.

barriers to increase availability of competitive products. The introduction of the broiler industry into the EC and Japan provided the means for substantially increasing poultry consumption, which, ceteris paribus, would compete with other meats (and fish in Japan).

In Japan, for example, time series regressions run over successfully more recent periods, 1959-68, 1960-69, etc., confirm the strengthening of the price elasticity for beef--from -1.62 during 1959-68 to -1.92 in 1963-72. This was unexpected because real incomes were increasing during this period, which theoretically should dampen price effects. One explanation is that the average rate of growth of per capita beef consumption declined during the later period (1964-73) due largely to strong price competition from poultry and pork and partly because of government controls on beef imports. Abundant and less expensive fish and fish products also tended to keep beef and other meat consumption at a low level.

Perhaps better elasticities could have been estimated if qualitative and other factors were explicitly accounted for. In particular, the effects of changes in prices of substitute products on the measurement of direct-price elasticities was not well documented. Elasticities estimated for Germany by Stamer/Wolffram (49) and Langen (34) indicated that by including cross-price estimates, the direct-price elasticity usually changes, albeit not by a large degree. As suggested above, cross-price elasticities should have been incorporated into the Japanese equations. A direct analysis of cross-price effects on consumption was not possible for the U.K. because of statistical error problems. Most of cross-price elasticity coefficients derived over the 1956-66 period were statistically insignificant, and all the coefficients of determination (R^2) for the equations run over 1962-74 were also less than or equal to .47. The loss of degrees-of-freedom in

the estimation of cross-price elasticities probably caused the poor results in the U.K. study.

Demand Elasticities and Projections

In many cases, projection exercises have relied on past trends to estimate coefficients of major determining variables. Since it was not possible to determine whether direct-price elasticities were changing over time, it appears that estimates developed from time series analysis may be reasonable to use for projection purposes. Changes in such factors as controls on supply including marketing bottlenecks, improvements in quality, and availability of substitute commodities have to be taken into consideration. Livestock cycles can also be expected to influence elasticity measurements. 5/

Over time, the effect of price changes on total demand may be minimal when compared to the effects of changes in income levels, demographic structure, and personal preferences. This is not to say that prices will not influence consumer demand. Price relationships tend to allocate a consumer's income among alternative choices of food commodities. In this regard, cross-price elasticities are important, but unfortunately this is the measurement on which we have the least information. Some of the studies also indicated that long-term projections underestimated income elasticities because of expected increases in prices. The important relationships between direct-price and income elasticities have been accounted

5/ For example, in the equation for poultry in the United Kingdom 1969-74, the price variable accounted for only 19 percent of the variation in average monthly purchases when the data were adjusted for seasonal or annual shifts. The "price variable" explained 61 percent of the change in poultry consumption when seasonal and annual factors were included.

for in several of the studies. Other studies avoid this complex issue by assuming constant prices over the projection period.

The development of price and income elasticities for use in projections presents other problems. In the long-run, it appears that measurement of income elasticity is statistically more accurate and dependable than is the measurement of price elasticity. This may be the case only because we know more about the interaction between income and consumption than we do about the price/demand relationship. Nevertheless, long-run price trends are difficult to ascertain unless several years are examined. This has a practical disadvantage because continuous price series for many food commodities are not available over long periods in many countries. While not an extreme problem for the EC and Japan, it has been a limitation for many of the studies in the establishment of a viable base period for projections.

Another and somewhat more technical problem has to do with the use of least-squares regression which was the most common method of statistical analysis employed in the studies. Demand elasticities resulting from least-squares regression are usually calculated at the means over the historical period. Because an average is not always the best representation of reality, it is at times necessary to make adjustments based on other economic factors and statistical measurements. This is critical in making projections so as not to compound a historical misrepresentation several years into the future. Furthermore, policy alternatives would be quite different if based on elasticities determined at the mean or by elasticities determined for one point in time. The choice of the equation function

also is relevent. For example, the double logrithmic form assumes a constant elasticity over the range of data while the others do not.

In the final analysis, the analyst's preconceived ideas about future trends in consumption, income, and prices as related to past experience may be the decisive factor in the choice of elasticity coefficients to be used for projections of demand. With respect to the countries reviewed in this paper, there are important questions to be resolved concerning future demand for agricultural products. One must consider whether the European Community and, in particular, its Common Agricultural Policy will be successful in establishing common internal prices. Perhaps international political and economic pressures and claims of national sovereignty within the Community itself will override common objectives. We can also question the ability of Japan to maintain its high economic growth rate of the past decade, and thus, growing demand, when faced with a great dependency on foreign trade in an increasingly competitive world.

D. Elz

The study projects the import demand for oilseed products in the EEC for 1970. By using a derived demand analysis through livestock-feed and vegetable oil requirements the study sought to estimate food consumption levels. Demand elasticities were presented for the original EC-6 countries and were largely taken from other studies. However, income and direct and cross-price elasticities were calculated at the retail level for fats and oils (including butter) by means of regression for the period 1950-63. Per capita consumption was measured in terms of quality, per capita income in deflated local currency, and retail prices were deflated.

Food and Agricultural Organization of the United Nations (FAO)

Three primary FAO projection studies cover the periods 1970 (12), 1970-80 (15), and 1975-1985 (14). Demand projections for food were based on population and income growth trends with prices being held constant. Under these assumptions, historical patterns during various data base periods were examined in order to develop income elasticities for individual food commodities. Use was made of national household surveys (cross section), time-series analysis of national per capita consumption and budget data, and international comparisons. Revised elasticities were used for the projection period to reflect expected deviations from past trends. Another FAO study presented demand elasticities for meat products in The World Meat Economy (13). Income estimates were adapted from a joint study prepared by the ECE/FAO. 6/ They were chosen after calculations by two methods -- one using covariance analysis of time-series data within each country combined with inter-country comparisons;

6/ Economic Commission for Europe/FAO, European Agriculture in 1965, Geneva (1961).

the other based on budget data.

In addition to the above studies, the Committee on Commodity Problems (CCP) examined specific aspects of agricultural demand and supply as a result of the 1971 projection study (15). In FAO/CCP report No. 5 (18), actual versus projected demand levels were compared for 1968. The 1967 FAO study (14) was used for this purpose as it was published before 1968 data could be incorporated into the analysis. Because the 1967 study assumed constant prices, it was necessary to account for the effects of actual price changes on demand in order to make the projected and actual outcomes comparable. Direct-price elasticities were chosen to correspond to and used to modify the projections made in the 1967 study. Most price elasticities were taken from other sources and only a few products were compared in this manner. Of the latter, price elasticities chosen for poultry meat were relevant to this paper. 7/

FAO/CCP report No. 6 (19) examined the economic implications of the entry of the United Kingdom, Ireland, Denmark, and Norway into the EEC before these countries were formally accepted as members. In contrast to earlier studies where prices were held constant during the projection period, this report examines alternative price assumptions for the same period "reflecting different possibilities of price adjustment after an enlargement of the EEC."

Producer prices were assumed to remain at 1969-70 EEC levels to 1980: consumer prices were adjusted according to three alternative approaches. For the purpose of projecting future demand under the assumption of changing prices, both direct and cross-price elasticities were examined along with

7/ Only those elasticities which were calculated by the FAO are represented in the tables as originating from the CCP reports.

income effects. Demand elasticities were taken from existing studies, while a few were computed by the FAO. The major assumption of the study is that all four countries would become members on similar terms and conditions including the acceptance of the EEC Common Agricultural Policy and the system of prices as it was in the year 1970.

F.H. Gruen

For this study on supply and demand projections of agricultural products in Australia, the authors developed demand elasticities for several countries in order to analyse international trade prospects. Income elasticities were derived assuming constant prices. Estimates were based on various FAO and country publications, but mainly reflect the results of the 1962 FAO projection study (12). However, FAO elasticity numbers were estimated for commodity groups while the Gruen study estimated income elasticities for individiual commodities.

W. Kost

Based on data covering 1955-68, a series of least-squares regression equations were run for France, Germany, and Italy in order to develop coefficients to be used for a demand and supply model of the original six EEC countries. As a result of the exercise, several income and price elasticity coefficients were generated. While not all the equations have high coefficients of determination, they represent the best in a series of demand equations. Retail price data was taken from individual country sources (usually national account statistics), "income" or total per capita consumption expenditures from the IMF, and food consumption data in volume from Agricultural Statistics (Statistical Office of the European Community).

H.B. Krohn

This study of demand for food in the EEC includes a presentation of "apparent" income elasticities for the original members of the Common Market for the 1958-1970 period. From a translation of the work, it appears that calculations were done for each country to project 1970 consumption levels using income elasticities developed from family budget surveys, time series, and international comparisons around 1960. In order to make the individual projection results comparable, the author decided to estimate so-called "apparent" elasticities by calculating the differences between known 1958 and projected 1970 consumption levels and relating them to projected changes in incomes between the two years. Therefore, the "apparent" income elasticities were not the ones used for the initial projection calculations, but served to compare demand responses to changing incomes in the countries of the EC-6 up to 1970. For purposes of calculation, per capita consumption was measured in quantities and income in terms of total per capita consumption expenditures.

Michigan State University, Institute of International Agriculture

Two MSU publications are included in this paper. The first one by Sorenson and Hathaway (48) presented income and price elasticities for the original six members of the European Economic Community. The approach to estimating the elasticities was best described by the authors.

> These elasticities were arrived at through compilation of elasticities in available studies that have attempted to directly measure income-consumption response or have used income elasticities for projection purposes. These, in turn, were compared with several studies in the United States that were done with data reflecting income levels close to those that will apply in the EEC during the

> projection period. On the basis of these two sets of data and also reflecting known taste patterns and levels of consumption, the assumed elasticities only partially repeat values used in the other studies. In general, the elasticities used tend to be somewhat lower that in prior studies....
>
> Optimally, estimates of the price effect on consumption of a commodity or groups of commodities should rely on a fully specified matrix of price and cross-price elasticities that encompass total consumption. Further, these should be based on estimates of consumer level price shifts. Since neither of these sets of data are available for European countries, an approximation based on data that are available became necessary. Retail price shifts are estimated from price data that apply at the farm level plus estimated marketing margins. Price elasticities were developed using limited European sources and information from compilation studies done in the United States. (pp.51-54)

The second study conducted at MSU by Ferris and others (9) employed other analytical techniques to develop demand elasticities. A study of trade, supply, and demand for livestock and grain products was made for the United Kingdom, Ireland, and Denmark with regard to their prospective entry into the EEC. Normative and predictive models were developed to analyse price and policy changes likely to occur with the entry of these countries into the EEC.

Time-series analyses were conducted for each country in order to generate elasticity coefficients to be used as a basis for the demand matrix of the projection model. A series of five different demand functions for each commodity were calculated from base period data covering 1955-1968 (for Denmark, 1954-68). Using least-square multiple regression, consumption was linked to nominal retail prices and total per capita expenditures. In some cases cross-price effects were measured, especially those for meat products. From this analysis, the authors chose the "best" regression equations which in turn yielded the elasticity values used in the demand matrix.

Price elasticities for oatmeal, margarine, and poultry in the Denmark production model were taken from the Aarthus University study (1) which had more success in isolating price effects for these products. The Durbin-Watson (DW) values were generally high for the U.K. demand equations and low in the equations for Ireland. In both cases, no attempt was made to correct the DW statistics since it was thought that this would not bias the partial coefficients. Where cross-price effects were not generated directly from regression analysis, they were derived from an examination of price changes and household budget constraints. Cross-price elasticities for non-foods were estimated by applying a zero-degree homogeneity assumption.

Organization for Economic Cooperation and Development (OECD)

Supply and demand projections for 1975 and 1985 were calculated for each member country. Major assumptions included constant prices and no changes in economic policies. Income or so-called "composite" elasticities were estimated for several commodities. For purposes of measurement, the elasticity coefficient related changes in per capita consumption of each product to the trend in income. Consumption data was taken from food balance sheets, and per capita private consumption expenditures from national income statisitics. While the analysis covers the 1955/56-1966/67 period for most countries and products, the 1961-63/(1960/61-63/64) base period was chosen for comparability with FAO projections. Elasticity numbers were adjusted for use in projections in cases where coefficients developed from historical analysis were considered unrealistic for projection purposes. Also, equation functions were sometimes changed for the projection period if the demand structure was assumed to be different in the future.

D.W. Regier

Estimating equations for five major European meat importers were

calculated by regressing per capita meat consumption on the index of per capita consumption expenditure and on the index of price of meat received by the farmer. Consumption expenditures were chosen instead of disposable income because the latter was not readily available. Value terms were deflated by the consumer price index (1960=100).

A. Weber

Several regressions were run for meat products in five West European Nations. Demand analysis was conducted for various cuts of beef, veal, and pork, and for poultry during the 1950-58 period. As translated, per capita consumption is in physical quantities and income is measured as per capita consumption expenditures. Prices are at retail and both price and income were deflated at 1954 values.

Individual Country Studies

Belgium

Studiecentrum voor Economisch en Sociaal Onderzoek (SESO) --A demand and supply projection study of food in Belgium was conducted by the Center. Income and price elasticities were estimated for several commodity groups including meat and fish. Data from 1953-64 was taken to run a series of regressions using single and double logarithmic equations. In the first set of equations, per capita consumption expenditure for a particular meat is regressed on total per capita consumption expenditures using double-and single-log forms. In a second set of equations using double-log functions, per capita consumption was regressed on income (from National accounts) and real price. Several regressions incorporating prices of substitute products were attempted but failed due to high milticollinearity among the explanatory variables.

Denmark

Aarhus Universitets Okonomiske Institut (AUOI) --This study of agricultural products in Denmark was undertaken to project supply and demand for 1970-1980. Both cross-section and time-series analysis were employed to develop demand elasticities for 1963-65 (cross section) and for 1953-65 (time series). One set of income elasticities was based on cross-section data, however, due to several deficiencies in the elasticities obtained in the cross-section analysis, income and price elasticities were also estimated from time-series data.[8/] For many commodities, cross-section and

8/ The cross-section analysis underestimated the "true" income elasticity; a similar bias was not found in the time-series. Also, since only wage and salary earners were used in the cross-section, the population is not "typical." Over 750 households were included in the final analysis.

time-series data were not fully comparable because definitions of food categories differed, and because cross-section consumption was measured as expenditure and time-series consumption was mostly measured in volume. Furthermore, the income variable in the cross-section analysis was based on disposable income (including savings and private profits) while the comparable measure in the time-series analysis was total per capita consumption expenditures (at constant prices).

In both cross-section and time-series analysis, demand was estimated using single equation, least-squares regression. For time series, six different logarithmic functions were used for most commodities. The cross-section study relied on a semi-logarithmic function for regression calculations (implying a lower income elasticity at higher incomes). The final demand elasticities used for projection purposes were derived from a further analysis and comparison of the cross-section and time-series results except for poultry in which further analysis showed high correlation between the explanatory variables. 9/ The equations for projecting beef and pork consumption used price relationships between close substitutes instead of a direct price variable. It appears that this was an attempt to derive an acceptable income elasticity measurement to be used for projection rather than develop a better price-demand relationship. In both cases multicollinearity between the income and price variables was reduced.

Federal Republic of Germany

Institut fur Wirtschaftsforschung (IFO) --Long-run demand and supply of agricultural products was examined through 1975. Time-series regression

9/ As a result, poultry consumption was assumed to grow at 3 percent annually in the future. The time-series regression analysis for skim milk and buttermilk were not statistically significant and consumption projections for these products were also assumed.

analysis of demand was done for the 1950-1964 period to determine the factors most likely to influence food consumption in Germany. Per capita private expenditure (deflated) was selected as the determining factor as it explained more than 70 percent of consumption of most commodities. The first projection exercise to 1965 (1957-60 base period) was then run using expenditures as the only explanatory variable. A second set of income elasticities was estimated for comparison which represented the "real development" of demand between 1957/60 and 1961/63. In most cases, the first set of elasticities resulted in a good tracking record.

A revised set of income elasticities was then calculated for the 1970 and 1975 projection period, using a 1961/63 base. The revised set was reinterpreted and adjusted in the light of the movements of certain price series to give a more comprehensive interpretation of factors affecting consumption than the unadjusted set. The income elasticities for beef and pork were not significantly revised, indicating a strong income effect on consumption even after including a price variable. Income elasticities for poultry and eggs were revised downward from the original estimates because the rate of increase in consumption had declined the last few years before the study was completed. Milk and milk products were assumed to remain at constant levels of consumption.

H. Langen --The author undertook an extensive analysis of demand for agricultural products in West Germany. He ran several regressions on meat and dairy products for different periods from the early and mid-1950's through the mid-1960's. Some of his results are also found in Plate's work on West German agriculture (43). For the regression, he measured income in terms of per capita disposable income (national accounts) deflated by a general

cost-of-living index (1958=100). Consumption was measured in terms of per capita quantity consumed using weighted averages of different cuts of meat: for beef, 66 percent was considered "roasting beef" and 34 percent as "stewing beef"; and pork was divided into "cutlets" (9.5 percent) and "pork belly" (21.8 percent). 10/ Prices were at retail and also deflated by the cost-of-living index. Prices for total beef and pork were determined by a weighted average price of the various cuts.

