

Terje Skjerpen

**A multi-stage consumer demand system based
on LES at all levels**

Technical documentation

© Statistics Norway, December 2010	Symbols in tables	Symbol
When using material from this publication, Statistics Norway shall be quoted as the source.	Category not applicable	.
	Data not available	..
	Data not yet available	...
	Not for publication	:
ISBN 978-82-537-8007-8 Printed version	Nil	-
ISBN 978-82-537-8008-5 Electronic version	Less than 0.5 of unit employed	0
ISSN 1891-5906	Less than 0.05 of unit employed	0.0
Subject: 05.90, 09.90	Provisional or preliminary figure	*
	Break in the homogeneity of a vertical series	—
Print: Statistics Norway	Break in the homogeneity of a horizontal series	
	Decimal punctuation mark	.

Preface

I would like to thank Brita Bye, Ådne Cappelen, Bodil M. Larsen and Birger Strøm for value comments and constructive meetings in the process of generating the model documented in this paper. A special thank goes to Birger Strøm for having programmed the model in TROLL. He has also carried out the simulations and contributed substantially to Appendix B. Any remaining errors and shortcomings are mine.

Abstract

A new consumer demand system for the MSG model is documented. Altogether there are 27 basic commodities. The modelling of the allocation system is based on a utility tree approach. Four different branches are involved: *Groceries*, *Housing*, *Transport* and *Other goods and services*. The complete allocation model and the values of all its parameters are documented. The parameters are obtained by combining estimation and calibration. To investigate the properties of the model we calculate expenditure and price elasticities (both uncompensated and compensated) by simulation. Since the elasticities depend on the year in which they are evaluated, they are reported for a selection of years, 2060 being the ultimate one.

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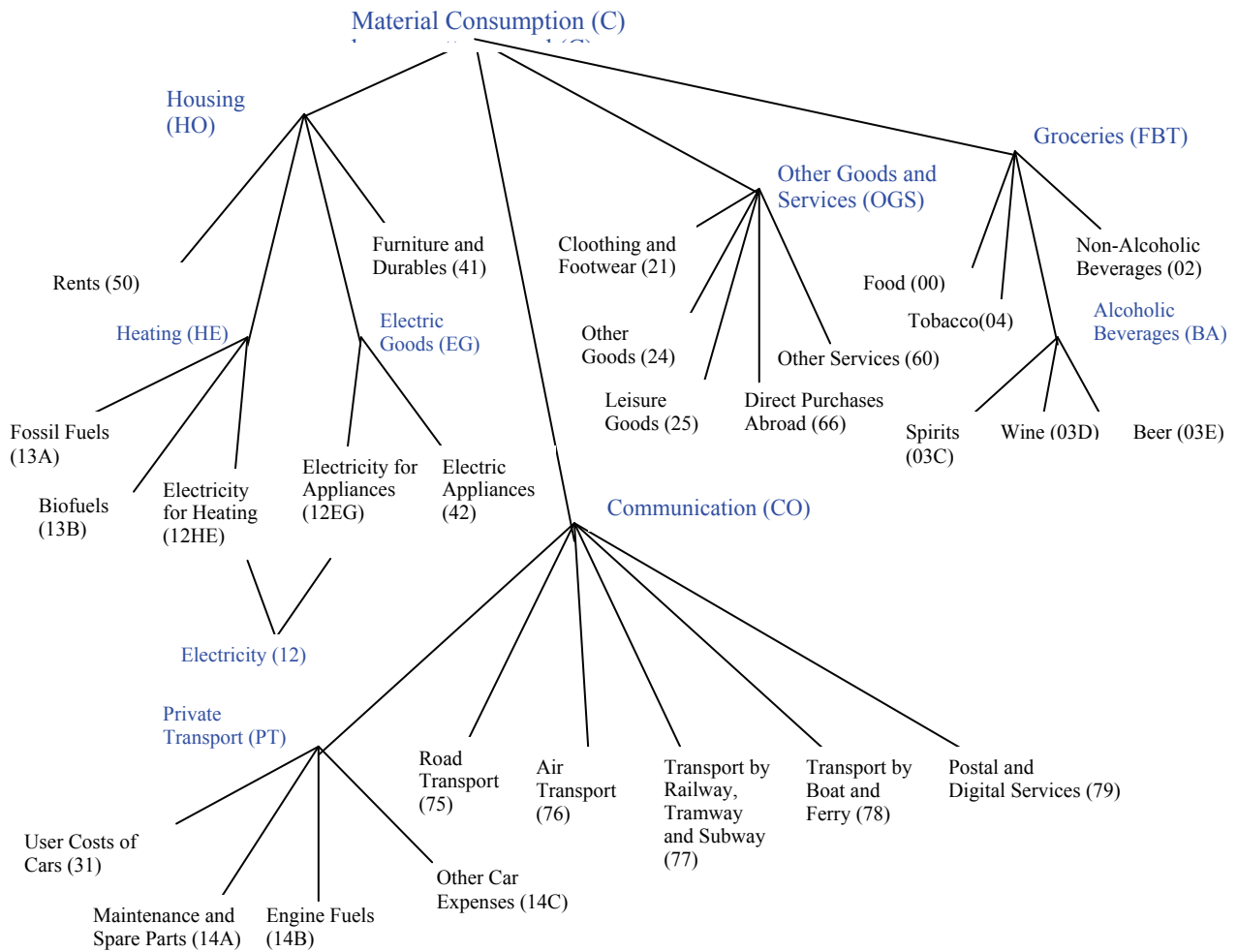
1. Introduction

This paper contains technical documentation of an estimated/calibrated consumer demand system to be used in conjunction with the general equilibrium model, MSG 6. The consumer demand system is based on a nested Stone-Geary utility function. In contrast, earlier demand systems have been based on a nested utility function with origo-adjusted CES-functions.¹ The parameters in this latter system were calibrated drawing on information from different data sources. The consumer budget surveys conducted by Statistics Norway were important sources. The parameter values used in the model documented in this paper are only based on National Accounts (NA) data. It has not been common before to use NA data at such a detailed level as in the current paper. It is still an open question how good such data are for quantifying structural parameters.

The paper is disposed as follows. In Section 2 we look at a three-level Stone-Geary utility function and provide the different structural equations which are the basis of estimating/calibrating the parameters involved. Of special concern is the link between the different allocation levels. As is customary in conjunction with utility-tree based models, one starts at the bottom of the utility tree and proceeds to higher levels from there. In Section 3 we apply the general setup on the consumer commodities present in the MSG 6 model. We distinguish between four branches: *Food etc.*, *Housing etc.*, *Transport etc.* and *Others*, see Figure 1. Within the branches we have up to 2 allocation stages. Furthermore we have an allocation stage in which total expenses are allocated to the four branches. All the applied parameter values are reported in this section. In Appendix C we write out all the equations of the consumer block in the notation used in conjunction with the MSG model. Within this block it is explicitly stated which variables are endogenous and which variables are exogenous. In Section 4 we calculate price and expenditure elasticities numerically by shift analysis. The shift analysis is carried out after having added residuals. The constructed consumer demand system should be viewed as a point of departure for further analysis. From a quantitative point of view 27 basic consumer commodities imply a rather comprehensive demand system. The traditional way of dealing with this feature is to impose some type of separability assumptions such that a dimension reduction is obtained. Alternatively, one could try to work with all commodities together using a parsimonious structure of the non-systematic part of the demand functions, cf. for instance de Boer and Harkema (1986, 1997) and de Boer et al. (1996). Econometric quantification of parameters also requires that the parameter values are in the feasible set. This is challenge that has to be dealt with. The parameters are partly estimated and partly calibrated. How reasonable the parameters are may partly be viewed in light of the elasticities they lead to. In conjunction with long-run simulations global properties of the demand equations are an important feature. The elasticities depend on the level of the variables, and accordingly we calculate elasticities for different years.

¹ Cf. for instance Aasness and Holtmark (1993, 1995) and Bye et al. (2008).

Figure 1. The household preference structure in MSG-6



2. Modelling framework²

Let us assume that we have four consumption branches which we label X, Y, Z and W, respectively. We start out by assuming that the amount of money allocated to these four branches is exogenously given and we focus on the allocation of money within the branches. In the following we focus on the X-branch. The treatment of the other branches is analogous to the treatment of the X branch. We assume that there are two allocation stages within the X branch. Let n_X be the number of basic consumer categories at the lower allocation stage (referred to as stage 2) and let m_X be the number of basic consumption categories at the upper stage (referred to as stage 1). Let X_i^2 , $i=1, \dots, n_X$ be the consumption of category i at the lower level (i.e., level 2) within branch X and let the associated price index be denoted PX_i^2 . Total expenditure at the lower level is given by

$$(1) \quad VX^2 = \sum_{i=1}^{n_X} PX_i^2 X_i^2.$$

² This section is especially inspired by Michalek and Keyzer (1992).

We assume for now that VX^2 is exogenously given and that the volumes at this allocation stage are determined according to a linear expenditure system augmented with demographic effects. The demand system, in volume form, is given by

$$(2) X_i^2 = \gamma_{X0i}^2 N + \gamma_{X1i}^2 NC + \frac{\beta_{Xi}^2}{PX_i^2} \left[VX^2 - \sum_{j=1}^{n_X} PX_j^2 (\gamma_{X0j}^2 N + \gamma_{X1j}^2 NC) \right], i = 1, \dots, n_X,$$

where

$$(3) \sum_{j=1}^{n_X} \beta_{Xj}^2 = 1.$$

In (2) N and NC denote, respectively, the total number of persons (in 100 persons) and the total number of persons not older than 19 years (in 100 persons).³ The parameters $\beta_{X1}^2, \dots, \beta_{Xn_X}^2$ are termed marginal budget shares and $\gamma_{X01}^2, \gamma_{X11}^2, \dots, \gamma_{X0n_X}^2, \gamma_{X1n_X}^2$ are parameters characterizing the necessity consumption. They are all unknown and need to be quantified.

To estimate the parameters we transform the system (1) such that the budget shares occur on the left hand side of the equations and then add additive error terms.⁴ Since adding-up is fulfilled the error vector will have a singular covariance matrix and we proceed by estimating the parameters β_{Xi}^2 ($i = 1, \dots, n_X - 1$), γ_{X0i}^2 ($i = 1, \dots, n_X$) and γ_{X1i}^2 ($i = 1, \dots, n_X$) by iterative multivariate non-linear least squares using the $n_X - 1$ first equations in (1), assuming that the $(n_X - 1) \times (n_X - 1)$ covariance matrix of the errors is positive definite, and unconstrained beyond symmetry. The remaining parameter, β_{X,n_X}^2 , is estimated utilizing (3).

The predicted value of the outlay in conjunction with the “necessity consumption”⁵ is

$$(4) VXN^2 = \sum_{i=1}^{n_X} PX_i^2 (\gamma_{X0i}^2 N + \gamma_{X1i}^2 NC), i = 1, \dots, n_X.$$

In light of duality theory we may decompose VX^2 as

$$(5) VX^2 = VXN^2 + PU_X^2 \times U_X^2,$$

where

$$(6) PU_X^2 = \prod_{j=1}^{n_X} (PX_j^2)^{\hat{\beta}_{Xj}^2}$$

and

$$(7) U_X^2 = \left[\prod_{j=1}^{n_X} \left(\frac{1}{\hat{\beta}_{Xj}^2} \right)^{\hat{\beta}_{Xj}^2} \right] \prod_{j=1}^{n_X} (X_j^2 - \hat{\gamma}_{Xj}^2)^{\hat{\beta}_{Xj}^2},$$

where

³ Cf. Pollak and Wales (1981) for consumer demand systems and demographic variables. See also Lewbel (1985) and Pollak and Wales (1992).

⁴ In Appendix A we show this in more detail. The procedure is analogous for the later submodels that are also estimated by ML.

⁵ We write this term in apostrophes since it originally was used in a context with only positive minimum quantities, while we also allow for negative minimum quantities.

$$(8) \hat{\gamma}_{Xj}^2 = \hat{\gamma}_{X0j}^2 N + \hat{\gamma}_{X1j}^2 NC, j = 1, \dots, n_X.$$

In (6)-(8) above and below we follow the convention of letting a $\hat{\cdot}$ denote a parameter estimate or a predicted value of a linear combination of parameter estimates with weights based on values of observed variables.

We label U_X^2 in Eq. (7) the (estimated) utility aggregate associated with the lower allocation level in branch X.

At the upper allocation level within branch X we will now determine the optimal values of $X_1^1, \dots, X_{m_X}^1$ together with the optimal value of U_X^2 . The total outlay on the basic commodities $X_1^1, \dots, X_{m_X}^1$ and U_X^2 is given by

$$(9) VXC^1 = \sum_{j=1}^{m_X} PX_j^1 \times X_j^1 + PU_X^2 \times U_X^2.$$

It is also convenient at this stage to introduce

$$(10) VX = VXC^1 + VXC^2,$$

which corresponds to the total outlay on the commodities in branch X.

We now consider the allocation system at the upper level in branch X. Again we use the linear expenditure system augmented with demographic effects

$$(11) X_i^1 = \gamma_{X0i}^1 N + \gamma_{X1i}^1 NC + \frac{\beta_{X_i}^1}{PX_i^1} \left[VXC^1 - \sum_{j=1}^{m_X} PX_j^1 (\gamma_{X0j}^1 N + \gamma_{X1j}^1 NC) - PU_X^2 (\gamma_{X0U_X^2}^1 N + \gamma_{X1U_X^2}^1 NC) \right],$$

$$i = 1, \dots, m_X,$$

$$(12) U_X^2 = \gamma_{X0U_X^2}^1 N + \gamma_{X1U_X^2}^1 NC + \frac{\beta_{XU_X^2}^1}{PU_X^2} \left[VXC^1 - \sum_{j=1}^{m_X} PX_j^1 (\gamma_{X0j}^1 N + \gamma_{X1j}^1 NC) - PU_X^2 (\gamma_{X0U_X^2}^1 N + \gamma_{X1U_X^2}^1 NC) \right],$$

where

$$(13) \sum_{j=1}^{m_X} \beta_{X_j}^1 + \beta_{U_X^2}^1 = 1,$$

and where the parameters in (13) together with

$$\gamma_{X0i}^1, \gamma_{X1i}^1 (i = 1, \dots, m_X), \gamma_{X0U_X^2}^1 \text{ and } \gamma_{X1U_X^2}^1$$

are parameters to be estimated. To quantify the unknown parameters we transform the demand system such that the budget shares occur on the left hand side in (11) and (12). We then add additive error terms. Because of the adding-up restriction, the demand system consisting of (11) and (12) will have an error distribution with a singular covariance matrix. We estimate the parameters

$$\beta_{X_j}^1 (j=1, \dots, m_X), \gamma_{X0i}^1, \gamma_{X1i}^1 (i=1, \dots, m_X), \gamma_{X0U_X^2}^1 \text{ and } \gamma_{X1U_X^2}^1$$

by employing iterative multivariate non-linear least squares to the transformed m_X equations in (11). We assume that the error vector has expectation zero and a full covariance matrix. The estimate of the remaining parameter, $\beta_{U_X^2}^1$, is obtained by utilizing the adding-up

condition (13). Let us define

$$(14) \hat{\gamma}_{Xi}^1 = \hat{\gamma}_{X0i}^1 N + \hat{\gamma}_{X1i}^1 NC, i = 1, \dots, m_X$$

and

$$(15) \hat{\gamma}_{XU_X^2}^1 = \hat{\gamma}_{X0U_X^2}^1 N + \hat{\gamma}_{X1U_X^2}^1 NC.$$

The outlay on necessity consumption at allocation level 1 is given by

$$(16) VXCN^1 = \sum_{i=1}^{m_X} PX_i^1 \hat{\gamma}_{Xi}^1 + PU_X^2 \hat{\gamma}_{XU_X^2}^1.$$

In light of duality theory we may now decompose VXC^1 as

$$(17) VXC^1 = VXCN^1 + PU_X^1 \times U_X^1,$$

where

$$(18) PU_X^1 = \left(\prod_{j=1}^{m_X} (PX_j^1)^{\hat{\beta}_{Xj}^1} \right) (PU_X^2)^{\hat{\beta}_{U_X^2}^1}$$

and

$$(19) U_X^1 = \left\{ \left[\prod_{j=1}^{m_X} \left(\frac{1}{\hat{\beta}_{Xj}^1} \right)^{\hat{\beta}_{Xj}^1} \right] \left[\left(\frac{1}{\hat{\beta}_{XU_X^2}^1} \right)^{\hat{\beta}_{XU_X^2}^1} \right] \right\} \left[\prod_{j=1}^{m_X} (X_j^1 - \hat{\gamma}_{Xj}^1)^{\hat{\beta}_{Xj}^1} \right] (U_{XU_X^2}^2 - \hat{\gamma}_{XU_X^2}^1)^{\hat{\beta}_{XU_X^2}^1}.$$

Thus U_X^1 is the utility aggregate at the upper level within branch and PU_X^1 is its companion price index.

Correspondingly, for the other three branches we have $U_Y^1, PU_Y^1, U_Z^1, PU_Z^1, U_W^1$ and PU_W^1 .

We now endogenize the allocation of expenditure on the four branches. For this purpose we again employ the linear expenditure system with demographic effects. Let

$$(20) VTOP = PU_X^1 \times U_X^1 + PU_Y^1 \times U_Y^1 + PU_Z^1 \times U_Z^1 + PU_W^1 \times U_W^1.$$

The demand system written out in volume form at this top level becomes.

$$(21) U_X^1 = \gamma_{X0}^T N + \gamma_{X1}^T NC + \frac{\beta_X^T}{PU_X^1} \left[VTOP - PU_X^1 (\gamma_{X0}^T N + \gamma_{X1}^T NC) - PU_Y^1 (\gamma_{Y0}^T N + \gamma_{Y1}^T NC) - PU_Z^1 (\gamma_{Z0}^T N + \gamma_{Z1}^T NC) - PU_W^1 (\gamma_{W0}^T N + \gamma_{W1}^T NC) \right],$$

$$(22) U_Y^1 = \gamma_{Y0}^T N + \gamma_{Y1}^T NC + \frac{\beta_Y^T}{PU_Y^1} \left[VTOP - PU_X^1 (\gamma_{X0}^T N + \gamma_{X1}^T NC) - PU_Y^1 (\gamma_{Y0}^T N + \gamma_{Y1}^T NC) - PU_Z^1 (\gamma_{Z0}^T N + \gamma_{Z1}^T NC) - PU_W^1 (\gamma_{W0}^T N + \gamma_{W1}^T NC) \right],$$

$$(23) U_Z^1 = \gamma_{Z0}^T N + \gamma_{Z1}^T NC + \frac{\beta_Z^T}{PU_Z^1} \left[VTOP - PU_X^1 (\gamma_{X0}^T N + \gamma_{X1}^T NC) - PU_Y^1 (\gamma_{Y0}^T N + \gamma_{Y1}^T NC) - PU_Z^1 (\gamma_{Z0}^T N + \gamma_{Z1}^T NC) - PU_W^1 (\gamma_{W0}^T N + \gamma_{W1}^T NC) \right],$$

$$(24) U_W^1 = \gamma_{W0}^T N + \gamma_{W1}^T NC + \frac{\beta_W^T}{PU_W^1} \left[VTOP - PU_X^1 (\gamma_{X0}^T N + \gamma_{X1}^T NC) - PU_Y^1 (\gamma_{Y0}^T N + \gamma_{Y1}^T NC) - PU_Z^1 (\gamma_{Z0}^T N + \gamma_{Z1}^T NC) - PU_W^1 (\gamma_{W0}^T N + \gamma_{W1}^T NC) \right],$$

where

$$(25) \beta_X^T + \beta_Y^T + \beta_Z^T + \beta_W^T = 1.$$

Besides the parameters in (25) the following parameters are involved in (21)-(24):

$$\gamma_{X0}^T, \gamma_{X1}^T, \gamma_{Y0}^T, \gamma_{Y1}^T, \gamma_{Z0}^T, \gamma_{Z1}^T, \gamma_{W0}^T, \gamma_{W1}^T.$$

Again to estimate the involved parameters, at this top level, we transform the system such that the budget shares occur at the left hand side of the equations in (21)-(24). Then we add additive error terms. Because of the adding-up condition the resulting demand system has an error vector with a singular covariance matrix. To obtain estimates of the parameters

$$\gamma_{X0}^T, \gamma_{X1}^T, \gamma_{Y0}^T, \gamma_{Y1}^T, \gamma_{Z0}^T, \gamma_{Z1}^T, \gamma_{W0}^T, \gamma_{W1}^T, \beta_X^T, \beta_Y^T, \beta_Z^T$$

we employ iterative non-linear least squares on the equations (21)-(23), assuming that the errors have a full covariance matrix. The remaining parameter is estimated utilizing the adding up condition (25).

In view of the overall properties of the model some of the initially obtained estimates have been somewhat modified compared to the results from the free estimation. In the following section we report on the estimated/calibrated values when we now continue to the specific setting, in which we are going to use the modelling framework set out in this section.

3. Parameter values in the consumer demand system

3.1. Groceries

This branch may be associated with the X-branch in the previous section. On the lower level expenses on alcoholic beverages are allocated to *Spirits (C03C)*, *Wine (C03D)* and *Bear (C03E)*. Thus $n_X = 3$. The accompanying price indices are labelled, respectively, *PC03C*, *PC03D* and *PC03E*.

On the upper level expenses on *Groceries* are allocated to *Food (C00)*, *Non-alcoholic Beverages (C02)*, *Tobacco (C04)*, and to *Alcoholic Beverages*. Thus $m_X = 3$. In Table 1 we report the estimated/calibrated parameter values occurring at the second allocation level within the branch of *Groceries*. Correspondingly, in Table 2 we report estimated/calibrated parameter values occurring at the first allocation level within the branch of *Groceries*.

Table 1. Parameter values in the linear expenditure system for Alcoholic Beverages, allocation level 2 of Groceries

Parameter	Estimated/Calibrated value
$\gamma_{X0,03C}^2$	0.05
$\gamma_{X0,03D}^2$	0.04
$\gamma_{X0,03E}^2$	0.05
$\gamma_{X1,03C}^2$	-0.025
$\gamma_{X1,03D}^2$	-0.025
$\gamma_{X1,03E}^2$	-0.025
$\beta_{X,03C}^2$	0.38
$\beta_{X,03D}^2$	0.37
$\beta_{X,03E}^2$	0.25

Note: All these values correspond to calibrated values.

Table 2. Parameter values in the linear expenditure system at allocation level 1 of Groceries

Parameter	Estimated/Calibrated value
$\gamma_{X0,00}^1$	-0.948
$\gamma_{X0,02}^1$	-0.258
$\gamma_{X0,04}^1$	-1.390
$\gamma_{X0,U_X^2}^1$	-1.087
$\gamma_{X1,00}^1$	7.456
$\gamma_{X1,02}^1$	1.158
$\gamma_{X1,04}^1$	5.772
$\gamma_{X1,U_X^2}^1$	3.821
$\beta_{X,00}^1$	0.500
$\beta_{X,02}^1$	0.150
$\beta_{X,04}^1$	0.140
$\beta_{X,U_X^2}^1$	0.210

Note: While the values of the γ - parameters are estimated parameters the values of the β -parameters correspond to calibrated values.

3.2. Housing

This branch may be associated with the Y-branch in the previous Section. On the lower level heating expenses are allocated to *Electricity for Heating (C12HE)*, *Fossil Fuels (C13A)* and *(C13B) Biofuels*. Thus $n_Y = 3$. The accompanying price indices are labelled, respectively, *PC12HE*, *PC13A* and *PC13B*. On the upper level expenses on the housing branch are allocated to *Rents (C50)*, *Furniture and Durables (C41)*, *Electrical Appliances (C42)* and *Electricity for Appliances (C12EG)* and to uncommitted heating expenses. With respect to expenses on *Electrical Appliances* and *Electricity for Appliances* we differ somewhat from the specification set out in Section 2. Expenses on *Electrical Appliances* and *Electricity for Appliances* are represented by a CES-aggregate. This CES-aggregate is regarded as the third basic good at allocation level 1. Thus $m_Y = 3$. We refer to the CES-aggregate as U_Y^{2*} and its companion price index is given by PU_Y^{2*} . The CES-aggregate and its price index is calculated as

$$(26) U_Y^{2*} = (\hat{\omega}_{42} * (C42 / \hat{\omega}_{42}) ** (-\hat{\sigma}) + \hat{\omega}_{12EG} * (C12EG / \hat{\omega}_{12EG}) ** (-\hat{\sigma})) ** (-1 / \hat{\sigma}),$$

$$(27) PU_Y^{2*} = (\hat{\omega}_{42} PC42^{1+\hat{\sigma}} + \hat{\omega}_{12EG} * PC12EG^{1+\hat{\sigma}})^{\frac{1}{\hat{\sigma}}},$$

where PC42 and PC12EG are the price indices accompanying C42 and C12EG, respectively and

$$(28) \hat{\omega}_{42} + \hat{\omega}_{12EG} = 1.$$

The values of $\hat{\sigma}$ and $\hat{\omega}_{42}$ are calibrated to 5 and 0.3, respectively. The demand functions for the two basic goods C42 and C12EG are given by

$$(29) C42 = \hat{\omega}_{42} \left(\frac{PU_Y^{2*}}{PC42} \right)^{\frac{1}{1+\hat{\sigma}}} U_Y^{2*},$$

$$(30) C12EG = \hat{\omega}_{12EG} \left(\frac{PU_Y^{2*}}{PC12EG} \right)^{\frac{1}{1+\hat{\sigma}}} U_Y^{2*}.$$

In Table 3 we report the estimated/calibrated parameter values occurring at allocation level 2 within the branch of *Housing*. Correspondingly, in Table 4 we report estimated/calibrated parameter values occurring at allocation level 1 within the branch of *Housing*.

Table 3. Parameter values in the linear expenditure system for Heating, allocation level 2 of Housing

Parameter	Estimated/Calibrated value
$\gamma_{Y0,12HE}^2$	0.51913
$\gamma_{Y0,13A}^2$	-0.23
$\gamma_{Y0,13B}^2$	-0.023093
$\gamma_{Y1,12HE}^2$	-1.96315
$\gamma_{Y,13A}^2$	1.05769
$\gamma_{Y1,13B}^2$	0.076716
$\beta_{Y,12HE}^2$	0.79
$\beta_{Y,13A}^2$	0.08
$\beta_{Y,13B}^2$	0.13

Note: The numbers with five decimals are estimated values, and the numbers with two decimals are calibrated values.

