



**System for Environmental and Agricultural Modelling;  
Linking European Science and Society**

**Methodology and Code to Simulate Structural Change  
in SEAMLESS-IF: results for SEAMLESS test regions  
and integration into SEAMLESS-IF**

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## General information

Task(s) and Activity code(s):	Task 3.6, Activity 3.6.5
Input from (Task and Activity codes):	Task 3.6, Activity 3.6.5
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## Executive summary

The structural change module in SEAMLESS-IF is used to retrieve time-adjusted aggregation weights which allow to establish regional coverage and change the farm type distribution over time in the up-scaling procedure from the farm to the market level. The main purpose of this deliverable is to document and explain the methodology applied to the estimation of structural change and the link of the structural change module to SEAMLESS-IF. Transition probabilities representing the likelihood of a farm to move from one farm type to another are estimated in a Markov chain approach and related to a number of explanatory variables (trend, unemployment rate, output prices). The analysis makes use of micro and macro data information coming from the FADN sample. The time series employed reach from 1990 to 2003 and cover the EU15. The farm typology applied distinguishes between a size and a specialisation dimension. In total 30 farm types are considered. In order to illustrate the functioning of the structural change module, the SEAMLESS test regions (the Netherlands as representative for Flevoland, Brandenburg, Midi-Pyrénées, and Andalusia) are analysed both in terms of a descriptive part and in terms of estimation results. The actual implementation of the structural change module in the SEAMLESS model chain and its potential use in a more dynamic version are discussed.





## 1 Introduction

So far, the link between the farm and market model in SEAMLESS has been static such that the farm type distribution of the base year was not allowed to change during the simulation period. Farms however adapt to a changing environment which is likely to lead to changes in the farm type distribution as well. In Europe enormous changes concerning both total farm numbers and distributional characteristics of the remaining farms have taken place in the last decades. As changes are still going on and further structural developments are likely to occur in the future a method for adjustment of the farm type distribution is needed in the model chain.

A widely accepted approach to predict future farm numbers as well as the distribution of farms among different farm types is a Markov chain analysis (Zimmermann *et al.*, 2006). A Markov chain is used to estimate transition probabilities indicating the likelihood of a farm to move to another farm type in a given time period. The estimated transition probabilities can be used to predict future farm type distributions either stationary, i.e. with a constant rate of change or non-stationary, i.e. depending on exogenous factors.

As shown in a literature review carried out beforehand (Zimmermann *et al.*, 2006) the Markov chain technique in agricultural economics has so far only been applied to a very limited number of regions or countries and not more than one agricultural specialisation (e.g. dairy farming) at a time. In the analysis at hand the attempt is made to cover the whole agricultural sector of EU15 regions by differentiation between various specialisation classes.

A multidimensional farm typology is applied by combining the specialisation with economic size classes which leads to a total of 30 farm types. Time series on the number of farms and on movements of specific farms between the farm types coming from the FADN sample farms are employed for the estimation.

Whereas in an earlier version of this deliverable (Zimmermann *et al.*, 2007a) stationary Markov chains are estimated and a methodology for the derivation of non-stationary transition probabilities is purely described, the study at hand complements this earlier version in that now non-stationary transition probabilities are presented. Other than initially intended and described in Zimmermann *et al.* (2007a), the non-stationary Markov chain approach was split into a two-step estimation procedure. Various exogenous factors have been tried as explanatory variables from which the unemployment rate of a region as well as prices for a number of agricultural outputs have been proven to be of significance for structural change.

Due to the vast amount of data, the data analysis is limited to the SEAMLESS test regions: Brandenburg, Midi-Pyrénées, and Andalucía. Flevoland which is not a FADN region by itself is represented by the Netherlands.

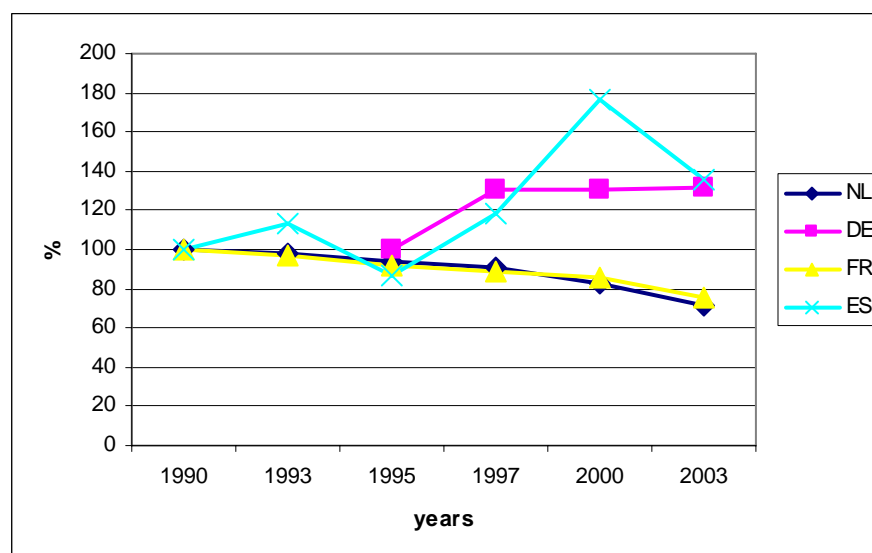
Firstly, the farm structure in the test regions is briefly characterised, followed by a chapter devoted to the description of the estimation approach. Then, the estimation results are analysed and the integration into the SEAMLESS model chain is discussed. The final section concludes.



## 2 Farm structure of the test regions

Although the number of farms generally decreases in most European regions (see Zimmermann *et al.* (2007b)), it actually has increased in two of the four SEAMLESS test regions. Comparing the years 1990 and 2003 the total number of farms increased by about 35 percent in Andalusia. However Figure 1 reveals that the farm number development has been rather volatile in the observed period which might be due to the large number of small farms which dominate the Andalusian farm structure and probably do not always exceed the FADN thresholds to be included in the sample. Due to historical reasons the observation period for Brandenburg begins in 1995 rather than in 1990. After an increase by about 30 percent from 1995 to 1997, the number of farms remains rather stable in the consecutive years. In Midi-Pyrénées and in the Netherlands the number of farms has smoothly declined following a similar pattern. Only small farm number changes occurred in the beginning of the nineties, but farm numbers seem to have decreased by increasing rates from the mid-nineties on. In total, farm numbers decreased by about 25 percent in Midi-Pyrénées and by nearly 30 percent in the Netherlands.