R. Plate.--The author has conducted a considerable amount of demand analysis on agricultural products in Germany. In volume I of his Agrarmarktpolitic (43), the author compiled lists of demand elasticities taken from several German authors including Gollnick and Maciej (24), Hesse (27) (28), Langen(34), Stamer and Wolffram (49), and Wöhlken (57). In volume II of the same work, Plate examined the development over time of income and price elasticities and any discernible trend in the demand for meat. He maintained that in West Germany, in the course of the decade and a half from the early 1950's to late 1960's, income elasticities of demand for meat products declined by half, and price elasticities in a similar proportion.

H. Stamer and R. Wolffram --The authors published an extensive analysis of the demand for agricultural products in West Germany during the 1950's and early 1960's. Regressions on time-series data (1950-62) were run using a marketing year (July-June) as the basic time frame. One result of the regression analysis was that in most equations the coefficients of cross-price effects were not statistically significant.

10/ Presumably, the remaining 68.7 percent of pork is in the form of processed pork products such as ham, bacon, etc.

Real income was measured as per capita disposable income of private households and non-business organizations. Retail prices were developed from marketing surveys of four-person, worker households and other sources. Both income and prices were deflated by the general cost-of-living index (1958=100). Per capita consumption was measured in volume.

France

Centre de Recherches et de Documentation sur la Consommation (CREDOC) -- Using data from time-series and cross-section studies, the CREDOC report undertook and analysis of food consumption in France. The study made use of Engle curve analysis to determine income effects and conditional regression analysis to measure the effects of prices on consumption. The results of these two exercises were combined to establish projection trends in food consumption to 1970 and 1975. In order to determine the effect of income, the study used a 1956 consumer survey of 22,800 farm and non-farm households across the country. 11/ Three different semi-logarithmic forms were employed in the regression of per capita household expenditures on expenditures for several food groups.

Time-series data for the 1952-61 period was utilized in the conditional regression analysis of first differences of logarithms. Price elasticities of major commodity groups were calculated by regressing per capita consumption expenditure (at constant 1956 prices) on real prices. Conditional regression was also applied to individual commodities to determine individual

11/ A 1955 household survey was used for measuring poultry consumption and income levels.

price effects, expecially for meat products. The results of this analysis were further examined and elasticities were chosen for the projection. These are presented in the tables as "a priori" or assumed price elasticities.

H. Faure --This article on the demand for red meat products in France employed an extensive econometric analysis. Demand functions were run for beef, beef and veal, and pork, using standard double-log, distributed-lag and conditional regressions covering the period 1952-64. Per capita consumption in volume was taken largely from the work done by CREDOC (5). Income data was from the government sources in terms of total per capita consumption expenditures, expressed in current prices using a Paasche index. 12/ Retail prices were derived from a weighted average of various cuts in each meat category and deflated at 1952 prices by the consumer price index.

A. Fouquet --This study, as a form of working paper, derived demand elasticities used for projections of food consumption in France for the period 1965-75. The author examined time-series data (from national accounts), household budget surveys for the years 1956, 1959, 1963, 1965, and 1966, and international comparisons. Together this information was used to develop short-run and long-run income elasticities and direct-price elasticities for individual food products.

Ireland

No individual country studies were found for Ireland. In many cases, the demand analysis for food consumption in Ireland has been incorporated into the analysis for the United Kingdom. Only the Ferris/MSU study (9) and an

12/ Weighted aggregative index for a given year.

OECD country report (39) presented separate analysis for Ireland. In both studies, as with other multi-country studies, methodology and variable description are generalized for all countries (see Multi-Country Studies).

Italy

V. Cao-Pinna 13/ --Both time-series and cross-section data were utilized for the historical demand analysis. Time-series information was based on national agricultural production and trade statistics which provided per capita availabilities for individual commodities. Cross-section analysis was based on a number of sample surveys conducted in the 1950's by various agencies and institutions in Italy. In particular, several regressions were run using data from a 1953 sample survey of 1,500 family budgets for all economic classes and regions of the country. These were calculated with per capita consumption measured in volume and expenditure.

Food demand projections were calculated for 1965 and 1970 in terms of expenditures for food and total expenditures (income) using 1955-57 as the base period. Income elasticities were estimated by an index using per capita and total population statistics. The resulting "apparent" elasticities were used for projection. 14/ Only elasticities based on per capita consumption are listed in the tables in order to make them more comparable with the results of other studies.

D. Phillips --The author estimated demand elasticities for beef and pork for Italy during the 1956-67 period. Two demand equations were calculated for beef and one equation for port. Stepwise, multiple linear regression was used to compute the coefficients from double-logarithmic

13/ A later study by Tsu and Koenig (52) is based on Cao-Pinna's work and is in English.

14/ "Apparent" elasticity = $\frac{\text{change in food expenditure index}}{\text{change in total expenditure index}}$

functions. Consumption was measured in terms of kilograms per capita, income in terms of per capita total consumption expenditures (at 1963 prices), and retail prices deflated by a consumer price index. Consumption and income data were taken from OECD publications and price information was based on Italian statistics.

The income elasticity of demand for beef was found to be quite high. Consumer income would appear to exercise the dominant influence in determining beef consumption and the partial correlation coefficients of the income variable support this contention (0.82 and 0.95 for the two beef equations). Direct-price elasticities for beef and the cross-elasticity for beef with respect to the price of pork were found to be statistically not significant. All explanatory variables appeared to be significant for pork demand.

Japan

N. Filippello --In an unpublished Ph.D. dissertation of the Japanese livestock economy (10), the author undertook to construct a recursive econometric model. A total of 22 equations (10 of these being identities) were developed to measure supply and demand relations for the 1953/54-1964/65 period. Using three-stage, least-squares regression, he calculated demand flexibilities 15/ (for meat, eggs, and fish) and demand elasticities (for milk only). Filippello noted that the lack of degrees of freedom, as well as correlations between variables, made the estimation of cross elasticities difficult and, in many cases, impossible.

In a later study (11), based in part on the above work, the author developed an econometric model of Japan's grain-livestock economy. While

15/ Demand function in which price is the dependent variable.

using data from 1951-1965 to develop structural relationships, the model was primarily developed to be representative of future economic relationships between 1965 and 1980. Because of this, demand elasticities were not calculated directly from the earlier period but were generated from the projection model. Elasticities were estimated for the base year (1965) and the last year of the projection period (1980). In both studies, consumption figures were measured in volume, income was equal to total national income (deflated by a consumer price index), and prices per kilogram were at wholesale deflated by a consumer price index in the earlier study and by a wholesale index in the later study (1960 = 100).

Japan, Ministry of Agriculture and Forestry--A publication by the Ministry titled, "Analysis of Food Demand", was a comprehensive report utilizing cross-section and time-series analyses. Cross-section data was taken from a nation-wide "Income Level Differentiated Family Budget Survey" comprising 16 income categories. In the cross-section analysis, income was expressed as per capita household expenditure. Consumption was measured either as household expenditures for food groups or in volume per household for individual commodities. 16/ The cross-section demand functions were computed using a weighted least-squares method after deleting the top and bottom income categories. Primarily, semi- and double- logrithmic functions were employed. All values were in nominal terms.

Time-series analysis was based on data from the "Family Budget Survey". Income was in terms of per capita consumption expenditures (deflated), and consumption was expressed on a per capita volume basis. Prices per item

16/ The cross-section elasticities in the tables are based on the consumption variable measured in volume.

were derived from an average "annual purchase value per household" deflated by a consumer price index, 1970 = 100. 17/ Double-log functions were computed using ordinary least-squares.

Netherlands

Agricultural Economics Research Institute (AERI)--This was the only country study found for the Netherlands. The report relied on future consumption estimates from the Central Planning Bureau. 18/ The AERI report did, however, perform its own historical demand analysis by means of balance sheets on a raw material basis for a 9 to 10 year period (1955/56 - 1964/65). It also described the basic methodology applied by the Central Planning Bureau in its demand analysis and forecast of "main use" food items. Alternative estimates for beef and veal elasticities were made by AERI because of unsatisfactory estimates from the Bureau's study.

United Kingdom

D. Edwards and B. Philpott--Demand and supply analysis for meat products in the United Kingdom was conducted for purposes of projections to 1975. Since only one of the income parameters (in the beef equation) was statistically significant at the one percent level, the authors decided to rely on other studies for the remainder of the income elasticities. Income elasticities were adopted from an earlier study by Matheson and Philpott (36) for poultry, pork and non-carcass meats, and from the annual U.K. food consumption survey (53) for lamb and mutton. Price elasticities were estimated for the 1955-63 period using the U.K. data base. A price matrix was developed for direct-

17/ Based on retail prices in cities over 50,000.

18/ The Dutch Government agency responsible for forecasting work. The AERI report is based on De Nederlandse Economie in 1970 (The Dutch Economy in 1970), The Hague, Sept. 1966.

and cross-price elasticities by simultaneously solving the five meat demand functions. Prices were measured at retail in deflated values.

Oxford University, Institute for Research in Agricultural Economics--Two projection studies conducted by the Institute were reviewed. The earlier study by Clark and others (40) projected demand and supply (including imports) of agricultural products for 1965 and 1975 under alternative population, production, income, and price assumptions. Income elasticities were based largely on those calculated by the U.K. food consumption survey (53) in 1958 and modified by comparisons to other budget data and time-series analysis. Price elasticities were developed from data of the same U.K. report and from pre-war times series of Stone 19/ and others.

The second Institute report by Jones and others (41) was a revision of the above study and estimated new projections for 1970, 1975, and 1980, based on the 1958/59 - 1963/64 period. In this study more food items were considered than in the previous study (29 as opposed to 21) and a more detailed demand analysis was made of individual food items. Again, cross-section and time-series information were used to estimate demand elasticities for the projections. For both studies, prices were measured and deflated at the retail level.

United Kingdom, National Food Survey Committee--The government has been publishing an annual report on food consumption and expenditures of private households based on monthly surveys. Income elasticities were derived from cross-section analysis of different household groups in the United Kingdom. A weighted average of the demand variables by household groups was calculated and double-logarithmic regression fitted to this data. The demand

19/ Consumer's Expenditures and Behaviour in the United Kingdom, 1920-38.

elasticity estimates were computed for consumption based either on household food expenditures or on volume purchased. 20/ The income variable was defined as "declared net family income" which was estimated by the housewife in the survey. The "income" figures were generally considered to be under-estimated.

The Committee periodically conducts a more comprehensive demand analysis which includes estimations of price elasticities. Time-series analysis utilized average monthly prices paid for commodities and average quantities purchased over periods of six to eight years. Double-logrithmic regressions were fitted to this data which was seasonally adjusted. Further statistically analysis was conducted to isolate seasonal and annual shifts and provided a criteria for choosing the most reliable direct-price elasticity. Cross-price elasticities were calculated by simultaneous solutions, but in most cases the results were either not statistically reliable or did not explain very much of the variation in consumption. All prices were deflated by the Index of Retail Prices.

I.M. Sturgess and R. Reeves--This is a study of potential markets for cereals in the United Kingdom in which livestock was considered a direct end-use for cereals (i.e., livestock feeds). Future consumption of livestock products was examined as a check on the projection estimates for production and also to have an idea of consumption levels based on forecasted price changes when the United Kingdom became a member of the Europlan Economic Community. The study assumed that the U.K. would join the EEC during the 1972/73 season (June/May) and that its agricultural prices would be at community levels by 1977/78.

Demand elasticities were developed for livestock products for the 1969/70 - 1977/78 period. These were "a priori" elasticities based on estimates drawn

20/ Only "quantity elasticities" are presented in the tables.

from various sources and converted to a common base . Use was made of the homogeneity condition to constrain the direct-price elasticities for any one product while cross-price elasticities were constrained by the symmetry condition. Income was measured as per capita consumption expenditure and prices were measured at the retail level. Other variables used in the analysis include the price of other (non-livestock) food products and the price of non-food items.

Some of the price elasticities may be considered high. The reasons given in the report were that the price elasticities: 1) represented the effect of progressive (and foreseen) changes in prices; 2) included price changes for institutions and catering services as well as household consumption (assuming that the former are more sensitive to price changes); and 3) reflected changes in prices of processed foods which tend to be more price sensitive.

Key to Tables

Reference Information

Source--refers to the publication cited in the "Reference" and the date of publication in parentheses.

Time period--gives the years covered in a time-series or cross-section study. "Historical" includes either the period of regression analysis or the base period of a projection.

Statistical Information

Equation--equation function used in determining elasticity coefficients and/or projecting future consumption. The abbreviations signify the following:21/

L - linear function; all variables expressed in linear measurement.

Example $y = a + bx$ Elasticity $= bx/y$

SL - semilogarithmic; one side of equation expressed in logarithms while the other is linear.

Example $y = a + b \log x$ Elasticity $= b/y$

DL - double-logarithmic; all variables expressed in logarithms.

Example $\log y = a + b \log x$ Elasticity $= b$

LI - log-inverse; a semi-log function with the independent variable expressed as a reciprocal.

Example $\log y = a - b/x$ Elasticity $= b/x$

LLI - log-log inverse; a double-log function except that one independent variable is a reciprocal.

Example $\log y = a - b \log x - c/x$ Elasticity $= c/z$

Inv. - inverse; a non-linear function with the independent variable expressed as a reciprocal.

Example $y = a - b/x$ Elasiticity $= b/xy$

R^2--coefficient of determination for the regression equation. Numbers with a bar over the top are coefficients corrected for number of degrees of freedom.

Coefficient and standard error--the regression coefficient for income and price variables are given if available. The standard error of the regression coefficient is in parentheses.

21/ Formulas are assumed to be in natural logarithms.

Commodities

Meats

Beef - includes fresh and frozen beef and veal products unless otherwise indicated.

Pork - fresh pigmeat products unless otherwise indicated. Ham and pork sausage products are usually excluded from this category.

Poultry - mostly chicken, but could also include turkey, duck, geese, and other edible foul.

Mutton - Mutton, lamb, and/or goat meat.

Total meat - usually includes offal, horse meat, etc., but also may include sausage products, canned meat (principally ham), bacon, or other processed meat products.

Fish - fresh and frozen fish and fish products which may include shellfish.

Dairy

Eggs - usually includes only that used for direct human consumption although farm and industrial use may also be included in some cases.

Whole milk - covers a wide range of terminology including liquid, fluid, fresh and bottled milk.

Butter - measured in milk equivalent or by fat content.

Cheese - in most cases includes cheese products from all milk producing animals.

Other milk - refers to milk products not considered in above categories. Commodities most common to this area are condensed, powdered and skim milk, cream, soft cheese (i.e., cottage and creamed cheese), yogurt, etc.

Table 4 --Belgium: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
FAO(65)1/		1965	.50							
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.50			SL				
Gruen(68)	1959-61	1980	.70			SL				
Krohn(62)		1970	.65							
MSU(68)2/		1970-75	.70	-.70	.10 pork .10 poultry					
OECD(68)	1961-63		.49			LI	.58	55.5(14)		
OECD(68)		1975-85	.30							
Weber(61)	1950-58		1.49	3/-2.04		DL	.88	1.49(.4)	2.04(.6)	
Weber(61)	1950-58		1.47	3/-2.08	-.05 pork4/	DL	.88	1.47(.5)	2.08(1)	.05(.92)
Pork:										
FAO(67)	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.30			SL				
Krohn(62)		1970	.28							
MSU(68)2/		1970-75	.45	-.30	.10 beef .10 poultry					
OECD(68)	1961-63		.28			L	.21	.05(.03)		
OECD(68)		1975-85	.70			SL				
Weber(61)	1950-58		1.51	5/-1.04		DL	.85	1.51(.3)	-1.04(.4)	
	1950-58		1.19	4/ -.90		DL	.88	1.19(.2)	-.90(.3)	
	1950-58		1.33	4/ -.59	.49 stew beef	DL	.89	1.33(.3)	-.59(.54)	.46(.65)
Poultry:										
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.60			SL				
FAO/CCP-5(71) ..	1962-68			-.82						

Continued

Table 4 --Belgium: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Krohn(62)		1970	1.31							
MSU(68)2/		1970-75	1.00	-1.01	.20 beef .20 pork					
OECD(68)	1961-63		2.30			LI	.66	264.4(59)		
OECD(68)		1975-85	.60							
Mutton/lamb:										
FAO(67)	1961-63	1975-85	.20			SL				
FAO(71)	1964-66	1970-80	.50			SL				
Gruen(68)	1959-61	1980	.60			SL				
Krohn(62)		1970	.17							
OECD(68)	1961-63		.60			SL	.37	.55(.21)		
OECD(68)		1975-85	.60							
Other meat:										
FAO(67)6/	1961-63	1975-85	.30			SL				
FAO(71)6/	1964-66	1970-80	.30			SL				
Krohn(62)		1970	.08							
Total meat:										
FAO(62)	1957-59	1970	.60							
FAO(67)	1961-63	1975-85	.44			SL				
FAO(71)	1964-66	1970-80	.40			SL				
Goreux(60)	1950-58		1.33			LI	.99	1,250(44)		
OECD(68)	1961-63		.62			LI	.87	70(8)		
OECD(68)		1975-85	.50							
Reiger(66)	1951-62		.90	-.26		DL	.94	.90(.11)	.26(.14)	
SESO(67)	1953-64		1.10			DL	.96	1.10(.1)		
	1953-64	1970-75	1.12			SL	.97	34,162(1,761)		
	1953-64		1.09	-.82		DL	.98	1.09(.04)	.82(.27)	

Continued

Table 4 --Belgium: Demand elasticities for meat products, continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Weber(61)	1950-58		1.20			DL	.79	1.20(.2)		
Weber(61)	1950-58		.89	7/-1.57		DL	.90	.89(.22)	1.57(.6)	
Fish:										
FAO(67)	1961-63	1975-85	.20			SL				
FAO(71)	1964-66	1970-80	.65			SL				
SESO(67)	1953-64		.92			DL	.86	.92(.11)		
SESO(67)	1953-64	1970-75	.93			SL	.86	2,975(36)		

1/ Estimate made in 1961 for a 1965 projection.
2/ Price and income elasticities derived from different sources.
3/ Stewing beef.
4/ Weighted average price of pork cutlet and bacon.
5/ Pork cutlet.
6/ Processed meat, edible offals, and game.
7/ Deflated price index for meat, (1954=100).