Table 4. Parameter values in the linear expenditure system at allocation level 1 of Housing

Parameter	Estimated/Calibrated value
$\gamma_{Y0,50}^1$	-6.28054
$\gamma_{Y0,41}^1$	-3.55077
$\gamma_{Y0,U_Y^2}^1$	-0.35313
$\gamma_{Y0,U_Y^2}^1$	-0.77475
$\gamma_{Y1,50}^1$	23.5
$\gamma_{Y1,41}^1$	11.75
$\gamma_{Y1,U_Y^2}^1$	1.5
$\gamma_{Y1,U_Y^2}^1$	2.8
$\beta_{Y,50}^1$	0.565
$\beta_{Y,41}^1$	0.26
$\beta_{Y,U_Y^2}^1$	0.13
$\beta_{Y,U_Y^2}^1$	0.045

Note: The numbers with five decimals are estimated values, and the numbers with three or fewer decimals are calibrated values.

3.3. Transport

This branch may be associated with the Z-branch in Section 2. On the lower level expenditures related to own transport equipment is allocated to *User Costs of Cars (C31)*, *Maintenance and Spare Parts (C14A)*, *Engine Fuels (C14B)* and *Other Car Expenses (C14C)*. Thus $n_z = 4$. The accompanying price indices are labelled, respectively, $PC31$, $PC14A$, $PC14B$ and $PC14C$. On the upper level expenses on the transport branch are allocated to *Road Transport (C75)*, *Air Transport (C76)*, *Transport by Railway, Tramway and Subway (C77)*, *Transport by Boat and Ferry (C78)*, *Postal and Digital Services (C79)* and uncommitted expenditure on *Private Transport*. Thus $m_z = 5$.

In Table 5 we report the estimated/calibrated parameter values occurring at the second allocation level within the branch of *Transport*. Correspondingly, in Table 6 we report estimated/calibrated parameter values occurring at the first allocation level within the branch of *Transport*.

Table 5. Parameter values in the linear expenditure system for *Private Transport*, allocation level 2 of *Transport*

Parameter	Estimated/Calibrated value
$\gamma_{Z0,31}^2$	2.82505
$\gamma_{Z0,14A}^2$	0.18481
$\gamma_{Z0,14B}^2$	1.14063
$\gamma_{Z0,14C}^2$	0.52074
$\gamma_{Z1,31}^2$	-8.27133
$\gamma_{Z1,14A}^2$	-0.55473
$\gamma_{Z1,14B}^2$	-2.61588
$\gamma_{Z1,14C}^2$	-1.20395
$\beta_{Z,31}^2$	0.53
$\beta_{Z,14A}^2$	0.05
$\beta_{Z,14B}^2$	0.17
$\beta_{Z,14C}^2$	0.25

Note: The numbers with five decimals are estimated values, and the numbers with two decimals are calibrated values.

Table 6. Parameter values in the linear expenditure system at the allocation level 1 of *Transport*

Parameter	Estimated/Calibrated value
$\gamma_{Z0,75}^1$	1
$\gamma_{Z0,76}^1$	0.37285
$\gamma_{Z0,77}^1$	0.14529
$\gamma_{Z0,78}^1$	0.33
$\gamma_{Z0,79}^1$	0.47
$\gamma_{Z0,U_Z^2}^1$	2.80528
$\gamma_{Z1,75}^1$	-3.43427
$\gamma_{Z1,76}^1$	-1.14766
$\gamma_{Z1,77}^1$	-0.39521
$\gamma_{Z1,78}^1$	-1.02113
$\gamma_{Z1,79}^1$	-1.08190
$\gamma_{Z1,U_Z^2}^1$	-10.48432
$\beta_{Z,75}^1$	0.08
$\beta_{Z,76}^1$	0.035
$\beta_{Z,77}^1$	0.02
$\beta_{Z,78}^1$	0.0408
$\beta_{Z,79}^1$	0.2
$\beta_{Z,U_Z^2}^1$	0.6242

Note: The numbers with five decimals are estimated values, and the numbers with four or fewer decimals are calibrated values.

3.4. Other goods and services

This branch may be associated with the W-branch in the previous Section. In this branch there are no commodities at the lower level, so $n_W = 0$. Expenses on *Other goods and services* are allocated to *Clothing and Footwear (C21)*, *Other Goods (C24)*, *Leisure Goods (C25)*, *Other Services (C65)* and *Direct Purchases Abroad (C66)*. Thus $m_W = 5$. In Table 7 we report estimated/calibrated parameter values occurring in the linear expenditure system of this branch.

Table 7. Parameter values in the linear expenditure system of *Other Goods and Services*

Parameter	Estimated/Calibrated value
$\gamma_{W0,21}^I$	1.03495
$\gamma_{W0,24}^I$	2.97996
$\gamma_{W0,25}^I$	0.55432
$\gamma_{W0,65}^I$	9.54600
$\gamma_{W0,66}^I$	3.22384
$\gamma_{W1,21}^I$	-2.92433
$\gamma_{W1,24}^I$	-9.00651
$\gamma_{W1,25}^I$	-1.82972
$\gamma_{W1,65}^I$	-29.89217
$\gamma_{W1,66}^I$	-12.10023
$\beta_{W,21}^I$	0.17003
$\beta_{W,24}^I$	0.12432
$\beta_{W,25}^I$	0.14000
$\beta_{W,65}^I$	0.31985
$\beta_{W,66}^I$	0.24580

Note: All the numbers correspond to calibrated values.

3.5. Allocation of non-committed expenditure to the four branches

This may be associated with the top allocation level mentioned in Section 2. In Table 8 we report estimated/calibrated parameter values occurring of the linear expenditure system at this top level.

Table 8. Parameter values in the linear expenditure system at the top allocation level

Parameter	Estimated/Calibrated value
γ_{X0}^T	9.5
γ_{Y0}^T	28
γ_{Z0}^T	4
γ_{W0}^T	25
γ_{X1}^T	-43.6635
γ_{Y1}^T	-108.76500
γ_{Z1}^T	-16.9893
γ_{W1}^T	-109.419
β_X^T	0.11
β_Y^T	0.3
β_Z^T	0.18
β_W^T	0.41

Note: The numbers with three or more decimals are estimated values, and the numbers with two or fewer decimals are calibrated values.

4. Numerical simulation of expenditure and uncompensated and compensated price elasticities

In Appendix C the complete model, which will be used for shift analysis, is written out in the notation used in conjunction with the MSG-model. The model consists of 81 endogenous and 30 exogenous variables. Equations C1-C35 are auxiliary equations defining necessity quantities at different allocation stages and C36-C43 are equations used for defining different price aggregates. These equations constitute a sub block. The endogenous

variables in these equations are only functions of basic prices and demographic variables. The rest of the equations are different demand equations. After having determined the expenses in conjunction with necessity quantities at different allocation levels we can calculate the total expenses in excess of expenditure on the necessity consumption. At allocation level 1 within a specific branch the consumption of basic goods at this allocation level is determined as the sum of necessity consumption and as a share of the excess expenditure allocated to the branch. The expenditure in excess of necessity expenditures of basic commodities occurring at the lowest allocation stage is also determined at this allocation level. At the lowest allocation level consumption of basic commodities is the sum of necessity consumption and expenditure in excess of necessity consumption allocated to the specific basic commodity.

We calculate different price and expenditure elasticities numerically by shift analysis on the model at hand. First, we simulate a reference path for the years 2007–2060.⁶ To calculate uncompensated price elasticities we increase a specific price permanently with one percent from 2007 on. We then look at the percentage change between the target variable in the shift simulation and the reference simulation. The same procedure is used to simulate expenditure elasticities. Since the elasticities depend on the level of the variables, they will vary according to which year they are calculated. In Table 9 we report the simulated expenditure elasticities and the direct uncompensated and compensated price elasticities for 2007, in tables 10, 11 and 12 we report simulated expenditure elasticities and direct uncompensated and compensated price elasticities for some selected years other than 2007, respectively. In tables F1, F3, F5, F7, F9, F11 and F13 in Appendix F we report simulated uncompensated price elasticity matrices for some selected years. The direct uncompensated price elasticities are written in bold face. Since there are 27 basic commodities the matrices of uncompensated price elasticities have dimension 27×27. Furthermore, in tables F2, F4, F6, F8, F10, F12 and F14 we report matrices with the companion compensated price elasticities. These elasticities are calculated utilizing the Slutsky equations on elasticity form. The budget shares occurring in these formulae are taken from the reference simulation. The direct compensated price elasticities are written in bold face.

⁶ In Appendix G we report the annual growth rates of the exogenous variables for the years 2008–2060. Residuals have been added to the model such that it fits exactly in the base year 2007. The residuals are retained for the entire simulation period.

Table 9. List of commodities. Budget shares, expenditure elasticities and uncompensated and compensated direct price elasticities. 2007^a

Commodity	Symbol	Average budget share	Expenditure elasticity	Dir. compens. price elast.	Dir. uncomp. price elast.
Groceries					
<i>Spirits</i>	C03C	0.006	1.487 (5)	-1.213 (4)	-1.205 (4)
<i>Wine</i>	C03D	0.007	1.195 (10)	-0.974 (7)	-0.965 (6)
<i>Beer</i>	C03E	0.008	0.730 (22)	-0.578 (16)	-0.572 (15)
<i>Food</i>	C00	0.110	0.500 (26)	-0.506 (18)	-0.451 (19)
<i>Non-Alcoholic Beverages</i>	C02	0.018	0.943 (18)	-0.907 (9)	-0.890 (7)
<i>Tobacco</i>	C04	0.019	0.824 (21)	-0.794 (12)	-0.778 (11)
Housing					
<i>Electricity for Heating</i>	C12HE	0.007	1.476 (6)	-1.311 (2)	-1.301 (2)
<i>Fossil Fuels</i>	C13A	0.003	0.425 (27)	-0.318 (26)	-0.317 (26)
<i>Biofuels^b</i>	C13B	0.001	1.671 (1)	-1.265 (3)	-1.263 (3)
<i>Electricity for Appliances</i>	C12EG	0.023	1.193 (12)	-0.838 (11)	-0.810 (10)
<i>Electrical Appliances</i>	C42	0.012	0.986 (17)	-0.392 (23)	-0.380 (23)
<i>Furniture and Durables</i>	C41	0.047	1.670 (2)	-1.519 (1)	-1.441 (1)
<i>Rents</i>	C50	0.154	1.104 (13)	-1.029 (6)	-0.860 (8)
Transport					
<i>Maintenance and Spare Parts</i>	C14A	0.006	0.991 (16)	-0.421 (22)	-0.415 (22)
<i>Engine Fuels</i>	C14B	0.029	0.655 (25)	-0.310 (27)	-0.291 (27)
<i>Other Car Expenses</i>	C14C	0.028	0.998 (15)	-0.488 (19)	-0.460 (18)
<i>User Cost of Cars</i>	C31	0.056	1.067 (14)	-0.614 (14)	-0.555 (16)
<i>Road Transport (Public)</i>	C75	0.012	1.194 (11)	-0.486 (20)	-0.472 (17)
<i>Air Transport</i>	C76	0.008	0.845 (20)	-0.324 (25)	-0.318 (25)
<i>Transport by Rail-, Tram- and Subway</i>	C77	0.004	0.938 (19)	-0.351 (24)	-0.347 (24)
<i>Transport by Boat and Ferry</i>	C78	0.005	1.589 (4)	-0.610 (15)	-0.602 (14)
<i>Postal and Digital Services</i>	C79	0.025	1.450 (7)	-0.680 (13)	-0.644 (13)
Other Goods and Services					
<i>Clothing and Footwear</i>	C21	0.055	1.263 (9)	-0.845 (10)	-0.776 (12)
<i>Other Goods</i>	C24	0.072	0.705 (24)	-0.486 (20)	-0.435 (20)
<i>Leisure Goods</i>	C25	0.041	1.387 (8)	-0.912 (8)	-0.855 (9)
<i>Other Services</i>	C65	0.184	0.713 (23)	-0.561 (17)	-0.430 (21)
<i>Direct Purchases Abroad</i>	C66	0.063	1.606 (3)	-1.079 (5)	-0.978 (5)

^a Elasticities obtained by simulations.

^b Biofuels are mostly wood..

Note: The numbers in parentheses provide information about the elasticities according to size among the commodities in the demand system. In each of the three last columns the commodity with the highest absolute value of the elasticity is given rank number 1. The next highest in absolute value is given the value 2, and so on.

In 2007 about half of the commodities have expenditure elasticities that are higher than unity, which means that the average budget shares of these commodities are increasing in total expenditure. However, as seen from Table 9 only four commodities have expenditure elasticities that exceed 1.5.

These three commodities are (i) *Biofuels*, (ii) *Furniture and Durables*, (iii) *Transport by Boat and Ferry* and (iv) *Direct Purchases Abroad*. The three commodities with the lowest expenditure elasticities are (i) *Fossil Fuels*, (ii) *Food* and (iii) *Engine Fuels*. Six of the commodities have direct uncompensated price elasticities exceeding unity in absolute value. Only the commodity *Furniture and Durables* has a direct uncompensated price elasticity that exceeds 1.5 in absolute value. The three lowest direct uncompensated price elasticities are for (i) *Air Transport*, (ii) *Transport by Railway, Tramway and Subway* and (iii) *Fossil fuels*. The level, in absolute value, is in the interval 0.3–0.35.

In the standard one-level LES system (without demographic modifiers) all the Engel elasticities will approach 1, all the uncompensated direct price elasticities will approach -1 and all the uncompensated cross-price elasticities will approach 0. These features are easily seen by inspecting formulae (7)-(9) in Pollak and Wales (1992). The model presented in this specification differs in two respects from the standard one-level LES model. First, we employ a utility tree structure. Second, we have included demographic modifiers. Depending on the assumptions with respect to the demographic development one opens up for the possibility that a substantial time may elapse before one approaches the above mentioned asymptotic values. We see from tables 10 and 11 and the tables in Appendix F how far one is from the asymptotic situation in the selected years ahead.

Table 10. Simulated expenditure elasticities for selected years

Commodity	Year					
	2012	2020	2030	2040	2050	2060
C03C	1.571(3)	1.602(3)	1.522(3)	1.431(3)	1.355(4)	1.283(3)
C03D	1.284(9)	1.358(7)	1.352(5)	1.316(5)	1.277(7)	1.230(7)
C03E	0.794(21)	0.878(21)	0.946(21)	0.996(17)	1.029(17)	1.042(16)
C00	0.535(27)	0.590(27)	0.654(27)	0.721(26)	0.780(25)	0.828(24)
C02	0.978(17)	1.018(15)	1.051(15)	1.059(15)	1.060(15)	1.060(15)
C04	0.958(19)	1.129(13)	1.196(10)	1.253(6)	1.278(6)	1.241(6)
C12HE	1.459(7)	1.413(5)	1.311(6)	1.227(8)	1.170(8)	1.133(8)
C13a	0.551(26)	0.842(22)	0.970(19)	1.250(7)	1.536(2)	1.475(2)
C13b	1.967(1)	2.411(1)	2.137(1)	1.957(1)	1.798(1)	1.590(1)
C12EG	1.175(11)	1.156(11)	1.121(13)	1.095(14)	1.077(14)	1.063(14)
C42	0.977(18)	0.966(19)	0.978(17)	0.987(19)	0.995(18)	1.000(18)
C41	1.691(2)	1.650(2)	1.530(2)	1.432(2)	1.357(3)	1.279(4)
C50	1.136(13)	1.146(12)	1.130(12)	1.118(13)	1.107(12)	1.088(11)
C14A	0.997(16)	0.984(17)	0.973(18)	0.970(20)	0.973(20)	0.976(21)
C14B	0.637(25)	0.668(26)	0.674(26)	0.702(27)	0.732(27)	0.764(27)
C14C	1.010(15)	1.008(16)	0.992(16)	0.991(18)	0.992(19)	0.986(20)
C31	1.022(14)	0.973(18)	0.947(20)	0.935(22)	0.934(22)	0.939(22)
C75	1.147(12)	1.092(14)	1.061(14)	1.050(16)	1.042(16)	1.036(17)
C76	0.864(20)	0.880(20)	0.898(22)	0.939(21)	0.971(21)	0.990(19)
C77	0.793(22)	0.791(23)	0.802(23)	0.836(23)	0.867(23)	0.891(23)
C78	1.500(5)	1.383(6)	1.260(8)	1.192(10)	1.150(10)	1.111(10)
C79	1.543(4)	1.560(4)	1.452(4)	1.390(4)	1.338(5)	1.263(5)
C21	1.245(10)	1.211(10)	1.169(11)	1.130(12)	1.101(13)	1.080(13)
C24	0.700(23)	0.705(24)	0.737(24)	0.767(24)	0.794(24)	0.828(24)
C25	1.366(8)	1.324(9)	1.262(7)	1.204(9)	1.160(9)	1.126(9)
C65	0.688(24)	0.679(25)	0.704(25)	0.727(25)	0.747(26)	0.776(26)
C66	1.470(6)	1.337(8)	1.250(9)	1.168(11)	1.115(11)	1.084(12)

Notes: For full variable names reference is made to Table 9. The numbers in parentheses provide information about the elasticities according to size among the commodities in the demand system. In each of the columns the commodity with the highest value of the elasticity is given rank number 1. The next highest is given the value 2, and so on.

Table 11. Simulated uncompensated direct price elasticities for selected years

Commodity	Year					
	2012	2020	2030	2040	2050	2060
C03C	-1.208 (4)	-1.179 (4)	-1.126 (4)	-1.091 (5)	-1.067 (5)	-1.046 (6)
C03D	-0.985 (6)	-0.997 (6)	-0.998 (6)	-1.001 (6)	-1.003 (7)	-1.001 (7)
C03E	-0.588 (14)	-0.619 (14)	-0.673 (14)	-0.734 (15)	-0.787 (15)	-0.830 (15)
C00	-0.507 (18)	-0.526 (17)	-0.573 (19)	-0.627 (20)	-0.679 (19)	-0.732 (19)
C02	-0.919 (8)	-0.936 (8)	-0.949 (8)	-0.963 (8)	-0.972 (8)	-0.977 (8)
C04	-0.901 (9)	-1.038 (5)	-1.081 (5)	-1.139 (3)	-1.172 (3)	-1.144 (3)
C12he	-1.296 (3)	-1.255 (3)	-1.176 (3)	-1.113 (4)	-1.071 (4)	-1.049 (5)
C13a	-0.373 (23)	-0.493 (21)	-0.600 (16)	-0.805 (14)	-1.032 (6)	-1.065 (4)
C13b	-1.357 (2)	-1.461 (2)	-1.363 (2)	-1.295 (2)	-1.238 (2)	-1.171 (2)
C12eg	-0.864 (11)	-0.902 (10)	-0.877 (11)	-0.862 (11)	-0.851 (14)	-0.841 (14)
C42	-0.369 (24)	-0.341 (26)	-0.344 (27)	-0.346 (27)	-0.348 (27)	-0.348 (27)
C41	-1.533 (1)	-1.502 (1)	-1.405 (1)	-1.324 (1)	-1.262 (1)	-1.200 (1)
C50	-1.014 (5)	-0.993 (7)	-0.985 (7)	-0.977 (7)	-0.972 (8)	-0.974 (9)
C14a	-0.436 (22)	-0.482 (22)	-0.569 (20)	-0.639 (18)	-0.696 (18)	-0.753 (18)
C14b	-0.304 (26)	-0.345 (24)	-0.408 (25)	-0.471 (25)	-0.529 (26)	-0.594 (26)
C14c	-0.489 (19)	-0.522 (19)	-0.598 (17)	-0.661 (17)	-0.711 (17)	-0.761 (17)
C31	-0.562 (15)	-0.545 (15)	-0.597 (18)	-0.637 (19)	-0.675 (20)	-0.727 (20)
C75	-0.439 (21)	-0.444 (23)	-0.534 (23)	-0.603 (21)	-0.660 (21)	-0.727 (20)
C76	-0.313 (25)	-0.344 (25)	-0.441 (24)	-0.531 (24)	-0.608 (24)	-0.690 (23)
C77	-0.282 (27)	-0.304 (27)	-0.390 (26)	-0.470 (26)	-0.541 (25)	-0.620 (25)
C78	-0.544 (16)	-0.540 (16)	-0.618 (15)	-0.674 (16)	-0.720 (16)	-0.774 (16)
C79	-0.669 (13)	-0.691 (13)	-0.768 (13)	-0.823 (13)	-0.861 (13)	-0.896 (13)
C21	-0.826 (12)	-0.817 (12)	-0.839 (12)	-0.858 (12)	-0.876 (12)	-0.898 (12)
C24	-0.481 (20)	-0.494 (20)	-0.545 (22)	-0.598 (22)	-0.645 (22)	-0.700 (22)
C25	-0.894 (10)	-0.884 (11)	-0.899 (9)	-0.909 (9)	-0.919 (10)	-0.933 (10)
C65	-0.533 (17)	-0.526 (17)	-0.565 (21)	-0.603 (21)	-0.637 (23)	-0.682 (24)
C66	-0.977 (7)	-0.903 (9)	-0.898 (10)	-0.887 (10)	-0.886 (11)	-0.901 (11)

Notes: For full variable names reference is made to Table 9. The numbers in parentheses provide information about the elasticities according to size among the commodities in the demand system. In each of the columns the commodity with the highest value of the elasticity is given rank number 1. The next highest is given the value 2, and so on.

Table 12. Simulated compensated direct price elasticities for selected years

Commodity	Year					
	2012	2020	2030	2040	2050	2060
C03C	-1.199 (4)	-1.170 (4)	-1.126 (4)	-1.082 (5)	-1.058 (5)	-1.037 (6)
C03D	-0.977 (5)	-0.989 (6)	-0.998 (6)	-0.993 (6)	-0.995 (7)	-0.992 (7)
C03E	-0.582 (14)	-0.613 (14)	-0.673 (14)	-0.728 (15)	-0.781 (15)	-0.824 (12)
C00	-0.452 (18)	-0.471 (20)	-0.573 (17)	-0.572 (21)	-0.624 (20)	-0.677 (21)
C02	-0.902 (6)	-0.919 (7)	-0.949 (7)	-0.946 (7)	-0.956 (8)	-0.961 (8)
C04	-0.886 (7)	-1.023 (5)	-1.081 (5)	-1.124 (3)	-1.156 (3)	-1.129 (2)
C12he	-1.285 (3)	-1.244 (3)	-1.176 (3)	-1.102 (4)	-1.061 (4)	-1.038 (5)
C13a	-0.372 (23)	-0.492 (17)	-0.600 (16)	-0.804 (11)	-1.031 (6)	-1.064 (4)
C13b	-1.355 (2)	-1.459 (1)	-1.363 (1)	-1.293 (1)	-1.237 (1)	-1.169 (1)
C12eg	-0.835 (11)	-0.872 (8)	-0.847 (8)	-0.832 (9)	-0.820 (11)	-0.811 (13)
C42	-0.359 (24)	-0.332 (25)	-0.335 (27)	-0.337 (27)	-0.339 (27)	-0.339 (27)
C41	-1.455 (1)	-1.424 (2)	-1.327 (2)	-1.246 (2)	-1.184 (2)	-1.122 (3)
C50	-0.844 (9)	-0.823 (10)	-0.815 (10)	-0.807 (10)	-0.802 (13)	-0.804 (14)
C14a	-0.430 (19)	-0.477 (19)	-0.564 (19)	-0.634 (17)	-0.690 (17)	-0.748 (17)
C14b	-0.284 (26)	-0.326 (26)	-0.389 (25)	-0.452 (26)	-0.510 (25)	-0.575 (25)
C14c	-0.461 (17)	-0.494 (16)	-0.570 (18)	-0.633 (18)	-0.683 (18)	-0.733 (18)
C31	-0.502 (16)	-0.485 (18)	-0.538 (20)	-0.578 (20)	-0.616 (21)	-0.668 (22)
C75	-0.425 (21)	-0.430 (22)	-0.519 (21)	-0.589 (19)	-0.645 (19)	-0.712 (19)
C76	-0.307 (25)	-0.337 (24)	-0.435 (23)	-0.525 (23)	-0.602 (22)	-0.683 (20)
C77	-0.278 (27)	-0.301 (27)	-0.387 (26)	-0.467 (25)	-0.538 (24)	-0.616 (24)
C78	-0.536 (15)	-0.532 (15)	-0.610 (15)	-0.667 (16)	-0.712 (16)	-0.766 (16)
C79	-0.633 (13)	-0.655 (13)	-0.732 (13)	-0.787 (13)	-0.825 (10)	-0.860 (10)
C21	-0.757 (12)	-0.747 (12)	-0.769 (12)	-0.789 (12)	-0.806 (12)	-0.828 (11)
C24	-0.430 (19)	-0.443 (21)	-0.494 (22)	-0.547 (22)	-0.594 (23)	-0.649 (23)
C25	-0.836 (10)	-0.826 (9)	-0.841 (9)	-0.852 (8)	-0.862 (9)	-0.876 (9)
C65	-0.402 (22)	-0.395 (23)	-0.434 (24)	-0.472 (24)	-0.506 (26)	-0.551 (26)
C66	-0.876 (8)	-0.802 (11)	-0.797 (11)	-0.787 (13)	-0.786 (14)	-0.800 (15)

Notes: For full variable names reference is made to Table 9. The numbers in parentheses provide information about the elasticities according to size among the commodities in the demand system. In each of the columns the commodity with the highest value of the elasticity is given rank number 1. The next highest is given the value 2, and so on.

5. Concluding remarks

In this documentation we have estimated/calibrated a consumer demand system using National Accounts data for the years 1971–2007. We have considered a utility tree structure with four main branches. For this purpose we have utilized Stone-Geary utility functions modified with demographic effects. The applied values of all the parameters have been reported. To assess the properties of the model we have calculated uncompensated and compensated price elasticities and expenditure elasticities. Since the elasticities vary with the data point in which they are evaluated, we report elasticities for different years.

The linear expenditure system is often used in the context of general equilibrium models, but this has not been without criticism. This stems from the restrictive responses attached to this functional form. Among others Australian researchers have in several papers emphasized this, cf. for instance Rimmer and Powell (1996), Cranfield et al. (2000) and Powell et al. (2002) advocating the AIDADS (An Implicitly Directly Additive Demand System) specification.⁷ They have demonstrated that it is possible to retain the global regularity properties by the LES and at the same time allow for more flexible responses. However this specification is less parsimonious than the LES specification and more challenging to estimate. Another alternative put forward is the IAS (Indirect Addilog System) specification, cf. for instance de Boer and Missaglia (2005), de Boer et al. (2006) and de Boer and Paap (2009). This specification is just as parsimonious as the LES specification, is rather easy to estimate and allows for non-linear Engel curves.

When using consumer demand systems for long run projections one both wants the demand system to behave in a regular manner and at the same time allow for as flexible responses to changes in prices and total expenditure as possible. Unfortunately, commonly used flexible functional forms as translog and AIDS have poor regularity properties, with narrow regular domains. However, some attempts have been carried out aiming at improving the regularity properties of flexible functional forms, cf. for instance Cooper and McLaren (1992, 1996) and McLaren, Fry and Fry (1995).

⁷ Quite recently there also has been launched an alternative to this specification, cf. the MAIDAIDS model of Preckel, Cranfield and Hertel (2010).