Figure 1: Total farm numbers, 1990=100, for Brandenburg 1995=100, source: FADN



The typology applied to the analysis is an aggregate of the SEAMLESS typology (Andersen *et al.*, 2006) and comprises a size and a specialisation dimension which are based on the European Community farm typology. The size dimension is measured in economic terms (European Size Units) and contains three categories: a small size category until 16 ESU, a medium size category from 16 to 40 ESU and a large size category greater or equal to 40 ESU. The specialisation dimension comprises 10 categories (arable systems, dairy cattle, beef and mixed cattle, sheep, goats, and mixed grazing livestock, pigs, poultry and mixed pigs/poultry, mixed farms, mixed livestock, permanent crops, horticulture) which correspond to the official Community ‘Types of farming’ (see appendix). The combination of both size and specialisation dimension results in a total amount of thirty farm types.

Table 1 compares the farm types with the highest share of farms per region at the beginning and at the end of the observation period. The most important farm types in the Netherlands (large dairy, large horticulture, and large arable farms) did not change from 1990 to 2003. However, the number of farms decreased between 24 and 29 percent in each of the three most important farm types.

In Brandenburg the first and the second most important farm types changed places. In 1995 large mixed farms represented the most important farm type, but although experiencing an increase of 4 percent from 1995 to 2003, were replaced by large arable farms in 2003 which almost doubled. Whereas in 1995 the third most important farm type was represented by dairy farms which declined by about 10 percent in the observation period, the third most important farm type became medium arable farms in 2003. Their number increased by about 30 percent from 1995 to 2003.

In Midi-Pyrénées also a change of the most important farm types took place. In 1990 the order was given by medium arable (-44 percent from 1990 to 2003), small arable (-51 percent), and large arable farms (+72 percent). In 2003 it changed to become large arable, medium arable, and medium beef farms (+85 percent).

In Andalucia the share of the most important farm type, small permanent farms, increased by about 60 percent. The second most important farm type was represented by small arable (-60 percent) in 1990 and became medium permanent farms (+600 percent) in 2003. The third most important farm type changed from small horticulture (+52 percent) to small arable farms (-60 percent).

*Table 1: Farm types with highest share of farms per region*

Region	Year	Farm type 1	Farm type 2	Farm type 3
Netherlands	1990	DARY_L	HORT_L	ARAB_L
	2003	DARY_L	HORT_L	ARAB_L
Brandenburg	1995	MIXF_L	ARAB_L	DARY_L
	2003	ARAB_L	MIXF_L	ARAB_M
Midi-Pyrénées	1990	ARAB_M	ARAB_S	ARAB_L
	2003	ARAB_L	ARAB_M	BEEF_M
Andalucia	1990	PERM_S	ARAB_S	HORT_S
	2003	PERM_S	PERM_M	ARAB_S

Source : FADN

### 3 Markov chain estimation

A Markov chain estimation is chosen as methodological approach to predict farm number changes in the different farm types. The estimation of Markov chains has a long tradition in the analysis of structural change in agriculture and is a widely accepted approach to predict the number of farms in certain farm types (Stavins and Stanton, 1980; Zepeda, 1995a; Zepeda, 1995b; Karantininis, 2002; Zimmermann *et al.*, 2006). Following, the general concept of the Markov chains and the estimation procedure are described.

#### 3.1 Markov chain approach

In a Markov chain the movement of firms from a specific firm category (e.g. a farm type) to another one is seen as a stochastic process which can be represented by transition probabilities. Usually, the movement of farms between several farm types is supposed to follow a first order Markov chain, i.e. it is assumed that the probability of the movement of a farm at time  $t$  to another farm type in the period  $t + 1$  is independent of earlier periods.

$$n_{j(t)} = \sum_{i=1}^N n_{i(t-1)} p_{ij} \quad (3.1)$$

where the number of farms  $n$  in farm type  $j$  at time  $t$  depends on the number of farms in all farm types  $i$  in the period before ( $t - 1$ ) multiplied by their respective transition probabilities  $p_{ij}$  to move from farm type  $i$  to farm type  $j$  in one time period. The probability constraints, non-negativity ( $p_{ij} \geq 0$ ) and summing-up to unity ( $\sum_{j=1}^N p_{ij}$ ) must hold. The single transition probabilities can be collected in a transition probability matrix  $P$  ( $N \times N$ ):

$$P = \begin{bmatrix} p_{11} & p_{12} & \dots & p_{1N} \\ p_{21} & p_{22} & \dots & p_{2N} \\ \vdots & \vdots & \dots & \vdots \\ p_{N1} & p_{N2} & \dots & p_{NN} \end{bmatrix}.$$

If micro-data is available, i.e. data from which the exact number of movements from one farm type to another can be derived, the elements in  $P$  can be estimated as

$$\hat{p}_{ij} = m_{ij} / \sum_{j=1}^N m_{ij}, \quad (3.2)$$

where  $m_{ij}$  denotes the number of movements of firms from state  $i$  to state  $j$  during the time period under discussion and  $N$  is the total number of states. Anderson and Goodman (1957) have shown that the above given approximation of the true  $p_{ij}$  is, in fact, the maximum likelihood estimate. However, in most cases, as detailed farm data as required for the micro-data estimation approach is not available, and one has to rely on more aggregated data (macro-data) where only the number of farms per farm type and year is given. The Markov chain is then usually estimated according to equation (3.1) and by replacing the number of farms  $n$  by farm type shares  $y$ .

From the transition probabilities predictions of future farm numbers in any state can easily be calculated:

$$X_t = X_0 P^t, \quad (3.3)$$

where the row vector  $X_0$  is the initial starting state vector or the initial configuration of individuals in the  $N$  states, where  $x_{0i}$  represents the number of individuals in state  $i$  during time period  $t = 0$ , and the row vector  $X_t$  is the  $t^{\text{th}}$  configuration vector.

One of the strongest assumptions in this form of the Markov model is that the transition probabilities do not change over time, i.e. they are said to be stationary. This implies that the process of structural change follows the same path until an equilibrium solution is reached. This may represent a realistic assumption as long as all other factors remain constant, but does not generally hold for economic phenomena. Changes in exogenous variables require the determination of non-stationary (time-varying) transition probabilities. In the case of micro-data availability non-stationary transition probabilities can be obtained by applying equation (3.2) on an annual base:

$$\hat{p}_{ij} = m_{ij} / \sum_{j=1}^N m_{ij}. \quad (3.4)$$

However, equation (3.4) cannot be used to detect which factors and to what extent these factors have actually influenced the structural process in question. Thus, an econometric model 'behind' the pure Markov chain is required. The non-stationary transition probabilities are, hence, specified as functions of exogenous variables and parameters and regressed against these in a second estimation step:

$$p_{ij} = f_{ij}(Z_t, \beta_{ij}), \quad (3.5)$$

where  $f_{ij}$  is the function of the vector of explanatory variables  $Z$  and the vector of parameters  $\beta_{ij}$  which relates the exogenous variables to the transition probabilities. In the case of macro-data, equation (3.5) can directly be substituted into equation (3.1) by changing the stationary  $p_{ij}$  to non-stationary  $p_{ijt}$ .