Table 5 --Denmark: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
AUOI(69)1/	1953-65		.60 to .70	-.74 to -1.06	.14 to .45 pork and poultry 2/		.61/.74**			
AUOI(69)		1970-80	.47	3/-.55		DL	.56**			
AUOI(69)4/	5/1963/65		.37			SL				
AUOI(69)6/	5/1963/65		.77			SL				
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.28			SL				
Gruen(68)	1959-61	1980	.50			SL				
MSU(71)	1954-68	1980	.40	-.01	.01 pork	SL	.84	5.99(3.6)	.19(.04)	.13(.05)
OECD(68)	1961-63		.41			LI	.37	50.2(19)		
OECD(68)		1975-85	.30			LI				
Pork:										
AUOI(69)1/	1953-65		.47 to .52	-1.23 to -1.48	.37 to .52 beef and poultry 2/		.58/.67**			
AUOI(69)		1970-80	.27	7/-.68		SL	.30**			
AUOI(69)	5/1963/65		.21							
FAO(67)	1961-63	1975-85	.10			LI				
FAO(71)	1964-66	1970-80	.00							
MSU(71)	1954-68	1980	.26	-1.37	.66 beef	LLI	.73	.42(.10)	1.37(.2)	.66(.19)
OECD(68)	1961-63		-.44			L	.30	.13(.06)		
OECD(68)		1975-85	-.10			LI				
Poultry:										
AUOI(69)1/	1953-65		.30 to .92	-.06 to -.28	.40 to 1.09 beef and pork 2/		.85/.88*			
AUOI(69)	5/1963/65		.36			SL				
FAO(67)	1961-63	1975-85	.70			SL				
FAO(71)	1964-66	1970-80	.70			SL				
FAO/CCP-5(71) ..	1962-68			-.29						

Continued

Table 5 --Denmark: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
MSU(71)	1954-68	1980	.40	8/-.27		SL	.91	3.8(1.0)		
Mutton/lamb:										
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.40			SL				
OECD(68)	1961-63		.00			L	.19			
Other meat:										
AUOI(69)9/	5/1963/65		.42			SL				
AUOI(69)10/	5/1963/65		-.05			SL				
FAO(67)11/	1961-63	1975-85	.40			SL				
FAO(71)11/	1964-66	1970-80	.40			SL				
Total meat:										
AUOI(69)1/	1953-65		.22 to .28	-.54 to -.59	.38 to .57 fish		.67/.77			
AUOI(69)	1953-65		.33	-.63		DL	.57**			
FAO(62)	1957-59	1970	.40							
FAO(62)12/	1956/57		.39					.39(.06)		
FAO(67)	1961-63	1975-85	.27			SL				
FAO(71)	1964-66	1970-80	.19			SL				
Goreux(60)	1950-58		4.29			LI	.74	3,850(1,150)		
OECD(68)	1961-63		.12			SL	.05	14.4(12)		
OECD(68)		1975-85	.10			LI				
Fish:										
AUOI(69)		5/1963/65	.36			SL				
AUOI(69)		1970-80	.45			SL				
AUOI(69)1/13/ ..	1953-65		.68 to .76	-1.73 to -1.93	14/-.01 to -.14 meat		.51/.60**			
AUOI(69)1/15/...	1953-65		2.24 to 2.36	14/-.04 to -.29	-.04 to -.87 meat		.94/.98*			
FAO(62)	1957-59	1970	.20							
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.63			SL				

Continued

Table 5 --Denmark: Demand elasticities for meat products, continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price

* Signigicant at the 99 percent confidence level.
** Significant at the 95 percent confidence level.
1/ Range of elasticities calculated from six different demand functions.
2/ Based on the average price of the two commodities.
3/ Ratio of the beef price to the average price of pork and poultry.
4/ Beef only.
5/ Years of cross-sectional survey - calendar year 1963 and split year February 1964 to February 1965.
6/ Young beef and veal.
7/ Ratio of the pork price to the average price for beef and poultry.
8/ Taken from the AUOI study (__).
9/ Canned meat.
10/ Processed meat, cold cuts, etc.
11/ Processed meat, edible offals and game.
12/ Based on consumption survey of urban households.
13/ Consumption measured in volume.
14/ Range of four equations only. The other two had small positive elasticities.
15/ Consumption measured as expenditures at constant prices

Table 6 --F.R. Germany: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.50			SL				
Gollnick(71) ..	1954-65		.82	-.55	.26 pork	SL	1.00			
Gollnick(71) ..	1963/64-66/67	1975	.73			SL				
Gruen(68)	1959-61	1980	.70			SL				
IFO(67)	1957-60	1965	.85			SL				
IFO(67)	1961/62-62/63	1975	.83			DL				
Kost(75)1/	1955-68		.42	-.58(boiling beef)	.36 pork cutlet	DL	.98	.42(.06)	.58(.12)	.36(.11)
Kost(75)1/	1955-68		.74	-.76(veal roast)		SL	.55	.40(.18)	3.41(2.0)	
Krohn(62)		1970	.60							
Langen(70)2/ ..	1950/51-64/65		.69 to .72*	-.38 to -.52	.02 to .11 pork					
	1950/51-64/65		.70 to .72*	-.38 to -.52						
	1955/56-64/65		.69 to .73*	-.74 to -.84*	.21 to .25 pork					
	1955/56-64/65		.69 to .73*	-.66 to -.75*						
Langen(70)3/ ..	1955/56-64/65		.69*	-.75*	.23 pork***	SL	.96			
Langen(70)4/ ..	1955/56-64/65		.69*	-.73*	.23 pork cutlet**		.97			
Langen(70)4/ ..	1955/56-64/65		.77*	-.71*			.96			
Langen(70)5/ ..	1955/56-64/65		.66*	-.72*	.15 pork belly**		.97			
Langen(70)5/ ..	1955/56-64/65		.63*	-.68*			.96			
MSU(68)6/		1970-75	.70	-.71	.20 pork .10 poultry					
OECD(68)	1961-63		.55			LI	.94	66.79(8)		
OECD(68)		1975-85	.30			LI				
Plate(70)	Early 1950's		1.20							
Plate(70)	Mid-1960's		.60							
Plate(71)	1960-69		.55	-.60	.20 pork	SL				
Stamer(65)	1950/51-61/62		1.01	-.90	.23 pork .13 poultry	SL	.99	33.04(3)	29.66(6)	74.43(6) 43.86
	1950/51-61/62		.95	-.84	.17 pork	SL	.99	31.09(3)	27.48(7)	5.455(6)
	1950/51-64/66		1.01	-.93	.11 poultry	SL	.99	33.09(3)	30.47(7)	3.482(3)

Continued

Table 6 --F.R. Germany: Demand elasticities for meat products--continued

Commodity and source	Reference information: Time period: Historical	Reference information: Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	Statistical information: R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Stamer(65)	1950/51-61/62		.96	-.87		SL	.99	31.46(2)	28.49(6)	
Stamer(65)	Long-run		.92	-.44	-.74 pork	SL	.995	30.42(8)	14.46(12)	24.62(27)
Weber(61)	1950-58		1.07	-.59	.31 pork	DL	.996	1.07(.05)	.59(.10)	.31(.15)
Weber(61)	1950-58		1.05	-.61		DL	.99	1.05(.07)	.61(.16)	
Pork:										
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.40			SL				
Gollnick(71)	1954-65		.47	-.23	.17 beef	SL	1.00			
Gollnick(71)	1963/64-66/67	1975	.41			SL				
IFO(67)	1957-60	1965	.37			SL				
IFO(67)	1961/62-62/63	1975	.40			SL				
Kost(75)1/	1955-58		.47	-.59(pork cutlet)	.24 boiling beef	LLI	.96	.74(.12)	.59(.18)	.24(.15)
Krohn(62)		1970	.30							
Langen(70)2/	1950/51-64/65		.34 to .35*	-.51 to -.59*	.39 to .54 beef*					
Langen(70)2/	1955/56-64/65		.37 to .40*	-.42 to -.45*	.06 to .13 beef					
Langen(70)3/	1955/56-64/65		.37*	-.45*	.13 beef	SL	.92			
Langen(70)7/	1955/56-64/65		.52*	0.43*			.91			
Langen(70)8/	1955/56-64/65		.33*	0.17*			.89			
MSU(68)6/		1970-75	.40	-.27	.10 beef .05 poultry					
OECD(68)	1961-63		.49			DL	.94	.49(.04)		
OECD(68)		1975-85	.50			LI				
Plate(70)	Early 1950's		.60 to .70							
Plate(70)	Mid-1960's		.30 to .35							
Plate(71)	1960-69		.30	-.55	.30 beef	SL				
Stamer(65)	1950/51-61/62		.53	-.70	.13 beef .02 poultry	SL	.996	31.33(3)	41.6(8)	7.54(8.2) 1.118(4.0)
Stamer(65)	1950/51-61/62		.54	-.70	.12 beef	SL	.996	31.82(3)	41.09(7)	6.98(7.5)

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Table 6 --F.R. Germany: Demand elasticities for meat products--continued

Commodity and source	Reference information: Time period: Historical	Projection	Elasticity of: Income	Own-price	Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Own-price	Cross-price
Stamer(65)	1950/51-61/62		.58	-.72		SL	.995	34.14(1)	42.19(7)	
Stamer(65)	Long-run		.53	+.13	-.98 beef	SL	1.00	31.88(3)	7.69(9.8)	58.33(4)
Weber(61)	1950-58		.47	-.68	.60 beef	DL	.995	.47(.05)	.68(.15)	.60(.13)
Weber(61)	1950-58		.69	-.73		DL	.97	.69(.06)	.73(.32)	
Poultry:										
FAO(67)	1961-63	1975-85	1.20			SL				
FAO(71)	1964-66	1970-80	.60			SL				
FAO/CCP-5(71)	1962-68			-1.00						
Gollnick(71)	1954-65		.96	-2.13		SL	1.00			
IFO(67)	1957-60	1965	2.00			SL				
IFO(67)	1961/62-62/63	1975	1.20			DL				
Kost(75)1/	1955-68		.99	-.44		SL	.97	12.7(2)	.46(.33)	
Krohn(62)		1970	2.00							
Langen(70)2/	1950/51-64/65		.93 to 1.46*	-1.42 to -2.66*						
	1955/56-64/65		.93 to 1.39*	-1.55 to -1.94*						
	1955/56-64/65		.40 to .84		9/-1.58 to -1.81*					
Langen(70)3/	1955/56-64/65		.93*	-1.93*		SL	.94			
Langen(70)3/	1955/56-64/65		.84**		9/-1.61*	SL	.96			
Langen(70)	1955/56-64/65			-1.62*	.96 pork cutlet***		.91			
					.58 roasting beef					
MSU(68)6/		1970-75	1.00	-1.00	.30 pork					
OECD(68)	1961-63		2.08			SL	.97	11.5(.7)		
OECD(68)		1975-85	1.20			LI				
Plate(70)	1955-65		.80	9/-1.60						
Plate(71)	1960-69		.50	-.80						
Stamer(65)	1950/51-61/62		1.43	-2.46	1.26 pork -.23 beef	DL	.98	1.431(.4)	2.457(.5)	1.265(.9) .226(.97)
Stamer(65)	1950/51-61/62		1.44	-2.62	-.36 beef	DL	.98	1.44(.4)	2.62(.5)	.363(1.02)

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Table 6 --F.R. Germany: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Stamer(65)	1950/51-61/62		1.35	-2.48	1.28 pork	DL	.985	1.349(.2)	2.484(.4)	1.285(.8)
	1950/51-61/62		1.31	-2.67		DL	.98	1.307(.2)	2.669(.4)	
	Long-run		1.32	-3.18		DL	.99	1.324(.2)	3.176(.5)	
Wöhlken(63)	1950/51-61/62		.80	-1.96	9/-2.08	DL	.98	.80(.20)	1.96(.2)	
Wöhlken(63)	1950/51-61/62		.79		9/-2.04	DL				
Mutton/lamb:										
FAO(67)	1961-63	1975-85	.20			SL				
FAO(71)	1964-66	1970-80	.20			SL				
Gruen(68)	1959-61	1980	.60			SL				
Krohn(62)		1970	.24							
OECD(68)	1961-63		-.97			L	.48	.002(.007)		
Other meat:										
FAO(67)10/	1961-63	1975-85	.50			SL				
FAO(71)10/	1964-66	1970-80	.17			SL				
Total meat:										
FAO(62)11/	1950/51		.54					.54(.04)***		
FAO(62)12/	1953		.69					.69(.05)***		
FAO(62)	1957-59	1970	.60							
FAO(67)	1961-63	1975-85	.43			SL				
FAO(71)	1964-66	1970-80	.43			SL				
Goreux(60)	1950-58		.74			LI	.99	563(26)		
Langen(70)2/13/	1950/51-64/65		.59 to .61	-.19 to -.27						
Langen(70)2/13/	1955/56-64/65		.57 to .59*	-.36 to -.37*						
Langen(70)3/13/	1955/56-64/65		.57*	-.37*		SL	.97			
OECD(68)	1961-63		.59			LI	.99	71.42(2)		
OECD(68)		1975-85	.50			LI				
Plate(70)	Early 1950's		1.00							
Plate(70)	Mid-1960's		.50	-.30						
Regier(66)	1951-62		.72	+.05		DL	.99	.72(.02)	.05(.08)	

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Table 6 --F.R. Germany: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Weber(61)14/	1950-58		.69	15/-.26		DL	.995	.69(.02)	.26(.20)	
Fish:										
FAO(67)	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.30			SL				

* Significant at more than the 99 percent confidence level.
** Significant at the 99 percent confidence level.
*** Significant at the 95 percent confidence level.
1/ Consumption measured as expenditure.
2/ Range of elasticities calculated from three different demand functions (linear, semi-log, and double-log).
3/ Chosen as best equation by Langen.
4/ Roasting beef.
5/ Boiling beef.
6/ Income and price elasticities derived from different sources.
7/ Pork cutlet.
8/ Pork belly.
9/ Average price for roasting beef and pork cutlet.
10/ Processed meat, edible offal, and game.
11/ Based on survey of urban household expenditures.
12/ Based on survey of farm household expenditures.
13/ Beef, pork and poultry.
14/ Red meat only
15/ Deflated price index for meat and meat products.