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Appendix A: Transformation of the LES to share equations and ML estimation

If one divides both sides of (2) with N one obtains

$$(A1) \frac{X_i^2}{N} = \gamma_{X0i}^2 + \gamma_{X1i}^2 NCS + \frac{\beta_{Xi}^2}{PX_i^2} \left[\frac{VX^2}{N} - \sum_{j=1}^{n_X} PX_j^2 (\gamma_{X0j}^2 + \gamma_{X1j}^2 NCS) \right], i = 1, \dots, n_X,$$

where $NCS \equiv \frac{NC}{N}$, i.e. the share of children in the population. Furthermore, let us multiply both sides of the equations by PX_i^2 . This yields

$$(A2) \frac{PX_i^2 X_i^2}{N} = PX_i^2 (\gamma_{X0i}^2 + \gamma_{X1i}^2 NCS) + \beta_{Xi}^2 \left[\frac{VX^2}{N} - \sum_{j=1}^{n_X} PX_j^2 (\gamma_{X0j}^2 + \gamma_{X1j}^2 NCS) \right], i = 1, \dots, n_X.$$

We then divide both sides of (A2) by $\frac{VX^2}{N}$. We then obtain

$$(A3) S_i = QX_i^2 (\gamma_{X0i}^2 + \gamma_{X1i}^2 NCS) + \beta_{Xi}^2 \left[1 - \sum_{j=1}^{n_X} QX_j^2 (\gamma_{X0j}^2 + \gamma_{X1j}^2 NCS) \right], i = 1, \dots, n_X,$$

where $S_i \equiv \frac{PX_i^2 X_i^2}{VX^2}$ and $QX_i \equiv \frac{PX_i^2}{VX^2}, i = 1, \dots, n_X$.

Thus the S_i variables are budget shares and the QX_i variables are normalized prices. If we introduce t as a time index and add error terms (ε_{it}) in (A3) we finally obtain

$$(A4) S_{it} = QX_{it}^2 (\gamma_{X0i}^2 + \gamma_{X1i}^2 NCS_t) + \beta_{Xi}^2 \left[1 - \sum_{j=1}^{n_X} QX_{jt}^2 (\gamma_{X0j}^2 + \gamma_{X1j}^2 NCS_t) \right] + \varepsilon_{it}, i = 1, \dots, n_X, t = 1, \dots, T. L$$

et $\varepsilon_t = [\varepsilon_{1t}, \varepsilon_{2t}, \dots, \varepsilon_{n_X,t}]'$. Because of the adding-up identity $\sum_{i=1}^{n_X} S_{it} \equiv 1$, the covariance matrix of ε_t will be

singular. One of the equations will be redundant, and let us without loss of generality assume that the last one is omitted. Let the amputated error vector corresponding to the $n_X - 1$ first equations be defined as

$\varepsilon_t^a = [\varepsilon_{1t}, \varepsilon_{2t}, \dots, \varepsilon_{n_X-1,t}]'$. We assume that $\varepsilon_t^a \sim N(\underline{0}, \Omega) \forall t = 1, \dots, T$,

where $\underline{0}$ is the zero vector and Ω is an unconstrained matrix beyond symmetry. All the parameters with the

exception of β_{X,n_X}^2 are estimated by maximizing the log-likelihood corresponding to the $n_X - 1$ first equations

in (A4). The estimate of β_{X,n_X}^2 is obtained by utilizing the adding-up condition.

Appendix B: Consumption of own transport equipment

Let $C30_t$ denote purchase of own transport equipment in fixed prices (mostly cars) in year t and $PC30_t$ its associated price index. The stock of own transport equipment is given as the following lag distribution of purchases

$$(B1) \quad HC3I_t = 0.8300 \times C30_t + 0.6889 \times C30_{t-1} + 0.5718 \times C30_{t-2} + 0.4746 \times C30_{t-3} + 0.3939 \times C30_{t-4} + \\ 0.3269 \times C30_{t-5} + 0.2714 \times C30_{t-6} + 0.2252 \times C30_{t-7} + 0.1869 \times C30_{t-8} + 0.1552 \times C30_{t-9} + \\ 0.1288 \times C30_{t-10} + 0.1069 \times C30_{t-11} + 0.0887 \times C30_{t-12} + 0.0736 \times C30_{t-13} + 0.0611 \times C30_{t-14} + \\ 0.0507 \times C30_{t-15} + 0.0421 \times C30_{t-16} + 0.0349 \times C30_{t-17} + 0.0000 \times C30_{t-18}.$$

The depreciation of own transport equipment is given by the dynamic accumulation equation

$$(B2) \quad DC30_t = HC3I_{t-1} - HC3I_t + C30_t.$$

Utilizing (B1) we obtain the following expression

$$(B3) \quad DC30_t = 0.1700 \times C30_t + 0.1411 \times C30_{t-1} + 0.1171 \times C30_{t-2} + 0.0972 \times C30_{t-3} + 0.0807 \times C30_{t-4} + \\ 0.0670 \times C30_{t-5} + 0.0556 \times C30_{t-6} + 0.0461 \times C30_{t-7} + 0.0383 \times C30_{t-8} + 0.0318 \times C30_{t-9} + 0.0264 \times C30_{t-10} + \\ 0.0219 \times C30_{t-11} + 0.0182 \times C30_{t-12} + 0.0151 \times C30_{t-13} + 0.0125 \times C30_{t-14} + 0.0104 \times C30_{t-15} + \\ 0.0086 \times C30_{t-16} + 0.0072 \times C30_{t-17} + 0.0349 \times C30_{t-18}.$$

The depreciation rate may now be calculated as

$$(B4) \quad DC30rate_t = \frac{DC30_t}{(HC30_{t-1} + C30_t)}.$$

The depreciation rate is approximately constant during the sample period and about 0.17.

Let $r3_t$ denote the after tax real interest rate. It is calculated as

$$(B5) \quad r3_t = (1 - taxpr_t) \times reng_t - q_t,$$

where $reng_t$ denotes the nominal interest rate in year t , $taxpr_t$ the marginal tax rate in year t and q_t expected inflation from year t to $t+1$.

The consumer services of the capital stock in fixed prices are given by

$$(B6) \quad C3I_t = (DCrate30_t + r3_t) \times (HC30_{t-1} + C30_t).$$

The user cost of capital, $PC30_t \times (DCrate30_t + r3_t)$, is scaled to 1 in the base year. The resulting index is called $PC3I_t$. For practical purposes we have set the nominal interest rate to 8.25 per cent, the marginal tax rate to 0.28 and the expected annual inflation rate to 1.5 per cent in this documentation.

Appendix C. The simulation model

- (C.1) $CMIN03C = (GA03CK.0 * NB + GA03CC.0 * NB0019) / 100$
 (C.2) $CMIN03D = (GA03DK.0 * NB + GA03DC.0 * NB0019) / 100$
 (C.3) $CMIN03E = (GA03EK.0 * NB + GA03EC.0 * NB0019) / 100$
 (C.4) $CMINBA = (GABAK.0 * NB + GABAC.0 * NB0019) / 100$
 (C.5) $CMIN00 = (GA00K.0 * NB + GA00C.0 * NB0019) / 100$
 (C.6) $CMIN02 = (GA02K.0 * NB + GA02C.0 * NB0019) / 100$
 (C.7) $CMIN04 = (GA04K.0 * NB + GA04C.0 * NB0019) / 100$
 (C.8) $CMIN12HE = (GA12HEK.0 * NB + GA12HEC.0 * NB0019) / 100$
 (C.9) $CMIN13A = (GA13AK.0 * NB + GA13AC.0 * NB0019) / 100$
 (C.10) $CMIN13B = (GA13BK.0 * NB + GA13BC.0 * NB0019) / 100$
 (C.11) $CMINHE = (GAHEK.0 * NB + GAHEC.0 * NB0019) / 100$
 (C.12) $CMIN12EG = (GA12EGK.0 * NB + GA12EGC.0 * NB0019) / 100$
 (C.13) $CMIN42 = (GA42K.0 * NB + GA42C.0 * NB0019) / 100$
 (C.14) $CMIN41 = (GA41K.0 * NB + GA41C.0 * NB0019) / 100$
 (C.15) $CMIN50 = (GA50K.0 * NB + GA50C.0 * NB0019) / 100$
 (C.16) $CMINEG = (GAEGK.0 * NB + GAEGC.0 * NB0019) / 100$
 (C.17) $CMIN14A = (GA14AK.0 * NB + GA14AC.0 * NB0019) / 100$
 (C.18) $CMIN14B = (GA14BK.0 * NB + GA14BC.0 * NB0019) / 100$
 (C.19) $CMIN14C = (GA14CK.0 * NB + GA14CC.0 * NB0019) / 100$
 (C.20) $CMIN31 = (GA31K.0 * NB + GA31C.0 * NB0019) / 100$
 (C.21) $CMINPT = (GAPTK.0 * NB + GAPTC.0 * NB0019) / 100$
 (C.22) $CMIN75 = (GA75K.0 * NB + GA75C.0 * NB0019) / 100$
 (C.23) $CMIN76 = (GA76K.0 * NB + GA76C.0 * NB0019) / 100$
 (C.24) $CMIN77 = (GA77K.0 * NB + GA77C.0 * NB0019) / 100$
 (C.25) $CMIN78 = (GA78K.0 * NB + GA78C.0 * NB0019) / 100$
 (C.26) $CMIN79 = (GA79K.0 * NB + GA79C.0 * NB0019) / 100$
 (C.27) $CMIN21 = (GA21K.0 * NB + GA21C.0 * NB0019) / 100$
 (C.28) $CMIN24 = (GA24K.0 * NB + GA24C.0 * NB0019) / 100$
 (C.29) $CMIN25 = (GA25K.0 * NB + GA25C.0 * NB0019) / 100$
 (C.30) $CMIN65 = (GA65K.0 * NB + GA65C.0 * NB0019) / 100$
 (C.31) $CMIN66 = (GA66K.0 * NB + GA66C.0 * NB0019) / 100$
 (C.32) $CMINCO = (GACOK.0 * NB + GACOC.0 * NB0019) / 100$
 (C.33) $CMINHO = (GAHOK.0 * NB + GAHOC.0 * NB0019) / 100$
 (C.34) $CMINOVS = (GAOGSK.0 * NB + GAOGSC.0 * NB0019) / 100$
 (C.35) $CMINFBT = (GAFBTK.0 * NB + GAFBTC.0 * NB0019) / 100$
 (C.36) $PCPT = PC14A ** BE14A.0 * PC14B ** BE14B.0 * PC14C ** BE14C.0 * PC31 ** BE31.0$
 (C.37) $PCEG = (OMC12EG.0 * PC12EG ** (SIGCEG.0 / (1 + SIGCEG.0))) +$
 $OMC42.0 * PC42 ** (SIGCEG.0 / (1 + SIGCEG.0)) ** ((1 + SIGCEG.0) / SIGCEG.0)$
 (C.38) $PCHE = PC12HE ** BE12HE.0 * PC13A ** BE13A.0 * PC13B ** BE13B.0$
 (C.39) $PCBA = PC03C ** BE03C.0 * PC03D ** BE03D.0 * PC03E ** BE03E.0$
 (C.40) $PCCO = PC75 ** BE75.0 * PC76 ** BE76.0 * PC77 ** BE77.0 *$
 $PC78 ** BE78.0 * PC79 ** BE79.0 * PCPT ** BEPT.0$
 (C.41) $PCHO = PC41 ** BE41.0 * PC50 ** BE50.0 * PCEG ** BEEG.0 * PCHE ** BEHE.0$

$$(C.42) \text{PCOGS} = \text{PC21} ** \text{BE21.0} * \text{PC24} ** \text{BE24.0} * \text{PC25} ** \text{BE25.0} * \\ \text{PC65} ** \text{BE65.0} * \text{PC66} ** \text{BE66.0}$$

$$(C.43) \text{PCFBT} = \text{PC00} ** \text{BE00.0} * \text{PC04} ** \text{BE04.0} * \text{PC02} ** \text{BE02.0} * \\ \text{PCBA} ** \text{BEBA.0}$$

$$(C.44) \text{VCMINC} = \text{PC14A} * \text{CMIN14A} + \text{PC14B} * \text{CMIN14B} + \\ \text{PC14C} * \text{CMIN14C} + \text{PC31} * \text{CMIN31} + \text{PC75} * \text{CMIN75} + \text{PC76} * \text{CMIN76} + \\ \text{PC77} * \text{CMIN77} + \text{PC78} * \text{CMIN78} + \text{PC79} * \text{CMIN79} + \text{PCPT} * \text{CMINPT} + \\ \text{PC12HE} * \text{CMIN12HE} + \text{PC13A} * \text{CMIN13A} + \text{PC13B} * \text{CMIN13B} + \\ \text{PC12EG} * \text{CMIN12EG} + \text{PC42} * \text{CMIN42} + \text{PC41} * \text{CMIN41} + \text{PC50} * \text{CMIN50} + \\ \text{PCEG} * \text{CMINEG} + \text{PCHE} * \text{CMINHE} + \text{PC21} * \text{CMIN21} + \text{PC24} * \text{CMIN24} + \\ \text{PC25} * \text{CMIN25} + \text{PC65} * \text{CMIN65} + \text{PC66} * \text{CMIN66} + \text{PC03C} * \text{CMIN03C} + \\ \text{PC03D} * \text{CMIN03D} + \text{PC03E} * \text{CMIN03E} + \text{PC00} * \text{CMIN00} + \text{PC04} * \text{CMIN04} + \\ \text{PC02} * \text{CMIN02} + \text{PCBA} * \text{CMINBA}$$

$$(C.45) \text{VCEAC} = \text{VCC} - \text{VCMINC}$$

$$(C.46) \text{CUAGGFBT} = \text{CMINFBT} + (1/\text{PCFBT}) * \text{BEFBT.0} *$$

$$(\text{VCEAC} - (\text{PCCO} * \text{CMINCO} + \text{PCHO} * \text{CMINHO} + \text{PCOGS} * \text{CMINOGS} + \text{PCFBT} * \text{CMINFBT}))$$

$$(C.47) \text{CUAGGCO} = \text{CMINCO} + (1/\text{PCCO}) * \text{BECO.0} *$$

$$(\text{VCEAC} - (\text{PCCO} * \text{CMINCO} + \text{PCHO} * \text{CMINHO} + \text{PCOGS} * \text{CMINOGS} + \text{PCFBT} * \text{CMINFBT}))$$

$$(C.48) \text{CUAGGHO} = \text{CMINHO} + (1/\text{PCHO}) * \text{BEHO.0} *$$

$$(\text{VCEAC} - (\text{PCCO} * \text{CMINCO} + \text{PCHO} * \text{CMINHO} + \text{PCOGS} * \text{CMINOGS} + \text{PCFBT} * \text{CMINFBT}))$$

$$(C.49) \text{CUAGGOGS} = \text{CMINOGS} + (1/\text{PCOGS}) * \text{BEOGS.0} *$$

$$(\text{VCEAC} - (\text{PCCO} * \text{CMINCO} + \text{PCHO} * \text{CMINHO} + \text{PCOGS} * \text{CMINOGS} + \text{PCFBT} * \text{CMINFBT}))$$

$$(C.50) \text{C00} = \text{CMIN00} + (1/\text{PC00}) * \text{BE00.0} * \text{PCFBT} * \text{CUAGGFBT}$$

$$(C.51) \text{C02} = \text{CMIN02} + (1/\text{PC02}) * \text{BE02.0} * \text{PCFBT} * \text{CUAGGFBT}$$

$$(C.52) \text{C04} = \text{CMIN04} + (1/\text{PC04}) * \text{BE04.0} * \text{PCFBT} * \text{CUAGGFBT}$$

$$(C.53) \text{CUAGGBA} = \text{CMINBA} + (1/\text{PCBA}) * \text{BEBA.0} * \text{PCFBT} * \text{CUAGGFBT}$$

$$(C.54) \text{C03C} = \text{CMIN03C} + (1/\text{PC03C}) * \text{BE03C.0} * \text{PCBA} * \text{CUAGGBA}$$

$$(C.55) \text{C03D} = \text{CMIN03D} + (1/\text{PC03D}) * \text{BE03D.0} * \text{PCBA} * \text{CUAGGBA}$$

$$(C.56) \text{C03E} = \text{CMIN03E} + (1/\text{PC03E}) * \text{BE03E.0} * \text{PCBA} * \text{CUAGGBA}$$

$$(C.57) \text{CUAGGHE} = \text{CMINHE} + (1/\text{PCHE}) * \text{BEHE.0} * \text{PCHO} * \text{CUAGGHO}$$

$$(C.58) \text{CUAGGEG} = \text{CMINEG} + (1/\text{PCEG}) * \text{BEEG.0} * \text{PCHO} * \text{CUAGGHO}$$

$$(C.59) \text{C41} = \text{CMIN41} + (1/\text{PC41}) * \text{BE41.0} * \text{PCHO} * \text{CUAGGHO}$$

$$(C.60) \text{C50} = \text{CMIN50} + (1/\text{PC50}) * \text{BE50.0} * \text{PCHO} * \text{CUAGGHO}$$

$$(C.61) \text{C12HE} = \text{CMIN12HE} + (1/\text{PC12HE}) * \text{BE12HE.0} * \text{PCHE} * \text{CUAGGHE}$$

$$(C.62) \text{C13A} = \text{CMIN13A} + (1/\text{PC13A}) * \text{BE13A.0} * \text{PCHE} * \text{CUAGGHE}$$

$$(C.63) \text{C13B} = \text{CMIN13B} + (1/\text{PC13B}) * \text{BE13B.0} * \text{PCHE} * \text{CUAGGHE}$$

- (C.64) $C12EG = CMIN12EG + OMC12EG.0 * (PCEG/PC12EG)**$
 $(1/(1+SIGCEG.0)) * CUAGGEG$
- (C.65) $C42 = CMIN42 + OMC42.0 * (PCEG/PC42)** * (1/(1+SIGCEG.0)) * CUAGGEG$
- (C.66) $C75 = CMIN75 + (1/PC75) * BE75.0 * PCCO * CUAGGCO$
- (C.67) $C76 = CMIN76 + (1/PC76) * BE76.0 * PCCO * CUAGGCO$
- (C.68) $C77 = CMIN77 + (1/PC77) * BE77.0 * PCCO * CUAGGCO$
- (C.69) $C78 = CMIN78 + (1/PC78) * BE78.0 * PCCO * CUAGGCO$
- (C.70) $C79 = CMIN79 + (1/PC79) * BE79.0 * PCCO * CUAGGCO$
- (C.71) $CUAGGPT = CMINPT + (1/PCPT) * BEPT.0 * PCCO * CUAGGCO$
- (C.72) $C14A = CMIN14A + (1/PC14A) * BE14A.0 * PCPT * CUAGGPT$
- (C.73) $C14B = CMIN14B + (1/PC14B) * BE14B.0 * PCPT * CUAGGPT$
- (C.74) $C14C = CMIN14C + (1/PC14C) * BE14C.0 * PCPT * CUAGGPT$
- (C.75) $C31 = CMIN31 + (1/PC31) * BE31.0 * PCPT * CUAGGPT$
- (C.76) $C21 = CMIN21 + (1/PC21) * BE21.0 * PCOGS * CUAGGOGS$
- (C.77) $C24 = CMIN24 + (1/PC24) * BE24.0 * PCOGS * CUAGGOGS$
- (C.78) $C25 = CMIN25 + (1/PC25) * BE25.0 * PCOGS * CUAGGOGS$
- (C.79) $C65 = CMIN65 + (1/PC65) * BE65.0 * PCOGS * CUAGGOGS$
- (C.80) $C66 = CMIN66 + (1/PC66) * BE66.0 * PCOGS * CUAGGOGS$
- (C.81) $C12 = C12HE + C12EG$

Endogenous variables:

C00 C02 C03C C03D C03E C04 C12 C12EG C12HE C13A C13B C14A C14B C14C C21 C24 C25 C31 C41
 C42 C50 C65 C66 C75 C76 C77 C78 C79 CMIN00 CMIN02 CMIN03C CMIN03D CMIN03E CMIN04
 CMIN12EG CMIN12HE CMIN13A CMIN13B CMIN14A CMIN14B CMIN14C CMIN21 CMIN24 CMIN25
 CMIN31 CMIN41 CMIN42 CMIN50 CMIN65 CMIN66 CMIN75 CMIN76 CMIN77 CMIN78 CMIN79
 CMINBA CMINCO CMINEG CMINFBT CMINHE
 CMINHO CMINOGS CMINPT CUAGGBA CUAGGCO CUAGGEG CUAGGFBT CUAGGHE
 CUAGGHO CUAGGOGS CUAGGPT PCBA PCCO PCEG PCFBT PCHE PCHO PCOGS PCPT VCEAC
 VCMINC

Exogenous variables:

NB NB0019 PC00 PC02 PC03C PC03D PC03E PC04 PC12EG PC12HE PC13A PC13B PC14A PC14B
 PC14C PC21 PC24 PC25 PC31 PC41 PC42 PC50 PC65 PC66 PC75 PC76 PC77 PC78 PC79 VCC

Coefficients:

BE00.0 BE02.0 BE03C.0 BE03D.0 BE03E.0 BE04.0 BE12HE.0 BE13A.0 BE13B.0 BE14A.0 BE14B.0
 BE14C.0 BE21.0 BE24.0 BE25.0 BE31.0 BE41.0 BE50.0 BE65.0 BE66.0 BE75.0 BE76.0 BE77.0 BE78.0
 BE79.0 BEBA.0 BECO.0 BEEG.0 BEFBT.0 BEHE.0 BEHO.0 BEOGS.0 BEPT.0 GA00C.0 GA00K.0
 GA02C.0 GA02K.0 GA03CC.0 GA03CK.0 GA03DC.0 GA03DK.0 GA03EC.0 GA03EK.0 GA04C.0
 GA04K.0 GA12EGC.0 GA12EGK.0 GA12HEC.0 GA12HEK.0 GA13AC.0
 GA13AK.0 GA13BC.0 GA13BK.0 GA14AC.0 GA14AK.0 GA14BC.0 GA14BK.0 GA14CC.0 GA14CK.0
 GA21C.0 GA21K.0 GA24C.0 GA24K.0 GA25C.0 GA25K.0 GA31C.0 GA31K.0 GA41C.0 GA41K.0

GA42C.0 GA42K.0 GA50C.0 GA50K.0 GA65C.0 GA65K.0 GA66C.0 GA66K.0 GA75C.0 GA75K.0
GA76C.0 GA76K.0 GA77C.0 GA77K.0 GA78C.0 GA78K.0 GA79C.0 GA79K.0 GABAC.0 GABAK.0
GACOC.0 GACOK.0 GAEGC.0 GAEGK.0 GAFBTC.0 GAFBTK.0 GAHEC.0 GAHEK.0 GAHOC.0
GAHOK.0 GAOGSC.0 GAOGSK.0 GAPTC.0 GAPTK.0 OMC12EG.0 OMC42.0 SIGCEG.0

Appendix D: The correspondence between the symbols used in Section 3 and in Appendix C

Table D1. The correspondence between the symbols used in Section 3 and in Appendix C. The expenditure system for alcoholic beverages, allocation level 2 of *Groceries*

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma_{X0,03C}^2$	GA03CK.0
$\gamma_{X0,03D}^2$	GA03DK.0
$\gamma_{X0,03E}^2$	GA03EK.0
$\gamma_{X1,03C}^2$	GA03CC.0
$\gamma_{X1,03D}^2$	GA03DC.0
$\gamma_{X1,03E}^2$	GA03EC.0
$\beta_{X,03C}^2$	BE03C.0
$\beta_{X,03D}^2$	BE03D.0
$\beta_{X,03E}^2$	BE03E.0

Table D2. The correspondence between the symbols used in Section 3 and in Appendix C. The parameters in the linear expenditure system at allocation level 1 of *Groceries*

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma_{X0,00}^1$	GA00K.0
$\gamma_{X0,02}^1$	GA02K.0
$\gamma_{X0,04}^1$	GA04K.0
$\gamma_{X0,U_X^2}^1$	GABAK.0
$\gamma_{X1,00}^1$	GA00C.0
$\gamma_{X1,02}^1$	GA02C.0
$\gamma_{X1,04}^1$	GA04C.0
$\gamma_{X1,U_X^2}^1$	GABAC.0
$\beta_{X,00}^1$	BE00.0
$\beta_{X,02}^1$	BE02.0
$\beta_{X,04}^1$	BE04.0
$\beta_{X,U_X^2}^1$	BEBA.0

Table D3. The correspondence between the symbols used in Section 3 and in Appendix C. Parameters in the linear expenditure system for heating, allocation level 2 of *Housing*

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma_{Y0,13A}^2$	GA13AK.0
$\gamma_{Y0,13B}^2$	GA13BK.0
$\gamma_{Y0,12HE}^2$	GA12HEK.0
$\gamma_{Y,13A}^2$	GA13AC.0
$\gamma_{Y1,13B}^2$	GA13BC.0
$\gamma_{Y1,12HE}^2$	GA12HEC.0
$\beta_{Y,13A}^2$	BE13A.0
$\beta_{Y,13B}^2$	BE13B.0
$\beta_{Y,12HE}^2$	BE12HE.0

Table D4. The correspondence between the symbols used in Section 3 and in Appendix C. Parameters occurring in the CES-aggregate of Electrical equipment and electricity used in conjunction with Electrical equipment

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
σ	SIGCEG.0
ω_{42}	OMC42.0
ω_{12EG}	OMC12EG.0

Table D5. The correspondence between the symbols used in Section 3 and in Appendix C. The parameters in the linear expenditure system at the upper allocation stage of Housing

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma'_{Y0,50}$	GA50K.0
$\gamma'_{Y0,41}$	GA42K.0
$\gamma'_{Y0,U_{Y^*}^2}$	GAEGK.0
$\gamma'_{Y0,U_{\bar{Y}}^2}$	GAHEK.0
$\gamma'_{Y1,50}$	GA50C.0
$\gamma'_{Y1,41}$	GA42C.0
$\gamma'_{Y1,U_{Y^*}^2}$	GAEGC.0
$\gamma'_{Y1,U_{\bar{Y}}^2}$	GAHEC.0
$\beta'_{Y,50}$	BE50.0
$\beta'_{Y,41}$	BE42.0
$\beta'_{Y,U_{Y^*}^2}$	BEEG.0
$\beta'_{Y,U_{\bar{Y}}^2}$	BEHE.0

Table D6. The correspondence between the symbols used in Section 3 and in Appendix C. The expenditure system related to own transport vehicles, allocation level 2 of Transport