### 3.2 Estimation of stationary transition probabilities

For the estimation of stationary transition probabilities the data of movements of farms between farm types coming from the FADN sample farms (micro data) is combined with the data on the total number of farms per farm type (macro data). The estimations are run region-wise. A cross-entropy estimator is applied (Golan *et al.*, 1996; Golan and Vogel, 2000; Courchane *et al.*, 2000; Karantininis, 2002; Stokes, 2006). As a priori information the micro data is employed and macro data is used for the Markov constraint.

$$\min \left[ \sum_i \sum_j p_{ij} \ln(p_{ij}/q_{ij}) + \sum_m \sum_j \sum_t w_{mjt} \ln(w_{mjt}/u_{mjt}) \right] \quad (3.6)$$

s.t.

$$y_{jt} = \sum_i y_{it-1} p_{ij} + \sum_m v_m w_{mjt} \quad (3.7)$$

The objective function (3.6) is minimised subject to the Markov constraint(3.7). The objective function minimises the distance between the estimated transition probabilities  $p_{ij}$  and the a priori information on the transition probabilities  $q_{ij}$  and the distance between the error weights  $w_{mjt}$  and the a priori information on the error weights  $u_{mjt}$ . The Markov constraint relates the farm type shares  $y$  at time  $t$  to the farm type shares at time  $t-1$  multiplied by the respective transition probabilities. The error term is constructed as the product of the  $m$ -dimensional vector of supports  $v$  and the error weights for each farm type and time period. Additional constraints establish non-negativity ( $p_{ij}, w_{mjt} \geq 0$ ) and ensure summing-up to unity of the estimated probabilities ( $\sum_j p_{ij} = 1, \sum_m w_{mjt} = 1$ ). The prior information on the error weights is assumed to be uniformly symmetric around zero and the support points are set according to the three sigma rule (Pukelsheim, 1994).

### 3.3 Estimation of non-stationary transition probabilities

Instrumental variables cross-entropy estimators (Golan and Vogel, 2000; Karantininis, 2002) and a simultaneous cross-entropy estimation framework with transition probabilities being represented as multinomial logit functions of coefficients and explanatory variables (Zimmermann and Heckeley, 2008) have been tried to estimate non-stationary transition probabilities. However, due to theoretical limitations and general convergence difficulties due to the dimension of the problem, eventually a two-step procedure was applied where in the first step non-stationary transition probabilities are estimated which are then regressed against a set of exogenous variables in a second estimation step. Similar techniques have been applied by Stavins and Stanton (1980) and Stokes (2006).

#### 3.3.1 Estimation of the transition probabilities (step 1)

Time-varying transition probability matrices for each region and each year are obtained by applying a generalised cross-entropy approach similar to the one used for the estimation of stationary transition probabilities. The objective function (equation (3.8)) minimises the distance between prior transition probabilities given by the researcher and the estimated transition probabilities. The objective function is minimised subject to the Markov constraint (equation (3.9)).

$$\min \left[ \sum_i \sum_j \sum_t p_{ijt} \ln(p_{ijt}/q_{ijt}) + \sum_m \sum_j \sum_t w_{mjt} \ln(w_{mjt}/u_{mjt}) \right] \quad (3.8)$$

s.t.

$$y_{jt} = \sum_i y_{it-1} p_{ijt} + \sum_m v_m w_{mjt} \quad (3.9)$$

The non-negativity and summing-up conditions apply for the error weights and non-stationary transition probabilities as described in section 3.2.

The prior information, again, comes from the actual movements of the FADN sample farms and is calculated according to equation (3.2). For the prior information on farm exits the same exit rate per farm type is assumed. It is calculated as the difference of the number of farms

between the first and the last observation year. For sector entries an arbitrarily small number is assumed.

### 3.3.2 Regression analysis of the transition probabilities (step 2)

The transition probabilities obtained in the first Markov chain estimation step are now used as left-hand side variable in a second estimation which relates them to a set of explanatory variables and respective coefficients. In fact, the transition probabilities are represented as multinomial logit function of the exogenous variables and the coefficients to be estimated (MacRae, 1977; Zepeda, 1995a; Zepeda, 1995b):

$$p_{ijt} = \frac{\exp(Z_{it}\beta_{ij})}{1 + \sum_{k=1}^{s-1} \exp(Z_{it}\beta_{ik})}, \quad i=1, \dots, s \quad j=1, \dots, s-1 \quad (3.10)$$

$$p_{ist} = \frac{1}{1 + \sum_{k=1}^{s-1} \exp(Z_{it}\beta_{ik})}, \quad i=1, \dots, s \quad (3.11)$$

The equations are linearised by transformation of the transition probabilities into log-odd ratios (Stavins and Stanton, 1980).

$$\ln\left(\frac{p_{ijt}}{p_{ikt}}\right) = \mathbf{z}_{it}\boldsymbol{\beta}_{ij} \quad (3.12)$$

for  $i=1, 2, \dots, s$  and  $j=1, 2, \dots, s-1$  and  $k=s$ .

The system of equations is estimated in a seemingly unrelated regression format one row of the transition probability matrix at a time.



## 4 Results for SEAMLESS test regions

### 4.1 Transition probabilities (from step 1)

Transition probability matrices for the last observation year 2003 for the Netherlands, Brandenburg, Midi-Pyrénées and Andalusia are shown in the appendix. The grey transition probabilities are below 0.01 and are not considered explicitly in the regression on the explanatory variables.

The normalised entropy measures indicating the degree of compliance between a priori information and estimated transition probabilities is close to one in all cases, which means that the estimated transition probabilities do not much differ from the information obtained from the micro data of the FADN sample farms.