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Table 7 --France: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
CREDOC(67)1/2/..	1956	1970-75	.37 to .49			SL				
CREDOC(67)2/3/..	1956	1970-75	.42 to .56			SL				
CREDOC(67)4/ ...		1970-75		-.70	.20 pork					
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.40			SL				
Faure(67)	1952-64		.50 to .60	-.90						
Fouquet(70)1/ ..	Short-run		.36	-.56						
Fouquet(70)1/ ..	Long-run		.40	-.62						
Fouquet(70)3/ ..	Short-run		.76	-.97						
Fouquet(70)3/ ..	Long-run		.79	-1.00						
Gruen(68)	1959-61	1980	.50							
Kost(75)1/	1955-68		.31	-.80(beef steaks)	.32 pork backbone	LI	.59	.66(.38)	.028(.01)	.02(.01)
Kost(75)3/	1955-68		.28	-.47(boneless loin)		LI	.42	.60(.35)	.016(.607)	
Krohn(62)		1970	.35							
MSU(68)5/		1970-75	.50	-.70	.10 pork					
OECD(68)	1961-63		.25			LI	.31	28.7(44)		
OECD(68)		1975-85	.20			LI				
Weber(61)1/	1950-58		1.24	-.30(beef steak)		DL	.89	1.24(.2)	.30(.18)	
	1950-58		1.13	-.63(spare-rib)		DL	.94	1.13(.1)	.63(.20)	
	1950-58		1.22	-.74(spare-rib)	.29 pork	DL	.96	1.22(.1)	.74(.18)	.29(.16)
Weber(61)3/	1950-58		1.45	-1.77(boneless loin)		DL	.76	1.45(.1)	1.77(.3)	
	1950-58		.77	-.71(brisket)		DL	.80	.77(.21)	.71(.19)	
	1950-58		- .99	6/-1.15		DL	.84	.99(.20)	1.15(.27)	
Pork:										
CREDOC(67)2/7/..	1956	1970-75	.36 to .45			SL				
CREDOC(67)2/8/..	1956	1970-75	.45 to .65			SL				
CREDOC(67)4/9/..		1970-75		-.80	.30 beef					
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.40			SL				

Continued

Table 7 --France: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Faure(67)	1952-64		.50 to .60	-.70						
Fouquet(70)	Short-run		.56	-.49						
Fouquet(70)	Long-run		.62	-.54						
Fouquet(70)10/ .	Short-run		.74	-.76						
Fouquet(70)10/ .	Long-run		.76	-.77						
Kost(75)	1955-68		.12	-.22(ham)	.32 boiling beef	DL	.95	.011(.01)	.22(.22)	.32(.18)
Krohn(62)		1970	.20							
MSU(68)5/		1970-75	.35	-.30	.10 beef .10 poultry					
OECD(68)	1961-63		.74			L	.93	.141(9)		
OECD(68)		1975-85	.60			LI				
Weber(61)	1950-58		1.15	-.23(backbone)		DL	.95	1.15(.1)	.23(.17)	
	1950-58		1.12	11/-.24		DL	.95	1.12(.1)	.24(.19)	
	1950-58		1.17	11/-.16	.35 spare-rib	DL	.97	1.17(.1)	.16(.16)	.35(.16)
Poultry:										
CREDOC(67)2/12/.	1956	1970-75	.65 to 1.18			SL				
CREDOC(67)4/....		1970-75		-1.01						
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.50			SL				
Kost(75)	1955-68		.60	-.46		DL	.98	.054(.005)	.46(.26)	
Krohn(62)		1970	.50							
MSU(68)5/		1970-75	.60	-1.01	.20 beef & veal					
OECD(68)	1961-63		1.39			DL	.90	1.39(11)		
OECD(68)		1975-85	.80			LI				
Weber(61)	1950-58		.96	-.23(broiler chicken)		DL	.89	.96(.25)	.23(.34)	
Mutton/lamb:										
CREDOC(67)2/ ...	1956	1970-75	.51 to .94			SL				

Continued

Table 7 --France: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.60			SL				
Fouquet(70)	Short-run		.70	-.89						
Fouquet(70)	Long-run		.71	-.90						
Krohn(62)		1970	.60							
Weber(61)	1950-58		.76	-.35(boneless loin)		DL	.72	.76(.20)	.35(.12)	
Other meat:										
CREDOC(67)2/13/.	1956	1970-75	.41 to .66			SL				
CREDOC(67)4/13		1970-75		-.60						
FAO(67)14/	1961-63	1975-85	.30			SL				
FAO(71)14/	1964-66	1970-80	.36			SL				
Weber(61)15/ ...	1950-58		.64	+.03(rump steak)		DL	.41	.64(.34)	.03(.14)	
Total meat:										
CREDOC(67)2/16/.	1956	1970-75	.41 to .57			SL				
CREDOC(67)4/16/.		1970-75		-.75						
FAO(62)17/	1951		.54				.54(.05)	.54(.05)		
FAO(62)18/	1951		.72				.72(.08)	.72(.08)		
FAO(62)	1957-59	1970	.40							
FAO(67)	1961-63	1975-85	.34			SL				
FAO(71)	1964-66	1970-80	.41			SL				
Goreux(60)	1950-58		.45			LI	.77	417(113)		
Fouquet(70)16/ .	Short-run		.49	-.73						
Fouquet(70)16/ .	Long-run		.57	-.85						
OECD(68)	1961-63		.66			SL	.88	46.7(12)		
OECD(68)		1975-85	.40			LI				
Regier(66)	1951-62		.70	19/-.24		DL	.96	.70(.05)	.24(.11)	
Weber(61)16/ ...	1950-58		.99			DL	.88	.99(.14)		
Weber(61)16/ ...	1950-58		1.13	20/-1.02		DL	.96	1.13(.1)	1.02(.3)	

Continued

Table 7 --France: Demand elasticities for meat products, continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Fish:										
CREDOC(67)2/ ...	1956	1970-75	.46 to .65			SL				
CREDOC(67)4/ ...		1970-75		-.30						
FAO(67)	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.61			SL				
Fouquet(70)		1975	.35	-.07		SL				

1/ Beef only.
2/ Cross-section analysis of non-farm households.
3/ Veal only.
4/ "A priori" elasticity estimates.
5/ Income and price elasticities derived from different sources.
6/ Average price of brisket and boneless loin.
7/ Fresh pork.
8/ Processed pork.
9/ Fresh pork, ham and other processed pork.
10/ Ham.
11/ Weighted average price of pork backbone (2/3) and bacon (1/3).
12/ Includes rabbit and wild game.
13/ Offal and other processed meat.
14/ Processed meat, edible offal and game.
15/ Horse meat.
16/ Red meat only.
17/ Based on survey of household expenditures in Paris.
18/ Based on survey of household expenditures in large provincial towns.
19/ Estimated for the farm price.
20/ Deflated price index for meat and fish (1954=100).

Table 8 --Ireland: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
FAO(65)1/		1965	.50							
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.30			SL				
Gruen(68)	1959-61	1980	.50			SL				
MSU(71)	1955-68	1980	.45	-.10	.01 pork .10 mutton	L	.91	8.16(2)	-1.05(.3)	.10(.74) 1.27(.6)
OECD(68)	1961-63		.52			SL	.69	8.3(1.8)		
OECD(68)		1975-85	.30			SL				
Pork:										
FAO(65)1/		1965	.40							
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.30			SL				
MSU(71)	1955-68	1980	.24	-1.27	1.03 mutton	DL	.72	.24(.18)	1.27(.8)	1.03(.4)
OECD(68)	1961-63		.50			SL	.59	11.7(3)		
OECD(68)		1975-85	.50			SL				
Poultry:										
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.50			SL				
MSU(71)	1955-68	1980	1.23			L	.90	.17(.03)		
OECD(68)	1961-63		1.06			SL	.61	5.9(1.5)		
Mutton/lamb:										
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.30			SL				
Gruen(68)	1959-61	1980	.50			SL				
MSU(71)	1955-68	1980	.75	-2.25	1.14 beef	SL	.95	8.45(1.9)	28.59(4)	12.82(4)
OECD(68)	1961-63		1.24			SL	.67	13.7(3)		
OECD(68)		1975-85	.30			SL				

Continued

Table 8 --Ireland: Demand elasticities for meat products, continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Other meat:										
FAO(67)2/	1961-63	1975-85	.30			LI				
FAO(71)2/	1964-66	1970-80	.40			SL				
Total meat:										
FAO(62)3/	1951/52		.68					.68(.04)		
FAO(62)	1957-59	1970	.50							
FAO(67)	1961-63	1975-85	.37			SL				
FAO(71)	1964-66	1970-80	.33			SL				
Goreux(60)	1950-58		1.05			LI	.35	501(343)		
OECD(68)	1961-63		.84			SL	.94	55.9(5)		
Fish:										
FAO(62)	1957-59	1970	.50							
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.41			SL				

1/ Estimate made in 1961 for a 1965 projection.
2/ Processed meat, game, and edible offals.
3/ Based on a survey of urban household expenditures for all meats.

Table 9 --Italy: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
Cao-Pinna(62)1/	1955-57		.85			SL	.90	26.47(3)		
Cao-Pinna(62)2/	1955-57		1.02			SL	.96	27.56(2)		
	1955-57	1965	1.27							
	1955-57	1970	1.08							
FAO(65)3/		1965	1.00							
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.80			SL				
Gruen(68)	1959-61	1980	1.40			SL				
Kost(75)2/4/ ..	1955-68		.79	-.94	.51 ham	Inv.	.87	3,665(1,127)	.0085(.006)	.0025(.003)
Kost(75)2/5/ ..	1955-68		1.55	-.86		SL	.88	.0098(.003)	4.42(4)	
Krohn(62)		1970	1.08							
MSU(68)6/		1970-75	1.27	-1.20	.05 pork .05 poultry					
OECD(68)	1961-63		1.15			LI	.93	14.3(13)		
OECD(68)		1975-85	.70			LI				
Phillips(70) ..	1956-67		1.24	-.58#	.31 pork#	DL	.95			
Phillips(70) ..	1956-67		1.33	-.45#		DL	.95			
Weber(61)	1949-57		1.98	-.47		DL	.98	1.98(.1)	.47(.41)	
	1950-58		2.06	7/-.23		DL	.97	2.06(.15)	.23(.41)	
	1950-58		2.07	8/-.77		DL	.98	2.07(.1)	.77(.48)	
	1950-58		2.24	8/-.93	.70 pork	DL	1.00	2.24(.1)	.93(.35)	.70(.27)
Pork:										
Cao-Pinna(62)1/9/	1955-57		.93			SL	.61	1.009(.3)		
Cao-Pinna(62)2/9/	1955-57		1.08			SL	.45	.9145(.34)		
	1955-57	1965	.54							
	1955-57	1970	.56							
Cao-Pinna(62)2/10/	1955-57	1965	.50							
Cao-Pinna(62)2/10/	1955-57	1970	.43							

Continued

Table 9 --Italy: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
FAO(65)3/		1965	.60							
FAO(67)	1961-63	1975-85	.70			SL				
FAO(71)	1964-66	1970-80	.50			SL				
Kost(72)2/	1955-68		.40			L	.89	.0082(.001)		
Krohn(62)		1970	.79							
MSU(68)6/		1970-75	.60	-.90	.10 beef/veal .15 poultry					
OECD(68)	1961-63		.50			LI	.73	63.3(12)		
OECD(68)		1975-85	.70			SL				
Phillips(70) ...	1956-67		.78	-1.66	1.59 beef	DL	.88			
Weber(61)	1950-58		1.06	-.64		DL	.58	1.06(.5)	.64(1.34)	
Weber(61)	1950-58		.77	-1.05	2.95 beef	DL	.77	.77(.45)	1.05(1.1)	2.95(1.5)
Poultry:										
Cao-Pinna(62)2/	1955-57		.86			SL	.98	6.592(.4)		
	1955-57	1965	1.00							
	1955-57	1970	1.48							
FAO(67)	1961-63	1975-85	1.20			DL				
FAO(71)	1964-66	1970-80	.80			SL				
FAO/CCP-5(71)11/	1962-68			-1.20						
Kost(72)2/	1955-68		1.51			L	.98	.023(.001)		
Krohn(62)		1970	1.23							
MSU(68)6/		1970-75	1.00	-1.00	.30 beef/veal .10 pork					
OECD(68)	1961-63		3.00			LI	.98	368.5(14.1)		
OECD(68)12/		1975	2.10			DL				
TSU(64)13/		1965	1.60							

Continued

Table 9 --Italy: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Mutton/lamb:										
Cao-Pinna(62)1/.	1955-57		-.38			SL	.56	1.492(.4)		
Cao-Pinna(62)2/.	1955-57		-.08			SL	.43	.4841(.19)		
	1955-57	1965	.20							
	1955-57	1970	.25							
FAO(67)	1961-63	1975-85	.60			DL				
FAO(71)	1964-66	1970-80	.50			DL				
Gruen(68)	1959-61	1980	1.40			SL				
Krohn(62)		1970	.50							
Other meat:										
Cao-Pinna(62)1/4/	1955-57		.51			SL	.70	2.786(.6)		
	1955-57		.82			SL	.93	2.744(.3)		
	1955-57	1965	.67							
	1955-57	1970	.68							
FAO(67)	1961-63	1975-85	.50			DL				
FAO(71)	1964-66	1970-80	.60			SL				
Total meat:										
Cao-pinna(62)2/.	1955-57	1965	1.83							
Cao-Pinna(62)2/.	1955-57	1970	.91							
FAO(62)15/	1953		.80			DL		.80(.02)*		
FAO(62)16/	1953/54		1.03			DL		1.03(.08)*		
FAO(62)	1957-59	1970	1.40							
FAO(65)17/	1959-61		1.00							
FAO(67)	1961-63	1975-85	.85			SL				
FAO(71)	1964-66	1970-80	.71			SL				
Goreux(60)	1950-58		1.59			LI	.99	675(34)		
OECD(68)	1961-63		1.05			SL	.99	34.8(1.3)		
Regier(66)2/....	1951-62		1.33	18/-.08		DL	.97	1.33(.1)	.08(.23)	
TSU(64)13/		1965	1.03							
Weber(61)19/ ...	1950-58		1.55			DL	.96	1.55(.1)		

Continued

Table 9 --Italy: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Equation	R^2	Statistical information: Coefficient & standard error: Income	Own-price	Cross-price
Fish:										
Cao-Pinna(62)2/.	1955-57	1965	.15							
Cao-Pinna(62)2/.	1955-57	1970	.20							
FAO(67)	1961-63	1975-85	.50			DL				
FAO(71)	1964-66	1970-80	.41			SL				

Not significantly different from zero at the 95 percent confidence level.
* Significant at the 95 percent confidence level.
1/ Consumption measured in quantities.
2/ Consumption measured as expenditure.
3/ Estimate made in 1961 for a 1965 projection.
4/ Beef only.
5/ Veal only.
6/ Income and price elasticities derived from different sources.
7/ Price for young cattle, bone-in.
8/ Price for young cattle, bone-out.
9/ Fresh pork only.
10/ Canned and other preserved pork.
11/ Wholesale prices for 1965 and 1970 were used as a proxy for the 1962-68 price index.
12/ Elasticity estimated to decline during 1975-85.
13/ Revised estimate based on Cao-Pinna's work.
14/ Other meat and offal.
15/ Based on household expenditure survey.
16/ Based on non-farm household expenditure survey.
17/ Revised elasticity originally estimated for 1962 FAO study.
18/ Deflated farm-level price.
19/ Red meat only.

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Table 10 --Netherlands: Demand elasticities for meat products

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficent & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Beef/veal:										
AERI(67)1/		1970-75	.60 to .65	-.55 to -.60						
FAO(65)2/		1965	.45							
FAO(67)	1961-63	1975-85	.50			SL				
FAO(71)	1964-66	1970-80	.40			SL				
Gruen(68)	1959-61	1980	.70			SL				
Krohn(62)		1970	.45							
MSU(68)3/		1970-75	.80	-.71	.20 pork .10 poultry					
OECD(68)	1961-63		.44			LI	.23	52.32(26)		
OECD(68)		1975-85	.25			LI				
Weber(61)	1950-58		.73	4/-.80		DL	.80	.73(.20)	.80(.39)	
Weber(61)	1950-58		1.33	-1.33	1.03 pork	DL	.95	1.33(.2)	1.33(.3)	1.03(.7)
Pork:										
FAO(65)2/		1965	.30							
FAO(67)	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.30			SL				
Krohn(62)		1970	.32							
MSU(68)3/		1970-75	.60	-.27	.10 beef .05 poultry					
OECD(68)	1961-63		.34			L	.33	.064(.026)		
OECD(68)		1975-85	.55			LI				
Weber(61)	1950-58		1.49	5/-.23		DL	.93	1.49(.2)	.23(.18)	
	1950-58		.86	6/-.66		DL	.93	.86(.27)	.66(.33)	
	1950-58		.81	6/-.78	.21 beef 4/	DL	.90	.81(.30)	.78(.42)	.21(.40)

Continued

Table 10 --Netherlands: Demand elasticities for meat products, continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Poultry:										
FAO(67)	1961-63	1975-85	1.30			DL				
FAO(71)	1964-66	1970-80	.80			SL				
FAO/CCP-5(71) ..	1962-68			-1.10						
Krohn(62)		1970	3.32							
MSU(68)3/		1970-75	1.50	-1.00	.20 beef .30 pork					
OECD(68)	1961-63		3.78			SL	.97	10.2(.6)		
OECD(68)		1975-85	2.90			SL				
Mutton/lamb:										
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.40			SL				
Gruen(68)	1959-61	1980	.70			SL				
OECD(68)	1961-63		1.57			L	.02	.003(.003)		
Other meat:										
FAO(67)7/	1961-63	1975-85	.30			SL				
FAO(71)7/	1964-66	1970-80	.23			SL				
Krohn(62)		1970	-.24							
Total meat:										
FAO(62)8/	1951		.43					.43(.04)		
FAO(62)	1957-59	1970	.70							
FAO(67)	1961-63	1975-85	.46			SL				
FAO(71)	1964-66	1970-80	.37			SL				
Goreux(60)	1950-58		.54			LI	.97	453(38)		
OECD(68)	1961-63		.55			LI	.81	.65.09(10)		
OECD(68)		1975-85	.55			LI				
Regier(66)	1951-62		.63	9/-.41		DL	.96	.63(.16)	.41(.15)	
Weber(61)	1950-58		1.06	10/-.50		DL	.90	1.06(.2)	.50(.37)	

Continued

Table 10 --Netherlands: Demand elasticities for meat products, continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficent & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Fish:										
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.44			SL				

1/ Elasticities estimated by the Dutch Central Planning Bureau.
2/ Estimate made in 1961 for a 1965 projection.
3/ Income and price elasticities derived from different sources.
4/ Roast beef price.
5/ Pork steak price.
6/ Average price of pork chops and bacon.
7/ Processed meat, game, and edible offals.
8/ Based on survey of urban household expenditures for all meats.
9/ Real farm-level price.
10/ Deflated price index for meat and fish (1954=100).