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma^2_{Z0,31}$	GA31K.0
$\gamma^2_{Z0,14A}$	GA14AK.0
$\gamma^2_{Z0,14B}$	GA14BK.0
$\gamma^2_{Z0,14C}$	GA14CK.0
$\gamma^2_{Z1,31}$	GA31C.0
$\gamma^2_{Z1,14A}$	GA14AC.0
$\gamma^2_{Z1,14B}$	GA14BC.0
$\gamma^2_{Z1,14C}$	GA14CC.0
$\beta^2_{Z,31}$	BE31.0
$\beta^2_{Z,14A}$	BE14A.0
$\beta^2_{Z,14B}$	BE14B.0
$\beta^2_{Z,14C}$	BE14C.0

Table D7. The correspondence between the symbols used in Section 3 and in Appendix C. The parameters in the linear expenditure system at allocation level 1 of *Transport*

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma_{Z0,75}^1$	GA75K.0
$\gamma_{Z0,76}^1$	GA76K.0
$\gamma_{Z0,77}^1$	GA77K.0
$\gamma_{Z0,78}^1$	GA78K.0
$\gamma_{Z0,79}^1$	GA79K.0
$\gamma_{Z0,U_Z^2}^1$	GAPTK.0
$\gamma_{Z1,75}^1$	GA75C.0
$\gamma_{Z1,76}^1$	GA76C.0
$\gamma_{Z1,77}^1$	GA77C.0
$\gamma_{Z1,78}^1$	GA78C.0
$\gamma_{Z1,79}^1$	GA79C.0
$\gamma_{Z1,U_Z^2}^1$	GAPTC.0
$\beta_{Z,75}^1$	BE75.0
$\beta_{Z,76}^1$	BE76.0
$\beta_{Z,77}^1$	BE77.0
$\beta_{Z,78}^1$	BE78.0
$\beta_{Z,79}^1$	BE79.0
$\beta_{Z,U_Z^2}^1$	BEPT.0

Table D8. The correspondence between the symbols used in Section 3 and in Appendix C. The parameters in the linear expenditure system of *Other goods and services*

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
$\gamma_{W0,21}^1$	GA21K.0
$\gamma_{W0,24}^1$	GA24K.0
$\gamma_{W0,25}^1$	GA25K.0
$\gamma_{W0,65}^1$	GA65K.0
$\gamma_{W0,66}^1$	GA66K.0
$\gamma_{W1,21}^1$	GA21C.0
$\gamma_{W1,24}^1$	GA24C.0
$\gamma_{W1,25}^1$	GA25C.0
$\gamma_{W1,65}^1$	GA65C.0
$\gamma_{W1,66}^1$	GA66C.0
$\beta_{W,21}^1$	BE21.0
$\beta_{W,24}^1$	BE24.0
$\beta_{W,25}^1$	BE25.0
$\beta_{W,65}^1$	BE65.0
$\beta_{W,66}^1$	BE66.0

Table D9. The correspondence between the symbols used in Section 3 and in Appendix C. The parameters in the linear expenditure system at the top level

Symbols used in Section 3	Symbols used for the simulation model given in Appendix C
γ_{X0}^T	GAFBTK.0
γ_{Y0}^T	GAHOK.0
γ_{Z0}^T	GACOK.0
γ_{W0}^T	GAOGSK.0
γ_{X1}^T	GAFBTC.0
γ_{Y1}^T	GAHOC.0
γ_{Z1}^T	GACOC.0
γ_{W1}^T	GAOGSC.0
β_X^T	BEFBT.0
β_Y^T	BEHO.0
β_Z^T	BECO.0
β_W^T	BEOGS.0

Appendix E: The correspondence between the symbols used in Section 2 and in Appendix C

Table E1. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation level 2 of *Groceries*

Variable names used in Section 2	Variable names used in Appendix C
X_1^2	C03C
X_2^2	C03D
X_3^2	C03E
PX_1^2	PC03C
PX_2^2	PC03D
PX_3^2	PC03E

Table E2. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation level 1 of *Groceries*

Variable names used in Section 2	Variable names used in Appendix C
U_X^2	CUAGGBA
PU_X^2	PCBA
X_1^1	C00
X_2^1	C02
X_3^1	C04
PX_1^1	PC00
PX_2^1	PC02
PX_3^1	PC04

Table E3. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation level 2 of *Housing*

Variable names used in Section 2	Variable names used in Appendix C
Y_1^2	C12HE
Y_2^2	C13A
Y_3^2	C13B
PY_1^1	PC12HE
PY_2^1	PC13A
PY_3^1	PC13B

Table E4. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation level 1 of Housing

Variable names used in Section 2	Variable names used in Appendix C
Y_1^2	C50
Y_2^2	C42
U_Y^{2*}	CUAGGEG
U_Y^2	CUAGGHE
PY_1^1	PC50
PY_2^1	PC42
PU_Y^{2*}	PCEG
PU_Y^2	PCHE

Table E5. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation stage 2 of Transport

Variable names used in Section 2	Variable names used in Appendix C
Z_1^2	C31
Z_2^2	C13A
Z_3^2	C13B
Z_4^2	C13C
PZ_1^2	PC31
PZ_2^2	PC13A
PZ_3^2	PC13B
PZ_4^2	PC13C

Table E6. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring at allocation level 2 of Transport

Variable names used in Section 2	Variable names used in Appendix C
Z_1^1	C75
Z_2^1	C76
Z_3^1	C77
Z_4^1	C78
Z_5^1	C79
U_Z^2	CUAGGPT
PZ_1^1	PC75
PZ_2^1	PC76
PZ_3^1	PC77
PZ_4^1	PC78
PZ_5^1	PC79
PU_Z^2	PCPT

Table E7. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring in the expenditure system of *Other goods and services*

Variable names used in Section 2	Variable names used in Appendix C
W_1^1	C21
W_2^1	C24
W_3^1	C25
W_4^1	C65
W_5^1	C66
PW_1^1	PC21
PW_2^1	PC24
PW_3^1	PC25
PW_4^1	PC65
PW_5^1	PC66

Table E8. The correspondence between the variable names used in Section 2 and in Appendix C. The variables occurring in the top level expenditure system

Variable names used in Section 2	Variable names used in Appendix C
U_X^1	CUAGGFBT
U_Y^1	CUAGGHO
U_Z^1	CUAGGCO
U_W^1	CUAGGOGS
PU_X^1	PCFBT
PU_Y^1	PCHO
PU_Z^1	PCCO
PU_W^1	PCOGS

Appendix F: Extended tables with simulated price elasticities

Table F1. Simulated uncompensated price elasticities 2007

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.213	-0.100	-0.061	0.002	0.004	0.003	0.004	0.001	0.004
C03D	-0.124	-0.974	-0.061	0.001	0.002	0.002	0.002	0.000	0.002
C03E	-0.088	-0.071	-0.578	-0.001	-0.002	-0.001	-0.004	-0.001	-0.004
C00	-0.074	-0.060	-0.037	-0.506	-0.047	-0.041	-0.085	-0.024	-0.096
C02	0.001	0.001	0.000	0.000	-0.907	0.000	-0.003	-0.001	-0.003
C04	-0.003	-0.002	-0.001	-0.001	-0.002	-0.794	-0.006	-0.002	-0.007
C12HE	0.004	0.004	0.002	0.002	0.003	0.002	-1.311	-0.067	-0.265
C13A	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.026	-0.318	-0.030
C13B	0.001	0.001	0.001	0.000	0.001	0.001	-0.038	-0.011	-1.265
C12EG	0.005	0.004	0.002	0.002	0.003	0.003	0.003	0.001	0.003
C42	-0.001	-0.001	-0.001	0.000	-0.001	-0.001	-0.002	-0.001	-0.002
C41	0.042	0.033	0.020	0.014	0.026	0.023	0.036	0.010	0.041
C50	0.013	0.010	0.006	0.004	0.008	0.007	0.001	0.000	0.001
C14A	-0.001	0.000	0.000	0.000	0.000	0.000	-0.001	0.000	-0.001
C14B	-0.016	-0.013	-0.008	-0.006	-0.010	-0.009	-0.016	-0.005	-0.018
C14C	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.002
C31	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.000	0.002
C75	0.003	0.002	0.001	0.001	0.002	0.001	0.003	0.001	0.003
C76	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.002
C77	-0.001	-0.001	0.000	0.000	0.000	0.000	-0.001	0.000	-0.001
C78	0.004	0.003	0.002	0.001	0.002	0.002	0.004	0.001	0.004
C79	0.014	0.011	0.007	0.005	0.009	0.008	0.014	0.004	0.016
C21	0.017	0.014	0.008	0.006	0.011	0.009	0.017	0.005	0.019
C24	-0.035	-0.028	-0.017	-0.012	-0.022	-0.019	-0.035	-0.010	-0.039
C25	0.020	0.016	0.010	0.007	0.013	0.011	0.020	0.006	0.023
C65	-0.087	-0.070	-0.043	-0.029	-0.055	-0.048	-0.086	-0.025	-0.098
C66	0.050	0.040	0.025	0.017	0.032	0.028	0.050	0.014	0.056

Table F1 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.003	0.003	0.004	0.003	0.003	0.002	0.003	0.003	0.003
C03D	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001
C03E	-0.003	-0.002	-0.004	-0.003	-0.002	-0.002	-0.002	-0.003	-0.003
C00	-0.069	-0.057	-0.096	-0.063	-0.057	-0.038	-0.057	-0.061	-0.069
C02	-0.002	-0.002	-0.003	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002
C04	-0.005	-0.004	-0.007	-0.004	-0.004	-0.003	-0.004	-0.004	-0.005
C12HE	0.003	0.002	0.004	0.003	0.003	0.002	0.003	0.003	0.004
C13A	-0.002	-0.002	-0.003	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002
C13B	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001
C12EG	-0.838	-0.531	0.003	0.002	0.003	0.002	0.003	0.004	0.004
C42	-0.279	-0.392	-0.002	-0.001	-0.001	0.000	-0.001	-0.001	-0.001
C41	0.029	0.024	-1.519	0.027	0.028	0.018	0.028	0.030	0.033
C50	0.001	0.001	0.001	-1.029	0.008	0.006	0.009	0.009	0.010
C14A	0.000	0.000	-0.001	0.000	-0.421	-0.011	-0.016	-0.017	-0.022
C14B	-0.013	-0.011	-0.018	-0.012	-0.065	-0.310	-0.065	-0.070	-0.088
C14C	-0.002	-0.001	-0.002	-0.002	-0.081	-0.053	-0.488	-0.087	-0.111
C31	0.001	0.001	0.002	0.001	-0.168	-0.111	-0.169	-0.614	-0.231
C75	0.002	0.002	0.003	0.002	-0.045	-0.030	-0.045	-0.048	-0.486
C76	-0.002	-0.001	-0.002	-0.002	-0.022	-0.014	-0.022	-0.024	-0.026
C77	-0.001	0.000	-0.001	0.000	-0.012	-0.008	-0.012	-0.013	-0.015
C78	0.003	0.002	0.004	0.003	-0.021	-0.014	-0.022	-0.023	-0.026
C79	0.011	0.009	0.016	0.011	-0.107	-0.071	-0.108	-0.115	-0.129
C21	0.014	0.011	0.019	0.013	0.011	0.008	0.011	0.012	0.014
C24	-0.028	-0.023	-0.039	-0.026	-0.023	-0.016	-0.024	-0.025	-0.028
C25	0.016	0.013	0.023	0.015	0.013	0.009	0.013	0.014	0.016
C65	-0.070	-0.058	-0.098	-0.065	-0.058	-0.038	-0.058	-0.063	-0.070
C66	0.040	0.033	0.056	0.037	0.033	0.022	0.034	0.036	0.040

Table F1 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.002	0.002	0.004	0.004	0.003	0.002	0.004	0.002	0.004
C03D	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.002
C03E	-0.002	-0.002	-0.004	-0.004	-0.003	-0.002	-0.003	-0.002	-0.004
C00	-0.049	-0.054	-0.091	-0.083	-0.073	-0.040	-0.080	-0.041	-0.092
C02	-0.001	-0.002	-0.003	-0.003	-0.002	-0.001	-0.002	-0.001	-0.003
C04	-0.003	-0.004	-0.006	-0.006	-0.005	-0.003	-0.006	-0.003	-0.006
C12HE	0.003	0.003	0.005	0.004	0.004	0.002	0.004	0.002	0.005
C13A	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.002	-0.001	-0.002
C13B	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C12EG	0.003	0.003	0.005	0.005	0.004	0.002	0.005	0.002	0.005
C42	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C41	0.024	0.026	0.044	0.041	0.035	0.020	0.039	0.020	0.045
C50	0.007	0.008	0.014	0.012	0.011	0.006	0.012	0.006	0.014
C14A	-0.016	-0.018	-0.030	-0.027	0.000	0.000	0.000	0.000	-0.001
C14B	-0.062	-0.069	-0.117	-0.106	-0.014	-0.008	-0.015	-0.008	-0.018
C14C	-0.079	-0.087	-0.148	-0.135	-0.002	-0.001	-0.002	-0.001	-0.002
C31	-0.164	-0.182	-0.308	-0.281	0.001	0.001	0.002	0.001	0.002
C75	-0.038	-0.043	-0.072	-0.066	0.002	0.001	0.002	0.001	0.003
C76	-0.324	-0.021	-0.035	-0.032	-0.002	-0.001	-0.002	-0.001	-0.002
C77	-0.010	-0.351	-0.019	-0.018	-0.001	0.000	-0.001	0.000	-0.001
C78	-0.018	-0.020	-0.610	-0.031	0.003	0.002	0.003	0.002	0.004
C79	-0.091	-0.101	-0.172	-0.680	0.012	0.007	0.013	0.007	0.015
C21	0.010	0.011	0.018	0.017	-0.845	-0.031	-0.060	-0.031	-0.070
C24	-0.020	-0.022	-0.038	-0.034	-0.081	-0.486	-0.088	-0.046	-0.102
C25	0.011	0.013	0.021	0.020	-0.040	-0.022	-0.912	-0.023	-0.051
C65	-0.050	-0.055	-0.093	-0.085	-0.204	-0.114	-0.225	-0.561	-0.260
C66	0.028	0.031	0.053	0.049	-0.058	-0.032	-0.064	-0.033	-1.079

Table F2. Simulated compensated price elasticities 2007

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.205	-0.092	-0.056	0.057	0.020	0.018	0.014	0.002	0.006
C03D	-0.115	-0.965	-0.055	0.056	0.019	0.017	0.012	0.002	0.004
C03E	-0.079	-0.062	-0.572	0.054	0.015	0.014	0.007	0.000	-0.002
C00	-0.066	-0.051	-0.031	-0.451	-0.031	-0.026	-0.074	-0.023	-0.094
C02	0.010	0.009	0.006	0.055	-0.890	0.016	0.008	0.000	-0.001
C04	0.006	0.006	0.004	0.054	0.015	-0.778	0.005	-0.001	-0.005
C12HE	0.013	0.012	0.008	0.057	0.019	0.018	-1.301	-0.066	-0.263
C13A	0.007	0.007	0.005	0.054	0.015	0.014	-0.016	-0.317	-0.028
C13B	0.010	0.009	0.006	0.055	0.017	0.016	-0.028	-0.010	-1.263
C12EG	0.014	0.012	0.008	0.057	0.020	0.018	0.014	0.002	0.005
C42	0.008	0.008	0.005	0.055	0.016	0.015	0.009	0.001	0.000
C41	0.050	0.042	0.026	0.069	0.043	0.038	0.047	0.011	0.042
C50	0.022	0.019	0.012	0.059	0.025	0.022	0.012	0.001	0.003
C14A	0.008	0.008	0.006	0.055	0.016	0.015	0.010	0.001	0.001
C14B	-0.008	-0.005	-0.002	0.050	0.006	0.006	-0.006	-0.004	-0.017
C14C	0.007	0.007	0.005	0.054	0.015	0.014	0.009	0.001	-0.001
C31	0.010	0.010	0.007	0.056	0.018	0.016	0.012	0.002	0.004
C75	0.011	0.011	0.007	0.056	0.018	0.017	0.013	0.002	0.005
C76	0.007	0.007	0.005	0.054	0.015	0.014	0.009	0.001	-0.001
C77	0.008	0.008	0.006	0.055	0.016	0.015	0.010	0.001	0.001
C78	0.012	0.011	0.008	0.056	0.019	0.017	0.014	0.002	0.006
C79	0.023	0.020	0.013	0.060	0.026	0.023	0.025	0.005	0.018
C21	0.026	0.022	0.014	0.061	0.027	0.025	0.028	0.006	0.021
C24	-0.026	-0.020	-0.012	0.043	-0.006	-0.004	-0.024	-0.009	-0.038
C25	0.029	0.025	0.016	0.062	0.029	0.027	0.031	0.007	0.024
C65	-0.078	-0.061	-0.037	0.026	-0.039	-0.033	-0.076	-0.024	-0.096
C66	0.059	0.049	0.030	0.072	0.048	0.043	0.060	0.015	0.058

Table F2 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.030	0.014	0.082	0.172	0.008	0.021	0.031	0.062	0.017
C03D	0.029	0.013	0.080	0.171	0.007	0.020	0.029	0.061	0.016
C03E	0.024	0.009	0.074	0.167	0.003	0.018	0.026	0.057	0.012
C00	-0.041	-0.045	-0.018	0.106	-0.051	-0.019	-0.029	-0.002	-0.054
C02	0.025	0.010	0.075	0.168	0.004	0.018	0.026	0.058	0.012
C04	0.023	0.008	0.071	0.165	0.002	0.017	0.024	0.055	0.010
C12HE	0.030	0.014	0.082	0.172	0.009	0.021	0.031	0.063	0.018
C13A	0.025	0.010	0.075	0.168	0.004	0.018	0.027	0.058	0.013
C13B	0.028	0.012	0.079	0.170	0.006	0.020	0.029	0.060	0.015
C12EG	-0.810	-0.520	0.081	0.172	0.009	0.021	0.031	0.063	0.018
C42	-0.252	-0.380	0.076	0.168	0.005	0.019	0.027	0.059	0.014
C41	0.056	0.036	-1.441	0.196	0.033	0.037	0.056	0.089	0.048
C50	0.028	0.012	0.079	-0.860	0.014	0.025	0.037	0.069	0.025
C14A	0.027	0.011	0.078	0.169	-0.415	0.008	0.012	0.042	-0.008
C14B	0.014	0.001	0.060	0.157	-0.059	-0.291	-0.037	-0.010	-0.073
C14C	0.026	0.010	0.076	0.168	-0.075	-0.034	-0.460	-0.028	-0.097
C31	0.029	0.013	0.080	0.171	-0.162	-0.092	-0.141	-0.555	-0.217
C75	0.029	0.013	0.081	0.171	-0.039	-0.011	-0.017	0.011	-0.472
C76	0.026	0.010	0.076	0.168	-0.016	0.005	0.006	0.036	-0.012
C77	0.027	0.011	0.077	0.169	-0.006	0.011	0.016	0.047	0.000
C78	0.030	0.014	0.082	0.172	-0.016	0.005	0.007	0.037	-0.011
C79	0.039	0.021	0.094	0.180	-0.102	-0.052	-0.080	-0.056	-0.115
C21	0.041	0.023	0.097	0.182	0.017	0.027	0.040	0.072	0.028
C24	-0.001	-0.012	0.039	0.144	-0.018	0.004	0.005	0.034	-0.014
C25	0.043	0.025	0.101	0.184	0.019	0.028	0.042	0.074	0.031
C65	-0.043	-0.046	-0.020	0.105	-0.052	-0.019	-0.030	-0.003	-0.056
C66	0.067	0.045	0.134	0.207	0.039	0.041	0.062	0.095	0.055

Table F2 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.008	0.006	0.011	0.040	0.073	0.053	0.061	0.133	0.105
C03D	0.007	0.005	0.009	0.038	0.071	0.052	0.059	0.132	0.102
C03E	0.004	0.001	0.004	0.033	0.067	0.049	0.054	0.129	0.097
C00	-0.042	-0.050	-0.084	-0.047	-0.003	0.011	-0.022	0.090	0.009
C02	0.005	0.002	0.005	0.034	0.068	0.050	0.055	0.130	0.098
C04	0.003	0.000	0.001	0.030	0.065	0.048	0.052	0.128	0.094
C12HE	0.009	0.006	0.012	0.040	0.074	0.053	0.062	0.133	0.106
C13A	0.005	0.002	0.005	0.034	0.068	0.050	0.055	0.130	0.098
C13B	0.007	0.004	0.008	0.037	0.071	0.051	0.058	0.132	0.102
C12EG	0.009	0.007	0.013	0.041	0.074	0.053	0.062	0.133	0.106
C42	0.006	0.003	0.006	0.035	0.069	0.051	0.057	0.131	0.100
C41	0.030	0.030	0.052	0.077	0.105	0.071	0.096	0.151	0.146
C50	0.014	0.012	0.021	0.048	0.081	0.057	0.069	0.137	0.115
C14A	-0.010	-0.014	-0.022	0.009	0.069	0.051	0.057	0.131	0.100
C14B	-0.056	-0.065	-0.109	-0.070	0.056	0.043	0.042	0.123	0.083
C14C	-0.072	-0.084	-0.141	-0.099	0.068	0.050	0.056	0.130	0.099
C31	-0.157	-0.178	-0.301	-0.245	0.071	0.052	0.059	0.132	0.103
C75	-0.032	-0.039	-0.065	-0.030	0.072	0.052	0.060	0.132	0.104
C76	-0.318	-0.017	-0.028	0.004	0.068	0.050	0.055	0.130	0.099
C77	-0.004	-0.347	-0.012	0.018	0.069	0.051	0.057	0.131	0.100
C78	-0.012	-0.017	-0.602	0.005	0.073	0.053	0.061	0.133	0.105
C79	-0.085	-0.098	-0.165	-0.644	0.082	0.058	0.071	0.138	0.116
C21	0.016	0.014	0.026	0.053	-0.776	0.020	-0.003	0.100	0.031
C24	-0.014	-0.019	-0.030	0.002	-0.011	-0.435	-0.031	0.086	-0.002
C25	0.018	0.016	0.029	0.056	0.030	0.029	-0.855	0.109	0.050
C65	-0.043	-0.051	-0.086	-0.049	-0.135	-0.063	-0.167	-0.430	-0.159
C66	0.035	0.035	0.061	0.085	0.012	0.019	-0.006	0.099	-0.978

Table F3. Simulated uncompensated price elasticities 2012

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.208	-0.123	-0.076	0.007	0.012	0.012	0.003	0.001	0.003
C03D	-0.148	-0.985	-0.075	0.006	0.010	0.010	0.001	0.000	0.001
C03E	-0.104	-0.085	-0.588	0.002	0.004	0.004	-0.004	-0.001	-0.005
C00	0.012	0.010	0.006	-0.507	0.008	0.008	-0.083	-0.031	-0.112
C02	0.026	0.021	0.013	0.009	-0.919	0.016	-0.005	-0.002	-0.006
C04	0.023	0.019	0.012	0.008	0.015	-0.901	-0.005	-0.002	-0.006
C12HE	0.003	0.002	0.001	0.001	0.002	0.002	-1.296	-0.132	-0.471
C13A	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.037	-0.373	-0.050
C13B	0.001	0.001	0.001	0.000	0.001	0.001	-0.057	-0.022	-1.357
C12EG	-0.001	-0.001	0.000	0.000	0.000	0.000	0.018	0.007	0.024
C42	-0.003	-0.003	-0.002	-0.001	-0.002	-0.002	0.004	0.002	0.005
C41	0.030	0.024	0.015	0.010	0.019	0.018	0.079	0.030	0.106
C50	-0.012	-0.010	-0.006	-0.004	-0.007	-0.007	0.099	0.038	0.134
C14A	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002
C14B	-0.022	-0.018	-0.011	-0.008	-0.014	-0.014	-0.021	-0.008	-0.028
C14C	-0.007	-0.006	-0.004	-0.002	-0.004	-0.004	-0.006	-0.002	-0.009
C31	-0.014	-0.011	-0.007	-0.005	-0.009	-0.008	-0.013	-0.005	-0.017
C75	-0.001	-0.001	0.000	0.000	-0.001	-0.001	-0.001	0.000	-0.001
C76	-0.003	-0.003	-0.002	-0.001	-0.002	-0.002	-0.003	-0.001	-0.004
C77	-0.002	-0.002	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.003
C78	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.001	0.002
C79	0.011	0.009	0.005	0.004	0.007	0.006	0.010	0.004	0.013
C21	0.003	0.003	0.002	0.001	0.002	0.002	0.003	0.001	0.004
C24	-0.048	-0.039	-0.024	-0.016	-0.030	-0.029	-0.044	-0.017	-0.060
C25	0.009	0.008	0.005	0.003	0.006	0.006	0.009	0.003	0.012
C65	-0.127	-0.104	-0.064	-0.043	-0.079	-0.078	-0.118	-0.045	-0.160
C66	0.024	0.020	0.012	0.008	0.015	0.015	0.023	0.009	0.031

Table F3 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.002	0.002	0.003	0.002	0.002	0.001	0.002	0.002	0.002
C03D	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001
C03E	-0.003	-0.002	-0.004	-0.003	-0.002	-0.002	-0.003	-0.003	-0.003
C00	-0.067	-0.056	-0.096	-0.065	-0.057	-0.036	-0.058	-0.058	-0.065
C02	-0.004	-0.003	-0.005	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004
C04	-0.004	-0.003	-0.005	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004
C12HE	0.008	0.006	0.011	0.007	0.002	0.001	0.002	0.002	0.002
C13A	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C13B	0.002	0.001	0.002	0.002	0.001	0.000	0.001	0.001	0.001
C12EG	-0.864	-0.557	0.021	0.014	0.000	0.000	-0.001	-0.001	-0.001
C42	-0.250	-0.369	0.005	0.003	-0.002	-0.001	-0.002	-0.002	-0.002
C41	0.063	0.053	-1.533	0.061	0.019	0.012	0.019	0.020	0.022
C50	0.080	0.067	0.115	-1.014	-0.008	-0.005	-0.008	-0.008	-0.009
C14A	-0.001	-0.001	-0.002	-0.001	-0.436	-0.008	-0.012	-0.012	-0.019
C14B	-0.017	-0.014	-0.024	-0.016	-0.052	-0.304	-0.052	-0.053	-0.075
C14C	-0.005	-0.004	-0.008	-0.005	-0.060	-0.038	-0.489	-0.061	-0.092
C31	-0.010	-0.009	-0.015	-0.010	-0.126	-0.080	-0.127	-0.562	-0.194
C75	-0.001	-0.001	-0.001	-0.001	-0.039	-0.025	-0.040	-0.040	-0.439
C76	-0.002	-0.002	-0.004	-0.002	-0.019	-0.012	-0.019	-0.019	-0.022
C77	-0.002	-0.002	-0.003	-0.002	-0.011	-0.007	-0.011	-0.012	-0.013
C78	0.001	0.001	0.002	0.001	-0.019	-0.012	-0.019	-0.019	-0.021
C79	0.008	0.007	0.011	0.008	-0.090	-0.058	-0.091	-0.092	-0.104
C21	0.003	0.002	0.004	0.003	0.002	0.001	0.002	0.002	0.003
C24	-0.036	-0.030	-0.051	-0.034	-0.030	-0.019	-0.031	-0.031	-0.035
C25	0.007	0.006	0.010	0.007	0.006	0.004	0.006	0.006	0.007
C65	-0.095	-0.079	-0.137	-0.092	-0.081	-0.052	-0.082	-0.083	-0.093
C66	0.018	0.015	0.026	0.018	0.016	0.010	0.016	0.016	0.018