The estimated transition probability matrices exhibit typical characteristics with high probability values for staying in the same farm type as in the period before on the diagonal and lower values which tend to concentrate around these, i.e. for transitions between size classes within the same specialisation classes. Transitions between specialisation classes take mainly place between various farm types and the mixed farming categories (mixed and mixed livestock) as well as between dairy and beef farms. Also, different mobility schemes between regions can be identified, e.g. with farms in Brandenburg exhibiting nearly no structural change, whereas in Midi-Pyrénées significantly more and larger non-zero probabilities can be found at the off-diagonals. The increase of the number of farms which could be seen in the descriptive analysis of Brandenburg and Andalusia is reflected by the estimated transition probabilities in that the exit probabilities are mostly zero and there are small probabilities for entry to most farm types. However, as the entry probabilities still remain below 0.01 they are not reported in the tables in the appendix. In the Netherlands and Midi-Pyrénées there are almost no market entries, but for most farm types significantly large exit probabilities are reported.

### 4.2 Explanatory variables (from step 2)

In the second estimation step transition probabilities being equal to or greater than 0.01 are regressed against a number of explanatory variables. The probabilities below 0.01 are subsumed in a rest category. The rest category is taken as reference category in calculating the log-odd ratios (equation(3.12)) such that respective coefficients are not estimated.

A vast amount of theoretical and empirical literature can be found on the discussion of the main drivers of structural change. In previous Markov studies mostly technology related variables and input and output prices have been used as explanatory variables (Zimmermann *et al.*, 2006).

In our study apart from the constant and a trend, the unemployment rate of a country as well as prices of different agricultural outputs are used as explanatory variables (all coming from EUROSTAT). The unemployment rate is assumed to impact especially transitions into the exit category (Garvey, 2006), whereas price developments are mainly thought to have an effect on transitions between farm types. The price variables are lagged for two years in order to account for adaptation processes. Attempts have been made to include farm type specific variables from the FADN sample (mostly income related variables) for which a seemingly unrelated regression (SUR) model was set up. However, none of the farm type specific variables proved to be of significance such that now the same explanatory variables are used

for the regression on all transition probabilities and the SUR estimates are identical with ordinary least squares estimates (Zellner, 1962).

The effect of the explanatory variables on the transition probabilities cannot easily be interpreted since the coefficients are related non-linearly to the transition probabilities. Therefore, ‘probability elasticities’ are calculated according to Zepeda (1995a). The probability elasticities measure the effect of a 1 percent change in the  $i$ th explanatory variable on each transition probability:

$$E_{ijt}^p = \frac{\partial p_{ijt}}{\partial Z_{it}} \frac{Z_{it}}{p_{ijt}} = \left( \beta_{ij} p_{ijt} - p_{ijt} \sum_{k=1}^{s-1} p_{ikt} \beta_{ik} \right) \frac{Z_{it}}{p_{ijt}} \quad (4.1)$$

for  $i = 1, \dots, s$   $j = 1, \dots, s-1$

$$E_{ist}^p = \frac{\partial p_{ist}}{\partial Z_{it}} \frac{Z_{it}}{p_{ist}} = - \left( p_{ist} \sum_{k=1}^{s-1} p_{ikt} \beta_{ik} \right) \frac{Z_{it}}{p_{ist}}, \quad i = 1, \dots, s \quad (4.2)$$

The elasticities for all variables apart from the constant are given in the appendix.<sup>1</sup>

The  $R^2$ s indicating the goodness of fit of the model (defined between zero and one with values close to one meaning that a large part of the variance could be explained by the explanatory variables) lie between 0.17 and 0.99 for the Netherlands, 0.41 and 0.98 for Brandenburg, 0.13 and 0.95 for Midi-Pyrénées and 0.08 and 0.89 for Andalusia. Generally, the majority of the  $R^2$ s exceeds 0.5.

The constant is highly significant for most of the transition probabilities in all regions apart from Brandenburg where it is of significance for only two of the ten regressions.

The trend variable is significant for most transition probabilities in Andalusia and for about 50 percent of the transition probabilities of Midi-Pyrénées and the Netherlands. In Brandenburg the coefficient of the trend variable is only significant (at 5 percent level) for the probability to stay a large beef farm. As expected from the results on the transition probabilities the trend only weakly impacts the transition probabilities in Brandenburg and Andalusia, whereas significantly larger impacts can be found for the Netherlands and Midi-Pyrénées.

Since there is very little variation in the transition probabilities for Brandenburg, none of the coefficients of the remaining variables (unemployment rate and output prices) could prove to be of significance.

The influence of the unemployment rate on structural change in the agricultural sector is very weak in Andalusia and weak in the Netherlands. Contrary to the expectation that higher unemployment rates would decrease the exit probabilities, only half of the estimated probabilities representing transitions into the exit class are negatively correlated with the unemployment rate in Midi-Pyrénées.

The milk price level seems to be relevant for a number of transition probabilities in the Netherlands (at least at 10 percent level). Transitions into medium and large sheep and goat, large poultry, medium mixed and medium mixed livestock farms as well as transitions into the exit category are mostly positively correlated with the milk price, whereas changes into large dairy farms are mainly negatively correlated with the milk price. Positively correlated with the milk price level and thus matching the expectations are only changes from medium dairy to large dairy farms.

<sup>1</sup> The elasticities for which the underlying coefficients are significant to the estimation are highlighted. Red cells stand for a significance level of 1 percent, orange cells for a significance level of 5, and yellow cells for a significance level of 10 percent.

For Midi-Pyrénées a positive correlation between milk price level and transition probabilities is found for staying in the large dairy category, staying in the large horticulture category, changes from large sheep and goat to large mixed farms, and changes from medium horticulture to large horticulture farms. Negative correlations are found for changes from large permanent to large arable farms and changes from all horticultural size classes to small horticultural farms. In line with the expectations is the result that an increase in milk prices seems to decrease the probability of large dairy farms to change to either medium dairy farms or other farm types and that the probability to exit also decreases.

The milk price elasticities in Andalusia are mostly zero. However, positive elasticities could be found for staying a small dairy farm and, rather surprisingly, for changes from medium to small dairy farms. Accordingly, changes from small to medium dairy farms are negatively correlated with the milk price level. A negative correlation also exists for movements from small dairy to small sheep and goat farms.

Concerning the relationship between wheat price levels and transition probabilities it is found that changes into arable and sheep and goat farms are generally significantly and positively correlated with the wheat price in the Netherlands which makes sense concerning at least the arable farms. Positive correlations exist also for changes into beef farms, changes from large mixed livestock to large pig farms and changes from large horticulture farms to the exit category. A negative correlation exists for changes into large permanent farms, changes from medium to large pig farms and for medium beef to medium mixed livestock farms.