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Table 11 --United Kingdom: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
Edwards(69)1/ ...		1975	.47*	-2.28	.49 mutton .36 non-carcass meats 2/					
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.20			SL				
FAO/CCP-6(71) ...		1980	.18	-.92	.16 pork .15 poultry -.36 mutton/lamb .14 bacon/ham					
Gruen(68)	1959-61	1980	.50			SL				
MSU(71)	1955-68	1980	.71	-2.49	.52 pork .72 mutton/lamb	DL	.96	1.3(.21)	2.49(.4)	.52(.12) .72(.17)
Oxford(62)	1955-59	1965	.25							
Oxford(62)		1965-75		-1.03						
Oxford(69)	1959-63	1970-80	.33							
Sturgess(72)	1969/70	1977/78	.40	-2.00	.30 pork .30 poultry .50 mutton/lamb .15 bacon/ham .10 fish					
U.K.(71)	1955		.08							
	1958		-.02							
	1960		.07							
	1962		.09							
	1965		.10							
	1967		.16			DL		.16(.02)		
	1969		.25			DL		.25(.04)		
U.K.(73)	1971		.30			DL		.30(.05)		
U.K.(75)	1973		.36			DL		.36(.02)		
U.K.(76)	1974		.32			DL		.32(.05)		
U.K.(65)	1956-63			-1.29		DL			1.29(.2)	
U.K.(71)	1964-69			-1.24		DL			1.24(.2)	
U.K.(76)	1969-74			-.81		DL			.81(.2)	

Continued

Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
U.K.(68)	1956-66			-1.30	-.04 pork .12 poultry .04 mutton/lamb	DL			1.30(.2)	.04(.08) .12(.07) .04(.10)
U.K.(76)	1967-74			-1.07	.15 pork .05 poultry .22 mutton/lamb	DL	.28		1.07(.2)	.15(.07) .05(.07) .22(.10)
Pork:										
Edwards(69)1/ ...		1975	.93	-2.09	-1.16 non-carcass meats 2/					
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.00							
FAO/CCP-6(71) ...		1980	.35	-1.08	.06 beef -.03 poultry .27 mutton/lamb .30 bacon/ham					
MSU(71)	1955-68	1980	.61	-2.37	.74 beef .61 mutton/lamb	SL	.94	.72(.14)	2.37(.2)	.74(.34) .61(.31)
OECD(68)	1961-63		1.79			DL	.90	1.79(.2)		
		1962-75	1.20			LI				
		1975-85	.60			LI				
Oxford(62)	1955-59	1965	.50							
Oxford(62)		1965-75		-.74						
Oxford(69)	1959-63	1970-80	.44							
Sturgess(72)	1969/70	1977/78	.70	-2.10	.55 beef .20 poultry .15 mutton/lamb .12 bacon/ham .10 fish					
U.K.(71)	1955		.30							
	1958		.53							
	1960		.43							
	1962		.34							
	1965		.31							
	1967		.32			DL		.32(.09)		
	1969		.25			DL		.25(.12)		

Continued

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Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
U.K.(73)	1971		.31			DL		.31(.06)		
U.K.(75)	1973		.29			DL		.29(.11)		
U.K.(76)	1974		.23			DL		.23(.18)		
U.K.(65)	1956-63			-1.36		DL			1.36(.4)	
U.K.(71)	1964-69			-1.12		DL			1.12(.3)	
U.K.(76)	1965-74			-1.21		DL			1.21(.2)	
U.K.(68)	1956-66			-1.24	.18 beef	DL			1.24(.3)	.18(.35)
					.20 poultry					.20(.18)
					.46 mutton/lamb					.46(.27)
U.K.(76)	1967-74			-1.35	.48 beef	DL	.47		1.35(.2)	.48(.23)
					-.12 poultry					.12(.13)
					.18 mutton/lamb					.18(.17)
Poultry:										
Edwards(69)1/ ...		1975	1.87	-2.42	1.62 mutton/lamb					
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.70			SL				
FAO/CCP-6(71) ...		1980	.65	-.61	.59 beef -.03 pork					
					-.60 mutton/lamb					
					.03 bacon/ham					
MSU(71)	1955-68	1980	.79	-.24		SL	.98	7.24	2.26(1.2)	
OECD(68)	1961-63		2.76			SL	.93	19.0(2)		
		1962-75	1.80			LI				
		1975-85	.60			LI				
Oxford(62)	1955-59	1965	2.00							
Oxford(62)		1965-75		-2.58						
Oxford(69)	1959-63	1970-80	1.10							
Sturgess(72)	1969/70	1977/78	.90	-2.40	.70 beef					
					.30 pork					
					.25 mutton/lamb					
					.05 bacon/ham					
					.10 fish					

Continued

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Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
U.K.(71)3/	1955		1.61							
	1958		1.40							
	1960		1.34							
	1962		.88							
U.K.(71)4/	1965		.42							
	1967		.53			DL		.53(.14)		
	1969		.25			DL		.25(.09)		
U.K.(73) 4/	1971		.37			DL		.37(.07)		
U.K.(75)4/	1973		.04			DL		.04(.07)		
U.K.(76)5/	1974		.31					.31(.08)		
U.K.(65)6/	1956-63			-1.15		DL			1.15(.4)	
U.K.(69)6/	1962-67			-.47		DL			.47(.55)	
U.K.(76)5/	1969-74			-.97		DL			.97(.27)	
U.K.(68)6/	1956-66			-1.26	.68 beef	DL			1.26(.4)	.68(.39)
					.26 pork					.26(.24)
					-.31 mutton/lamb					.31(.10)
U.K.(76)4/	1967-74			-1.30	.20 beef	DL	.22		1.30(.3)	.20(.31)
					-.16 pork					.16(.18)
					.53 mutton/lamb					.53(.27)
Mutton/lamb:										
Edwards(69)1/ ...		1975	.32	-1.83	.83 beef					
					.40 poultry					
					.37 non-carcass meats 2/					
FAO(67)	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.20			SL				
FAO/CCP-6(71) ...		1980	.21	-.05	-.67 beef					
					.13 pork					
					.28 poultry					
					.15 bacon/ham					
Gruen(68)	1959-61	1980	.20			SL				
MSU(71)	1955-68	1980	-.09	-1.35	.58 beef	SL	.72	.11(.19)	1.35(.3)	.58(.37)
					.26 pork					.26(.26)

Continued

Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Oxford(62)	1955-59	1965	.45							
Oxford(62)		1965-75		-1.51						
Oxford(69)	1959-63	1970-80	.50							
Sturgess(72)	1969/70	1977/78	.20	-1.70	.80 beef					
					.15 pork					
					.20 poultry					
					.15 bacon/ham					
					.10 fish					
U.K.(71)	1955		.35							
	1958		.34							
	1960		.29							
	1962		.32							
	1965		.21							
	1967		.10			DL		.10(.06)		
	1969		.19			DL		.19(.05)		
U.K.(73)	1971		.01			DL		.01(.06)		
U.K.(75)	1973		.21			DL		.21(.05)		
U.K.(76)	1974		.15			DL		.15(.08)		
U.K.(65)	1956-63			-.57		DL		.57(.18)		
U.K.(71)	1964-69			-.47		DL		.47(.27)		
U.K.(76)	1969-74			-1.12		DL		1.12(.2)		
U.K.(65)	1956-66			-.52	.07 beef	DL			.52(.19)	.07(.18)
					.19 pork					.19(.11)
					-.10 poultry					.10(.10)
U.K.(76)	1967-74			-1.43	.44 beef	DL	.36		1.43(.2)	.44(.21)
					.12 pork					.12(.11)
					.25 poultry					.25(.12)
Other meat:										
Edwards(69) 2/ ...		1975	.24	-.44	.23 beef					
					-.15 pork					
					.13 mutton/lamb					
FAO(67)7/	1961-63	1975-85	.20			LI				
FAO(71)7/	1964-66	1970-80	.18			SL				
FAO/CCP-6(71)8/..		1980	.19	-.62	.26 beef					
					.14 pork					
					.02 poultry					
					.15 mutton/lamb					

Continued

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Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
MSU(71)8/	1955-58	1980	.24	-.15	-.19 pork	SL	.67	2.69(.6)	.58(.37)	.16(.10)
OECD(68)9/		1975-85	-.20			LI				
Oxford(62)8/.....	1955-59	1965	.40							
Oxford(62)10/ ...	1955-59	1965	.20							
Oxford(62)10/ ...		1965-75		-1.04						
Sturgess(72)8/ ..	1969/70	1977/78	.15	-.90	.30 beef .15 pork .05 poultry .10 mutton/lamb					
U.K.(71)11/	1955		.20							
	1958		.19							
	1960		.18							
	1962		.15							
	1965		.08							
	1967		.11			DL		.11(.03)		
	1969		.08			DL		.08(.03)		
U.K.(73)11/	1971		.06			DL		.06(.03)		
U.K.(75)11/	1973		.11			DL		.11(.02)		
U.K.(76)11/	1974		.12			DL		.12(.02)		
U.K.(69)11/	1962-67			-.56					.56(.29)	
Total meat:										
FAO(62)12/	1953/54		.40					.40(.03)		
FAO(62)	1957-59	1970	.40							
FAO(67)	1961-63	1975-85	.35			LI				
FAO(71)	1964-66	1970-80	.18			SL				
Goreux(60).....	1950-58		3.26			LI	.99	3020(139)		
OECD(68)	1961-63		.39			LI	.62	43.3(10)		
Oxford(69)	1959-63	1970-80	.20 to .30							
U.K.(71)13/	1955		.21							

Continued

Table 11--United Kingdom: Demand elasticities for meat products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
U.K.(71)13/	1958		.17							
	1960		.19							
	1962		.21							
	1965		.18							
	1967		.16			DL		.16(.03)		
	1969		.23			DL		.23(.03)		
U.K.(73)13/	1971		.21			DL		.21(.03)		
U.K.(75)13/	1973		.29			DL		.29(.03)		
U.K.(76)13/	1974		.25			DL		.25(.04)		
U.K.(69)13/	1962-67			-.89		DL			.89(.09)	
U.K.(69)14/	1962-67			-.45		DL			.45(.19)	
U.K.(76)13/	1969-74			-.68		DL			.68(.15)	
U.K.(76)14/	1969-74			-.37		DL			.37(.05)	
Fish:										
FAO(62)	1957-59	1970	.20							
FAO(67)	1961-63	1975-85	.20			SL				
FAO(71)	1964-66	1970-80	.31			SL				
Oxford(62)	1955-59	1965	.30							
Oxford(62)		1965-75		-1.24						
U.K.(71)	1955		.23							
	1958		.20							
	1960		.21							
	1962		.23							
	1965		.10							
	1967		.07			DL		.07(.05)		
	1969		.04			DL		.04(.05)		
U.K.(73)	1971		.04			DL		.04(.14)		
U.K.(75)	1973		.23			DL		.23(.05)		
U.K.(76)	1974		.16			DL		.16(.05)		

* Significant at the 99 percent confidence level.
** Significant at the 95 percent confidence level.
*** Significant at the 90 percent confidence level.
1/ Income and price elasticities are derived from different sources.
2/ Bacon, ham, canned meat and offals.
3/ All poultry meat, uncooked, fresh and frozen.
4/ Broiler chicken, uncooked.
5/ Broiler chicken, uncooked, including frozen.
6/ Poultry, uncooked.
7/ Processed meat, edible offal, and game.
8/ Bacon and ham, uncooked.
9/ Bacon.
10/ Canned meat.
11/ All meat and meat products except carcass meat (includes poultry).
12/ Based on survey of household expenditures of the total population.
13/ Total carcass meat (beef, veal, pork, mutton and lamb).
14/ Total meat.

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Table 12 --Japan: Demand elasticities for meat products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Beef/veal:										
FAO(67)	1961-63	1975-85	1.00			DL				
FAO(71)	1964-66	1970-80	.70			SL				
Filippello(70)	1965		.50	-1.24	.20 pork 1.14 poultry .44 fish					
Filippello(70)		1980	.64	-.77	.15 pork .19 poultry .27 fish					
Gruen(68)	1959-61	1980	1.20							
Japan(74)1/	1963		1.31			DL				
	1965		1.16			DL	.99	1.1645(.001)		
	1967		1.20			DL				
	1969		.98			DL				
	1970		1.02			DL				
	1972		.88			DL				
	1973		.89			DL	.90	.8916(.003)		
Japan(74)2/	1955-64		1.10	-.96		DL	.78	1.099(.3)	.958(.4)	
	1964-73		1.18	-1.68		DL	.85	1.178(.3)	1.684(.3)	
	1955-73		1.09	-1.39		DL	.69	1.091(.3)	1.389(.3)	
OECD(68)	1961-63		.74			DL	.58	.74(.23)		
OECD(68)		1975-85	.90			DL				
Pork:										
FAO(67)	1961-63	1975-85	1.20			SL				
FAO(71)	1964-66	1970-80	.90			SL				
Filippello(70)	1965		.72	-.72	.26 beef .17 poultry .09 fish					
Filippello(70)		1980	.82	-.45	.14 beef .12 poultry .05 fish					
Japan(74)1/										
Japan(74)1/	1963		1.23			DL				
	1965		1.17			DL	.97	1.172(.002)		

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Table 12 --Japan: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Japan(74)1/	1967		.87			DL				
	1969		.75			DL				
	1970		.71			DL				
	1972		.67			DL				
	1973		.61			DL	.96	.613(.001)		
Japan(74)2/	1955-64		2.78	-1.83		DL	.99	2.779(.2)	1.83(.3)	
	1964-73		1.46	-1.76		DL	.96	1.46(.2)	1.757(.5)	
	1955-73		2.20	-1.07		DL	.98	2.20(.1)	1.072(.4)	
OECD(68)	1961-63		1.47			DL	.68	1.47(.4)		
OECD(68)		1962-75	1.50			DL				
		1975-85	1.50			SL				
Poultry:										
FAO(67)	1961-63	1975-85	1.70			SL				
FAO(71)	1964-66	1970-80	.90			SL				
Filippello(70) ..	1965		.95	-1.16	.35 beef .11 pork .09 fish					
Filippello(70)..		1980	1.18	-.88	.20 beef .08 pork .05 fish					
Japan(74)1/	1963		.90			DL				
	1965		.73			DL	.87	.73(.003)		
	1967		.68			DL				
	1969		.49			DL				
	1970		.53			DL				
	1972		.37			DL	3/			
	1973		.31			DL	.50	.3105(.003)		
Japan(74)2/	1955-64		3.10	-1.19		DL	.99	3.102(.2)	1.188(.8)	
	1964-73		.56	-2.33		DL	.92	.5628(.58)	2.325(.9)	
	1955-73		2.95	+.04		DL	.99	2.95(.2)	.0432(.44)	
OECD(68)	1961-63		3.47			DL	.92	3.47(.4)		
		1962-75	1.90			DL				
		1975-85	1.30			SL				

Continued

Table 12 --Japan: Demand elasticities for meat products--continued

Commodity and source	Reference information: Time period: Historical	Projection	Elasticity of: Income	Own-price	Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Own-price	Cross-price
Mutton/lamb:										
FAO(67)	1961-63	1975-85	1.40			SL				
FAO(71)	1964-66	1970-80	.60			SL				
Gruen(68)	1959-61	1980	3.00			SL				
Other meat:										
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.60			SL				
Japan(71)4/5/ ...	1963		1.45			DL	.93	1.449(.1)		
	1965		1.74			DL	.96	1.744(.1)		
	1967		1.32			DL	.96	1.325(.1)		
	1969		1.04			DL	.96	1.041(.1)		
	1970		.68			DL	.85	.68(.08)		
Japan(74)4/5/ ...	1973		.95			DL	.83	.9523(.004)		
Japan(74)2/6/ ...	1955-64		2.00	-2.86		DL				
	1964-73		.88	-.30		DL				
	1955-73		1.27	-3.13		DL				
Japan(74)2/7/ ...	1956-65		2.43	-3.24		DL				
	1964-73		1.14	8/-1.36		DL				
	1956-73		1.42	8/ -.39		DL				
OECD(68)9/		1975-85	1.00			DL				
Total meat:										
FAO(62)	1957-59	1970	1.70							
FAO(65)	1961-63	1975-85	1.12			SL				
FAO(71)	1964-66	1970-80	.79			SL				
Japan(74)1/5/ ...	1963		1.33			DL				
	1965		1.29			DL	.93	1.294(.001)		
	1967		1.13			DL				
	1970		.92			DL				
	1972		.84			DL				
	1973		.80			DL	.96	.7976(.002)		
Japan(71)2/5/ ...	1958-70		1.38	-.45		DL	.98	1.383(.1)	.4498(.34)	
	1963-70		1.08	-.53		DL	.96	1.0778(.1)	.5311(.39)	

Continued

Table 12 --Japan: Demand elasticities for meat products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
OECD(68)10/	1961-63		1.45			DL	.93	1.45(.15)		
OECD(68)11/	1961-63		1.64			DL	.93	1.64(.17)		
		1962-75	1.40			DL				
		1975-85	1.40			SL				
Fish:										
FAO(62)	1957-59	1970	.50							
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.30			LI				
Filippello(70) ..	1965		-.41	-.38	.33 beef .21 pork .15 poultry					
Filippello(70) ..		1980	-.13	-.44	.39 beef .29 pork .23 poultry					
Japan(74)1/5/12/.	1963		.65			DL				
	1965		.73			DL				
	1967		.50			DL				
	1969		.52			DL				
	1970		.47			DL				
	1972		.39			DL				
	1973		.45			DL	.83	.4518(.002)		
Japan(71)2/5/12/.	1955-62		.52	-1.03		DL	.84	.5179(.10)	1.035(.28)	
	1963-70		.72	-.81		DL	.78	.7218(.30)	.8121(.25)	
	1955-70		.44	-.59		DL	.73	.4424(.08)	.5918(.10)	
Japan(74)1/5/13/.	1963		.60			DL				
	1965		.63			DL				
	1967		.60			DL				
	1969		.53			DL				
	1970		.44			DL				
	1972		.52			DL				
	1973		.54			DL	.97	.537(.0001)		
Japan(74)2/13/ ..	1955-64		.45	-1.25		DL				
	1964-73		1.33	-.88		DL				
	1955-73		3/8/ .14	8/+.16		DL				

Continued

Table 12 --Japan: Demand elasticities for meat products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price

1/ Cross-section elasticity for all non-farm households.
2/ Non-farm households in cities larger than 50,000 population.
3/ R^2 less than .64.
4/ Processed meats - excludes pork, ham and sausage.
5/ Consumption measured as expenditure.
6/ Ham.
7/ Sausage.
8/ Student t-value less than 1.0.
9/ Mutton/lamb, horse meat, etc.
10/ Includes whale meat.
11/ Excludes whale meat.
12/ Fresh seafood.
13/ Salted and dried seafood.