Table F3 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.002	0.001	0.003	0.003	0.002	0.001	0.002	0.001	0.003
C03D	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C03E	-0.002	-0.002	-0.004	-0.004	-0.003	-0.002	-0.003	-0.002	-0.004
C00	-0.049	-0.045	-0.085	-0.088	-0.071	-0.040	-0.078	-0.039	-0.084
C02	-0.003	-0.002	-0.005	-0.005	-0.004	-0.002	-0.004	-0.002	-0.005
C04	-0.003	-0.003	-0.005	-0.005	-0.004	-0.002	-0.004	-0.002	-0.005
C12HE	0.001	0.001	0.002	0.003	0.002	0.001	0.002	0.001	0.002
C13A	-0.001	-0.001	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002
C13B	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C12EG	0.000	0.000	-0.001	-0.001	-0.001	0.000	-0.001	0.000	-0.001
C42	-0.002	-0.002	-0.003	-0.003	-0.003	-0.001	-0.003	-0.001	-0.003
C41	0.016	0.015	0.029	0.029	0.024	0.013	0.026	0.013	0.028
C50	-0.007	-0.006	-0.011	-0.012	-0.009	-0.005	-0.010	-0.005	-0.011
C14A	-0.014	-0.013	-0.024	-0.025	-0.001	-0.001	-0.001	-0.001	-0.001
C14B	-0.057	-0.052	-0.098	-0.101	-0.018	-0.010	-0.019	-0.010	-0.021
C14C	-0.069	-0.064	-0.120	-0.124	-0.006	-0.003	-0.006	-0.003	-0.007
C31	-0.146	-0.134	-0.254	-0.261	-0.011	-0.006	-0.012	-0.006	-0.013
C75	-0.034	-0.031	-0.059	-0.061	-0.001	0.000	-0.001	0.000	-0.001
C76	-0.313	-0.015	-0.029	-0.029	-0.003	-0.001	-0.003	-0.001	-0.003
C77	-0.010	-0.282	-0.017	-0.017	-0.002	-0.001	-0.002	-0.001	-0.002
C78	-0.016	-0.015	-0.544	-0.029	0.002	0.001	0.002	0.001	0.002
C79	-0.078	-0.072	-0.136	-0.669	0.008	0.005	0.009	0.005	0.010
C21	0.002	0.002	0.003	0.003	-0.826	-0.022	-0.042	-0.021	-0.046
C24	-0.026	-0.024	-0.045	-0.047	-0.068	-0.481	-0.075	-0.038	-0.080
C25	0.005	0.005	0.009	0.009	-0.027	-0.015	-0.894	-0.015	-0.032
C65	-0.070	-0.064	-0.122	-0.125	-0.179	-0.101	-0.196	-0.533	-0.211
C66	0.013	0.012	0.023	0.024	-0.040	-0.023	-0.044	-0.022	-0.977

Table F4. Simulated compensated price elasticities 2012

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.199	-0.114	-0.070	0.062	0.028	0.027	0.013	0.002	0.005
C03D	-0.139	-0.977	-0.069	0.061	0.027	0.026	0.011	0.001	0.003
C03E	-0.096	-0.077	-0.582	0.057	0.021	0.020	0.007	0.000	-0.003
C00	0.021	0.019	0.012	-0.452	0.024	0.023	-0.072	-0.030	-0.110
C02	0.035	0.030	0.019	0.064	-0.902	0.031	0.006	-0.001	-0.004
C04	0.032	0.028	0.018	0.063	0.031	-0.886	0.006	-0.001	-0.005
C12HE	0.011	0.011	0.007	0.056	0.018	0.017	-1.285	-0.131	-0.469
C13A	0.007	0.007	0.005	0.054	0.016	0.014	-0.026	-0.372	-0.048
C13B	0.010	0.009	0.006	0.055	0.017	0.016	-0.046	-0.020	-1.355
C12EG	0.008	0.008	0.005	0.055	0.016	0.015	0.029	0.008	0.026
C42	0.006	0.006	0.004	0.054	0.015	0.014	0.015	0.003	0.007
C41	0.039	0.033	0.021	0.065	0.035	0.034	0.089	0.031	0.108
C50	-0.003	-0.001	0.000	0.051	0.009	0.008	0.110	0.039	0.136
C14A	0.007	0.007	0.005	0.055	0.016	0.015	0.009	0.001	0.000
C14B	-0.013	-0.010	-0.005	0.048	0.003	0.002	-0.010	-0.007	-0.026
C14C	0.002	0.003	0.002	0.053	0.012	0.011	0.004	-0.001	-0.007
C31	-0.005	-0.003	-0.001	0.050	0.008	0.007	-0.002	-0.004	-0.015
C75	0.008	0.008	0.005	0.055	0.016	0.015	0.010	0.001	0.001
C76	0.006	0.006	0.004	0.054	0.015	0.013	0.008	0.000	-0.002
C77	0.006	0.007	0.005	0.054	0.015	0.014	0.008	0.000	-0.001
C78	0.011	0.010	0.007	0.056	0.018	0.017	0.012	0.002	0.004
C79	0.019	0.017	0.011	0.059	0.023	0.022	0.020	0.005	0.015
C21	0.012	0.011	0.008	0.056	0.019	0.018	0.014	0.002	0.006
C24	-0.039	-0.030	-0.018	0.039	-0.013	-0.014	-0.034	-0.016	-0.058
C25	0.018	0.016	0.010	0.058	0.022	0.021	0.019	0.004	0.013
C65	-0.119	-0.096	-0.059	0.012	-0.063	-0.062	-0.108	-0.044	-0.158
C66	0.033	0.028	0.018	0.063	0.032	0.030	0.033	0.010	0.032

Table F4 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.031	0.012	0.081	0.172	0.007	0.020	0.030	0.061	0.016
C03D	0.029	0.011	0.079	0.170	0.006	0.019	0.029	0.060	0.015
C03E	0.026	0.008	0.074	0.167	0.003	0.018	0.026	0.057	0.012
C00	-0.038	-0.045	-0.018	0.105	-0.051	-0.017	-0.029	0.001	-0.051
C02	0.025	0.008	0.073	0.166	0.003	0.017	0.025	0.056	0.011
C04	0.025	0.007	0.073	0.166	0.002	0.017	0.025	0.056	0.011
C12HE	0.036	0.017	0.089	0.177	0.007	0.020	0.030	0.061	0.016
C13A	0.028	0.010	0.077	0.169	0.005	0.018	0.027	0.059	0.013
C13B	0.030	0.012	0.080	0.171	0.006	0.020	0.029	0.060	0.015
C12EG	-0.835	-0.547	0.099	0.183	0.005	0.019	0.028	0.059	0.014
C42	-0.221	-0.359	0.083	0.173	0.004	0.018	0.026	0.058	0.012
C41	0.092	0.063	-1.455	0.231	0.025	0.031	0.047	0.079	0.036
C50	0.109	0.077	0.193	-0.844	-0.002	0.014	0.020	0.052	0.006
C14A	0.027	0.010	0.076	0.168	-0.430	0.011	0.016	0.047	-0.004
C14B	0.012	-0.003	0.054	0.154	-0.046	-0.284	-0.024	0.007	-0.061
C14C	0.023	0.006	0.071	0.165	-0.054	-0.019	-0.461	-0.002	-0.078
C31	0.018	0.002	0.063	0.160	-0.120	-0.061	-0.099	-0.502	-0.180
C75	0.028	0.010	0.077	0.169	-0.034	-0.006	-0.012	0.019	-0.425
C76	0.026	0.009	0.075	0.167	-0.013	0.007	0.009	0.040	-0.007
C77	0.027	0.009	0.075	0.168	-0.006	0.012	0.017	0.048	0.002
C78	0.030	0.012	0.080	0.171	-0.013	0.007	0.009	0.041	-0.007
C79	0.036	0.017	0.089	0.177	-0.085	-0.039	-0.063	-0.033	-0.089
C21	0.031	0.013	0.082	0.172	0.008	0.021	0.030	0.062	0.017
C24	-0.007	-0.019	0.027	0.135	-0.025	0.000	-0.003	0.029	-0.020
C25	0.035	0.016	0.088	0.176	0.012	0.023	0.034	0.066	0.021
C65	-0.067	-0.069	-0.059	0.077	-0.075	-0.033	-0.054	-0.023	-0.079
C66	0.047	0.026	0.104	0.187	0.021	0.029	0.044	0.075	0.032

Table F4 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.008	0.005	0.010	0.039	0.072	0.052	0.060	0.132	0.103
C03D	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.132	0.102
C03E	0.004	0.002	0.004	0.032	0.067	0.049	0.054	0.129	0.097
C00	-0.043	-0.042	-0.078	-0.052	-0.001	0.011	-0.020	0.092	0.017
C02	0.004	0.001	0.003	0.031	0.066	0.049	0.053	0.129	0.096
C04	0.004	0.001	0.003	0.031	0.066	0.049	0.053	0.129	0.096
C12HE	0.008	0.005	0.010	0.039	0.072	0.052	0.060	0.132	0.103
C13A	0.005	0.003	0.006	0.034	0.068	0.050	0.056	0.130	0.099
C13B	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.132	0.102
C12EG	0.006	0.003	0.007	0.035	0.069	0.051	0.057	0.131	0.100
C42	0.005	0.002	0.004	0.033	0.067	0.050	0.055	0.130	0.098
C41	0.023	0.019	0.036	0.065	0.093	0.064	0.083	0.144	0.129
C50	0.000	-0.002	-0.004	0.024	0.060	0.046	0.047	0.126	0.090
C14A	-0.008	-0.009	-0.017	0.011	0.069	0.050	0.056	0.131	0.099
C14B	-0.050	-0.048	-0.091	-0.065	0.052	0.041	0.038	0.122	0.080
C14C	-0.063	-0.060	-0.113	-0.088	0.064	0.048	0.051	0.128	0.094
C31	-0.140	-0.131	-0.247	-0.225	0.059	0.045	0.046	0.125	0.088
C75	-0.028	-0.028	-0.052	-0.025	0.069	0.051	0.057	0.131	0.100
C76	-0.307	-0.012	-0.021	0.007	0.067	0.050	0.055	0.130	0.098
C77	-0.003	-0.278	-0.010	0.019	0.068	0.050	0.055	0.130	0.099
C78	-0.010	-0.011	-0.536	0.007	0.071	0.052	0.059	0.132	0.103
C79	-0.072	-0.068	-0.128	-0.633	0.078	0.056	0.067	0.136	0.111
C21	0.008	0.005	0.011	0.039	-0.757	0.029	0.015	0.110	0.055
C24	-0.020	-0.020	-0.038	-0.011	0.002	-0.430	-0.017	0.094	0.021
C25	0.011	0.008	0.016	0.045	0.043	0.036	-0.836	0.116	0.069
C65	-0.064	-0.061	-0.114	-0.089	-0.109	-0.050	-0.139	-0.402	-0.110
C66	0.020	0.016	0.031	0.060	0.029	0.028	0.013	0.109	-0.876

Table F5. Simulated uncompensated price elasticities 2020

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.179	-0.137	-0.088	0.011	0.019	0.021	0.001	0.001	0.002
C03D	-0.158	-0.997	-0.087	0.010	0.017	0.019	0.000	0.000	0.000
C03E	-0.111	-0.094	-0.619	0.005	0.009	0.010	-0.003	-0.002	-0.006
C00	0.092	0.078	0.050	-0.526	0.058	0.065	-0.075	-0.044	-0.127
C02	0.046	0.039	0.025	0.017	-0.936	0.033	-0.006	-0.003	-0.010
C04	0.046	0.039	0.025	0.017	0.029	-1.038	-0.003	-0.002	-0.006
C12HE	0.001	0.000	0.000	0.000	0.000	0.000	-1.255	-0.287	-0.821
C13A	-0.001	-0.001	0.000	0.000	-0.001	-0.001	-0.049	-0.493	-0.084
C13B	0.001	0.001	0.001	0.000	0.001	0.001	-0.078	-0.047	-1.461
C12EG	-0.006	-0.005	-0.003	-0.002	-0.004	-0.004	0.032	0.019	0.054
C42	-0.004	-0.004	-0.002	-0.002	-0.003	-0.003	0.007	0.004	0.013
C41	0.016	0.014	0.009	0.006	0.010	0.011	0.111	0.066	0.189
C50	-0.037	-0.031	-0.020	-0.014	-0.023	-0.026	0.178	0.106	0.303
C14A	-0.003	-0.002	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.004
C14B	-0.023	-0.020	-0.013	-0.009	-0.015	-0.016	-0.021	-0.012	-0.035
C14C	-0.012	-0.010	-0.006	-0.004	-0.007	-0.008	-0.010	-0.006	-0.017
C31	-0.028	-0.024	-0.015	-0.010	-0.018	-0.020	-0.025	-0.015	-0.042
C75	-0.004	-0.004	-0.002	-0.002	-0.003	-0.003	-0.004	-0.002	-0.006
C76	-0.004	-0.003	-0.002	-0.002	-0.003	-0.003	-0.004	-0.002	-0.006
C77	-0.003	-0.003	-0.002	-0.001	-0.002	-0.002	-0.003	-0.002	-0.005
C78	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C79	0.005	0.005	0.003	0.002	0.004	0.004	0.005	0.003	0.008
C21	-0.010	-0.009	-0.006	-0.004	-0.006	-0.007	-0.009	-0.005	-0.015
C24	-0.056	-0.047	-0.031	-0.021	-0.035	-0.039	-0.049	-0.029	-0.084
C25	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.003
C65	-0.155	-0.131	-0.085	-0.057	-0.098	-0.109	-0.137	-0.081	-0.233
C66	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.003

Table F5 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.003	-0.002	-0.004	-0.003	-0.002	-0.002	-0.002	-0.002	-0.003
C00	-0.061	-0.051	-0.087	-0.060	-0.052	-0.035	-0.053	-0.051	-0.058
C02	-0.005	-0.004	-0.007	-0.005	-0.004	-0.003	-0.004	-0.004	-0.004
C04	-0.003	-0.002	-0.004	-0.003	-0.002	-0.002	-0.002	-0.002	-0.003
C12HE	0.011	0.009	0.016	0.011	0.000	0.000	0.000	0.000	0.000
C13A	0.001	0.000	0.001	0.001	-0.001	0.000	-0.001	-0.001	-0.001
C13B	0.002	0.002	0.004	0.002	0.001	0.000	0.001	0.001	0.001
C12EG	-0.902	-0.593	0.037	0.026	-0.004	-0.003	-0.004	-0.004	-0.004
C42	-0.214	-0.341	0.009	0.006	-0.003	-0.002	-0.003	-0.003	-0.003
C41	0.091	0.076	-1.502	0.090	0.010	0.007	0.010	0.010	0.011
C50	0.145	0.122	0.207	-0.993	-0.023	-0.015	-0.023	-0.022	-0.025
C14A	-0.002	-0.002	-0.003	-0.002	-0.482	-0.005	-0.007	-0.007	-0.014
C14B	-0.017	-0.014	-0.024	-0.017	-0.034	-0.345	-0.034	-0.033	-0.057
C14C	-0.008	-0.007	-0.012	-0.008	-0.035	-0.024	-0.522	-0.035	-0.069
C31	-0.020	-0.017	-0.029	-0.020	-0.077	-0.052	-0.079	-0.545	-0.148
C75	-0.003	-0.003	-0.004	-0.003	-0.031	-0.021	-0.031	-0.030	-0.444
C76	-0.003	-0.002	-0.004	-0.003	-0.015	-0.010	-0.015	-0.015	-0.016
C77	-0.002	-0.002	-0.003	-0.002	-0.009	-0.006	-0.009	-0.009	-0.010
C78	0.000	0.000	0.000	0.000	-0.014	-0.010	-0.015	-0.014	-0.016
C79	0.004	0.003	0.006	0.004	-0.067	-0.045	-0.068	-0.066	-0.074
C21	-0.007	-0.006	-0.010	-0.007	-0.006	-0.004	-0.006	-0.006	-0.007
C24	-0.040	-0.034	-0.057	-0.040	-0.034	-0.023	-0.035	-0.034	-0.038
C25	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C65	-0.112	-0.093	-0.159	-0.111	-0.095	-0.065	-0.097	-0.094	-0.106
C66	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001

Table F5 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.002	-0.002	-0.003	-0.004	-0.003	-0.002	-0.003	-0.002	-0.003
C00	-0.046	-0.042	-0.073	-0.082	-0.064	-0.037	-0.070	-0.036	-0.071
C02	-0.004	-0.003	-0.006	-0.006	-0.005	-0.003	-0.005	-0.003	-0.005
C04	-0.002	-0.002	-0.003	-0.004	-0.003	-0.002	-0.003	-0.002	-0.003
C12HE	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
C13A	0.000	0.000	-0.001	-0.001	-0.001	0.000	-0.001	0.000	-0.001
C13B	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C12EG	-0.003	-0.003	-0.005	-0.006	-0.005	-0.003	-0.005	-0.003	-0.005
C42	-0.002	-0.002	-0.004	-0.004	-0.003	-0.002	-0.004	-0.002	-0.004
C41	0.009	0.008	0.014	0.016	0.012	0.007	0.013	0.007	0.014
C50	-0.020	-0.018	-0.032	-0.036	-0.028	-0.016	-0.030	-0.016	-0.031
C14A	-0.011	-0.010	-0.018	-0.020	-0.002	-0.001	-0.002	-0.001	-0.002
C14B	-0.046	-0.041	-0.072	-0.082	-0.018	-0.010	-0.019	-0.010	-0.020
C14C	-0.055	-0.050	-0.087	-0.098	-0.009	-0.005	-0.010	-0.005	-0.010
C31	-0.119	-0.107	-0.187	-0.211	-0.021	-0.012	-0.023	-0.012	-0.023
C75	-0.027	-0.025	-0.043	-0.048	-0.003	-0.002	-0.003	-0.002	-0.004
C76	-0.344	-0.012	-0.021	-0.023	-0.003	-0.002	-0.003	-0.002	-0.003
C77	-0.008	-0.304	-0.013	-0.014	-0.002	-0.001	-0.003	-0.001	-0.003
C78	-0.013	-0.011	-0.540	-0.023	0.000	0.000	0.000	0.000	0.000
C79	-0.060	-0.054	-0.094	-0.691	0.004	0.002	0.005	0.002	0.005
C21	-0.006	-0.005	-0.009	-0.010	-0.817	-0.013	-0.025	-0.013	-0.025
C24	-0.031	-0.028	-0.048	-0.054	-0.053	-0.494	-0.058	-0.030	-0.059
C25	-0.001	-0.001	-0.002	-0.002	-0.014	-0.008	-0.884	-0.008	-0.015
C65	-0.085	-0.077	-0.134	-0.151	-0.146	-0.085	-0.159	-0.526	-0.161
C66	-0.001	-0.001	-0.002	-0.002	-0.023	-0.014	-0.026	-0.013	-0.903

Table F6. Simulated compensated price elasticities 2020

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.170	-0.128	-0.083	0.066	0.035	0.036	0.012	0.002	0.004
C03D	-0.150	-0.989	-0.081	0.065	0.034	0.035	0.011	0.001	0.002
C03E	-0.102	-0.085	-0.613	0.060	0.026	0.026	0.007	-0.001	-0.004
C00	0.101	0.086	0.056	-0.471	0.075	0.080	-0.064	-0.043	-0.125
C02	0.055	0.048	0.031	0.072	-0.919	0.048	0.005	-0.002	-0.008
C04	0.054	0.047	0.031	0.072	0.046	-1.023	0.007	-0.001	-0.004
C12HE	0.009	0.009	0.006	0.055	0.017	0.016	-1.244	-0.286	-0.819
C13A	0.008	0.008	0.005	0.055	0.016	0.015	-0.039	-0.492	-0.082
C13B	0.010	0.009	0.006	0.055	0.017	0.016	-0.068	-0.046	-1.459
C12EG	0.003	0.003	0.002	0.053	0.013	0.011	0.042	0.020	0.056
C42	0.005	0.005	0.003	0.053	0.014	0.012	0.018	0.005	0.014
C41	0.025	0.022	0.015	0.061	0.027	0.027	0.122	0.067	0.191
C50	-0.028	-0.023	-0.014	0.042	-0.007	-0.011	0.188	0.107	0.305
C14A	0.006	0.006	0.004	0.054	0.015	0.014	0.008	0.000	-0.002
C14B	-0.015	-0.011	-0.007	0.046	0.002	-0.001	-0.010	-0.011	-0.033
C14C	-0.003	-0.001	-0.001	0.051	0.009	0.007	0.001	-0.005	-0.016
C31	-0.019	-0.015	-0.010	0.045	-0.001	-0.004	-0.014	-0.014	-0.040
C75	0.005	0.005	0.004	0.054	0.014	0.013	0.007	-0.001	-0.005
C76	0.005	0.005	0.004	0.054	0.014	0.013	0.007	-0.001	-0.004
C77	0.006	0.006	0.004	0.054	0.015	0.013	0.008	-0.001	-0.003
C78	0.009	0.009	0.006	0.055	0.017	0.016	0.011	0.001	0.002
C79	0.014	0.013	0.009	0.057	0.020	0.019	0.016	0.004	0.010
C21	-0.001	0.000	0.000	0.051	0.010	0.008	0.002	-0.004	-0.013
C24	-0.047	-0.039	-0.025	0.035	-0.019	-0.024	-0.038	-0.028	-0.082
C25	0.007	0.007	0.005	0.054	0.015	0.014	0.009	0.000	-0.001
C65	-0.146	-0.123	-0.079	-0.002	-0.082	-0.094	-0.126	-0.080	-0.231
C66	0.007	0.007	0.005	0.054	0.015	0.014	0.009	0.000	-0.001

Table F6 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.031	0.010	0.080	0.171	0.007	0.020	0.029	0.061	0.016
C03D	0.030	0.009	0.078	0.170	0.006	0.019	0.028	0.060	0.014
C03E	0.027	0.007	0.074	0.167	0.003	0.018	0.026	0.057	0.012
C00	-0.031	-0.042	-0.009	0.109	-0.046	-0.016	-0.025	0.008	-0.043
C02	0.025	0.005	0.071	0.165	0.002	0.016	0.024	0.056	0.010
C04	0.027	0.007	0.074	0.167	0.003	0.018	0.026	0.057	0.012
C12HE	0.041	0.018	0.094	0.181	0.006	0.019	0.028	0.060	0.015
C13A	0.031	0.009	0.079	0.170	0.005	0.019	0.028	0.059	0.014
C13B	0.033	0.011	0.082	0.172	0.006	0.020	0.029	0.060	0.015
C12EG	-0.872	-0.584	0.115	0.195	0.002	0.017	0.024	0.056	0.010
C42	-0.184	-0.332	0.087	0.175	0.003	0.017	0.025	0.057	0.012
C41	0.121	0.085	-1.424	0.259	0.016	0.026	0.038	0.069	0.026
C50	0.175	0.130	0.285	-0.823	-0.017	0.004	0.005	0.037	-0.011
C14A	0.028	0.007	0.075	0.168	-0.477	0.014	0.021	0.053	0.001
C14B	0.013	-0.005	0.054	0.153	-0.028	-0.326	-0.006	0.027	-0.043
C14C	0.022	0.002	0.066	0.161	-0.030	-0.005	-0.494	0.025	-0.054
C31	0.010	-0.008	0.049	0.150	-0.071	-0.033	-0.051	-0.485	-0.133
C75	0.027	0.006	0.074	0.167	-0.025	-0.002	-0.003	0.029	-0.430
C76	0.027	0.007	0.074	0.167	-0.009	0.009	0.013	0.045	-0.002
C77	0.028	0.007	0.075	0.167	-0.003	0.013	0.019	0.051	0.005
C78	0.030	0.009	0.078	0.170	-0.009	0.010	0.014	0.046	-0.001
C79	0.034	0.012	0.084	0.173	-0.061	-0.026	-0.040	-0.006	-0.060
C21	0.023	0.003	0.068	0.162	-0.001	0.015	0.022	0.054	0.008
C24	-0.010	-0.025	0.021	0.130	-0.029	-0.004	-0.007	0.026	-0.024
C25	0.029	0.008	0.076	0.168	0.005	0.018	0.027	0.059	0.013
C65	-0.082	-0.084	-0.081	0.059	-0.090	-0.045	-0.069	-0.034	-0.091
C66	0.029	0.008	0.076	0.168	0.005	0.018	0.027	0.058	0.013

Table F6 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.007	0.004	0.009	0.038	0.071	0.052	0.059	0.132	0.102
C03D	0.006	0.004	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C03E	0.004	0.002	0.004	0.032	0.067	0.049	0.054	0.130	0.098
C00	-0.040	-0.038	-0.066	-0.046	0.006	0.014	-0.012	0.095	0.030
C02	0.003	0.000	0.002	0.030	0.065	0.048	0.052	0.128	0.095
C04	0.004	0.002	0.004	0.032	0.067	0.049	0.054	0.130	0.098
C12HE	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.131	0.101
C13A	0.006	0.003	0.007	0.035	0.069	0.051	0.057	0.131	0.100
C13B	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.132	0.102
C12EG	0.003	0.001	0.002	0.030	0.065	0.048	0.052	0.129	0.096
C42	0.004	0.002	0.004	0.032	0.067	0.049	0.054	0.129	0.097
C41	0.015	0.012	0.021	0.052	0.082	0.058	0.071	0.138	0.114
C50	-0.014	-0.015	-0.024	0.000	0.042	0.035	0.027	0.116	0.070
C14A	-0.005	-0.006	-0.010	0.016	0.068	0.050	0.055	0.130	0.099
C14B	-0.040	-0.038	-0.065	-0.046	0.052	0.041	0.038	0.121	0.081
C14C	-0.049	-0.046	-0.079	-0.062	0.061	0.046	0.048	0.126	0.091
C31	-0.113	-0.103	-0.180	-0.175	0.049	0.039	0.034	0.119	0.078
C75	-0.021	-0.021	-0.036	-0.012	0.067	0.049	0.054	0.129	0.097
C76	-0.337	-0.008	-0.013	0.013	0.067	0.049	0.054	0.129	0.097
C77	-0.002	-0.301	-0.005	0.022	0.067	0.050	0.055	0.130	0.098
C78	-0.006	-0.008	-0.532	0.014	0.070	0.051	0.058	0.131	0.101
C79	-0.053	-0.050	-0.086	-0.655	0.074	0.053	0.062	0.133	0.105
C21	0.001	-0.001	-0.001	0.026	-0.747	0.038	0.033	0.118	0.076
C24	-0.024	-0.024	-0.041	-0.018	0.017	-0.443	-0.001	0.101	0.042
C25	0.005	0.003	0.006	0.034	0.056	0.043	-0.826	0.123	0.086
C65	-0.079	-0.073	-0.126	-0.115	-0.076	-0.034	-0.102	-0.395	-0.060
C66	0.005	0.003	0.006	0.034	0.046	0.037	0.032	0.118	-0.802