Expectations concerning the impact of wheat price changes are met in Midi-Pyrénées since positive correlations exist between the wheat price level and transitions into all size classes of arable farms as well as transitions from smaller to larger size classes within the arable specialisation. Equivalently, negative correlations are found for transitions from large arable to medium arable farms and from large and medium arable farms to other farm types. Positive correlations are also frequent for changes from medium dairy farms to medium beef, mixed and mixed livestock farms, whereas negative correlations exist between wheat prices and changes to small mixed farms, changes between the different horticultural size classes and changes from small arable, large permanent and medium dairy farms to the exit category.

For wheat prices in Andalusia the most coefficients especially on the diagonal (for staying in the same farm type) are significant, but the respective elasticities are close to zero. Negative elasticities can be found for staying a small arable or a small dairy farm, changes from medium arable to small arable farms or changes from small dairy to medium dairy farms. Positive elasticities can be found for staying a small dairy farm, changing from being a medium dairy farm to a small dairy farm and changes from small beef to medium dairy farms.

Pig prices have only been included as explanatory variables in the models for Brandenburg (where they are not significant) and Midi-Pyrénées as time series for the other regions were not available. In Midi-Pyrénées pig prices are of significance for many transition probabilities. They are negatively correlated with transitions into arable farms in all size classes and positively with changes from the medium and large arable to the exit category. They are also positively correlated with transitions into small and large mixed farms coming from sheep and goat, beef or dairy farms. A positive correlation also exists for transitions from all horticultural size classes to small horticultural farms and for staying a medium horticultural farm. Concerning dairy farms a positive correlation is found for moving from small dairy to large dairy farms, movements from small beef to medium dairy farms or from large dairy to large beef farms or exiting the sector from being a large dairy farm. Interestingly, a positive correlation also exists for changes from medium to large beef farms and for large sheep and goat farms to the exit category. A significantly positive correlation is also found for entries into large pig farms. Negative algebraic signs are found for the

elasticities to move from large to medium sheep and goat farms, transitions from large mixed livestock to medium sheep and goat farms, changes from small permanent to medium permanent farms, remaining in the large dairy farm type, move from medium sheep and goat to medium beef farming, from large sheep and goat to large mixed farms, from medium dairy to medium mixed livestock farms, staying a large mixed livestock farm or moving from being a large mixed livestock farm to the exit category.

## 5 Integration into SEAMLESS-IF

There are basically two applications for the structural change module. One is its use in the model chain and the other one is its role in post-model analysis concerning social indicators. Here, the technical realisation and potential effects of the integration into the model chain are discussed.

### 5.1 Technical realisation

The stationary transition probabilities are established in the SEAMLESS database.<sup>2</sup> They are read in by EXPAMOD and applied to forecast the future farm type distribution which is used as weighting scheme for the FSSIM model results. For this purpose the farm type shares as stored in the database are aggregated to match the farm type definition of the structural change module, then the shares are multiplied with the transition probability matrices to the power of the years between the base year and the baseline of a specific experiment to retrieve the future farm type distribution (see equation(3.3)). The forecasted farm type shares are then again disaggregated to the four SEAMLESS farm type dimensions. As key for the splitting of the farm type shares the original farm type distribution is used. The new farm type distribution can then be used for the weighting procedure of FSSIM results (Bezlepkina et al., 2006).

In the case of non-stationary transition probabilities the probabilities would need to be predicted themselves before they could be applied in the up-scaling procedure. The prediction of transition probabilities takes place by updating equations (3.10) and (3.11) with forecasts on the exogenous variables. However, due to the already enormous complexity of the model chain, it was decided to refrain from incorporating non-stationary transition probabilities in the up-scaling procedure. Instead the stationary transition probabilities are used to forecast future farm type distributions.

### 5.2 How structural change affects the FSSIM-EXPAMOD-SEAMCAP model chain

#### 5.2.1 The use of stationary transition probabilities

As explained above, structural change measured with transition probabilities has a direct impact in the up-scaling process in EXPAMOD. Let us take the example of one region with only two farm types to illustrate this. One farm type is specialised in cereals production, the other one in cattle production. Both farms produce cattle and cereals. We further assume that the specialisation degree is correlated with production costs meaning that it is cheaper to produce cereals on a farm specialised in cereals production and vice versa. Let us assume that EXPAMOD estimates for the two farms the following own price supply elasticities:

	<b>Farm 1</b>	<b>Farms 2</b>
<b>Cereals</b>	<b>1.3</b>	<b>0.9</b>
<b>Cattle</b>	<b>0.8</b>	<b>1.2</b>

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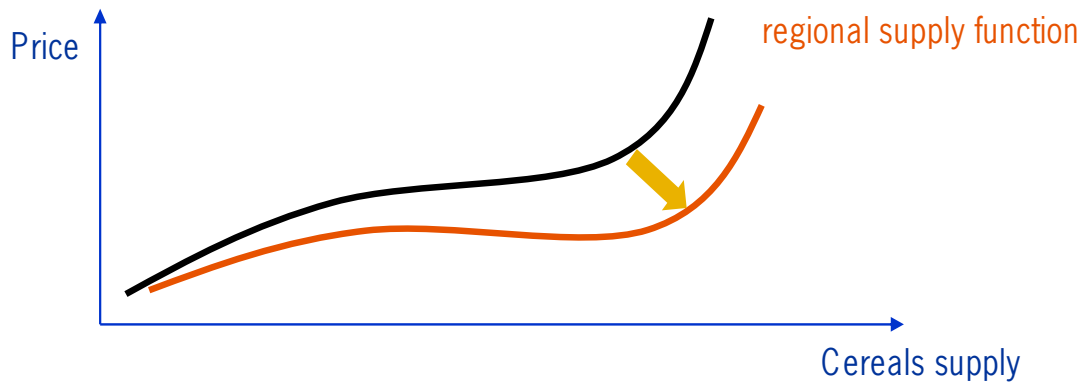
<sup>2</sup> The transition probabilities are stored in the table "transitionprobabilities". A definition of the farm types used in the structural change module can be found in the table "representativefarmgroup".

The regional own price supply elasticity is a weighted average of the elasticities per farm. The weighting factors, as explained above, are the farm type shares. If we assume that both farms have a weight of 50% in this particular region, we derive regional elasticities of 1.1 for cereals and 1 for cattle.