Table 13 --Belgium: Demand elasticities for dairy products

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Eggs:										
FAO(62)	1957-59	1970	.40							
FAO(67)	1961-63	1975-85	.20			LI				
FAO(71)	1964-66	1970-80	.10			LI				
Krohn(62)		1970	.40							
MSU(68)1/		1970-75	.40	-.20						
OECD(68)	1961-63		-.44			LI	$.\overline{12}$	50.1(32)		
SESO(67)	1953-64		.34			SL	$.\overline{06}$	1218(937)		
SESO(67)	1953-64		.30			DL	$.\overline{04}$	.305(.25)		
Milk, whole:										
FAO(67)2/	1961-63	1975-85	.10			LI				
FAO(71)	1964-66	1970-80	-.10			LI				
Gruen(68)3/.....	1959-61	1980	-.30			LI				
Krohn(62)4/		1970	.03							
MSU(68)		1970-75	.03							
OECD(68)	1961-63		.32			LI	$.\overline{32}$	36.16(15)		
OECD(68)		1975-85	-.15			LI				
SESO(67)	1953-64		.75	-.40		DL	$.\overline{96}$	.751(.05)	.4(.20)	
	1953-64		.78			DL	$.\overline{95}$	.783(.05)		
	1953-64		.78			SL	$.\overline{96}$	4868(280)		
Butter:										
Elz(67)	1950-63		-.45	5/.96	-.15 margarine	DL	.76	.45(.13)*	.96(.27)*	.15(.10)**
Elz(67)	1950-63		-1.11	5/1.33		DL	.78	1.11(.2)*	1.33(.3)*	
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	-.20			SL				
Gruen(68)	1959-61	1980	-.40			LI				

Continued--

Table 13 --Belgium: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	Statistical information: R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Krohn(62)6/		1970	-.21							
OECD(68)6/.....	1961-63		-.62			LI	.48	70.82(22)		
MSU(68)		1970-75	.30							
SESO(67)	1953-64		-.45	+.52		DL	.79	.451(.09)	.522(.22)	
	1953-64		-.52			DL	.70	.523(.1)		
	1953-64		-.53			SL	.70	4540(856)		
Cheese:										
FAO(71)	1964-66	1970-80	.60			SL				
Gruen(68)	1959-61	1980	.70			LI				
Krohn(62)		1970	.20							
MSU(68)		1970-75	.20							
OECD(68)	1961-63		.67			L	.35	.04(.01)		
OECD(68)		1975-85	.60			SL				
SESO(67)	1953-64		1.00	-.58		DL	.92	.995(.12)	.577(.19)	
	1953-64		.68			DL	.85	.682(.09)		
	1953-64		.68			SL	.87	1759(204)		
Other milk products:										
Cream:										
OECD(68)	1961-63		2.10			LI	.83	240.71(34)		
OECD(68)		1975-85	2.00			LI				
Skim milk:										
FAO(71)	1964-66	1970-80	.30			SL				
Total milk products:										
FAO(62)	1957-59	1970	-.20							
Krohn(62)		1970	-.12							

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Table 13 --Belgium: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price

* Significant at the 99 percent confidence level.
** Significant at the 80 percent confidence level.
1/ Price and income elasticities are derived from different sources.
2/ Excludes milk equivalent of butter.
3/ Milk and cream.
4/ Includes fresh, powdered and condensed milk.
5/ Calculated by using a butter/margarine price ratio.
6/ Fat equivalent.

Table 14 --Denmark: Demand elasticities for dairy products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
AUOI(69)1/	1953-65		1.07 to 1.25	-.07 to .14			.87/.97*			
AUOI(69)2/		1970-80	.44	-.23		SL				
AUOI(69)4/	3/1963/65		.35							
AUOI(69)5/	3/1963/65		.25							
AUOI(69)6/	3/1963/65		.45							
FAO(62)	1957-59	1970	.30							
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.30			LI				
MSU(71)	1954-68	1980	.26	-.17		LLI	.86	.42(.06)	.17(.11)	
OECD(68)	1961-63		1.21			SL	.86	14.26(1.8)		
OECD(68)		1975-85	.45			LI				
Milk, whole:										
AUOI(69)1/	1953-65		-.14 to -.22	-.29 to -.44			.91/.95*			
AUOI(69)		1970-80	-.22	-.29		LLI	.95*	1.6	.29(.08)	
AUOI(69)4/	3/1963/65		.00							
AUOI(69)5/	3/1963/65		-.10							
AUOI(69)6/	3/1963-65		.06							
FAO(67)7/	1961-63	1975-85	.00							
FAO(71)	1964-66	1970-80	-.10			LI				
Gruen(68)8/	1959-61	1980	.00			LI				
MSU(71)	1954-68	1980	.13	-.32		LLI	.23	.21(.09)	.32(.14)	
OECD(68)	1961-63		.15			LI	.15	18.16(11)		
OECD(68)		1975-85	-.10			LI				
Butter:										
AUOI(69)	9/1953-65		.29	-.84	-.07 margarine	DL	.86			
AUOI(69)10/	1953-65		.71	-1.01	.23 margarine	DL	.94			
AUOI(69)11/		1970-80	.30	-.72		SL	.85*	.12	.04	
AUOI(69)4/	3/1963/65		.16							
AUOI(69)5/	3/1963/65		.10							
AUOI(69)6/	3/1963/65		.21							

Continued--

Table 14 --Denmark: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
FAO(67)	1961-63	1975-85	.00							
FAO(71)	1964-66	1970-80	-.30			LI				
Gruen(68)	1959-61	1980	.10			LI				
MSU(71)	1954-68		.57	-1.00		LLI	.92	.50(.04)	1.00(.1)	
OECD(68)12/	1961-63		-.12			L	.02	.01(.02)		
OECD(68)12/		1975-85	-.40			LI				
Cheese:										
AUOI(69)1/	1953-65		1.09 to 1.36	-.93 to -2.28			.87/.95*			
AUOI(69)		1970-80	.50			SL				
AUOI(69)4/	3/1963-65		.42							
AUOI(69)5/	3/1963-65		.36							
AUOI(69)6/	3/1963-65		.48							
FAO(71)	1964-66	1970-80	.30			SL				
FAO/CCP-6(71) ...		1980	.68	-.66						
Gruen(68)	1959-61	1980	.50			LI				
MSU(71)	1954-68		.90	-.01		SL	.90	9.14(1.6)	.11(.03)	
OECD(68)	1961-63		.88			LI	.85	106.3(14)		
OECD(68)		1975-85	.40			LI				
Other milk products:										
Double cream:13/										
AUOI(69)14/	1955-65		.72 to .75	-.20 to -.27			.92/.95*			
AUOI(69)		1970-80	.72	-.20		SL	.93*	3.19	.19	
AUOI(69)4/	3/1963-65		.06							
AUOI(69)5/	3/1963-65		.16							
AUOI(69)6/	3/1963-65		-.17							
MSU(71)	1954-68		.60		-.23	DL	.97	.60(.10)	.23(.18)	
OECD(68)15/	1961-63		-.03			SL	.02	.24(.55)		

continued--

Table 14 --Denmark: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Cream for coffee: 16/										
AUOI(69)14/	1955-65		-1.36 to -1.43	-.14 to -.21			.92/.95*			
AUOI(69)		1970-80	-1.43	-.21		DL	.93*			
AUOI(69)4/	3/1963/65		.28							
AUOI(69)5/	3/1963/65		1.29							
AUOI(69)6/	3/1963/65		-.90							
MSU(71)	1954-68		-.50	-.32		DL	.99	.50(.08)	.32(.16)	
Ice cream:										
AUOI(69)14/	1954/65		1.36 to 1.46	-.52 to -.58			.87/.89			
AUOI(69)		1970-80	1.36	-.52		DL	.87			
AUOI(69)4/	3/1963/65		.94							
AUOI(69)5/	3/1963/65		1.09							
AUOI(69)6/	3/1963/65		1.27							
Skim milk and buttermilk:										
AUOI(69)4/	3/1963/65		.24							
AUOI(69)5/	3/1963/65		-.07							
AUOI(69)6/	3/1963/65		-.70							
FAO(71)	1964-66	1970-80	.20							
Yogurt and other special products:										
AUOI(69)4/	3/1963/65		.03							
AUOI(69)5/	3/1963/65		1.02							
AUOI(69)6/	3/1963/65		1.15							
Total milk products:										
FAO(62)	1957-59	1970	.06							

* Significant at the 99 confidence level.
1/ Range of elasticities calculated from six different demand functions.
2/ Due to unsatisfactory time-series and cross-section analysis, projections were made based on elasticities from different sources.
3/ Years of cross-sectional survey - calendar 1963 and split year Feb. 1964 to Feb. 1965.
4/ Cross-sectional results for salaried and wage employees.

continued--

Table 14 --Denmark: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price

5/ Cross-sectional results for salaried employees.
6/ Cross-sectional results for wage earners.
7/ Excludes milk equivalent of butter.
8/ Milk and cream.
9/ Excludes 1958 which was an abnormal year of low butter prices.
10/ Consumption measured as per capita expenditure.
11/ Dependent variable measures ratio of per capita consumption of butter to that of butter and margarine.
12/ Fat equivalent.
13/ 36 percent butterfat.
14/ Range of elasticities calculated from three different demand functions (DL, SL, LLI).
15/ Total cream.
16/ 18 percent butterfat.

Table 15 --F.R. Germany: Demand elasticities for dairy products

Reference information			Elasticity of:			Statistical information			
Commodity and source	Time period							Coefficient & standard error	
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Eggs:										
FAO(62)	1957-59	1970	.60							
FAO(67)	1961-63	1975-85	.40			LI				
FAO(71)	1964-66	1970-80	.30			LI				
IFO(67)	1957-60	1965	.61			SL				
	1957-62		.36							
	1961/62-62/63	1970-75	.35			SL				
Kost(75)	1955-68		.34	-.20		SL	.86	10.78(1)	12.34(12)	
Krohn(62)		1970	.51							
Langen(70)	1950-65		.32*	-.69*	.65 meat***	L	.94			
	1950-65		.38*	-.70*		L	.95			
	1950-65		.40*	-.55*	.32 meat	SL	.95			
	1950-65		.43*	-.56*		SL	.95			
	1950-65		.46*	-.71*	.05 meat	DL	.90			
	1950-65		.46*	-.71*		DL	.90			
Langen(70)	1955-65		.23**	-.53*	.23 meat	L	.90			
	1955-65		.25*	-.55*		L	.90			
	1955-65		.27*	-.47*	.17 meat	SL	.90			
	1955-65		.28*	-.49*		SL	.90			
	1955-65		.30*	-.55*	.05 meat	DL	.88			
	1955-65		.31*	-.55*		DL	.88			
Langen(70)	1958-65		.09	-.31*	.42 meat	L	.90			
	1958-65		.14***	-.35*		L	.89			
	1958-65		.09	-.30*	.43 meat	SL	.89			
	1958-65		.14***	-.34*		SL	.88			
	1958-65		.11	-.31**	.42 meat	DL	.89			
	1958-65		.16	-.36		DL	.87			
MSU(68)1/		1970-75	.40	-.30						
OECD(68)	1961-63		.54			LI	.77	65.1(11)		
Stamer(65)2/ ..	1950/51-61/62		.45	-1.51	.70 poultry	SL	.997	185.8(33)	290.4(88)	
					.38 pork				154.7(81)	
					.41 butter				167.9(96)	

Continued

Table 15 --F.R. Germany: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Stamer(65)2/ ..	1950/51-61/62		.54	-1.38	.85 poultry	SL	.996	223.9(29)	569.2(122)	350(92)
					.29 pork					120.1(90)
	1950/51-61/62		.42	-1.69	.85 poultry	SL	.995	174.1(38)	696.8(122)	349.6(96)
					.30 butter					123.5(109)
	1950/51-61/62		.50	-1.56	.94 poultry	SL	.99	205.9(26)	642.6(114)	385.8(92)
	1950/51-61/62		.45	-1.00	.62 butter	SL	.99	187.2(61)	412.8(148)	255.4(164)
	1950/51-61/62		.70	-.38	.53 pork	SL	.99	287.3(38)	156.1(90)	219.3(140)
	1950/52-61/62		.64	-.53		SL	.98	264.3(38)	218.3(87)	
	Long-run		.61	-.97	.47 poultry	SL	.999	255.2(31)	402.6(139)	195.9(113)
Wöhlken(62)2/3/	1950/51-61/62		.62	-.45		DL	.95			
	1950/51-61/62		.62	-.76		DL	.88			
	1950/51-61/62		.65	-.65		DL	.88			
Milk, whole:										
FAO(67)6/.....	1961-63	1975-85	.00							
FAO(71)	1964-66	1970-80	.00							
Gruen(68)7/ ...	1959-61	1980	-.20			LI				
Hesse(67)3/ ...	1954-64		-.57	-.30		L	.96	.0268(.002)*	236.9(206)	
Hesse(67)3/5/..	1954-64		-.55	-.43		L	.92	.0256(.001)*	86.46(27)**	
Hesse(69)5/....	1958-67		-.50	-.22		L	.96			
Hesse(69)3/5/..	1958-67		-.52	-.58		L	.93			
IFO(67)	1957-60	1965	-.05			SL				
IFO(67)	1957-62		.10							
Kost(75)	1955-68			-1.08		DL	.88		1.08(.12)	
Krohn(62)		1970	.00							
MSU(68)		1970-75	.00							
OECD(68)	1961-63		-.77			SL	.99	68.72(2)		
	1961-63		.82			DL	.99			
		1975	-.40			LI				

Continued

Table 15 --F.R. Germany: Demand elasticities for diary products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Stamer(65)2/...	1950/51-61/62		-.46	-.05		SL	.98	106.3(5)	10.86(47)	
Stamer(65)	Long-run		-.46	-.08		SL	.999	108.3(3)	18.9(23)	
Butter:										
Elz(67)	1950-63	1970	.44	-.78	-.28 margarine	DL	.97	.44(.03)**	.78(.17)**	.28(.19)
FAO(67)	1961-63	1975-85	.20			LI				
FAO(71)	1964-66	1970-80	.20			SL				
Gollnick(62)8/.	1954-61		.33	-.69		DL	.89	.33(.11)	.69(.15)	
Gruen(68)	1959-61	1980	.40			LI				
Hesse(67)	1954-63		.40	-.40	-.64 margarine	L	.98	9/*	.4612(.18)**	2.129(.6)**
Hesse(67)5/ ...	1954-63		.39	-.44	-.58 margarine	L	.97	10/*	.1277(.03)**	.4807(.08)*
Hesse(67)5/11/.	1954-63		.40	-.42	-.57 margarine	L	.97	12/*	.1235(.20)*	.4743(.08)*
Hesse(67)3/ ...	1954-63		.91	-1.61	-1.16 margarine	L	.94	13/**	4.776(1.6)**	9.793(5.2)
Hesse(67)3/5/ .	1954-63		.87	-1.72	-1.07 margarine	L	.92	14/*	1.272(.20)*	2.247(.7)**
Hesse(69)5/ ...	1954-67		.35	-.52	-.52 margarine	SL	.77			
Hesse(69)3/5/..	1954-67		.63	-1.41	-.80 margarine	SL	.73			
Hesse(69)5/ ...	1963-67		-.69	-.56	.25 margarine	SL	.93			
Hesse(69)5/ ...	1963-67		-.66	-.42		SL	.93			
IFO(67)	1957-60	1965	.35			SL				
	1957-62		.85			SL				
	1961/62-62/63	1970-75	.50			DL				
Kost(75)	1955-68		.42	-.46		LLI	.97	.66(.05)	.46(.17)	
Krohn(62)15/ ..		1970.	.26							
MSU(68)		1970-75	.40							
OECD(68)15/ ...	1961-63		.53			LI	.86	64.05(8)		
Stamer(65)2/ ..	1950/51-61/62		.41	-.83		SL	.92	6.894(.7)	13.838(4)	
	1950/51-61/62		.51	-.58	.30 margarine	SL	.92	8.469(2.7)	9.741(8.1)	
	Long-run		.42	-.63		SL	.99	7.005(.3)	10.44(1.8)	