Table F7. Simulated uncompensated price elasticities 2030

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.126	-0.122	-0.085	0.011	0.017	0.019	0.001	0.001	0.002
C03D	-0.135	-0.998	-0.084	0.010	0.016	0.018	0.000	0.000	0.000
C03E	-0.094	-0.083	-0.673	0.005	0.009	0.010	-0.002	-0.002	-0.004
C00	0.081	0.072	0.050	-0.573	0.056	0.064	-0.057	-0.042	-0.092
C02	0.039	0.034	0.024	0.017	-0.949	0.031	-0.005	-0.003	-0.007
C04	0.039	0.035	0.024	0.017	0.027	-1.081	-0.002	-0.001	-0.003
C12HE	0.000	0.000	0.000	0.000	0.000	0.000	-1.176	-0.304	-0.669
C13A	-0.001	0.000	0.000	0.000	0.000	0.000	-0.042	-0.600	-0.068
C13B	0.001	0.001	0.001	0.000	0.001	0.001	-0.067	-0.049	-1.363
C12EG	-0.007	-0.006	-0.004	-0.003	-0.005	-0.005	0.028	0.021	0.045
C42	-0.004	-0.003	-0.002	-0.002	-0.003	-0.003	0.007	0.005	0.011
C41	0.011	0.010	0.007	0.005	0.008	0.009	0.097	0.072	0.158
C50	-0.036	-0.032	-0.022	-0.016	-0.025	-0.028	0.159	0.118	0.259
C14A	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
C14B	-0.022	-0.019	-0.013	-0.009	-0.015	-0.017	-0.019	-0.014	-0.030
C14C	-0.011	-0.010	-0.007	-0.005	-0.008	-0.009	-0.010	-0.007	-0.016
C31	-0.028	-0.025	-0.018	-0.012	-0.020	-0.022	-0.024	-0.018	-0.040
C75	-0.004	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004	-0.003	-0.006
C76	-0.004	-0.003	-0.002	-0.002	-0.003	-0.003	-0.003	-0.002	-0.005
C77	-0.003	-0.003	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.004
C78	-0.001	-0.001	0.000	0.000	0.000	0.000	-0.001	0.000	-0.001
C79	0.003	0.003	0.002	0.001	0.002	0.002	0.003	0.002	0.004
C21	-0.012	-0.011	-0.007	-0.005	-0.008	-0.009	-0.010	-0.008	-0.017
C24	-0.048	-0.042	-0.030	-0.020	-0.033	-0.037	-0.041	-0.030	-0.067
C25	-0.004	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004	-0.003	-0.006
C65	-0.135	-0.120	-0.084	-0.058	-0.093	-0.106	-0.116	-0.086	-0.189
C66	-0.009	-0.008	-0.005	-0.004	-0.006	-0.007	-0.007	-0.006	-0.012

Table F7 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.002	-0.002	-0.003	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002
C00	-0.048	-0.042	-0.066	-0.049	-0.042	-0.029	-0.043	-0.041	-0.046
C02	-0.004	-0.003	-0.005	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004
C04	-0.002	-0.001	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002
C12HE	0.010	0.009	0.014	0.010	0.000	0.000	0.000	0.000	0.000
C13A	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
C13B	0.002	0.002	0.003	0.002	0.001	0.000	0.001	0.001	0.001
C12EG	-0.877	-0.603	0.033	0.024	-0.004	-0.003	-0.004	-0.004	-0.005
C42	-0.208	-0.344	0.008	0.006	-0.002	-0.002	-0.003	-0.002	-0.003
C41	0.083	0.072	-1.405	0.083	0.007	0.005	0.007	0.007	0.008
C50	0.136	0.119	0.185	-0.985	-0.023	-0.016	-0.024	-0.023	-0.025
C14A	-0.002	-0.002	-0.002	-0.002	-0.569	-0.003	-0.005	-0.004	-0.010
C14B	-0.016	-0.014	-0.022	-0.016	-0.024	-0.408	-0.024	-0.023	-0.044
C14C	-0.008	-0.007	-0.011	-0.008	-0.022	-0.015	-0.598	-0.021	-0.051
C31	-0.021	-0.018	-0.028	-0.021	-0.049	-0.034	-0.050	-0.597	-0.111
C75	-0.003	-0.003	-0.004	-0.003	-0.023	-0.016	-0.023	-0.022	-0.534
C76	-0.003	-0.002	-0.004	-0.003	-0.011	-0.008	-0.011	-0.011	-0.012
C77	-0.002	-0.002	-0.003	-0.002	-0.007	-0.005	-0.007	-0.007	-0.007
C78	0.000	0.000	-0.001	0.000	-0.011	-0.007	-0.011	-0.010	-0.012
C79	0.002	0.002	0.003	0.002	-0.049	-0.034	-0.049	-0.047	-0.053
C21	-0.009	-0.008	-0.012	-0.009	-0.008	-0.005	-0.008	-0.007	-0.008
C24	-0.035	-0.031	-0.048	-0.035	-0.030	-0.021	-0.031	-0.030	-0.033
C25	-0.003	-0.003	-0.004	-0.003	-0.003	-0.002	-0.003	-0.003	-0.003
C65	-0.099	-0.087	-0.136	-0.100	-0.086	-0.060	-0.088	-0.084	-0.094
C66	-0.006	-0.006	-0.009	-0.006	-0.006	-0.004	-0.006	-0.005	-0.006

Table F7 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.002	-0.002	-0.002	-0.003	-0.002	-0.001	-0.002	-0.001	-0.002
C00	-0.039	-0.035	-0.054	-0.063	-0.050	-0.032	-0.055	-0.030	-0.054
C02	-0.003	-0.003	-0.004	-0.005	-0.004	-0.003	-0.004	-0.002	-0.004
C04	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.002	-0.001	-0.002
C12HE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C13A	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	0.000	0.000
C13B	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C12EG	-0.004	-0.004	-0.006	-0.006	-0.005	-0.003	-0.006	-0.003	-0.006
C42	-0.002	-0.002	-0.003	-0.004	-0.003	-0.002	-0.003	-0.002	-0.003
C41	0.006	0.006	0.009	0.010	0.008	0.005	0.009	0.005	0.009
C50	-0.021	-0.019	-0.030	-0.034	-0.028	-0.018	-0.030	-0.017	-0.030
C14A	-0.009	-0.008	-0.012	-0.014	-0.002	-0.001	-0.002	-0.001	-0.002
C14B	-0.037	-0.033	-0.052	-0.060	-0.017	-0.010	-0.018	-0.010	-0.018
C14C	-0.043	-0.038	-0.060	-0.069	-0.009	-0.006	-0.009	-0.005	-0.009
C31	-0.094	-0.084	-0.131	-0.152	-0.022	-0.014	-0.024	-0.013	-0.023
C75	-0.021	-0.019	-0.030	-0.034	-0.003	-0.002	-0.004	-0.002	-0.004
C76	-0.441	-0.009	-0.014	-0.017	-0.003	-0.002	-0.003	-0.002	-0.003
C77	-0.006	-0.390	-0.009	-0.010	-0.002	-0.001	-0.002	-0.001	-0.002
C78	-0.010	-0.009	-0.618	-0.016	0.000	0.000	-0.001	0.000	-0.001
C79	-0.045	-0.040	-0.063	-0.768	0.002	0.001	0.003	0.001	0.003
C21	-0.007	-0.006	-0.010	-0.011	-0.839	-0.010	-0.017	-0.009	-0.017
C24	-0.028	-0.025	-0.039	-0.045	-0.041	-0.545	-0.045	-0.025	-0.044
C25	-0.003	-0.002	-0.004	-0.004	-0.009	-0.005	-0.899	-0.005	-0.009
C65	-0.080	-0.071	-0.112	-0.129	-0.116	-0.073	-0.125	-0.565	-0.124
C66	-0.005	-0.005	-0.007	-0.008	-0.016	-0.010	-0.017	-0.010	-0.898

Table F8. Simulated compensated price elasticities 2030

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.117	-0.114	-0.080	0.066	0.034	0.035	0.012	0.002	0.003
C03D	-0.126	-0.989	-0.078	0.065	0.032	0.033	0.011	0.001	0.002
C03E	-0.085	-0.075	-0.667	0.060	0.025	0.025	0.008	-0.001	-0.002
C00	0.090	0.081	0.056	-0.518	0.073	0.079	-0.046	-0.041	-0.090
C02	0.048	0.043	0.030	0.072	-0.933	0.046	0.006	-0.002	-0.006
C04	0.048	0.043	0.030	0.072	0.043	-1.065	0.009	0.000	-0.001
C12HE	0.009	0.008	0.006	0.055	0.016	0.015	-1.166	-0.303	-0.668
C13A	0.008	0.008	0.006	0.055	0.016	0.015	-0.031	-0.599	-0.066
C13B	0.010	0.009	0.006	0.055	0.017	0.016	-0.056	-0.048	-1.361
C12EG	0.002	0.003	0.002	0.052	0.012	0.010	0.039	0.022	0.047
C42	0.005	0.005	0.003	0.053	0.014	0.012	0.017	0.006	0.013
C41	0.020	0.018	0.013	0.060	0.024	0.024	0.107	0.073	0.159
C50	-0.027	-0.024	-0.017	0.040	-0.008	-0.013	0.170	0.119	0.261
C14A	0.006	0.006	0.004	0.054	0.015	0.014	0.009	-0.001	-0.002
C14B	-0.013	-0.011	-0.008	0.046	0.002	-0.002	-0.008	-0.013	-0.028
C14C	-0.003	-0.002	-0.001	0.050	0.009	0.007	0.001	-0.006	-0.014
C31	-0.020	-0.017	-0.012	0.043	-0.003	-0.007	-0.014	-0.017	-0.038
C75	0.004	0.005	0.003	0.053	0.014	0.012	0.007	-0.002	-0.004
C76	0.005	0.005	0.004	0.054	0.014	0.013	0.008	-0.001	-0.003
C77	0.006	0.006	0.004	0.054	0.015	0.013	0.008	-0.001	-0.002
C78	0.008	0.008	0.005	0.055	0.016	0.015	0.010	0.001	0.001
C79	0.012	0.011	0.008	0.056	0.019	0.018	0.013	0.003	0.006
C21	-0.003	-0.002	-0.002	0.050	0.008	0.006	0.001	-0.006	-0.015
C24	-0.039	-0.034	-0.024	0.035	-0.016	-0.022	-0.030	-0.029	-0.065
C25	0.005	0.005	0.003	0.053	0.014	0.012	0.007	-0.002	-0.004
C65	-0.126	-0.111	-0.078	-0.003	-0.077	-0.091	-0.106	-0.085	-0.188
C66	0.000	0.001	0.000	0.051	0.011	0.009	0.003	-0.004	-0.010

Table F8 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.031	0.010	0.079	0.170	0.006	0.020	0.029	0.060	0.015
C03D	0.030	0.009	0.078	0.170	0.006	0.019	0.028	0.060	0.014
C03E	0.028	0.007	0.075	0.168	0.004	0.018	0.026	0.058	0.013
C00	-0.018	-0.033	0.012	0.121	-0.036	-0.010	-0.015	0.019	-0.031
C02	0.026	0.006	0.073	0.166	0.002	0.017	0.025	0.056	0.011
C04	0.029	0.008	0.076	0.168	0.004	0.018	0.027	0.058	0.013
C12HE	0.040	0.018	0.092	0.180	0.005	0.019	0.028	0.059	0.014
C13A	0.031	0.010	0.079	0.170	0.005	0.019	0.028	0.059	0.014
C13B	0.032	0.011	0.081	0.172	0.006	0.019	0.029	0.060	0.015
C12EG	-0.847	-0.595	0.111	0.194	0.001	0.016	0.024	0.055	0.010
C42	-0.178	-0.335	0.086	0.175	0.003	0.017	0.026	0.057	0.012
C41	0.113	0.081	-1.327	0.253	0.013	0.024	0.035	0.066	0.022
C50	0.166	0.128	0.263	-0.815	-0.018	0.003	0.005	0.037	-0.011
C14A	0.028	0.007	0.076	0.168	-0.564	0.016	0.024	0.055	0.004
C14B	0.014	-0.005	0.056	0.154	-0.018	-0.389	0.004	0.037	-0.030
C14C	0.022	0.002	0.067	0.161	-0.016	0.004	-0.570	0.038	-0.036
C31	0.009	-0.009	0.050	0.149	-0.043	-0.015	-0.022	-0.538	-0.096
C75	0.027	0.006	0.074	0.166	-0.017	0.003	0.005	0.037	-0.519
C76	0.027	0.007	0.074	0.167	-0.006	0.011	0.017	0.049	0.002
C77	0.028	0.007	0.075	0.168	-0.001	0.014	0.021	0.053	0.007
C78	0.030	0.009	0.077	0.169	-0.005	0.012	0.017	0.049	0.003
C79	0.032	0.011	0.081	0.172	-0.043	-0.015	-0.021	0.012	-0.039
C21	0.021	0.001	0.066	0.161	-0.002	0.014	0.020	0.052	0.006
C24	-0.005	-0.022	0.030	0.134	-0.025	-0.002	-0.003	0.030	-0.019
C25	0.027	0.006	0.074	0.166	0.003	0.017	0.025	0.057	0.012
C65	-0.069	-0.078	-0.058	0.069	-0.081	-0.041	-0.060	-0.024	-0.080
C66	0.024	0.003	0.069	0.163	0.000	0.015	0.023	0.054	0.008

Table F8 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.007	0.004	0.008	0.037	0.071	0.052	0.058	0.132	0.102
C03D	0.006	0.004	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C03E	0.005	0.002	0.005	0.033	0.068	0.050	0.055	0.130	0.099
C00	-0.033	-0.031	-0.047	-0.027	0.019	0.019	0.003	0.101	0.047
C02	0.003	0.001	0.003	0.031	0.066	0.049	0.053	0.129	0.097
C04	0.005	0.003	0.006	0.034	0.068	0.050	0.056	0.130	0.099
C12HE	0.006	0.003	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C13A	0.006	0.003	0.007	0.036	0.069	0.051	0.057	0.131	0.100
C13B	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.132	0.101
C12EG	0.002	0.000	0.002	0.030	0.065	0.048	0.052	0.128	0.095
C42	0.004	0.002	0.004	0.032	0.067	0.049	0.054	0.129	0.098
C41	0.013	0.009	0.016	0.046	0.078	0.056	0.066	0.136	0.110
C50	-0.015	-0.015	-0.023	0.002	0.042	0.034	0.028	0.114	0.071
C14A	-0.002	-0.004	-0.005	0.022	0.068	0.050	0.055	0.130	0.099
C14B	-0.031	-0.030	-0.045	-0.024	0.053	0.041	0.040	0.121	0.083
C14C	-0.037	-0.035	-0.053	-0.033	0.061	0.046	0.048	0.126	0.092
C31	-0.087	-0.080	-0.124	-0.116	0.048	0.037	0.034	0.118	0.078
C75	-0.015	-0.015	-0.022	0.002	0.066	0.049	0.054	0.129	0.097
C76	-0.435	-0.006	-0.007	0.020	0.067	0.049	0.055	0.130	0.098
C77	0.000	-0.387	-0.002	0.026	0.068	0.050	0.055	0.130	0.099
C78	-0.004	-0.005	-0.610	0.020	0.069	0.051	0.057	0.131	0.100
C79	-0.039	-0.036	-0.055	-0.732	0.072	0.052	0.060	0.133	0.103
C21	-0.001	-0.003	-0.002	0.025	-0.769	0.041	0.041	0.122	0.084
C24	-0.022	-0.021	-0.032	-0.009	0.029	-0.494	0.013	0.106	0.057
C25	0.004	0.001	0.004	0.032	0.061	0.046	-0.841	0.126	0.092
C65	-0.073	-0.068	-0.104	-0.093	-0.046	-0.022	-0.068	-0.434	-0.023
C66	0.001	-0.001	0.000	0.028	0.054	0.041	0.040	0.122	-0.797

Table F9. Simulated uncompensated price elasticities 2040

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.091	-0.106	-0.080	0.012	0.018	0.021	0.000	0.001	0.001
C03D	-0.112	-1.001	-0.078	0.011	0.017	0.020	0.000	0.000	0.000
C03E	-0.078	-0.072	-0.734	0.007	0.010	0.012	-0.002	-0.002	-0.003
C00	0.096	0.088	0.067	-0.627	0.071	0.084	-0.044	-0.044	-0.070
C02	0.039	0.036	0.027	0.020	-0.963	0.034	-0.004	-0.004	-0.007
C04	0.040	0.037	0.028	0.020	0.029	-1.139	-0.001	-0.001	-0.002
C12HE	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-1.113	-0.370	-0.579
C13A	0.000	0.000	0.000	0.000	0.000	0.000	-0.037	-0.805	-0.058
C13B	0.001	0.001	0.000	0.000	0.000	0.001	-0.059	-0.060	-1.295
C12EG	-0.007	-0.007	-0.005	-0.004	-0.006	-0.007	0.026	0.027	0.042
C42	-0.004	-0.003	-0.002	-0.002	-0.003	-0.003	0.007	0.007	0.011
C41	0.005	0.004	0.003	0.002	0.004	0.004	0.089	0.090	0.142
C50	-0.037	-0.034	-0.026	-0.019	-0.028	-0.033	0.152	0.155	0.243
C14A	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
C14B	-0.019	-0.017	-0.013	-0.009	-0.014	-0.016	-0.016	-0.016	-0.026
C14C	-0.011	-0.010	-0.008	-0.006	-0.008	-0.010	-0.009	-0.010	-0.015
C31	-0.028	-0.026	-0.020	-0.014	-0.021	-0.025	-0.024	-0.025	-0.039
C75	-0.004	-0.004	-0.003	-0.002	-0.003	-0.004	-0.004	-0.004	-0.006
C76	-0.003	-0.003	-0.002	-0.002	-0.002	-0.003	-0.003	-0.003	-0.004
C77	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
C78	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C79	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
C21	-0.015	-0.013	-0.010	-0.007	-0.011	-0.013	-0.012	-0.013	-0.020
C24	-0.041	-0.038	-0.029	-0.021	-0.031	-0.036	-0.035	-0.036	-0.056
C25	-0.008	-0.007	-0.005	-0.004	-0.006	-0.007	-0.006	-0.007	-0.010
C65	-0.119	-0.110	-0.083	-0.060	-0.088	-0.105	-0.102	-0.104	-0.163
C66	-0.017	-0.015	-0.012	-0.009	-0.012	-0.015	-0.014	-0.015	-0.023

Table F9 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.002	-0.001	-0.002
C00	-0.039	-0.035	-0.051	-0.040	-0.035	-0.025	-0.035	-0.033	-0.037
C02	-0.004	-0.003	-0.005	-0.004	-0.003	-0.002	-0.003	-0.003	-0.004
C04	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C12HE	0.010	0.009	0.012	0.010	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
C13B	0.002	0.002	0.003	0.002	0.000	0.000	0.000	0.000	0.000
C12EG	-0.862	-0.615	0.031	0.024	-0.005	-0.004	-0.005	-0.005	-0.006
C42	-0.203	-0.346	0.008	0.006	-0.002	-0.002	-0.002	-0.002	-0.003
C41	0.079	0.071	-1.324	0.081	0.003	0.002	0.003	0.003	0.004
C50	0.136	0.123	0.178	-0.977	-0.025	-0.018	-0.026	-0.024	-0.027
C14A	-0.002	-0.002	-0.002	-0.002	-0.639	-0.002	-0.002	-0.002	-0.008
C14B	-0.014	-0.013	-0.019	-0.015	-0.014	-0.471	-0.015	-0.014	-0.033
C14C	-0.008	-0.008	-0.011	-0.009	-0.010	-0.007	-0.661	-0.009	-0.037
C31	-0.022	-0.019	-0.028	-0.022	-0.024	-0.017	-0.025	-0.637	-0.082
C75	-0.003	-0.003	-0.004	-0.003	-0.017	-0.012	-0.017	-0.016	-0.603
C76	-0.002	-0.002	-0.003	-0.002	-0.008	-0.006	-0.008	-0.008	-0.009
C77	-0.002	-0.002	-0.002	-0.002	-0.005	-0.004	-0.005	-0.005	-0.005
C78	-0.001	-0.001	-0.001	-0.001	-0.008	-0.006	-0.008	-0.007	-0.008
C79	0.001	0.001	0.001	0.001	-0.034	-0.024	-0.034	-0.032	-0.036
C21	-0.011	-0.010	-0.015	-0.011	-0.010	-0.007	-0.010	-0.010	-0.011
C24	-0.032	-0.028	-0.041	-0.032	-0.028	-0.020	-0.029	-0.027	-0.030
C25	-0.006	-0.005	-0.008	-0.006	-0.005	-0.004	-0.005	-0.005	-0.006
C65	-0.091	-0.082	-0.119	-0.093	-0.081	-0.059	-0.083	-0.078	-0.088
C66	-0.013	-0.012	-0.017	-0.013	-0.011	-0.008	-0.012	-0.011	-0.012

Table F9 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.002	-0.001	-0.002
C00	-0.033	-0.030	-0.042	-0.049	-0.040	-0.027	-0.043	-0.026	-0.042
C02	-0.003	-0.003	-0.004	-0.005	-0.004	-0.003	-0.004	-0.002	-0.004
C04	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C12HE	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C13B	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001
C12EG	-0.005	-0.004	-0.006	-0.007	-0.006	-0.004	-0.006	-0.004	-0.006
C42	-0.002	-0.002	-0.003	-0.003	-0.003	-0.002	-0.003	-0.002	-0.003
C41	0.003	0.003	0.004	0.005	0.004	0.003	0.004	0.002	0.004
C50	-0.025	-0.022	-0.031	-0.036	-0.030	-0.020	-0.031	-0.019	-0.031
C14A	-0.007	-0.006	-0.009	-0.010	-0.002	-0.001	-0.002	-0.001	-0.002
C14B	-0.030	-0.027	-0.038	-0.044	-0.015	-0.010	-0.016	-0.010	-0.015
C14C	-0.033	-0.029	-0.042	-0.049	-0.009	-0.006	-0.009	-0.006	-0.009
C31	-0.073	-0.065	-0.093	-0.108	-0.022	-0.015	-0.024	-0.014	-0.023
C75	-0.016	-0.014	-0.020	-0.024	-0.004	-0.002	-0.004	-0.002	-0.004
C76	-0.531	-0.007	-0.010	-0.011	-0.002	-0.002	-0.003	-0.002	-0.002
C77	-0.005	-0.470	-0.006	-0.007	-0.002	-0.001	-0.002	-0.001	-0.002
C78	-0.007	-0.007	-0.674	-0.011	-0.001	-0.001	-0.001	-0.001	-0.001
C79	-0.032	-0.029	-0.041	-0.823	0.001	0.001	0.001	0.001	0.001
C21	-0.010	-0.009	-0.012	-0.014	-0.858	-0.005	-0.008	-0.005	-0.008
C24	-0.027	-0.024	-0.034	-0.040	-0.030	-0.598	-0.032	-0.019	-0.031
C25	-0.005	-0.004	-0.006	-0.007	-0.003	-0.002	-0.909	-0.002	-0.003
C65	-0.078	-0.070	-0.099	-0.116	-0.087	-0.059	-0.092	-0.603	-0.090
C66	-0.011	-0.010	-0.014	-0.016	-0.007	-0.005	-0.008	-0.005	-0.887

Table F10. Simulated compensated price elasticities 2040

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.082	-0.097	-0.074	0.067	0.034	0.036	0.011	0.002	0.003
C03D	-0.104	-0.993	-0.073	0.066	0.033	0.035	0.011	0.001	0.001
C03E	-0.069	-0.063	-0.728	0.062	0.026	0.027	0.009	-0.001	-0.001
C00	0.105	0.097	0.073	-0.572	0.088	0.099	-0.033	-0.043	-0.068
C02	0.048	0.045	0.033	0.075	-0.946	0.050	0.007	-0.003	-0.005
C04	0.049	0.045	0.034	0.075	0.046	-1.124	0.010	0.000	0.000
C12HE	0.008	0.008	0.005	0.054	0.016	0.014	-1.102	-0.369	-0.577
C13A	0.009	0.009	0.006	0.055	0.016	0.015	-0.026	-0.804	-0.057
C13B	0.009	0.009	0.006	0.055	0.017	0.016	-0.048	-0.059	-1.293
C12EG	0.001	0.002	0.001	0.051	0.011	0.009	0.037	0.028	0.044
C42	0.005	0.005	0.003	0.053	0.014	0.012	0.017	0.008	0.012
C41	0.014	0.013	0.009	0.057	0.020	0.020	0.099	0.092	0.143
C50	-0.029	-0.026	-0.020	0.036	-0.011	-0.017	0.163	0.156	0.245
C14A	0.006	0.006	0.004	0.054	0.015	0.013	0.009	-0.001	-0.001
C14B	-0.010	-0.009	-0.007	0.046	0.003	-0.001	-0.005	-0.015	-0.024
C14C	-0.002	-0.001	-0.002	0.050	0.009	0.006	0.001	-0.008	-0.013
C31	-0.019	-0.017	-0.014	0.041	-0.004	-0.009	-0.013	-0.024	-0.037
C75	0.004	0.005	0.003	0.053	0.013	0.012	0.007	-0.003	-0.004
C76	0.006	0.006	0.004	0.054	0.014	0.013	0.008	-0.002	-0.002
C77	0.006	0.006	0.004	0.054	0.015	0.013	0.009	-0.001	-0.002
C78	0.008	0.008	0.005	0.055	0.016	0.015	0.010	0.000	0.000
C79	0.010	0.010	0.007	0.056	0.017	0.016	0.012	0.002	0.003
C21	-0.006	-0.005	-0.004	0.048	0.006	0.003	-0.002	-0.012	-0.018
C24	-0.032	-0.029	-0.023	0.034	-0.014	-0.021	-0.025	-0.035	-0.055
C25	0.001	0.002	0.001	0.051	0.011	0.009	0.004	-0.006	-0.009
C65	-0.111	-0.101	-0.077	-0.005	-0.072	-0.089	-0.092	-0.103	-0.161
C66	-0.008	-0.007	-0.006	0.047	0.004	0.001	-0.004	-0.014	-0.021