Let us now include structural change into this procedure. If the results of the Markov chain analysis are predicting that we have in every year a certain transition probability on cattle farms to convert into a cereals farm so that the weights in the simulation year are now 75% for cereals farms and 25% for cattle farms, the new regional supply elasticities would be 1.2 for cereals and 0.9 for cattle.

The supply elasticities in turn impact on the regional supply behaviour in SEAMCAP, since they determine the regional marginal cost curves driving supply what is simplified shown for the cereals example in Figure 2.

Figure 2: Example of a regional supply curve

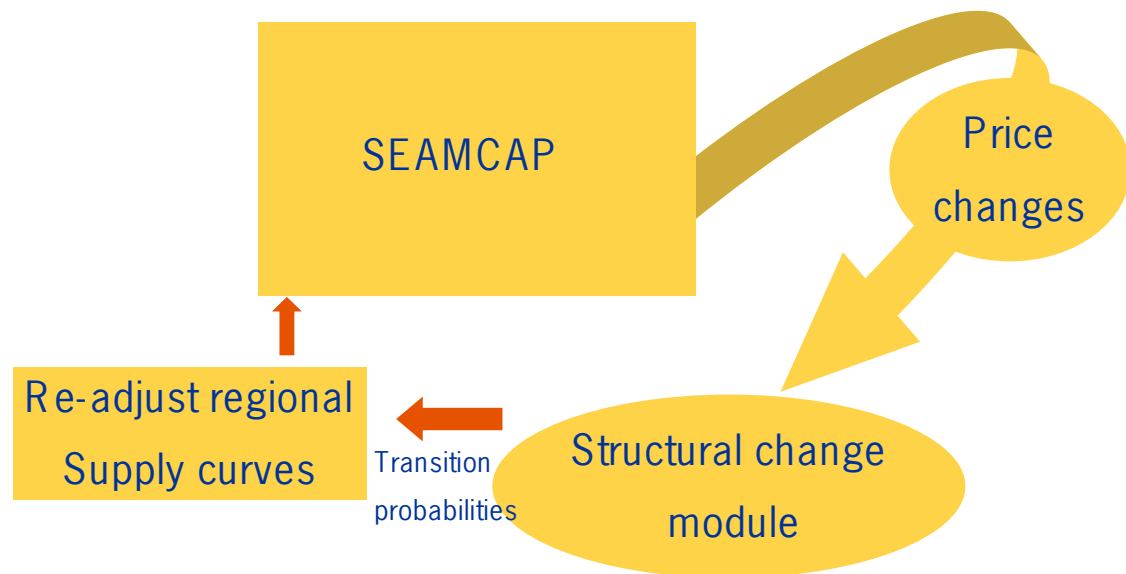


The regional supply curve without including transition probabilities (black) would be steeper than the one including them (red).

### 5.2.2 The potential use of non-stationary transition probabilities

Variables which turned out to be significant for the transition probabilities and which are endogenous to SEAMCAP could be applied according to the following procedure:

Figure 3: Non-stationary transition probabilities in SEAMCAP



A policy shock simulated in SEAMCAP leads to a new set of prices of agricultural goods. These price changes would then be used in the structural change module to calculate the new regional distribution of farm types by updating equations (3.10) and (3.11) and applying the new transition probabilities as described in equation(3.3). Using the regional distribution and the supply elasticities per farm type, the supply curves can be readjusted as described in Figure 2 and SEAMCAP can be started for another round.

For consistency forecasts on prices would be necessary for every year from the base year to the final projection year, because the transition probabilities work at an annual base and structural change is a highly dynamic process. SEAMCAP however runs in a comparative static mode and price forecasts are produced for a given simulation year only.





## 6 Summary and conclusions

After having characterised the main facts of farm structural change as it took place in 1990 to 2003 in the SEAMLESS test regions - Netherlands as representative for Flevoland, Brandenburg, Midi-Pyrénées, and Andalucia - the approach to estimation is described in a methodological part. Apart from the stationary transition probabilities which are represented in the SEAMLESS database, non-stationary transition probabilities are estimated. The non-stationary Markov chain problem is solved by applying a two-step procedure. Compared to the initially intended one-step instrumental variables cross-entropy estimation, the applied two-step methodology is econometrically sounder and more maintainable in terms of estimation time.

In the first estimation step time-varying transition probabilities are estimated which are in line with the observations made in the descriptive part of the analysis. The second estimation step relates the transition probabilities to a number of exogenous factors supposed to belong to the drivers of structural change. Regarding the significance of the estimated coefficients and their impact on the transition probabilities measured in terms of probability elasticities, largely plausible, but also unexpected or even absurd results are obtained. The odd results however mostly refer to specialisation class changes, a phenomenon which has rarely been analysed in the literature before. We therefore suggest further research on the relationship between changes of the production orientation and their underlying drivers.

Finally, the implementation of the stationary transition probabilities in the database and in the model chain is explained and the potential impact of non-stationary transition probabilities on the model chain is discussed. Since a significant impact on structural change of many of the explanatory variables could be proven, there is certainly scope for thinking about the development of a dynamic adjustment procedure for the transition probabilities which might be realised in potential future model versions.



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## Glossary

<i>Elasticity</i>	Percentage change of a variable given a 1 percent increase of another variable.
<i>Macro data</i>	Aggregated data on the number of farms in certain farm types per region.
<i>Micro data</i>	Single farm data on the movements of farms between certain farm types over time.
<i>Transition probability</i>	Probability for a farm to change from one farm type to another in a certain time period.



## Appendix

*Table 2: Types in the specialisation dimension with definitions and reference to codes in the Community typology*

<b>Specialisation type</b>	<b>EU-Code</b>	<b>Definition</b>
Arable systems (ARAB)	1 + 6	>2/3 of SGM from arable or (>1/3 of SGM from arable and/or permanent crops and/or horticulture)
Dairy cattle (DARY)	4.1	>2/3 of SGM from dairy cattle
Beef and mixed cattle (BEEF)	4.2 + 4.3	>2/3 of SGM from cattle and <2/3 of SGM from dairy cattle
Sheep, goats and mixed grazing livestock (SHGM)	4.4	>2/3 of SGM from grazing livestock and <2/3 of SGM from cattle
Pigs (PIGS)	5.01	>2/3 of SGM from pigs
Poultry and mixed pigs/poultry (POLT)	5.02 + 5.03	>2/3 of SGM from pigs and poultry and <2/3 of SGM from pigs
Mixed farms (MIXF)	8	All other farms
Mixed livestock (MIXL)	7	>1/3 and <2/3 of SGM from pigs and poultry and/or >1/3 and <2/3 of SGM from cattle
Permanent crops (PERM)	3	>2/3 of SGM from permanent crops
Horticulture (HORT)	2	>2/3 of SGM from horticultural crops

Source: Andersen et al. 2006.