Continued

Table 15 --F.R. Germany: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Cheese:										
FAO(71)	1964-66	1970-80	.50			SL				
Gruen(68)	1959-61	1980	.30			LI				
Hesse(67)5/ ...	1950-64		.23	16/ -.53		SL	.79	.5734(.07)*	1.327(.6)***	
	1958-63		.22	-.26	.28 pork	DL	.57	.2183(.07)**	.2555(.28)	.281(.19)
	1958-63		.19	17/ -.36	.30 pork	DL	.57	.1893(.09)**	.3622(.35)	.3037(.20)
Hesse(67)3/5/..	1956-63		.28	-.59		SL	.58	1.04(.2)*	2.167(.7)**	
Hesse(69)	1958-67		.21	.16		SL	.96			
Hesse(69 3/ ...	1958-67		.26	-.05		SL	.86			
IFO(67)	1957-60	1965	.19			SL				
	1957-62		.25			SL				
	1961/62-62/63	1970-75	.20			SL				
Kost(75)	1955-68		.49			SL	.97	.059(.003)		
Krohn(62)		1970	.19							
MSU(68)		1970-75	.19							
OECD(68)	1961-63	1975-85	.30			DL	.87	.2953(.04)		
OECD(68)18/ ...	1961-63		1.24			DL	.98	1.241(.05)		
		1975-85	1.00			LI				
Stamer(65)2/ ..	1950/51-1961/62		.22	-.59	-.09 poultry	SL	.97	2.173(.4)	5.723(4.0)	.833(1.4)
					+.31 pork					2.982(1.5)
					+.14 butter					1.316(1.8)
	1950/51-61/62		.24	-.52	+.12 poultry	SL	.95	2.303(.5)	5.021(4.7)	1.112(1.7)
					-.003 butter					.029(2.0)
	1950/51-61/62		.25	-.60	+.16 poultry	SL	.97	2.39(.25)	5.81(3.8)	1.593(.95)
					+.27 pork					1.34(.3)
	1950/51-61/62		.22	-.16	+.20 pork	SL	.96	2.102(2)	1.522(3.1)	1.947(1.4)
	1950/51-61/62		.21	-.36	+.10 butter	SL	.95	2.042(.2)	3.903(.4)	.965(1.3)
					+.11 poultry	SL	.95	2.298(.3)	5.016(4.3)	1.094(1.05)
	1950/51-61/62		.22	-.20		SL	.94	2.10(.2)	1.972(3.2)	

Continued

Table 15 --F.R. Germany: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Stamer(65)	Long-run		.25	+.12		SL	.99	2.415(.2)	1.181(3.1)	
Other milk products:										
Cream:										
Hesse(67)	1954-64		.79	-.52		SL	.98	26.99(1.4)*	17.91(5.7)***	
Hesse(67)5/....	1954-64		.79	-.50		SL	.96	6.762(.3)*	4.275(1.2)**	
Hesse(67)5/11/..	1954-64		.79	-.48		SL	.97	6.968(.2)**	4.123(.9)***	
Hesse(67)3/ ...	1954-64		1.38	-1.04		SL	.98	12.47(.9)*	9.39(2.5)**	
Hesse(67)3/5/..	1954-64		1.35	-1.14		SL	.90	3.059(.2)*	2.59(.7)*	
Hesse(69)	1958-67		.71	-.43						
Kost(75)	1955-68		.71			LI	.99	1.11(.03)		
OECD(68)	1961-63		1.21			LI	.98	145.71(6)		
	1961-63		1.16			SL	.98			
		1975-85	1.10			SL				
Stamer(65)2/...	1950/51-61/62		1.42	-1.10		SL	.98	4.664(.22)	3.594(1.3)	
Condensed milk:										
Hesse(67)5/....	1954-64		.63	-1.40		L	.93	19/	1.168(.6)	
	1954-64		1.19			L	.92	20/*		
	1954-64			-2.90		L	.92		2.415(.1)*	
Hesse(67)3/5/..	1954-64		.89	-2.34		L	.97	.002(.0005)*	5.527(.98)*	
	1954-64		2.11			L	.95	21/		
	1954-64			-3.93		L	.96		9.266(.3)*	
Kost(75)	1955-68		.54			Inv.	.91	13.45(1.2)		
OECD(68)	1961-63		1.16			LI	.95			
		1975-85	.60			LI				
Stamer(65)2/ ..	1950/51-61/62		.44	-3.34		SL	.98	4.165(6.5)	31.337(15)	
Skim milk:										
FAO(71)	1964-66	1970-80	.20			SL				
Powdered milk:										
Kost(75)	1955-68		2.40			SL	.98	.29(.01)		

Continued

Table 15 --F.R. Germany: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Cottage and cream cheese:										
IFO(67)	1961/62-62/63	1970-75	1.30			DL				
Total milk products:										
FAO(62)	1957-59	1970	.20							
Hesse(67)	1958-64		.28	-.44						
Krohn(62)		1970	.15							

* Significant at the 99.9 percent confidence interval.
** Significant at the 99 percent confidence interval.
*** Significant at the 95 percent confidence interval.
1/ Income and price elasticities derived from different sources
2/ Elasticities calculated for the marketing year.
3/ Elasticities based on a four-person (worker's) household.
4/ Elasticities calculated for monthly data.
5/ Elasticities calculated for quarterly data.
6/ Excludes milk equivalent of butter.
7/ Milk and cream.
8/ Elasticities derived from price dependent equation.
9/ .001079(.0001)
10/ .00105(.00006)
11/ Seasonally adjusted.
12/ .00106(.00006)
13/ .002429(.0005)
14/ .002325(.0003)
15/ Fat equivalent.
16/ Average weighted retail price for cheese.
17/ Price index for cheese based on average price paid by four-person households.
18/ White cheese.
19/ .001266(.0006)
20/ .002397(.0001)
21/ .004788(.00012)

Table 16 --France: Demand elasticities for dairy products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
CREDOC(67)1/ ...	1956	1970-75	.34 to .43			SL				
CREDOC(67)2/ ...	1952-61	1970-75		-.20						
FAO(62)	1957-59	1970	.90							
FAO(67)	1961-63	1975-85	.40			LI				
FAO(71)	1964-66	1970-80	.20			LI				
KOST(75)	1955-68		.13	-.08		DL/L	.60	.012(.004)	.083(.15)	
Krohn(62)		1970	.75							
MSU(68)3/		1970-75	.40	-.20						
OECD(68)	1961-63		.36			LI	.57	41.781(28)		
OECD(68)		1975-85	.20			LI				
Milk, whole:										
CREDOC(67)1/ ...	1956	1970-75	.02			SL				
CREDOC(67)2/ ...	1952-61	1970-75		-.15						
FAO(67)4/	1961-63	1975-85	.10			LI				
FAO(71)	1964-66	1970-80	.10			LI				
Fouquet(70)	Short-run		.01	-.16		SL				
Fouquet(70)4/...	Short-run		.46			SL				
Fouquet(70)4/...	Long-run		.53			SL				
Gruen(68)5/.....	1959-61	1980	.20			LI				
Krohn(62)		1970	.00							
MSU(68)		1970-75	.40							
OECD(68)		1975-85	-.15			LI				
Butter:										
CREDOC(67)1/6/..	1956	1970-75	.28 to .33			SL				
CREDOC(67)2/6/..	1952-61	1970-75		-.40						

Continued

Table 16 --France: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Elz(67)	1950-63	1970	.59	-.16	-.02 margarine	DL	,87	.59(.30)	.158#	.243#
FAO(67)	1961-63	1975-85	.20			LI				
FAO(71)	1964-66	1970-80	.20			SL				
Fouquet(70)		1975	.63			LI				
Gruen(68)	1959-61	1980	.60			LI				
Kost(75)	1955-68		1.02	-1.77	.43 margarine	SL	.95	20.86(4)	1.75(.5)	1.18(.7)
Krohn(62)7/		1970	.35							
MSU(68)		1970-75	.35							
OECD(68)7/	1961-63		.64			L	.73	.036(20)		
OECD(68)8/		1975	.50			LI				
Cheese:										
CREDOC(67)1/ ...	1956	1970-75	.38 to .51			SL				
CREDOC(67)2/ ...	1952-61	1970-75		-.40						
FAO(71)	1964-66	1970-80	.30			LI				
Fouquet(70)9/ ..	Short-run		.36			SL				
Fouquet(70)9/ ..	Long-run		.40			SL				
Gruen(68)	1959-61	1980	.20			LI				
Kost(75)	1955-68		1.09	-.60		DL	.97	1.09(.3)	.60(.47)	
Krohn(62)		1970	.47							
MSU(68)		1970-75	.47							
OECD(68)	1961-63		1.14			SL	.92	12.17(10)		
OECD(68)8/		1975	.80			LI				

Continued

Table 16 --France: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Corss-price
Other milk products:										
Powdered milk:										
Kost(75)	1955-68		2.46	+1.38		DL/L	.98	.22(.05)	1.38(.9)	
Skim milk:										
FAO(71)	1964-66	1970-80	.00							
Condensed milk:										
Fouquet(70)10/	Short-run		1.20			SL				
Fouquet(70)10/	Long-run		1.21			SL				
Kost(75)	1955-68		1.15	-.62		DL	.99	1.15(.1)	.62(.20)	
Cream:										
Fouquet(70) ...	Short-run & long-run		.65	-.39		SL				
Kost(75)	1955-68		4.91			LI	.73	10.38(2)		
Total milk products:										
FAO(62)	1957-59	1970	.40							
Krohn(62)		1970	.25							

\# Not significant at the 80 percent confidence level.
1/ Cross-section analysis of non-farm households.
2/ "Apriori" elasticity estimates.
3/ Income and price elasticities are derived from different sources
4/ Excludes milk equivalent of butter.
5/ Milk and cream.
6/ Butter and cream.
7/ Fat equivalent.
8/ Consumption assumed to remain constant after 1975.
9/ Cheese and yogurt.
10/ Condensed and powdered milk.

Table 17 --Ireland: Demand elasticities for dairy products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
FAO (62)	1957-59	1970	.40							
FAO (67)	1961-63	1975-85	.20			LI				
FAO (71)	1964-66	1970-80	-.10			LI				
MSU (71)	1955-68	1980	-.51	.09			$\bar{.90}$	.07(.01)	.09(.14)	
OECD (68)	1961-63		-.49			LI	$\bar{.93}$	55.9(5)		
OECD (68)		1975-85	-.20			LI				
Milk, whole:										
FAO (67)1/	1961-63	1975-85	.10			LI				
FAO (71)	1964-66	1970-80	-.10			LI				
Gruen (68)2/ ..	1959-61	1980	0.00			LI				
MSU (71)	1955-68	1980	.10			LI	$\bar{.80}$	.07(.09)		
OECD (68)2/....	1961-63		.36			LI	$\bar{.82}$	41.7(6)		
OECD (68)2/....		1975-85	.00							
Butter:										
FAO(67)	1961-63	1975-85	.00							
FAO (71)	1964-66	1970-80	-.20			SL				
Gruen (68)	1959-61	1980	-.10			LI				
MSU (71)	1955-68	1980	.56	.00	.03 margarine -.38 bread	LI	$\bar{.36}$	.08(.02)	.00(.01)	.03(.01) .38(.12)
OECD (68)3/ ...	1961-63		-.38			LI	$\bar{.64}$	43.5(11)		
OECD (68)3/ ...		1975-85	-4.00			LI				
Cheese:										
FAO (71)	1964-66	1970-80	.50			SL				
Gruen (68)	1959-61	1980	.00			LI				
MSU (71)	1955-68	1980	.79	-.01		SL	$\bar{.97}$	1.65(1.1)	.03(.02)	
OECD (68)	1961-63		2.11			SL	$\bar{.93}$	3.2(.3)		
OECD (68)		1975-85	2.10			SL				

continued--

Table 17 --Ireland: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Other milk products: Skim milk FAO (71)	1964-66	1970-80	.50			SL				
Total milk products: FAO (62)	1957-59	1970	-.01							

1/ Excludes milk equivalent of butter.
2/ Milk and cream
3/ Fat equivalent.

Table 18 --Italy: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
Cao-Pinna(62)1/	1955-57		.46			SL	.91	7.099(.8)		
Cao-Pinna(62)2/	1955-57		.51			SL	.94	4.146(.3)		
	1955-57	1965	.56							
	1955-57	1970	.54							
FAO(62)	1957-59	1970	.90							
FAO(65)	1961-63	1975-85	.60			SL				
FAO(67)	1964-66	1970-80	.50			SL				
Kost(75)	1955-68		.19			Inv.	.78	622.76(93)		
Krohn(62)		1970	.66							
MSU(68)3/		1970-75	.60	-.40						
OECD(68)	1961-63		.46			LI	.96	57.3(4)		
OECD(68)		1975-85	.45			LI				
Milk, whole:										
Cao-Pinna(62)1/	1955-57		.39			SL	.80	49.17(8)		
Cao-Pinna(62)2/	1955-57		.41			SL	.83	3.802(.6)		
Cao-Pinna(62)4/	1955-57	1965	.99							
Cao-Pinna(62)4/	1955-57	1970	.88							
Cao-Pinna(62)5/	1955-57	1965	.42							
Cao-Pinna(62)5/	1955-57	1970	.47							
FAO(67)6/.....	1961-63	1975-85	.30			SL				
FAO(71)	1964-66	1970-80	.30			SL				
Gruen(68)7/ ...	1959-61	1980	.60			LI				
Kost(75)	1955-68		.26	-.21		DL	.84	.26(.08)	.00094(.0007)	
Krohn(62)8/ ...		1970	.50							
MSU(68)		1970-75	.50							
OECD(68)	1961-63		.27			LI	.80	35.7(6)		
OECD(68)		1975-85	.30			LI				

Continued--

Table 18 --Italy: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information			
Commodity and source	Time period					Equation	R^2	Coefficient & standard error	
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price / Cross-price
Butter:									
Cao-Pinna(62)1/	1955-57		1.06			SL		.92	6.744(.6)
Cao-Pinna(62)2/	1955-57		1.08			SL		.93	6.744(.6)
	1955-57	1965	.53						
	1955-57	1970	.46						
Elz(67)	1950-63		.20	-.41		DL	.62	.1985(.22)#	.4088(.29)
FAO(67)	1961-63	1975-85	.60			SL			
FAO(71)	1964-66	1970-80	.50			SL			
Gruen(68)	1959-61	1980	.90			LI			
Kost(75)	1955-68		--	-.36		SL	.24	1.07(.6)	
Krohn(62)9/ ...		1970	.11						
MSU(68)		1970-75	.60						
OECD(68)9/	1961-63		.40			LI	.61	49.9(12)	
OECD(68)9/		1975-85	.40			LI			
Cheese:									
Cao-Pinna(62)1/	1955-57		.49			SL	.97	8.841(.5)	
Cao-Pinna(62)2/	1955-57		.62			SL	.97	9.146(.5)	
Cao-Pinna(62)10/	1955-57	1965	.57						
Cao-Pinna(62)10/	1955-57	1970	.55						
FAO(71)	1964-66	1970-80	.50			SL			
Gruen(68)	1959-61	1980	.50			LI			
Kost(75)	1955-68		.29			L	.58	.0061(.002)	
Krohn(62)		1970	.51						
MSU(68)		1970-75	.50						
OECD(68)	1961-63		.50			LI	.55	61(17)	
OECD(68)		1975-85	.50			LI			

continued--

Table 18 --Italy: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Other milk products:										
Powdered milk: Kost(75)	1955-68		.20			L	.48	.00011(.00003)		
Skim milk: FAO(71)	1964-66	1970-80	.30			SL				
Condensed milk: Kost(75)	1955-68		.40			SL	.78	.20(.03)		
Total milk products: FAO(62)	1957-59	1970	.60							
Krohn(62)		1970	.47							

Not significant at the 80 percent confidence level.
1/ Consumption measured in quantities.
2/ Consumption measured as expenditures.
3/ Price and income elasticities derived from different sources.
4/ Cow's milk - fresh and condensed.
5/ Sheep and goat's milk.
6/ Excludes milk equivalent of butter.
7/ Milk and cream.
8/ Fresh, powdered and condensed milk in milk equivalent.
9/ Fat equivalent.
10/ Cheese and other dairy products except milk and butter.

Table 19 --Netherlands: Demand elasticities for dairy products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
FAO(62)	1957-59	1970	.70							
FAO(67)	1961-63	1975-85	.50			LI				
FAO(71)	1964-66	1970-80	.20			LI				
Krohn(62)		1970	.51							
MSU(68)1/		1970-75	.50	-.30						
OECD(68)	1961-63		.52			LI	$\overline{.52}$	61.95(18)		
OECD(68)		1975-85	.10			LI				
Milk, whole:										
FAO(67)2/	1961-63	1975-85	.10			LI				
FAO(71)	1964-66	1970-80	-.20			LI				
Gruen(68)3/	1959-61	1980	.10			LI				
MSU(68)		1970-75	.10							
OECD(68)3/	1961-63		-.20			DL	$\overline{.63}$	.202(.05)		
OECD(68)3/		1975-85	-.20			DL				
Butter:										
Elz(67)	1950-63		.48	-1.20	-.82 margarine	DL	.93	.48(.28)#	1.20(.3)*	.82(.57)**
FAO(67)	1961-63	1975-85	.40			SL				
FAO(71)	1964-66	1970-80	.00							
Gruen(68)	1959-61	1980	1.10			LI				
Krohn(62)4/		1970	.89							
MSU(68)		1970-75	.40							
OECD(68)4/	1961-63		.77			LI	$\overline{.11}$	91.9(61)		
Cheese:										
FAO(71)	1964-66	1970-80	.20			SL				
Gruen(68)	1959-61	1980	.90			LI				

Continued--

Table 19 --Netherlands: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Krohn(62)		1970	.45							
MSU(68)		1970-75	.45							
OECD(68)	1961-63		.53			LI	.56	17.73(2)		
OECD(68)		1975-85	.20			LI				
Other milk products:										
Skim milk:										
FAO(71)	1964-66	1970-80	-.20			LI				
OECD(68)5/	1961-63		-1.59			LI	.80	189.8(28)		
OECD(61)5/		1975-85	-.20			DL				
Cream:										
OECD(68)6/	1961-63		1.05			SL	.88	1.681(.2)		
OECD(68)6/		1975-85	.80			LI				
Condensed milk:										
OECD(68)	1961-63		1.95			SL	.84	17.73(2)		
OECD(68)		1975-85	.70			LI				
Whole milk powder:										
OECD(68)	1961-63		1.90			SL	.95	2.142(.2)		
OECD(68)		1975-85	1.20			LI				
Total milk products:										
FAO(62)	1957-59	1970	.80							
Krohn(62)		1970	.50							

Not significant at the 80 percent confidence level.
* Significant at the 99 percent confidence level.
** Significant at the 85 percent confidence level.
1/ Price and income elasticities derived from different sources.
2/ Exclude milk equivalent of butter.
3/ Milk and cream.
4/ Fat equivalent.
5/ Skim and butter milk.
6/ Measured in product weight.