Table F10 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.031	0.009	0.079	0.170	0.006	0.019	0.028	0.060	0.015
C03D	0.030	0.009	0.078	0.169	0.006	0.019	0.028	0.059	0.014
C03E	0.028	0.007	0.076	0.168	0.004	0.018	0.027	0.058	0.013
C00	-0.009	-0.026	0.027	0.130	-0.029	-0.006	-0.007	0.026	-0.023
C02	0.026	0.006	0.073	0.166	0.002	0.017	0.025	0.056	0.011
C04	0.029	0.008	0.077	0.169	0.005	0.019	0.027	0.059	0.014
C12HE	0.040	0.017	0.090	0.179	0.005	0.019	0.027	0.059	0.014
C13A	0.031	0.010	0.079	0.171	0.006	0.019	0.028	0.060	0.014
C13B	0.032	0.011	0.081	0.172	0.006	0.019	0.029	0.060	0.015
C12EG	-0.832	-0.606	0.109	0.194	0.001	0.016	0.023	0.055	0.009
C42	-0.173	-0.337	0.086	0.176	0.003	0.017	0.026	0.057	0.012
C41	0.109	0.080	-1.246	0.250	0.009	0.021	0.031	0.063	0.018
C50	0.166	0.131	0.256	-0.807	-0.020	0.001	0.002	0.035	-0.013
C14A	0.028	0.007	0.076	0.168	-0.634	0.018	0.026	0.058	0.007
C14B	0.016	-0.004	0.059	0.155	-0.009	-0.452	0.013	0.046	-0.019
C14C	0.022	0.001	0.067	0.161	-0.004	0.012	-0.633	0.050	-0.022
C31	0.009	-0.011	0.050	0.148	-0.019	0.002	0.004	-0.578	-0.067
C75	0.027	0.006	0.074	0.166	-0.011	0.007	0.011	0.044	-0.589
C76	0.028	0.007	0.075	0.167	-0.002	0.013	0.020	0.052	0.006
C77	0.028	0.007	0.076	0.168	0.001	0.016	0.023	0.055	0.009
C78	0.029	0.008	0.077	0.169	-0.002	0.014	0.020	0.052	0.006
C79	0.031	0.010	0.079	0.170	-0.028	-0.005	-0.006	0.027	-0.022
C21	0.019	-0.001	0.064	0.158	-0.004	0.012	0.018	0.050	0.004
C24	-0.001	-0.020	0.037	0.137	-0.022	-0.001	0.000	0.033	-0.016
C25	0.024	0.004	0.071	0.164	0.001	0.015	0.023	0.055	0.009
C65	-0.061	-0.074	-0.041	0.076	-0.075	-0.039	-0.055	-0.018	-0.073
C66	0.017	-0.003	0.061	0.156	-0.006	0.011	0.017	0.049	0.002

Table F10 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.131	0.101
C03D	0.006	0.004	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C03E	0.005	0.002	0.006	0.034	0.068	0.050	0.056	0.130	0.099
C00	-0.027	-0.026	-0.035	-0.013	0.030	0.024	0.015	0.105	0.059
C02	0.003	0.001	0.003	0.031	0.066	0.048	0.053	0.129	0.097
C04	0.006	0.003	0.006	0.035	0.069	0.050	0.056	0.131	0.100
C12HE	0.006	0.003	0.006	0.035	0.069	0.050	0.056	0.131	0.100
C13A	0.006	0.004	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C13B	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.131	0.101
C12EG	0.001	-0.001	0.001	0.029	0.064	0.047	0.051	0.127	0.095
C42	0.004	0.002	0.005	0.033	0.067	0.049	0.055	0.129	0.098
C41	0.009	0.006	0.011	0.041	0.074	0.054	0.061	0.134	0.105
C50	-0.018	-0.018	-0.024	0.000	0.040	0.031	0.026	0.112	0.070
C14A	0.000	-0.002	-0.001	0.026	0.068	0.050	0.055	0.130	0.099
C14B	-0.024	-0.023	-0.031	-0.008	0.055	0.041	0.042	0.122	0.086
C14C	-0.027	-0.026	-0.034	-0.013	0.061	0.045	0.048	0.126	0.092
C31	-0.067	-0.062	-0.086	-0.072	0.048	0.036	0.034	0.117	0.078
C75	-0.010	-0.011	-0.013	0.012	0.066	0.049	0.054	0.129	0.097
C76	-0.525	-0.003	-0.002	0.025	0.067	0.049	0.055	0.130	0.098
C77	0.002	-0.467	0.001	0.029	0.068	0.050	0.055	0.130	0.099
C78	-0.001	-0.003	-0.667	0.025	0.069	0.050	0.057	0.131	0.100
C79	-0.026	-0.025	-0.034	-0.787	0.071	0.052	0.058	0.132	0.102
C21	-0.003	-0.005	-0.005	0.022	-0.789	0.046	0.050	0.126	0.093
C24	-0.021	-0.020	-0.027	-0.004	0.040	-0.547	0.026	0.112	0.070
C25	0.001	-0.001	0.001	0.029	0.067	0.049	-0.852	0.130	0.098
C65	-0.072	-0.066	-0.092	-0.080	-0.017	-0.008	-0.035	-0.472	0.011
C66	-0.005	-0.006	-0.007	0.020	0.062	0.046	0.050	0.126	-0.787

Table F11. Simulated uncompensated price elasticities 2050

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.067	-0.090	-0.072	0.013	0.018	0.021	0.000	0.000	0.000
C03D	-0.093	-1.003	-0.071	0.012	0.017	0.020	0.000	-0.001	-0.001
C03E	-0.065	-0.061	-0.787	0.008	0.010	0.012	-0.002	-0.002	-0.002
C00	0.101	0.095	0.077	-0.679	0.079	0.095	-0.035	-0.045	-0.053
C02	0.038	0.036	0.029	0.022	-0.972	0.036	-0.004	-0.005	-0.006
C04	0.039	0.036	0.029	0.022	0.030	-1.172	-0.001	-0.001	-0.001
C12HE	-0.002	-0.002	-0.001	-0.001	-0.001	-0.002	-1.071	-0.420	-0.492
C13A	0.000	0.000	0.000	0.000	0.000	0.000	-0.032	-1.032	-0.049
C13B	0.001	0.000	0.000	0.000	0.000	0.000	-0.052	-0.068	-1.238
C12EG	-0.007	-0.007	-0.006	-0.004	-0.006	-0.007	0.024	0.032	0.037
C42	-0.003	-0.003	-0.002	-0.002	-0.002	-0.003	0.006	0.008	0.010
C41	0.001	0.001	0.001	0.001	0.001	0.001	0.080	0.106	0.124
C50	-0.036	-0.034	-0.027	-0.021	-0.028	-0.034	0.142	0.186	0.218
C14A	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
C14B	-0.016	-0.015	-0.012	-0.009	-0.013	-0.015	-0.014	-0.018	-0.021
C14C	-0.010	-0.009	-0.008	-0.006	-0.008	-0.009	-0.009	-0.011	-0.013
C31	-0.026	-0.025	-0.020	-0.015	-0.021	-0.025	-0.023	-0.030	-0.035
C75	-0.004	-0.004	-0.003	-0.002	-0.003	-0.004	-0.004	-0.005	-0.006
C76	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.003	-0.003
C77	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
C78	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002
C79	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C21	-0.015	-0.014	-0.012	-0.009	-0.012	-0.015	-0.013	-0.017	-0.020
C24	-0.036	-0.033	-0.027	-0.020	-0.028	-0.034	-0.031	-0.040	-0.047
C25	-0.009	-0.009	-0.007	-0.005	-0.007	-0.009	-0.008	-0.010	-0.012
C65	-0.106	-0.099	-0.080	-0.061	-0.083	-0.100	-0.091	-0.120	-0.140
C66	-0.021	-0.020	-0.016	-0.012	-0.016	-0.020	-0.018	-0.023	-0.027

Table F11 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C00	-0.032	-0.029	-0.040	-0.033	-0.029	-0.022	-0.029	-0.028	-0.031
C02	-0.004	-0.003	-0.004	-0.004	-0.003	-0.002	-0.003	-0.003	-0.003
C04	-0.001	-0.001	-0.001	-0.001	-0.001	0.000	-0.001	-0.001	-0.001
C12HE	0.009	0.008	0.011	0.009	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
C13B	0.002	0.002	0.003	0.002	0.000	0.000	0.000	0.000	0.000
C12EG	-0.851	-0.623	0.028	0.023	-0.005	-0.004	-0.005	-0.005	-0.006
C42	-0.199	-0.348	0.007	0.006	-0.002	-0.002	-0.002	-0.002	-0.002
C41	0.074	0.068	-1.262	0.076	0.001	0.001	0.001	0.001	0.001
C50	0.131	0.121	0.165	-0.972	-0.026	-0.020	-0.026	-0.025	-0.028
C14A	-0.002	-0.002	-0.002	-0.002	-0.696	0.000	-0.001	-0.001	-0.006
C14B	-0.013	-0.012	-0.016	-0.013	-0.008	-0.529	-0.008	-0.008	-0.026
C14C	-0.008	-0.007	-0.010	-0.008	-0.002	-0.002	-0.711	-0.002	-0.027
C31	-0.021	-0.019	-0.026	-0.021	-0.008	-0.006	-0.008	-0.675	-0.061
C75	-0.003	-0.003	-0.004	-0.003	-0.012	-0.009	-0.013	-0.012	-0.660
C76	-0.002	-0.002	-0.002	-0.002	-0.006	-0.004	-0.006	-0.006	-0.006
C77	-0.002	-0.002	-0.002	-0.002	-0.004	-0.003	-0.004	-0.004	-0.004
C78	-0.001	-0.001	-0.001	-0.001	-0.006	-0.004	-0.006	-0.005	-0.006
C79	0.000	0.000	0.000	0.000	-0.023	-0.017	-0.024	-0.022	-0.025
C21	-0.012	-0.011	-0.015	-0.013	-0.011	-0.008	-0.011	-0.011	-0.012
C24	-0.028	-0.026	-0.036	-0.029	-0.026	-0.019	-0.026	-0.024	-0.027
C25	-0.007	-0.007	-0.009	-0.007	-0.007	-0.005	-0.007	-0.006	-0.007
C65	-0.084	-0.078	-0.106	-0.086	-0.076	-0.057	-0.077	-0.073	-0.081
C66	-0.016	-0.015	-0.021	-0.017	-0.015	-0.011	-0.015	-0.014	-0.016

Table F11 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.001	-0.001	-0.002	-0.002	-0.001	-0.001	-0.002	-0.001	-0.002
C00	-0.029	-0.026	-0.034	-0.040	-0.033	-0.023	-0.034	-0.022	-0.033
C02	-0.003	-0.003	-0.004	-0.004	-0.004	-0.003	-0.004	-0.002	-0.004
C04	-0.001	-0.001	-0.001	-0.001	-0.001	0.000	-0.001	0.000	-0.001
C12HE	-0.001	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C13B	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C12EG	-0.005	-0.005	-0.006	-0.007	-0.006	-0.004	-0.006	-0.004	-0.006
C42	-0.002	-0.002	-0.003	-0.003	-0.003	-0.002	-0.003	-0.002	-0.003
C41	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
C50	-0.026	-0.023	-0.031	-0.036	-0.029	-0.021	-0.031	-0.020	-0.030
C14A	-0.005	-0.005	-0.006	-0.007	-0.002	-0.001	-0.002	-0.001	-0.002
C14B	-0.024	-0.021	-0.028	-0.033	-0.013	-0.009	-0.014	-0.009	-0.013
C14C	-0.025	-0.023	-0.030	-0.035	-0.008	-0.006	-0.009	-0.006	-0.008
C31	-0.057	-0.051	-0.068	-0.079	-0.021	-0.015	-0.023	-0.015	-0.022
C75	-0.012	-0.011	-0.015	-0.017	-0.003	-0.002	-0.004	-0.002	-0.003
C76	-0.608	-0.005	-0.007	-0.008	-0.002	-0.001	-0.002	-0.001	-0.002
C77	-0.004	-0.541	-0.004	-0.005	-0.002	-0.001	-0.002	-0.001	-0.002
C78	-0.006	-0.005	-0.720	-0.008	-0.001	-0.001	-0.001	-0.001	-0.001
C79	-0.023	-0.021	-0.027	-0.861	0.000	0.000	0.000	0.000	0.000
C21	-0.011	-0.010	-0.013	-0.015	-0.876	-0.002	-0.002	-0.001	-0.002
C24	-0.025	-0.023	-0.030	-0.035	-0.021	-0.645	-0.022	-0.014	-0.022
C25	-0.007	-0.006	-0.008	-0.009	0.001	0.001	-0.919	0.001	0.001
C65	-0.076	-0.068	-0.090	-0.104	-0.066	-0.048	-0.070	-0.637	-0.067
C66	-0.015	-0.013	-0.018	-0.020	-0.002	-0.001	-0.002	-0.001	-0.886

Table F12. Simulated compensated price elasticities 2050

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.058	-0.081	-0.067	0.068	0.034	0.037	0.011	0.001	0.002
C03D	-0.085	-0.995	-0.065	0.067	0.033	0.036	0.010	0.001	0.001
C03E	-0.056	-0.052	-0.781	0.063	0.027	0.028	0.009	-0.001	-0.001
C00	0.110	0.104	0.083	-0.624	0.096	0.111	-0.024	-0.044	-0.051
C02	0.047	0.044	0.035	0.077	-0.956	0.051	0.007	-0.004	-0.004
C04	0.047	0.045	0.035	0.077	0.047	-1.156	0.010	0.000	0.001
C12HE	0.007	0.007	0.005	0.054	0.015	0.014	-1.061	-0.419	-0.490
C13A	0.009	0.009	0.006	0.055	0.017	0.016	-0.021	-1.031	-0.047
C13B	0.009	0.009	0.006	0.055	0.017	0.016	-0.041	-0.067	-1.237
C12EG	0.001	0.002	0.000	0.051	0.011	0.008	0.035	0.033	0.039
C42	0.006	0.006	0.003	0.053	0.014	0.013	0.017	0.009	0.012
C41	0.010	0.010	0.007	0.056	0.017	0.016	0.091	0.107	0.125
C50	-0.027	-0.026	-0.022	0.034	-0.012	-0.019	0.153	0.187	0.220
C14A	0.007	0.007	0.004	0.054	0.015	0.013	0.009	-0.001	-0.001
C14B	-0.007	-0.007	-0.006	0.046	0.004	0.000	-0.003	-0.017	-0.020
C14C	-0.001	-0.001	-0.002	0.049	0.009	0.006	0.002	-0.010	-0.012
C31	-0.018	-0.016	-0.014	0.040	-0.004	-0.009	-0.012	-0.029	-0.033
C75	0.005	0.005	0.003	0.053	0.013	0.012	0.007	-0.004	-0.004
C76	0.006	0.006	0.004	0.054	0.015	0.013	0.009	-0.002	-0.002
C77	0.007	0.007	0.004	0.054	0.015	0.014	0.009	-0.001	-0.001
C78	0.008	0.007	0.005	0.054	0.016	0.014	0.010	0.000	0.000
C79	0.009	0.008	0.006	0.055	0.016	0.015	0.011	0.001	0.002
C21	-0.007	-0.006	-0.006	0.046	0.005	0.001	-0.003	-0.016	-0.019
C24	-0.027	-0.025	-0.021	0.035	-0.011	-0.018	-0.020	-0.039	-0.045
C25	0.000	0.000	-0.001	0.050	0.009	0.007	0.003	-0.009	-0.010
C65	-0.097	-0.091	-0.074	-0.006	-0.066	-0.084	-0.081	-0.119	-0.138
C66	-0.012	-0.011	-0.010	0.043	0.000	-0.004	-0.007	-0.022	-0.026

Table F12 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.030	0.009	0.078	0.170	0.006	0.019	0.028	0.060	0.015
C03D	0.030	0.009	0.078	0.169	0.005	0.019	0.028	0.059	0.014
C03E	0.029	0.008	0.076	0.168	0.004	0.018	0.027	0.058	0.013
C00	-0.002	-0.021	0.038	0.137	-0.023	-0.003	-0.001	0.032	-0.016
C02	0.027	0.006	0.074	0.166	0.003	0.017	0.025	0.057	0.011
C04	0.030	0.008	0.077	0.169	0.005	0.019	0.028	0.059	0.014
C12HE	0.039	0.017	0.089	0.179	0.005	0.018	0.027	0.059	0.013
C13A	0.031	0.010	0.079	0.171	0.006	0.019	0.028	0.060	0.015
C13B	0.032	0.011	0.081	0.172	0.006	0.019	0.028	0.060	0.015
C12EG	-0.820	-0.614	0.106	0.193	0.000	0.015	0.023	0.054	0.009
C42	-0.169	-0.339	0.085	0.176	0.003	0.017	0.026	0.057	0.012
C41	0.104	0.077	-1.184	0.246	0.006	0.020	0.029	0.060	0.015
C50	0.161	0.129	0.243	-0.802	-0.020	0.000	0.002	0.035	-0.013
C14A	0.029	0.007	0.076	0.168	-0.690	0.019	0.028	0.059	0.009
C14B	0.017	-0.003	0.062	0.156	-0.002	-0.510	0.020	0.052	-0.011
C14C	0.022	0.002	0.068	0.161	0.004	0.018	-0.683	0.058	-0.013
C31	0.009	-0.010	0.052	0.148	-0.002	0.013	0.020	-0.616	-0.047
C75	0.027	0.006	0.074	0.166	-0.007	0.010	0.016	0.048	-0.645
C76	0.028	0.007	0.076	0.168	0.000	0.015	0.022	0.054	0.008
C77	0.029	0.007	0.076	0.168	0.002	0.016	0.024	0.056	0.010
C78	0.029	0.008	0.077	0.169	0.000	0.015	0.022	0.054	0.008
C79	0.030	0.009	0.078	0.169	-0.018	0.002	0.005	0.037	-0.010
C21	0.018	-0.002	0.063	0.157	-0.005	0.011	0.017	0.049	0.003
C24	0.002	-0.017	0.043	0.141	-0.020	0.000	0.002	0.035	-0.013
C25	0.023	0.002	0.069	0.162	-0.001	0.014	0.022	0.053	0.008
C65	-0.054	-0.069	-0.028	0.083	-0.070	-0.038	-0.049	-0.013	-0.067
C66	0.014	-0.006	0.057	0.153	-0.009	0.008	0.013	0.045	-0.002

Table F12 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.006	0.004	0.007	0.036	0.070	0.051	0.058	0.131	0.101
C03D	0.006	0.003	0.007	0.036	0.069	0.051	0.057	0.131	0.100
C03E	0.005	0.003	0.006	0.034	0.068	0.050	0.056	0.130	0.099
C00	-0.022	-0.022	-0.027	-0.004	0.037	0.028	0.023	0.109	0.068
C02	0.003	0.001	0.004	0.032	0.066	0.048	0.054	0.129	0.097
C04	0.006	0.003	0.007	0.035	0.069	0.051	0.057	0.131	0.100
C12HE	0.005	0.003	0.006	0.035	0.068	0.050	0.056	0.130	0.100
C13A	0.006	0.004	0.008	0.036	0.070	0.051	0.058	0.131	0.101
C13B	0.007	0.004	0.008	0.036	0.070	0.051	0.058	0.131	0.101
C12EG	0.001	-0.001	0.001	0.029	0.064	0.047	0.051	0.127	0.095
C42	0.004	0.002	0.005	0.033	0.067	0.049	0.055	0.129	0.098
C41	0.007	0.004	0.008	0.037	0.071	0.052	0.058	0.132	0.102
C50	-0.020	-0.020	-0.023	0.000	0.040	0.030	0.027	0.111	0.071
C14A	0.001	-0.001	0.001	0.029	0.068	0.050	0.056	0.130	0.099
C14B	-0.017	-0.018	-0.021	0.003	0.057	0.042	0.044	0.122	0.088
C14C	-0.019	-0.019	-0.023	0.001	0.062	0.045	0.049	0.126	0.093
C31	-0.051	-0.047	-0.060	-0.043	0.048	0.036	0.035	0.117	0.079
C75	-0.006	-0.007	-0.007	0.019	0.066	0.049	0.054	0.129	0.097
C76	-0.602	-0.002	0.001	0.028	0.068	0.050	0.055	0.130	0.099
C77	0.003	-0.538	0.003	0.031	0.068	0.050	0.056	0.130	0.099
C78	0.001	-0.001	-0.712	0.028	0.069	0.050	0.056	0.131	0.100
C79	-0.017	-0.017	-0.020	-0.825	0.070	0.051	0.057	0.131	0.101
C21	-0.005	-0.006	-0.006	0.021	-0.806	0.050	0.055	0.130	0.099
C24	-0.019	-0.019	-0.023	0.001	0.049	-0.594	0.035	0.117	0.079
C25	0.000	-0.002	0.000	0.027	0.071	0.052	-0.862	0.132	0.102
C65	-0.069	-0.064	-0.082	-0.068	0.004	0.003	-0.012	-0.506	0.034
C66	-0.009	-0.010	-0.010	0.016	0.068	0.050	0.056	0.130	-0.786

Table F13. Simulated uncompensated price elasticities 2060

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.046	-0.072	-0.061	0.011	0.014	0.017	0.000	0.000	0.000
C03D	-0.073	-1.001	-0.059	0.011	0.014	0.016	0.000	0.000	0.000
C03E	-0.050	-0.048	-0.830	0.007	0.008	0.010	-0.001	-0.002	-0.002
C00	0.078	0.075	0.063	-0.732	0.065	0.076	-0.026	-0.034	-0.037
C02	0.029	0.028	0.024	0.019	-0.977	0.028	-0.003	-0.004	-0.004
C04	0.030	0.029	0.024	0.019	0.025	-1.144	0.000	0.000	-0.001
C12HE	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-1.049	-0.337	-0.363
C13A	0.000	0.000	0.000	0.000	0.000	0.000	-0.026	-1.065	-0.036
C13B	0.000	0.000	0.000	0.000	0.000	0.000	-0.042	-0.055	-1.171
C12EG	-0.006	-0.006	-0.005	-0.004	-0.005	-0.006	0.020	0.026	0.028
C42	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	0.005	0.007	0.007
C41	0.001	0.001	0.000	0.000	0.000	0.001	0.065	0.084	0.091
C50	-0.029	-0.028	-0.023	-0.019	-0.024	-0.028	0.114	0.149	0.161
C14A	-0.002	-0.002	-0.001	-0.001	-0.001	-0.002	-0.002	-0.002	-0.002
C14B	-0.013	-0.012	-0.010	-0.008	-0.011	-0.012	-0.011	-0.015	-0.016
C14C	-0.008	-0.008	-0.007	-0.005	-0.007	-0.008	-0.007	-0.010	-0.010
C31	-0.021	-0.021	-0.017	-0.014	-0.018	-0.021	-0.019	-0.025	-0.027
C75	-0.003	-0.003	-0.003	-0.002	-0.003	-0.003	-0.003	-0.004	-0.004
C76	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.002
C77	-0.002	-0.002	-0.001	-0.001	-0.001	-0.002	-0.001	-0.002	-0.002
C78	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C79	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C21	-0.013	-0.012	-0.010	-0.008	-0.010	-0.012	-0.011	-0.014	-0.016
C24	-0.028	-0.026	-0.022	-0.018	-0.023	-0.027	-0.024	-0.032	-0.034
C25	-0.008	-0.007	-0.006	-0.005	-0.006	-0.007	-0.007	-0.009	-0.009
C65	-0.085	-0.081	-0.069	-0.055	-0.070	-0.082	-0.075	-0.097	-0.105
C66	-0.018	-0.017	-0.014	-0.011	-0.015	-0.017	-0.016	-0.020	-0.022

Table F13 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C00	-0.025	-0.023	-0.030	-0.025	-0.023	-0.018	-0.023	-0.022	-0.024
C02	-0.003	-0.003	-0.003	-0.003	-0.003	-0.002	-0.003	-0.002	-0.003
C04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C12HE	0.007	0.007	0.009	0.007	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
C13B	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000
C12EG	-0.841	-0.629	0.022	0.019	-0.005	-0.004	-0.005	-0.004	-0.005
C42	-0.195	-0.348	0.006	0.005	-0.002	-0.001	-0.002	-0.002	-0.002
C41	0.061	0.057	-1.200	0.062	0.000	0.000	0.000	0.000	0.000
C50	0.107	0.101	0.129	-0.974	-0.022	-0.017	-0.022	-0.021	-0.023
C14A	-0.001	-0.001	-0.002	-0.002	-0.753	0.000	0.000	0.000	-0.004
C14B	-0.011	-0.010	-0.013	-0.011	-0.005	-0.594	-0.005	-0.005	-0.020
C14C	-0.007	-0.006	-0.008	-0.007	0.000	0.000	-0.761	0.000	-0.021
C31	-0.018	-0.017	-0.021	-0.018	-0.003	-0.002	-0.003	-0.727	-0.047
C75	-0.003	-0.003	-0.003	-0.003	-0.009	-0.007	-0.009	-0.009	-0.727
C76	-0.002	-0.001	-0.002	-0.002	-0.004	-0.003	-0.004	-0.004	-0.005
C77	-0.001	-0.001	-0.002	-0.001	-0.003	-0.002	-0.003	-0.003	-0.003
C78	-0.001	-0.001	-0.001	-0.001	-0.004	-0.003	-0.004	-0.004	-0.005
C79	0.000	0.000	0.000	0.000	-0.017	-0.013	-0.017	-0.016	-0.018
C21	-0.010	-0.010	-0.013	-0.011	-0.010	-0.008	-0.010	-0.009	-0.010
C24	-0.023	-0.022	-0.028	-0.023	-0.021	-0.016	-0.021	-0.020	-0.022
C25	-0.006	-0.006	-0.008	-0.006	-0.006	-0.005	-0.006	-0.006	-0.006
C65	-0.070	-0.066	-0.084	-0.072	-0.064	-0.050	-0.065	-0.062	-0.068
C66	-0.015	-0.014	-0.018	-0.015	-0.013	-0.011	-0.014	-0.013	-0.014