Table 3: Netherlands, transition probabilities 2002-2003

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT
ARAB_S	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARAB_M	0.00	0.84	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
ARAB_L	0.00	0.02	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.03	
SHGM_S	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHGM_M	0.00	0.00	0.00	0.00	0.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
SHGM_L	0.00	0.00	0.01	0.00	0.05	0.82	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.02	
PERM_S	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERM_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PERM_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DARY_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DARY_M	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.75	0.19	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
DARY_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
BEEF_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BEEF_M	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.74	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.02
BEEF_L	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.01	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.03
PIGS_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIGS_M	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.10	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
PIGS_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.03
POLT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLT_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.15	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.02
POLT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.93	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.03
MIXF_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXF_M	0.00	0.13	0.04	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.66	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.02
MIXF_L	0.00	0.00	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.74	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03
MIXL_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXL_M	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.65	0.11	0.00	0.00	0.00	0.02
MIXL_L	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.06	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.01	0.76	0.00	0.00	0.00	0.02
HORT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
HORT_M	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.78	0.17	0.02
HORT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.96	0.03	0.03
ENTRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96





Table 4: Brandenburg, transition probabilities 2002-2003

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT
ARAB_S	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARAB_M	0.00	0.33	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARAB_L	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00
SHGM_S	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHGM_M	0.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHGM_L	0.00	0.00	0.00	0.00	0.21	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERM_S	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERM_M	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERM_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DARY_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DARY_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DARY_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.03	0.00	0.00	0.00	0.00
BEEF_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BEEF_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BEEF_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIGS_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIGS_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIGS_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLT_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXF_S	0.25	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXF_M	0.00	0.18	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.25	0.00	0.09	0.00	0.00	0.00	0.00	0.00
MIXF_L	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXL_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXL_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
MIXL_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
HORT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
HORT_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
HORT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
ENTRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97

Table 5: Midi-Pyrénées, transition probabilities 2002-2003

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT
ARAB_S	0.77	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
ARAB_M	0.02	0.80	0.11	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
ARAB_L	0.00	0.04	0.91	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
SHGM_S	0.00	0.00	0.00	0.65	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02
SHGM_M	0.00	0.00	0.00	0.02	0.86	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
SHGM_L	0.00	0.00	0.00	0.00	0.07	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PERM_S	0.07	0.07	0.00	0.00	0.00	0.00	0.59	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PERM_M	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.78	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PERM_L	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.03	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DARY_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.11	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DARY_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.87	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
DARY_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.91	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
BEEF_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.79	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
BEEF_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.92	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
BEEF_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PIGS_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIGS_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.29	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
PIGS_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.02
POLT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
POLT_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
POLT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
MIXF_S	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
MIXF_M	0.00	0.05	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.74	0.04	0.00	0.03	0.00	0.00	0.00	0.00	0.02
MIXF_L	0.00	0.01	0.06	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.04	0.76	0.00	0.00	0.03	0.00	0.00	0.00	0.02
MIXL_S	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.39	0.10	0.00	0.00	0.00	0.00	0.02
MIXL_M	0.00	0.03	0.00	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.02	0.00	0.60	0.10	0.00	0.00	0.00	0.02
MIXL_L	0.00	0.00	0.01	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.01	0.09	0.00	0.05	0.74	0.00	0.00	0.00	0.02
HORT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.02
HORT_M	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.73	0.10
HORT_L	0.00	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.89	0.02
ENTRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96

Table 6: Andalusia, transition probabilities 2002-2003

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT
ARAB_S	0.77	0.19	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
ARAB_M	0.10	0.81	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
ARAB_L	0.01	0.12	0.83	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	
SHGM_S	0.01	0.00	0.00	0.83	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
SHGM_M	0.01	0.00	0.01	0.05	0.86	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00	
SHGM_L	0.00	0.00	0.00	0.00	0.02	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	
PERM_S	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PERM_M	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.92	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PERM_L	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DARY_S	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.80	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DARY_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.89	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DARY_L	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
BEEF_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	
BEEF_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
BEEF_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIGS_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	
PIGS_M	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.60	0.20	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
PIGS_L	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	
POLT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.23	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
POLT_M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.46	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
POLT_L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MIXF_S	0.02	0.03	0.02	0.02	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.13	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
MIXF_M	0.00	0.04	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.82	0.04	0.00	0.04	0.00	0.00	0.00	
MIXF_L	0.00	0.00	0.05	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.83	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
MIXL_S	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.09	0.00	0.00	0.00	0.00	
MIXL_M	0.00	0.07	0.02	0.05	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.61	0.09	0.00	0.00	0.00	0.00	
MIXL_L	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.76	0.00	0.00	0.00	0.00	
HORT_S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.09	0.00	0.00
HORT_M	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.83	0.05	0.00	
HORT_L	0.01	0.03	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.68	0.00	0.00
ENTRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97

Table 7: Netherlands, mean elasticities for trend

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ARAB_M	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.3
ARAB_L	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.4	
SHGM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SHGM_M	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	
SHGM_L	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PERM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
PERM_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARY_M	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARY_L	0.0	0.0	0.0	0.0	0.0	-6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BEEF_M	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	
BEEF_L	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_M	0.0	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HORT_M	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
HORT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	-0.2	0.6	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	

Table 8: Netherlands, mean elasticities for unemployment rate

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ARAB_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
ARAB_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHGM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHGM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
SHGM_L	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
PERM_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARY_M	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARY_L	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HORT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HORT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 9: Netherlands, mean elasticities for milk prices

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ARAB_M	0.0	-0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	
ARAB_L	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0		
SHGM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SHGM_M	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.0	
SHGM_L	0.0	0.0	-0.7	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.6	-0.4	
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PERM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PERM_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.2		
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARY_M	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARY_L	0.0	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	2.6		
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BEEF_M	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	-0.1	0.0		
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0		
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.8	-0.1		
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.2	-0.1	0.0	-0.2	0.0	0.0	0.0	-0.2		
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	-0.9	0.0	-0.9	0.0	0.0	-1.2	-1.0		
MIXF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_M	0.0	-0.4	-0.2	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.4	0.0	0.0	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	-0.3	0.1		
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HORT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	
HORT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.1	-1.0	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	