Table 20 --United Kingdom: Demand elasticities for dairy products

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Eggs:										
FAO(62)	1957-59	1970	.30							
FAO(67)	1961-63	1975-85	.30			LI				
FAO(71)	1964-66	1970-80	.00							
FAO/CCP-6(71) .		1980	.21	-.14						
MSU(71)	1955-68		.16	-.16	-.19 bacon/ham	LLI	$\overline{.85}$	.19(.11)	.16(.08)	.19(.04)
OECD(68)	1961-63		.66			LI	$\overline{.72}$	73.3(14)		
Oxford(62)	1955-59	1965	.45							
Oxford(62)		1965-75		-.30						
Oxford(69)	1959-63	1970-80	.36							
Sturgess(72) ..	1969/70	1977/78	.15	-.25	.06 non-livestock food .04 non-foods					
U.K.(71)	1955		.34							
	1958		.33							
	1960		.23							
	1962		.21							
	1965		.18							
	1967		.12			DL		.12(.03)		
	1969		.05			DL		.05(.03)		
U.K.(73)	1971		.09			DL		.09(.03)		
U.K.(75)	1973		.14			DL		.14(.04)		
U.K.(76)	1974		.10			DL		.10(.04)		
U.K.(65)	1956-63			-.14		DL			.14(.04)	
U.K.(71)	1964-69			-.13		DL			.13(.08)	
U.K.(76)	1969-74			-.07		DL			.07(.05)	
Milk, whole:										
FAO(67)	1961-63	1975-85	.00							
FAO(71)	1964-66	1970-80	-.10			LI				
FAO/CCP-6(71) .		1980	.20	-.13						
Gruen(68)1/ ...	1959-61	1980	-.10			LI				
Oxford(62)	1955-59	1965	.20							
Oxford(69)	1959-63		.29							

Continued

Table 20 --United Kingdom: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
U.K.(71)	1955		.28							
	1958		.31							
	1960		.24							
	1962		.29							
	1965		.26							
	1967		.21			DL		.21(.02)		
	1969		.20			DL		.20(.02)		
U.K.(73)	1971		.19			DL		.19(.02)		
U.K.(75)	1973		.07			DL		.07(.01)		
U.K.(76)	1974		.06			DL		.06(.03)		
U.K.(65)	1956-63			-.13		DL			.13(.16)	
U.K.(76)	1969-74			-.14		DL			.14(.05)	
Butter:										
FAO(67)	1961-63	1975-85	.10			LI				
FAO(71)	1964-66	1970-80	.00							
FAO/CCP-6(71) .		1980	.27	-.33	.06 margarine					
Gruen(68)	1959-61	1980	.20			LI				
MSU(71)	1955-68		.60	-.38	-.21 margarine -.49 bread	LLI	.95	.71(n.a.)	.38(n.a.)	.21(n.a.) .49(.09)
OECD(68)2/	1961-63		.76			LI	.35	.85.2(34)		
Oxford(62)	1955-59	1965	.40							
Oxford(62)		1965-75		-.60						
Oxford(69)3/ ..	1959-63		.37							
Sturgess(72) ..	1969/70	1977/78	.30	-.60	.08 non-livestock foods .07 non-foods					

Continued

Table 20 --United Kingdom: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
U.K.(71)	1955		.37							
	1958		.30							
	1960		.24							
	1962		.27							
	1965		.17							
	1967		.14			DL		.14(.02)		
	1969		.10			DL		.10(.03)		
U.K.(73)	1971		.18			DL		.18(.03)		
U.K.(75)	1973		.23			DL		.23(.04)		
U.K.(76)	1974		.15			DL		.15(.05)		
U.K.(65)	1956-63			-.33		DL			.33(.06)	
U.K.(76)	1969-74			-. 0		DL			.40(.07)	
U.K.(76)	1967-74			-.42	.26 margarine	DL	.37		.42(.06)	.26(.04)
Cheese:										
FAO(71)	1964-66	1970-80	.20			SL				
FAO/CCP-6(71) ..		1980	.25	-.22						
Gruen(68)	1959-61	1980	.10			LI				
MSU(71)	1955-68		.39	-.12		DL	.89	.39(.06)	.12(.08)	
OECD(68)	1961-63		.56			LI	.51	62.5(18)		
OECD(68)		1975-85	.20			SL				
Oxford(62)	1955-59	1965	.28							
Oxford(62)		1965-75		-.16						
Oxford(69)	1959-63		.33							
Sturgess(72) ..	1965/70	1977/78	.30	-.40	.03 non-livestock foods .07 non-foods					
U.K.(71)4/		1955	.11							
		1958	.21							
		1960	.20							
		1962	.25							
		1965	.22							
		1967	.27			DL		.27(.04)		
		1969	.22			DL		.22(.04)		

Continued

Table 20 --United Kingdom: Demand elasticities for diary products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
U.K.(73)	1971		.24			DL		.24(.05)		
U.K.(75)	1973		.30			DL		.30(.04)		
U.K.(76)	1974		.36			DL		.36(.05)		
U.K.(65)5/	1956-63			-.22		DL			.22(.66)	
U.K.(69)5/	1958-66			-.32		DL			.32(.10)	
U.K.(69)6/	1962-67			-.84		DL			.84(.52)	
U.K.(71)6/	1964-69			-1.59		DL			1.59(.51)	
U.K.(76)6/	1969-74			-.49		DL			.49(.41)	
Other milk products:										
Cream:										
MSU(71)	1955-68		.70	-.30		SL	.74	.89(.15)	.38(n.a.)	
OECD(68)	1961-63		3.84			SL	.98	2.46(.2)		
OECD(68)		1975-85	3.80			SL				
Oxford(69)	1959-63		2.00							
Sturgess(72) ..	1969/70	1977/78	.80	-.90	-.10 non-livestock foods .20 non-foods					
U.K.(71)	1955		1.35							
	1958		.99							
	1960		1.38							
	1962		1.22							
	1965		.84							
	1967		.80			DL		.80(.12)		
	1969		.90			DL		.90(.07)		
U.K.(73)	1971		.84			DL		.84(.08)		
U.K.(75)	1973		.67			DL		.67(.08)		
U.K.(76)	1974		.75			DL		.75(.18)		
U.K.(65)	1956-63			-.65		DL			.65(.35)	
U.K.(69)	1962-67			-.68		DL			.68(.31)	
U.K.(76)	1969-74			-.23		DL			.23(.41)	

Continued

Table 20 --United Kingdom: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
Powdered milk:										
Oxford(69)7/..	1959-63		-.25							
U.K.(71)7/ ...	1955		-.23							
	1958		-.49							
	1960		-.54							
	1962		-.92							
	1965		-1.27							
	1967		-.86			DL		.86(.26)		
	1969		-1.09			DL		1.09(.29)		
U.K.(73)7/ ...	1971		-1.52			DL		1.52(36)		
U.K.(75)7/ ...	1973		-1.18			DL		1.18(.33)		
U.K.(76)7/ ...	1974		-1.50			DL		1.50(.32)		
U.K.(75)8/ ...	1973		-.34			DL		.34(.35)		
U.K.(76)8/ ...	1974		-.12			DL		.12(.30)		
Condensed milk:										
Oxford(69)9/..	1959-63		-.15							
Oxford(69)10/.	1959-63		.17							
Oxford(69)11/.	1959-63		.85							
U.K.(71)12/ ..	1955		-.48							
	1958		-.76							
	1960		-.26							
	1962		-.10							
	1965		-1.54							
	1967		-.16			DL		.16(.14)		
	1969		-.25			DL		.25(.14)		
U.K.(73)13/ ..	1971		-.07			DL		.07(.09)		
U.K.(75)13/ ..	1973		.00			DL		.00(.11)		
U.K.(76)13/ ..	1974		.05			DL		.05(.15)		
U.K.(71)13/ ..	1964-69			-2.33		DL			2.33(.55)	
U.K.(76)13/ ..	1969-74			-.61		DL			.61(.38)	
Other:										
FAO(71)14/ ...	1964-66	1970-80	.20			SL				
Oxford(62)15/.	1955-59	1965	.52							
Oxford(69)16/.	1959-63		2.00							
Oxford(69)14/.	1959-63		.70							

Continued

Table 20 --United Kingdom: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period					Equation	R^2	Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price			Income	Own-price	Cross-price
Total milk products:										
FAO(62)	1957-59	1970	.09							
Oxford(69) ...	1959-63		.78							

Note: n.a. = not available.

1/ Milk and cream.
2/ Fat equivalent.
3/ Milk equivalent.
4/ Processed and natural cheese.
5/ Natural cheese.
6/ Processed cheese.
7/ Powdered whole milk.
8/ Instant milk.
9/ Whole sweet.
10/ Whole evaporated.
11/ Skim milk concentrate.
12/ Sweetened - 1955, 1958, 1960, 1962 and 1965; total condensed - 1967, and 1969.
13/ Total condensed.
14/ Skim milk.
15/ Weighted average of high-income effect on consumption of cream, ice-cream and chocolate, and low-income effect on powdered and condensed milk.
16/ Yogurt and colored and flavored milks.

Table 21 --Japan: Demand elasticities for dairy products

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Eggs:										
Filippello(70)	1965		.20	-.06	.32 fish .36 wheat -.13 rice					
Filippello(70)		1980	.27	-.03	.21 fish .03 wheat -.07 rice					
FAO(62)	1957-59	1970	1.00							
FAO(67)	1961-63	1975-85	.80			SL				
FAO(71)	1964-66	1970-80	.50			LI				
Japan(74)1/	1963		.66			DL				
	1965		.55			DL	.97	.552(.001)		
	1967		.48			DL				
	1969		.34			DL				
	1970		.30			DL				
	1972		.23			DL				
	1973		.17			DL	.57	/1679(.002)		
Japan(74)2/	1955-64		1.42	-.66		DL	.99	1.42(.2)	.655(.27)	
	1964-73		-.45	-.92		DL	.90	.454(.29)	.919(.30)	
	1955-73		1.34	3/-.003		DL	.95	1.34(.5)	.003(.54)	
OECD(68)	1957-64		1.70			DL	.99	1.78(.2)		
	1961-63		1.70			DL				
		1975-85	.80							
Milk, whole:										
Filippello(67)	4/1953/54-64/65		1.36	-.91						
Filippello(67)	5/1953/54-64/65		1.70	-.27						
Filippello(70)	1965		1.15	-.55						
Filippello(70)		1980	1.45	-.74						
FAO(62)	1957-59	1970	2.00							
FAO(67)6/	1961-63	1975-85	.80			LI				
FAO(71)	1964-66	1970-80	.50			SL				
Gruen (68)7/	1959-61	1980	2.10			SL				

Continued

Table 21 --Japan: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
IAER(64)	1951-60	1965-75	2.10	-1.16		DL	.96			
Japan(74)1/ ...	1963		1.32			DL				
	1965		1.28			DL	.93	1.276(.004)		
	1967		1.08			DL				
	1969		.71			DL				
	1970		.76			DL				
	1972		.62			DL				
	1973		.56			DL	.67	.561(.004)		
Japan(74)2/ ...	1955-64		2.12	-1.16		DL	.99	2.12(.1)	1.16(.6)	
	19 4-73		.27	-2.01		DL	.80	.274(.14)	2.01(.7)	
	1955-73		1.51	3/ -.31		DL	.94	1.51(.1)	.305(1.45)	
OECD(68)8/	1955-64		1.62			LI	.99	187.6(6)		
OECD(68)9/ ...	1955-64		1.60			LI		10/		
OECD(68)8/	1961-63		1.38			LI				
OECD(68)9/ ...	1961-63		1.44			LI				
OECD(68)		1975-85	1.40			SL				
Butter:										
FAO(71)11/	1964-66	1970-80	1.20			SL				
Gruen(68)	1959-61	1980	1.80			SL				
IAER(64)	1951-60	1965-75	.82	-1.37		DL	.93			
IAER(64)	1951-60	1965-75	1.76	-.88	-1.97(bread/rice)12/	DL	.96			
Japan(74)1/....	1963		2.76			DL				
	1965		2.64			DL	.97	2.639(.005)		
	1967		1.98			DL				
	1969		1.97			DL				
	1970		1.95			DL				
	1972		1.71			DL				
	1973		1.41			DL	.88	1.406(.005)		
Japan(74)2/ ...	1955-64		.77	-2.03		DL				
	1964-73		-1.28	-.91		DL				
	1955-73		1.68	3/ .73		DL				

Continued

Table 21 --Japan: Demand elasticities for dairy products--continued

Reference information: Commodity and source	Time period: Historical	Time period: Projection	Elasticity of: Income	Elasticity of: Own-price	Elasticity of: Cross-price	Statistical information: Equation	R^2	Coefficient & standard error: Income	Coefficient & standard error: Own-price	Coefficient & standard error: Cross-price
OECD(68)	1955-64		1.65			LI	.93	190.7(17)		
	1961-63		1.40			LI				
		1975-85	1.85			LI				
Cheese:										
FAO(71)	1964-66	1970-80	1.00			SL				
Gruen(68)	1959-61	1980	3.30			SL				
IRAE(64)	1951-60	1965-75	3.34	-1.11		DL	.97			
Japan(74)1/	1963		2.82			DL				
	1965		2.69			DL	.91	2.694(.009)		
	1967		1.48			DL				
	1969		1.18			DL				
	1970		1.37			DL				
	1972		1.11			DL				
	1973		.93			DL	.79	.935(.005)		
Japan(74)2/	1964-73		-1.49	-3.43		DL				
OECD(68)	1955-64		2.89			SL	.95	.02(.00)		
	1961-63		2.23			SL				
		1975-85	2.30			DL				
Other milk products:										
Powdered milk:										
IAER(64)	1951-60	1965-75	1.29	-3.27		DL	.86			
Japan(74)	1965		-.25			DL	.02	.246(.02)		
Japan(71)2/13/..	1955-62		1.13	-2.21		DL	.94	1.132(.8)	2.209(1.1)	
	1963-70		2.03	-.18		DL	.96	2.032(1.1)	.177(1.53)	
	1955-70		1.51	-.83		DL	.97	1.506(.7)	.834(.90)	
OECD(68)	1955-64		14/2.23			DL	.96	2.23(.2)		
OECD(68)		1975-85	1.80			LI				
Condensed milk:										
IAER(64)	1951-60	1965-75	1.08	-1.34		DL	.73			

Continued

Table 21 --Japan: Demand elasticities for dairy products--continued

Reference information			Elasticity of:			Statistical information				
Commodity and source	Time period							Coefficient & standard error		
	Historical	Projection	Income	Own-price	Cross-price	Equation	R^2	Income	Own-price	Cross-price
Total milk products:										
FAO(62)	1957-59	1970	2.00							
FAO(67)	1961-63	1975-85	.80			SL				
IAER(64)13/ ...	1951-60	1965-75	1.58	-1.74		DL	.97			
IAER(64)15/ ...	1951-60	1965-75	1.43	-1.68		DL	.97			
Japan(74)1/13/.	1963		.97			DL	.95	.937(.002)		
	1965		.94			DL				
	1967		.76			DL				
	1969		.49			DL				
	1970		.52			DL				
	1972		.36			DL				
	1973		.34			DL	.73	.344(.002)		
Japan(71)2/13/.	1958-70		1.27	-.55		DL	.96	1.27(.6)	.552(1.04)	
Japan(71)2/13/.	1963-70		-.06	-1.93		DL	.95	.06(.41)	1.927(.69)	
OECD(68)8/	1957-64		14/1.63			DL	.97	1.63(.01)		
OECD(68)9/	1957-64		14/1.39			DL	.99	1.39(.03)		

1/ Cross-section elasticity for all non-farm households.
2/ For non-farm households in cities larger than 50,000 population.
3/ Student t-value less than 1.0.
4/ Ordinary least-squares regression.
5/ Three-stage, least-squares regression.
6/ Excludes milk equivalent of butter.
7/ Milk and cream for human consumption.
8/ Includes school lunch program.
9/ Excludes school lunch program.
10/ 68,414(2033).
11/ Includes skim milk equivalent.
12/ Price ratio of bread to rice.
13/ Consumption measured as expenditure.
14/ Same elasticity for 1961-63.
15/ Consumption measured as per capita quantity.

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