Table F13 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C03E	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C00	-0.023	-0.021	-0.026	-0.029	-0.025	-0.019	-0.026	-0.018	-0.025
C02	-0.003	-0.002	-0.003	-0.003	-0.003	-0.002	-0.003	-0.002	-0.003
C04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C12HE	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
C13A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C13B	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C12EG	-0.005	-0.004	-0.005	-0.006	-0.005	-0.004	-0.005	-0.004	-0.005
C42	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
C41	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
C50	-0.022	-0.020	-0.025	-0.028	-0.024	-0.019	-0.025	-0.018	-0.024
C14A	-0.004	-0.004	-0.005	-0.005	-0.002	-0.001	-0.002	-0.001	-0.002
C14B	-0.019	-0.017	-0.021	-0.024	-0.011	-0.008	-0.011	-0.008	-0.011
C14C	-0.020	-0.018	-0.022	-0.025	-0.007	-0.005	-0.007	-0.005	-0.007
C31	-0.045	-0.040	-0.050	-0.057	-0.018	-0.014	-0.019	-0.013	-0.018
C75	-0.009	-0.008	-0.011	-0.012	-0.003	-0.002	-0.003	-0.002	-0.003
C76	-0.690	-0.004	-0.005	-0.006	-0.002	-0.001	-0.002	-0.001	-0.002
C77	-0.003	-0.620	-0.003	-0.004	-0.001	-0.001	-0.001	-0.001	-0.001
C78	-0.004	-0.004	-0.774	-0.006	-0.001	-0.001	-0.001	-0.001	-0.001
C79	-0.017	-0.016	-0.019	-0.896	0.000	0.000	0.000	0.000	0.000
C21	-0.010	-0.009	-0.011	-0.012	-0.898	-0.001	-0.001	-0.001	-0.001
C24	-0.021	-0.019	-0.024	-0.027	-0.016	-0.700	-0.017	-0.012	-0.016
C25	-0.006	-0.005	-0.007	-0.007	0.002	0.001	-0.933	0.001	0.002
C65	-0.065	-0.059	-0.073	-0.083	-0.053	-0.041	-0.055	-0.682	-0.053
C66	-0.014	-0.012	-0.015	-0.017	-0.001	-0.001	-0.001	-0.001	-0.901

Table F14. Simulated compensated price elasticities 2060

Comm.	PC03C	PC03D	PC03E	PC00	PC02	PC04	PC12HE	PC13A	PC13B
C03C	-1.037	-0.063	-0.055	0.066	0.031	0.032	0.011	0.001	0.002
C03D	-0.064	-0.992	-0.054	0.066	0.030	0.031	0.010	0.001	0.001
C03E	-0.042	-0.040	-0.824	0.062	0.025	0.025	0.010	0.000	0.000
C00	0.087	0.083	0.069	-0.677	0.081	0.091	-0.016	-0.033	-0.035
C02	0.038	0.036	0.029	0.074	-0.961	0.043	0.008	-0.003	-0.002
C04	0.039	0.037	0.030	0.074	0.041	-1.129	0.010	0.001	0.001
C12HE	0.008	0.007	0.005	0.054	0.015	0.014	-1.038	-0.336	-0.362
C13A	0.009	0.009	0.006	0.055	0.017	0.016	-0.015	-1.064	-0.035
C13B	0.009	0.009	0.006	0.055	0.017	0.016	-0.031	-0.054	-1.169
C12EG	0.003	0.003	0.001	0.051	0.012	0.010	0.030	0.027	0.029
C42	0.006	0.006	0.004	0.053	0.015	0.013	0.016	0.008	0.009
C41	0.009	0.009	0.006	0.055	0.017	0.016	0.075	0.085	0.093
C50	-0.020	-0.019	-0.018	0.036	-0.007	-0.013	0.125	0.150	0.162
C14A	0.007	0.007	0.004	0.054	0.015	0.014	0.009	-0.001	0.000
C14B	-0.004	-0.004	-0.005	0.047	0.006	0.003	-0.001	-0.014	-0.014
C14C	0.001	0.001	-0.001	0.050	0.010	0.007	0.003	-0.008	-0.009
C31	-0.013	-0.012	-0.012	0.041	-0.001	-0.005	-0.008	-0.024	-0.025
C75	0.005	0.005	0.003	0.053	0.014	0.012	0.008	-0.003	-0.002
C76	0.007	0.007	0.004	0.054	0.015	0.014	0.009	-0.001	-0.001
C77	0.007	0.007	0.005	0.054	0.015	0.014	0.009	-0.001	0.000
C78	0.008	0.008	0.005	0.054	0.016	0.014	0.010	0.000	0.000
C79	0.009	0.008	0.006	0.055	0.016	0.015	0.010	0.001	0.001
C21	-0.004	-0.004	-0.004	0.047	0.006	0.003	0.000	-0.013	-0.014
C24	-0.019	-0.018	-0.017	0.037	-0.006	-0.011	-0.014	-0.031	-0.032
C25	0.001	0.001	0.000	0.050	0.010	0.008	0.004	-0.008	-0.008
C65	-0.076	-0.072	-0.063	0.001	-0.053	-0.066	-0.064	-0.096	-0.103
C66	-0.009	-0.008	-0.009	0.044	0.002	-0.002	-0.005	-0.019	-0.020

Table F14 (Cont.)

Comm.	PC12EG	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75
C03C	0.030	0.009	0.078	0.170	0.006	0.019	0.028	0.060	0.015
C03D	0.030	0.009	0.078	0.169	0.005	0.019	0.028	0.059	0.014
C03E	0.029	0.008	0.077	0.168	0.005	0.018	0.027	0.059	0.013
C00	0.006	-0.014	0.048	0.144	-0.017	0.001	0.005	0.038	-0.010
C02	0.028	0.006	0.075	0.167	0.003	0.017	0.026	0.057	0.012
C04	0.030	0.009	0.078	0.169	0.005	0.019	0.028	0.059	0.014
C12HE	0.037	0.016	0.087	0.177	0.005	0.018	0.027	0.059	0.013
C13A	0.031	0.010	0.079	0.171	0.006	0.019	0.028	0.060	0.015
C13B	0.032	0.010	0.080	0.171	0.006	0.019	0.028	0.060	0.015
C12EG	-0.811	-0.620	0.100	0.188	0.001	0.016	0.024	0.055	0.010
C42	-0.165	-0.339	0.084	0.174	0.004	0.018	0.026	0.058	0.013
C41	0.091	0.066	-1.122	0.232	0.006	0.019	0.029	0.060	0.015
C50	0.137	0.110	0.207	-0.804	-0.016	0.002	0.006	0.038	-0.009
C14A	0.029	0.007	0.076	0.168	-0.748	0.019	0.028	0.060	0.010
C14B	0.020	-0.001	0.065	0.159	0.000	-0.575	0.023	0.054	-0.005
C14C	0.023	0.002	0.070	0.163	0.006	0.019	-0.733	0.060	-0.006
C31	0.013	-0.008	0.057	0.151	0.003	0.017	0.026	-0.668	-0.032
C75	0.028	0.006	0.075	0.167	-0.004	0.012	0.019	0.051	-0.712
C76	0.029	0.007	0.076	0.168	0.001	0.016	0.024	0.055	0.010
C77	0.029	0.008	0.076	0.168	0.003	0.017	0.025	0.057	0.011
C78	0.029	0.008	0.077	0.169	0.001	0.016	0.024	0.056	0.010
C79	0.030	0.009	0.078	0.169	-0.011	0.006	0.011	0.043	-0.004
C21	0.020	-0.001	0.066	0.159	-0.004	0.012	0.018	0.050	0.004
C24	0.007	-0.013	0.051	0.146	-0.015	0.003	0.007	0.039	-0.008
C25	0.024	0.003	0.071	0.163	0.001	0.015	0.022	0.054	0.008
C65	-0.040	-0.057	-0.006	0.098	-0.059	-0.031	-0.037	-0.002	-0.054
C66	0.016	-0.005	0.060	0.155	-0.008	0.009	0.015	0.047	0.000

Table F14 (Cont.)

Comm.	PC76	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66
C03C	0.006	0.004	0.007	0.036	0.070	0.051	0.058	0.131	0.101
C03D	0.006	0.003	0.007	0.036	0.070	0.051	0.057	0.131	0.101
C03E	0.005	0.003	0.006	0.035	0.069	0.050	0.056	0.130	0.100
C00	-0.017	-0.017	-0.018	0.007	0.045	0.032	0.031	0.113	0.076
C02	0.004	0.001	0.005	0.033	0.067	0.049	0.055	0.129	0.098
C04	0.006	0.003	0.007	0.036	0.069	0.051	0.057	0.131	0.101
C12HE	0.005	0.003	0.006	0.035	0.069	0.050	0.056	0.130	0.100
C13A	0.006	0.004	0.008	0.036	0.070	0.051	0.058	0.131	0.101
C13B	0.007	0.004	0.008	0.036	0.070	0.051	0.058	0.131	0.101
C12EG	0.002	-0.001	0.002	0.030	0.065	0.047	0.052	0.128	0.096
C42	0.004	0.002	0.005	0.034	0.068	0.049	0.055	0.130	0.099
C41	0.007	0.004	0.008	0.037	0.070	0.051	0.058	0.131	0.101
C50	-0.016	-0.016	-0.018	0.008	0.045	0.032	0.032	0.114	0.076
C14A	0.002	0.000	0.003	0.031	0.068	0.050	0.056	0.130	0.099
C14B	-0.013	-0.014	-0.014	0.012	0.059	0.043	0.046	0.123	0.090
C14C	-0.013	-0.014	-0.015	0.011	0.063	0.046	0.050	0.126	0.094
C31	-0.038	-0.037	-0.043	-0.021	0.052	0.037	0.039	0.118	0.083
C75	-0.003	-0.005	-0.003	0.024	0.067	0.049	0.055	0.129	0.098
C76	-0.683	0.000	0.002	0.030	0.068	0.050	0.056	0.130	0.099
C77	0.003	-0.616	0.004	0.032	0.068	0.050	0.056	0.130	0.100
C78	0.002	0.000	-0.766	0.031	0.069	0.050	0.056	0.131	0.100
C79	-0.011	-0.012	-0.012	-0.860	0.070	0.051	0.057	0.131	0.101
C21	-0.003	-0.005	-0.004	0.024	-0.828	0.050	0.057	0.131	0.100
C24	-0.015	-0.016	-0.017	0.009	0.054	-0.649	0.041	0.120	0.085
C25	0.001	-0.002	0.001	0.029	0.071	0.052	-0.876	0.132	0.102
C65	-0.059	-0.055	-0.066	-0.047	0.017	0.011	0.002	-0.551	0.048
C66	-0.007	-0.009	-0.008	0.019	0.069	0.050	0.057	0.131	-0.800

Appendix G: The path of exogenous variables in the reference simulation

Table G1. Growth rates of exogenous variables in the reference path. 2008–2060. Percent

Year	Variable								
	PC03C	PC03D	PC03E	PC00	PC02	PC12HE	PC13A	PC13B	PC12EG
2008	2.68	2.58	2.77	2.50	2.57	11.51	16.44	16.44	11.51
2009	1.61	1.69	1.65	2.02	2.03	7.49	-4.32	-4.32	7.49
2010	1.79	1.85	1.77	1.91	1.95	2.35	-1.06	-1.06	2.35
2011	1.47	1.56	1.32	1.47	1.49	1.98	0.52	0.52	1.98
2012	2.09	2.12	2.09	2.17	2.23	2.45	0.96	0.96	2.45
2013	2.56	2.49	2.87	2.95	3.00	5.31	1.23	1.23	5.31
2014	1.90	1.88	1.98	2.04	2.05	4.92	0.71	0.71	4.92
2015	1.41	1.44	1.37	1.48	1.46	4.65	0.46	0.46	4.65
2016	1.47	1.49	1.41	1.41	1.41	4.79	1.64	1.64	4.79
2017	1.87	1.85	1.89	1.80	1.83	5.17	1.83	1.83	5.17
2018	1.72	1.72	1.72	1.70	1.72	5.14	1.76	1.76	5.14
2019	1.75	1.74	1.76	1.75	1.77	5.23	1.91	1.91	5.23
2020	1.58	1.60	1.57	1.63	1.63	5.21	1.68	1.68	5.21
2021	1.97	1.96	2.05	2.09	2.12	1.92	2.51	2.51	1.92
2022	1.14	1.21	1.02	1.18	1.16	1.42	1.45	1.45	1.42
2023	1.70	1.72	1.70	1.72	1.75	1.78	1.95	1.95	1.78
2024	1.96	1.95	2.01	1.99	2.04	1.93	2.31	2.31	1.93
2025	1.71	1.73	1.72	1.75	1.78	1.78	2.12	2.12	1.78
2026	1.78	1.79	1.80	1.82	1.85	1.83	1.81	1.81	1.83
2027	1.97	1.97	2.04	2.04	2.08	1.94	2.27	2.27	1.94
2028	1.82	1.83	1.86	1.91	1.94	1.84	2.09	2.09	1.84
2029	1.34	1.39	1.27	1.37	1.36	1.55	1.73	1.73	1.55
2030	1.60	1.63	1.57	1.59	1.61	1.72	2.48	2.48	1.72
2031	1.23	1.28	1.09	1.10	1.11	1.49	1.51	1.51	1.49
2032	1.69	1.70	1.64	1.56	1.61	1.78	1.82	1.82	1.78
2033	1.60	1.62	1.54	1.49	1.53	1.73	1.77	1.77	1.73
2034	1.60	1.62	1.54	1.49	1.53	1.73	1.77	1.77	1.73
2035	1.61	1.63	1.56	1.51	1.55	1.73	1.78	1.78	1.73
2036	1.62	1.64	1.57	1.52	1.56	1.74	1.78	1.78	1.74
2037	1.63	1.65	1.58	1.53	1.57	1.75	1.79	1.79	1.75
2038	1.64	1.65	1.59	1.54	1.58	1.75	1.79	1.79	1.75
2039	1.65	1.66	1.60	1.55	1.59	1.76	1.80	1.80	1.76
2040	1.65	1.67	1.61	1.56	1.60	1.76	1.80	1.80	1.76
2041	1.70	1.70	1.65	1.56	1.60	1.79	1.83	1.83	1.79
2042	1.67	1.68	1.62	1.55	1.59	1.77	1.81	1.81	1.77
2043	1.66	1.68	1.62	1.55	1.59	1.76	1.81	1.81	1.76
2044	1.67	1.68	1.62	1.56	1.60	1.77	1.81	1.81	1.77
2045	1.68	1.69	1.63	1.57	1.61	1.77	1.82	1.82	1.77
2046	1.69	1.70	1.64	1.58	1.62	1.78	1.83	1.83	1.78
2047	1.69	1.70	1.66	1.59	1.63	1.78	1.83	1.83	1.78
2048	1.70	1.71	1.66	1.60	1.64	1.79	1.84	1.84	1.79
2049	1.71	1.72	1.67	1.61	1.65	1.79	1.84	1.84	1.79
2050	1.72	1.72	1.68	1.62	1.66	1.80	1.85	1.85	1.80
2051	1.73	1.73	1.67	1.57	1.61	1.80	1.82	1.82	1.80
2052	1.71	1.72	1.65	1.56	1.59	1.79	1.81	1.81	1.79
2053	1.71	1.72	1.66	1.57	1.60	1.80	1.81	1.81	1.80
2054	1.71	1.72	1.66	1.57	1.60	1.80	1.81	1.81	1.80
2055	1.72	1.72	1.66	1.57	1.60	1.80	1.81	1.81	1.80
2056	1.72	1.72	1.67	1.58	1.61	1.80	1.82	1.82	1.80
2057	1.72	1.73	1.67	1.58	1.61	1.81	1.82	1.82	1.81
2058	1.72	1.73	1.67	1.58	1.61	1.81	1.82	1.82	1.81
2059	1.72	1.73	1.67	1.58	1.61	1.81	1.82	1.82	1.81
2060	1.72	1.73	1.67	1.59	1.61	1.81	1.82	1.82	1.81

Table G1. (Continued)

Year	Variable								
	PC42	PC41	PC50	PC14A	PC14B	PC14C	PC31	PC75	PC76
2008	1.61	2.05	1.53	1.72	20.29	2.19	2.34	3.91	3.79
2009	1.22	1.46	0.54	1.31	-5.23	1.91	1.61	0.37	0.81
2010	1.28	1.57	1.37	1.39	-0.33	2.02	1.75	0.93	0.59
2011	1.03	1.18	0.83	1.11	-0.44	1.47	1.54	0.64	0.58
2012	1.51	1.88	2.09	1.62	0.04	2.53	1.96	1.68	1.44
2013	2.46	2.85	2.49	2.47	0.42	3.47	2.29	2.84	2.88
2014	1.88	2.02	1.70	1.88	-0.05	2.24	1.84	1.63	1.70
2015	1.49	1.46	0.73	1.48	-0.39	1.33	1.51	0.84	1.08
2016	1.48	1.46	0.83	1.47	1.65	1.39	1.55	0.96	1.04
2017	1.78	1.90	1.56	1.79	1.87	2.14	1.83	1.53	1.44
2018	1.70	1.77	1.21	1.70	1.78	1.82	1.73	1.38	1.37
2019	1.73	1.81	1.08	1.73	1.96	1.90	1.74	1.48	1.56
2020	1.63	1.66	0.73	1.63	1.67	1.57	1.63	1.28	1.47
2021	1.99	2.14	1.57	1.98	2.65	2.40	1.90	1.94	1.98
2022	1.33	1.19	-0.17	1.30	1.38	0.91	1.33	0.53	0.97
2023	1.72	1.78	1.24	1.70	1.98	1.92	1.72	1.39	1.42
2024	1.96	2.11	1.71	1.96	2.41	2.39	1.90	1.83	1.78
2025	1.75	1.81	1.18	1.72	2.20	1.91	1.72	1.46	1.49
2026	1.82	1.90	1.33	1.80	1.79	2.04	1.77	1.53	1.56
2027	1.98	2.14	1.74	1.98	2.35	2.36	1.91	1.91	1.83
2028	1.87	1.97	1.34	1.86	2.14	2.07	1.80	1.70	1.71
2029	1.46	1.39	0.31	1.43	1.74	1.19	1.47	0.90	1.12
2030	1.64	1.66	1.01	1.62	2.68	1.65	1.65	1.34	1.35
2031	1.33	1.22	0.32	1.32	1.49	1.07	1.40	0.52	0.60
2032	1.68	1.73	1.49	1.68	1.84	1.91	1.71	1.24	1.02
2033	1.63	1.65	1.20	1.63	1.78	1.75	1.66	1.13	0.98
2034	1.63	1.65	1.18	1.63	1.78	1.74	1.66	1.15	1.01
2035	1.64	1.66	1.19	1.64	1.79	1.76	1.66	1.18	1.04
2036	1.65	1.67	1.20	1.65	1.79	1.77	1.67	1.21	1.07
2037	1.66	1.69	1.23	1.66	1.80	1.79	1.68	1.23	1.09
2038	1.66	1.69	1.24	1.66	1.80	1.80	1.68	1.25	1.10
2039	1.67	1.70	1.26	1.67	1.81	1.82	1.69	1.28	1.12
2040	1.68	1.71	1.27	1.68	1.82	1.83	1.69	1.30	1.14
2041	1.69	1.74	1.50	1.69	1.84	1.95	1.72	1.30	1.09
2042	1.67	1.71	1.39	1.67	1.83	1.90	1.70	1.29	1.10
2043	1.67	1.71	1.34	1.67	1.82	1.88	1.70	1.30	1.13
2044	1.68	1.72	1.33	1.68	1.83	1.88	1.70	1.32	1.15
2045	1.69	1.73	1.35	1.68	1.83	1.90	1.71	1.35	1.17
2046	1.69	1.74	1.36	1.69	1.84	1.91	1.71	1.38	1.19
2047	1.70	1.75	1.39	1.70	1.85	1.93	1.72	1.40	1.20
2048	1.71	1.76	1.40	1.70	1.85	1.94	1.72	1.42	1.21
2049	1.71	1.77	1.41	1.71	1.86	1.95	1.73	1.45	1.22
2050	1.72	1.78	1.44	1.72	1.86	1.96	1.73	1.47	1.23
2051	1.70	1.75	1.49	1.70	1.85	2.02	1.74	1.44	1.22
2052	1.69	1.73	1.45	1.69	1.84	1.97	1.73	1.42	1.21
2053	1.69	1.74	1.46	1.69	1.84	1.98	1.73	1.44	1.23
2054	1.70	1.74	1.45	1.69	1.84	1.97	1.73	1.45	1.23
2055	1.70	1.75	1.48	1.70	1.84	1.98	1.74	1.47	1.24
2056	1.70	1.75	1.49	1.70	1.84	1.98	1.74	1.48	1.24
2057	1.70	1.75	1.50	1.70	1.84	1.99	1.74	1.49	1.24
2058	1.70	1.75	1.50	1.70	1.84	1.98	1.74	1.50	1.25
2059	1.70	1.75	1.50	1.70	1.84	1.98	1.74	1.51	1.25
2060	1.71	1.76	1.52	1.70	1.85	1.99	1.74	1.52	1.25

Table G1. (Continued)

Year	Variable										
	PC77	PC78	PC79	PC21	PC24	PC25	PC65	PC66	VCC	NB	NB0019
2008 ...	9.06	3.91	1.62	1.65	2.03	1.75	2.25	1.18	4.50	1.18	0.74
2009 ...	8.08	1.53	0.84	1.18	1.49	1.33	1.85	1.18	4.50	1.20	0.59
2010 ...	7.15	1.79	0.82	1.24	1.53	1.40	1.96	1.18	4.50	1.18	0.42
2011 ...	6.45	1.62	0.62	0.94	1.08	1.12	1.43	1.18	4.50	1.15	0.39
2012 ...	7.27	2.34	1.56	1.53	1.87	1.65	2.49	1.18	4.50	1.11	0.42
2013 ...	3.94	2.50	2.43	2.88	2.95	2.52	3.40	1.75	4.50	1.07	0.48
2014 ...	2.57	1.68	1.48	1.92	1.98	1.89	2.18	1.75	4.50	1.04	0.46
2015 ...	1.72	1.16	0.75	1.43	1.35	1.47	1.27	1.75	4.50	1.02	0.44
2016 ...	1.60	1.25	0.76	1.42	1.33	1.46	1.32	1.75	4.50	0.99	0.40
2017 ...	2.15	1.62	1.35	1.81	1.82	1.79	2.08	1.75	4.50	0.97	0.52
2018 ...	2.01	1.53	1.14	1.71	1.68	1.69	1.77	1.75	4.50	0.96	0.65
2019 ...	2.09	1.63	1.22	1.75	1.74	1.73	1.85	1.75	4.50	0.94	0.61
2020 ...	1.91	1.48	1.01	1.60	1.57	1.62	1.53	1.75	4.50	0.92	0.63
2021 ...	2.48	1.94	1.46	2.07	2.13	2.00	2.39	1.75	4.50	0.91	0.80
2022 ...	1.10	1.10	0.21	1.28	1.07	1.29	0.85	1.75	4.50	0.89	0.88
2023 ...	1.92	1.61	1.03	1.78	1.73	1.72	1.87	1.75	4.50	0.87	0.77
2024 ...	2.30	1.88	1.45	2.04	2.07	1.98	2.36	1.75	4.50	0.85	0.73
2025 ...	1.94	1.66	1.06	1.80	1.77	1.74	1.87	1.75	4.50	0.83	0.71
2026 ...	2.03	1.69	1.20	1.88	1.86	1.82	2.01	1.75	4.50	0.81	0.58
2027 ...	2.36	1.89	1.50	2.07	2.12	2.00	2.35	1.75	4.50	0.78	0.56
2028 ...	2.15	1.78	1.29	1.94	1.94	1.87	2.06	1.75	4.50	0.76	0.55
2029 ...	1.34	1.29	0.54	1.45	1.30	1.43	1.14	1.75	4.50	0.73	0.55
2030 ...	1.68	1.55	0.92	1.67	1.60	1.63	1.61	1.75	4.50	0.71	0.53
2031 ...	0.97	1.10	0.27	1.25	1.05	1.30	0.99	1.75	4.50	0.69	0.51
2032 ...	1.67	1.53	0.98	1.68	1.62	1.68	1.86	1.75	4.50	0.66	0.48
2033 ...	1.54	1.47	0.86	1.62	1.53	1.62	1.69	1.75	4.50	0.64	0.43
2034 ...	1.55	1.47	0.88	1.62	1.54	1.62	1.69	1.75	4.50	0.62	0.38
2035 ...	1.57	1.49	0.91	1.64	1.56	1.63	1.71	1.75	4.50	0.60	0.33
2036 ...	1.58	1.50	0.93	1.65	1.57	1.64	1.72	1.75	4.50	0.59	0.29
2037 ...	1.60	1.52	0.96	1.66	1.59	1.65	1.74	1.75	4.50	0.57	0.25
2038 ...	1.60	1.53	0.98	1.66	1.59	1.65	1.75	1.75	4.50	0.56	0.21
2039 ...	1.62	1.54	1.01	1.67	1.61	1.66	1.77	1.75	4.50	0.55	0.19
2040 ...	1.63	1.55	1.03	1.68	1.62	1.67	1.78	1.75	4.50	0.54	0.17
2041 ...	1.64	1.58	1.06	1.69	1.64	1.68	1.91	1.75	4.50	0.53	0.16
2042 ...	1.61	1.57	1.04	1.67	1.61	1.66	1.86	1.75	4.50	0.53	0.16
2043 ...	1.61	1.58	1.04	1.67	1.62	1.66	1.85	1.75	4.50	0.52	0.17
2044 ...	1.62	1.59	1.06	1.68	1.63	1.67	1.85	1.75	4.50	0.52	0.18
2045 ...	1.64	1.60	1.09	1.69	1.64	1.68	1.87	1.75	4.50	0.52	0.20
2046 ...	1.65	1.62	1.12	1.70	1.66	1.69	1.88	1.75	4.50	0.52	0.23
2047 ...	1.66	1.63	1.14	1.71	1.67	1.70	1.90	1.75	4.50	0.51	0.26
2048 ...	1.67	1.64	1.16	1.71	1.68	1.70	1.91	1.75	4.50	0.51	0.29
2049 ...	1.68	1.66	1.18	1.72	1.69	1.71	1.92	1.75	4.50	0.51	0.32
2050 ...	1.70	1.67	1.21	1.73	1.70	1.72	1.94	1.75	4.50	0.50	0.34
2051 ...	1.66	1.66	1.17	1.70	1.66	1.71	1.99	2.00	4.50	0.50	0.37
2052 ...	1.63	1.66	1.15	1.69	1.64	1.69	1.95	2.00	4.50	0.49	0.38
2053 ...	1.64	1.67	1.16	1.69	1.64	1.70	1.95	2.00	4.50	0.49	0.40
2054 ...	1.65	1.68	1.17	1.69	1.65	1.70	1.95	2.00	4.50	0.48	0.41
2055 ...	1.65	1.69	1.19	1.70	1.65	1.70	1.96	2.00	4.50	0.48	0.41
2056 ...	1.65	1.69	1.20	1.70	1.65	1.70	1.96	2.00	4.50	0.47	0.41
2057 ...	1.65	1.70	1.21	1.70	1.66	1.71	1.97	2.00	4.50	0.47	0.41
2058 ...	1.66	1.71	1.22	1.70	1.66	1.71	1.96	2.00	4.50	0.46	0.40
2059 ...	1.66	1.72	1.23	1.70	1.66	1.71	1.96	2.00	4.50	0.46	0.39
2060 ...	1.66	1.72	1.24	1.71	1.67	1.71	1.97	2.00	4.50	0.45	0.37

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