Table 10: Netherlands, mean elasticities for wheat prices

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ARAB_M	0.0	0.1	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	-1.0	-1.2	-1.0
ARAB_L	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-1.8	
SHGM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SHGM_M	0.0	0.0	0.0	0.0	-0.1	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6
SHGM_L	0.0	0.0	0.7	0.0	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.5	
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
PERM_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.9	
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARY_M	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARY_L	0.0	0.0	0.0	0.0	0.0	-32.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEEF_M	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.2
BEEF_L	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	-0.3	0.0	0.0	0.0	-0.3	-0.1	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	-0.3	0.0	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.2	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.0	-0.3	0.0	0.0	-0.3	0.0	0.0	-0.3	-0.1	
MIXF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_M	0.0	0.4	0.2	0.0	-0.4	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.2	
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HORT_M	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4
HORT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-0.7	2.6	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2





Table 12: Midi-Pyrénées, mean elasticities for trend

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.8	
ARAB_M	-0.8	0.0	0.6	0.0	0.0	0.0	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.2
ARAB_L	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	-1.0	
SHGM_S	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
SHGM_M	0.0	0.0	0.0	-0.2	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0
SHGM_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.3	
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERM_M	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
PERM_L	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.1	
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
DARY_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.4
DARY_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.1	0.0	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.1	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_S	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIXL_L	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
HORT_M	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.1	0.5
HORT_L	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.2	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-1.0	-5.8	0.0	0.0	0.0	0.0	0.0	-16.2	0.0	0.0	0.0	0.0

Table 13: Midi-Pyrénées, mean elasticities for unemployment rate

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	-0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.6	-3.0
ARAB_M	-0.9	-0.1	0.9	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2
ARAB_L	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.4
SHGM_S	0.0	0.0	0.0	0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
SHGM_M	0.0	0.0	0.0	0.6	-0.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.4
SHGM_L	0.0	0.0	0.0	0.0	-1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	1.2
PERM_S	0.2	0.2	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
PERM_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.1
PERM_L	0.0	0.0	-0.8	0.0	0.0	0.0	0.0	-1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.9
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.4	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
DARY_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.3	-0.9	
DARY_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3	
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.0	
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.5	0.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	-0.2	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	
MIXF_S	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.5	0.0	0.0	-0.2	0.0	-0.3	0.2	0.0	0.0	-0.4	-0.2	
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	
HORT_M	-0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	-0.4	
HORT_L	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	-20.5	-61.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.1	0.2

Table 14: Midi-Pyrénées, mean elasticities for milk prices

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	-63.4	0.0	-0.5	0.6
ARAB_M	0.7	0.1	-1.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	1.5
ARAB_L	0.0	0.8	-0.1	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	
SHGM_S	0.0	0.0	0.0	0.3	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	-0.5	
SHGM_M	0.0	0.0	0.0	2.3	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	
SHGM_L	0.0	0.0	0.0	0.0	1.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.6	-3.5		
PERM_S	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
PERM_M	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	-0.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-1.5	
PERM_L	0.0	0.0	-1.4	0.0	0.0	0.0	0.0	-0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	0.6		
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARY_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	3.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.4	1.2	
DARY_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	0.1	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	-0.7	-3.9		
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-2.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.8	0.0	9.4	0.0	0.0	0.0	0.0	0.0	-1.5	
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	-0.5	0.2	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	0.0	
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.3	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	-1.1	0.0	0.0	0.0	0.0	-1.2	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.2	
MIXF_S	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	1.3	0.0	1.6	-0.6	0.0	0.0	1.1	1.6	
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	11.2	
HORT_M	3.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.9	-0.8	5.6	3.2	
HORT_L	0.0	-1.3	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	0.0	0.2	-1.3	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	0.0	25.5	87.6	0.0	0.0	0.0	0.0	0.0	0.0	-101.7	0.0	0.0	0.0	0.6	



Table 15: Midi-Pyrénées, mean elasticities for wheat prices

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST		
ARAB_S	0.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-39.8	0.0	2.1	-4.6
ARAB_M	-2.9	-0.1	2.3	0.0	0.0	0.0	0.0	-4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.9
ARAB_L	0.0	-1.2	0.1	0.0	0.0	0.0	0.0	0.0	-2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-4.9	
SHGM_S	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.6
SHGM_M	0.0	0.0	0.0	1.4	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.6
SHGM_L	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.8	
PERM_S	0.2	0.3	0.0	0.0	0.0	0.0	-0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
PERM_M	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-0.1	
PERM_L	0.0	0.0	0.8	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.5	
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.5	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
DARY_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.7	-1.3	
DARY_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.5	1.2	
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	-1.5	0.0	0.5	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-0.7	0.0	-9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	3.0	-0.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.1	
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.5	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	-0.3	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_S	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.3	-0.7
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	
HORT_M	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	
HORT_L	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.4	0.0	-9.8	-26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	

Table 16: Midi-Pyrénées, mean elasticities for pig prices

	ARAB_S	ARAB_M	ARAB_L	SHGM_S	SHGM_M	SHGM_L	PERM_S	PERM_M	PERM_L	DARY_S	DARY_M	DARY_L	BEEF_S	BEEF_M	BEEF_L	PIGS_S	PIGS_M	PIGS_L	POLT_S	POLT_M	POLT_L	MIXF_S	MIXF_M	MIXF_L	MIXL_S	MIXL_M	MIXL_L	HORT_S	HORT_M	HORT_L	EXIT	REST
ARAB_S	-0.1	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	22.1	0.0	-0.6	-0.7
ARAB_M	0.5	0.0	-0.1	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	1.6	
ARAB_L	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	-0.3	1.1		
SHGM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0		
SHGM_M	0.0	0.0	0.0	-0.1	-0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.3	
SHGM_L	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.4	1.1		
PERM_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PERM_M	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	
PERM_L	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.5	
DARY_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
DARY_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.9	0.0	0.0	0.0	-0.3	0.1	
DARY_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BEEF_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
BEEF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BEEF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
PIGS_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PIGS_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
PIGS_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.1	0.0	0.0	0.0	0.0	-0.2	0.0	-0.2	0.0	0.0	0.0	0.0	-0.2	
POLT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
POLT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	
MIXF_S	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	
MIXF_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXF_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MIXL_L	0.0	0.0	0.0	0.0	-0.4	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	
HORT_S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.2	
HORT_M	-1.3	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	-0.2	-1.1	-1.3	
HORT_L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	
ENTRY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	3.9	1.2	0.0	0.0	0.0	0.0	0.0	40.2	0.0	0.0	-0.1	0.4	









